

2030 Growth Vision Plan
Growth Factors Analysis

Introduction

Population, Housing and Economy 1

Military Influence23

Transportation31

School Facilities45

Stormwater Management55

Parks and Recreation63

Water and Sewer Services67

Acknowledgments

Policies & Actions Document Under Separate Cover

Introduction

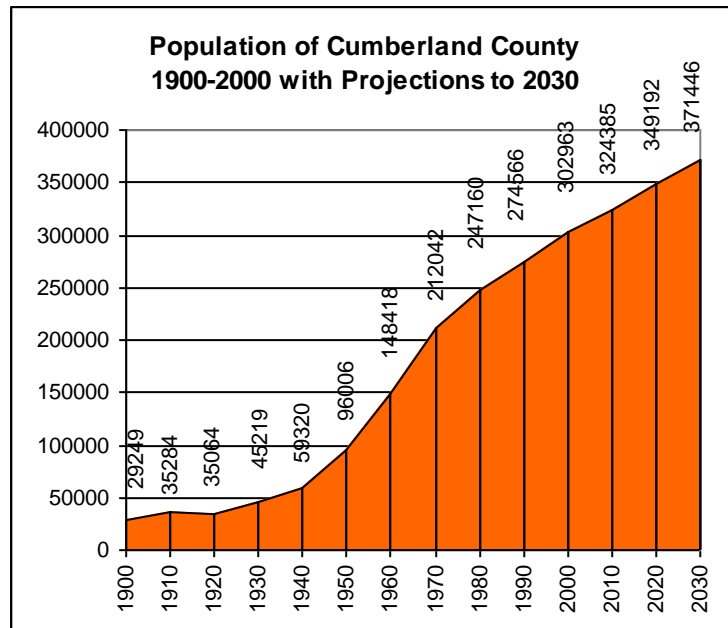
This **Growth Factors Analysis** and the accompanying **Policies and Actions** are two companion documents that together form the **2030 Growth Vision Plan**. The Growth Factors Analysis includes a number of white papers that provide a factual basis for understanding the context for growth and change in Cumberland County. This understanding was then employed, in part, to assist in the development of informed growth policies and actions.

The analysis leads off with a statistical assessment of Cumberland County's population, housing, and local economy, following immediately by a paper on the significant influence of the military on the area. Information is then presented on a number of infrastructure elements critical to the continued positive growth of the region. These infrastructure elements include transportation, school facilities, stormwater management, parks and recreation, and water and sewer utilities.

It should be noted that the white papers which comprise the Growth Factors Analysis were researched and written early (during 2006) in the process of preparing the 2030 Plan. It may be observed, therefore, that some of the information cited in this report will not be the most recently available at the time of plan adoption. Even so, the Growth Factors Analysis provides a useful evaluation of various conditions in Cumberland County during the early 2000's. While some information has undoubtedly changed, the most significant facts and trends will not show remarkable changes in direction over a relatively short period of time.

Population, Housing and Economy

This section provides an overview of population, housing and economic conditions in Cumberland County. Included are tables, charts and maps depicting overall population growth, population composition, housing numbers and characteristics, and a sampling of economic indicators.

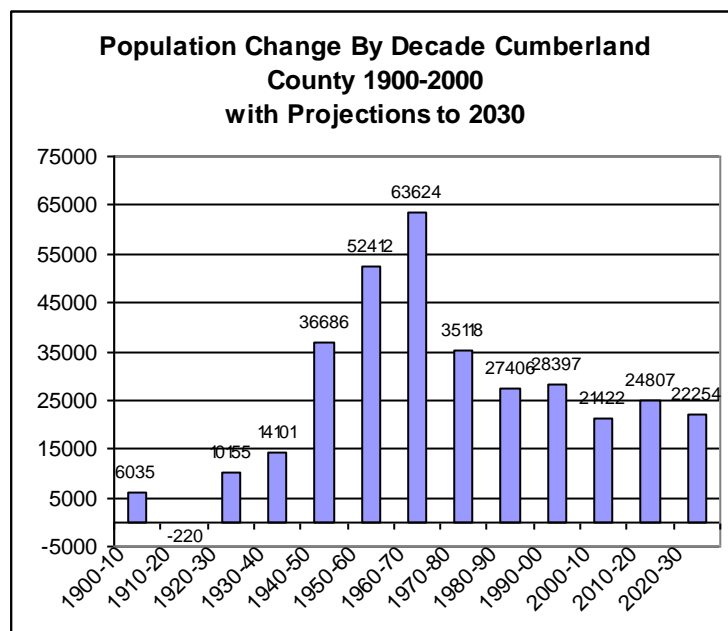


Population Change

The graph and bar chart on this page illustrate the historical growth of Cumberland County from 1900 to 2000, as well as projections of future population growth through the year 2030. All historical data is from the US Decennial Census. Future projections are from the North Carolina State Demographer's office.

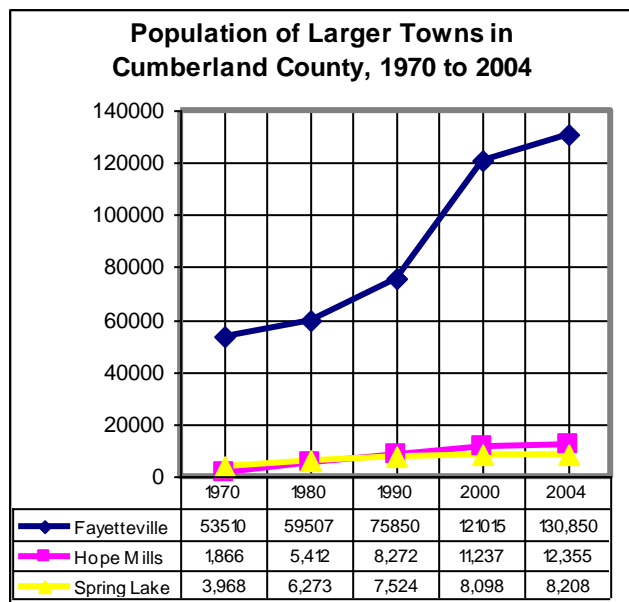
As can be seen from the slope of the graph as well as the height of the bars below, Cumberland County's greatest period of growth was during the three decades from 1940 through 1970. Not surprisingly, this thirty-year period coincided with the military buildup at Fort Bragg, in response to the demands of World War II, the Korean War and the

Viet Nam War. The pace of population growth in Cumberland County has been slowly declining since its peak during the 1960's.



Even so, population projections for the period from 2000 to 2030 call for a relatively well-sustained level of growth. The State Demographer projects the addition of well over 20,000 more people in Cumberland County over each of the next three decades.

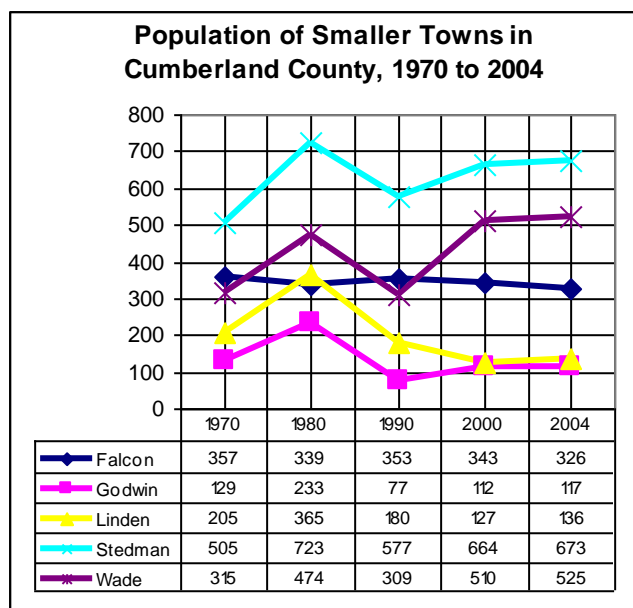
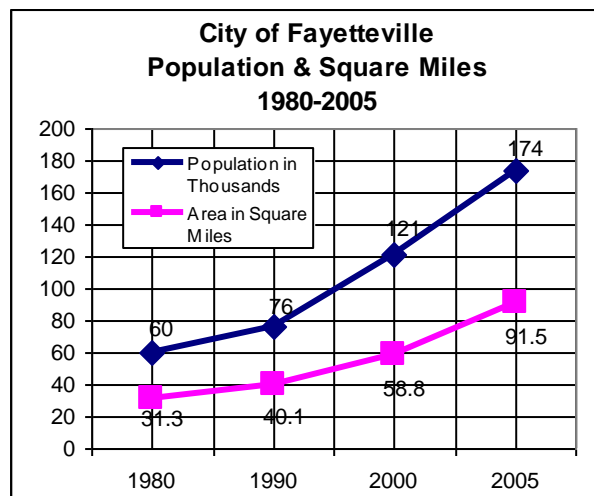
The State Demographer projects the addition of over 20,000 people in Cumberland County over each of the next three decades.



The graph on the left would appear to indicate that the City of Fayetteville has been growing much faster than either the Town of Hope Mills or Spring Lake. In reality, Fayetteville's population growth may be attributed almost entirely to annexation rather than in-migration of new residents or natural increase of births over deaths. (See chart below.)

In all likelihood, the City of Fayetteville would have shown declines in population, had it not been for annexation of suburban areas during the past three decades.

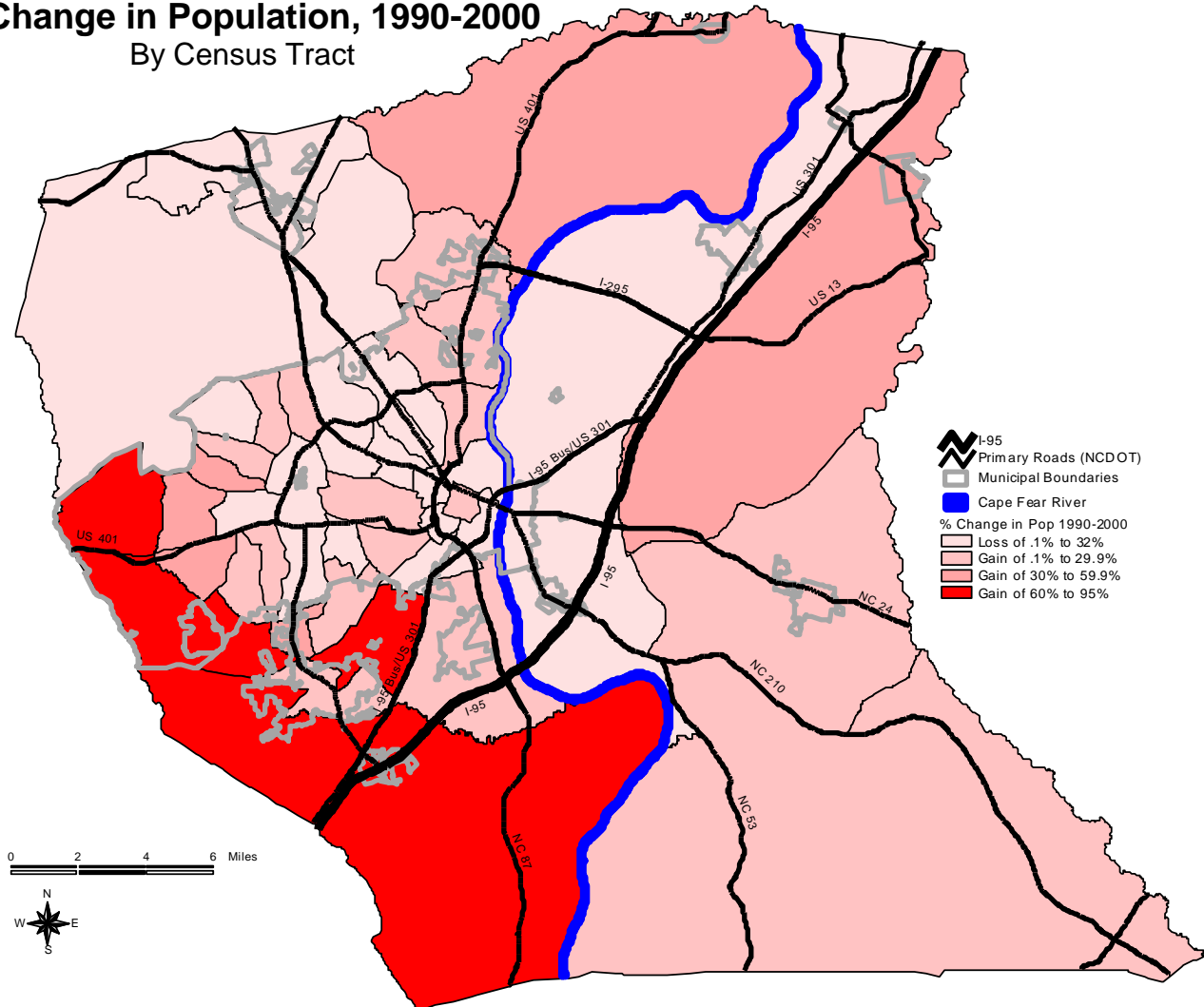
As shown in the chart on the right, during the 25-year period from 1980 through 2005, the population of the City of Fayetteville increased by 190%. At the same time, the land area of the City increased by 192%.



Among the smaller towns in Cumberland County only the Town of Wade experienced a net population increase from 1980 to 2004.

Among the smaller towns in the County, only the Town of Wade added population between 1980 and 2004.

Cumberland County
% Change in Population, 1990-2000
 By Census Tract



This map shows the percent change in population by census tract from 1990-2000. The darkest shade shows areas that gained the most population; the lightest, those that lost population. Between 1990 and 2000, Cumberland County grew from 274,566 to 302,963 people, an increase of 23,397, or 10.3%.

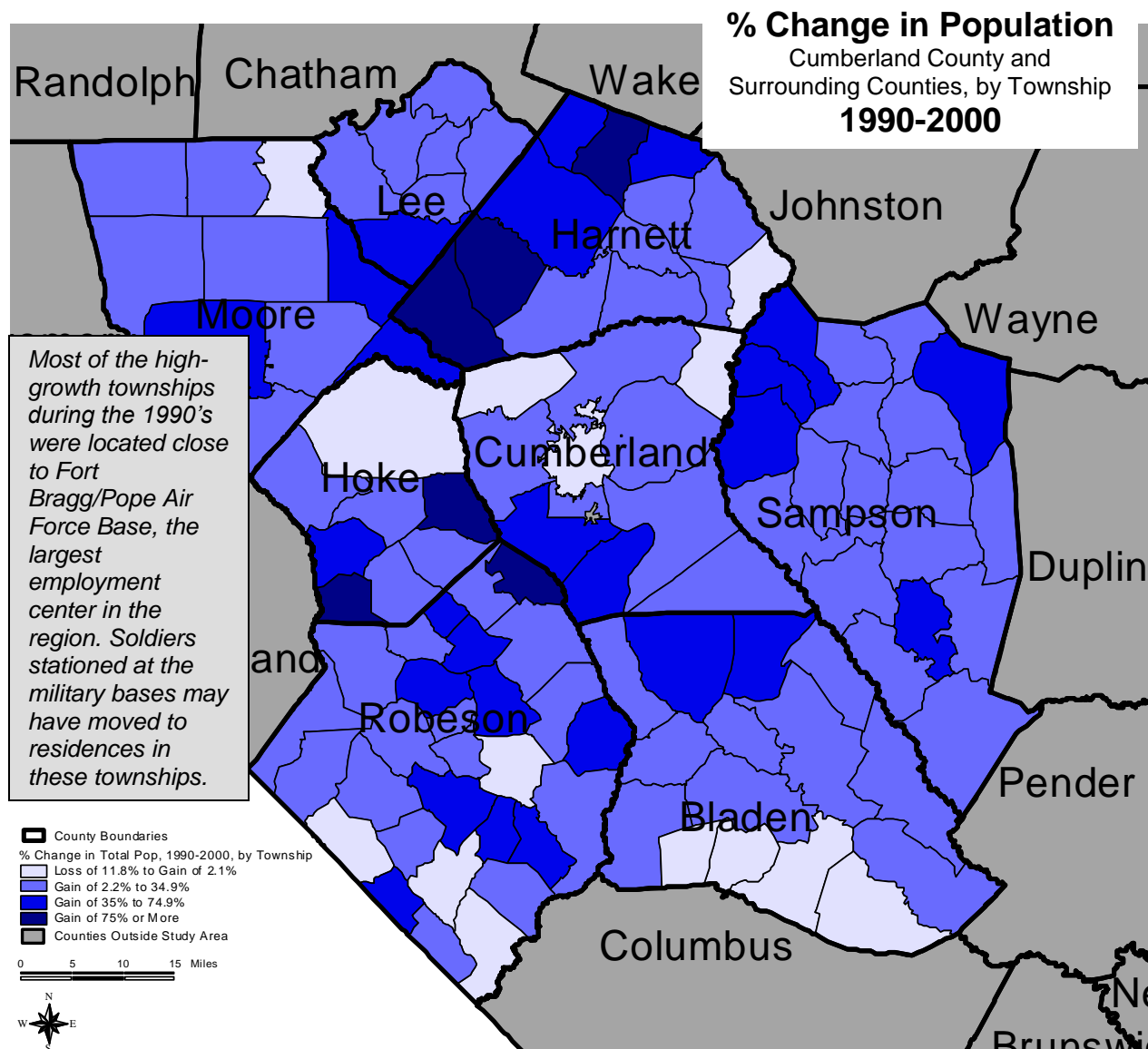
Areas with the highest growth rate (60%-95%) were in the southwestern part of the County. Factors that may have contributed to this growth include: availability of undeveloped land, utilities, proximity to Fort Bragg, and the proposed Outer Loop.

Areas with a lower growth rate (30% to 59.9%) included Rayconda, Remington, the large apartment complex area along Cliffdale Road (near Reilly Road), and lands along US 13 and US 401 North.

Areas with an even lower growth rate (.1- 29.9%), included North Fayetteville, Vanstory Hills, Briarwood, the Cedar Creek area, and Downtown Fayetteville. (Growth in the Downtown reflected an increase in prisoners at the new County jail.)

Areas that lost population included: neighborhoods surrounding Downtown Fayetteville and Cross Creek Mall, neighborhoods along Murchison Road and Bragg Boulevard, areas between the Cape Fear River and I-95, and the Fort Bragg/Pope Air Force Base military bases.

At Fort Bragg, both the household population and the group quarters (barracks) population dropped from 1990-2000. A decrease in household population paralleled a decrease in housing units on base. The decrease in barracks population was associated with the renovation of barracks, whereby the number of soldiers per barrack was decreased.



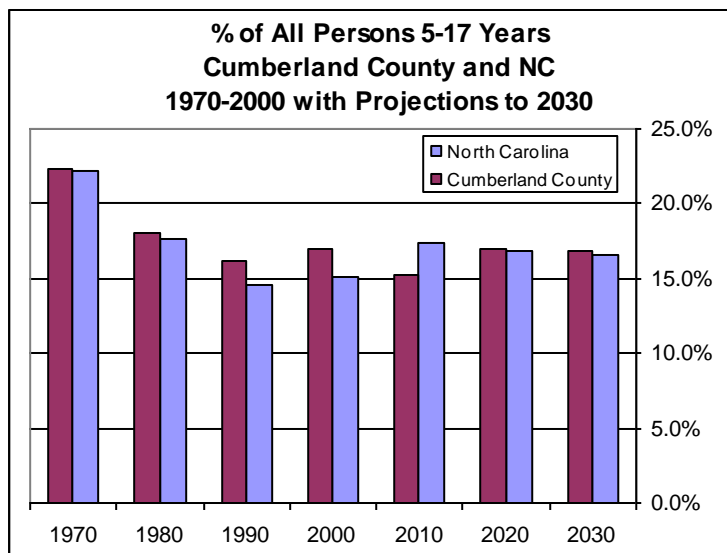
This map shows the percent change in population by township from 1990 to 2000 for Cumberland County and surrounding counties. The lightest shade shows townships that lost population or had a slight gain. The darker shades show townships that gained population.

Townships with the highest growth rate (75%+) were located in Hoke, Harnett, and Robeson Counties. Most of the high-growth townships were located close to Fort Bragg/Pope Air Force Base, the largest employment center in the region. Soldiers stationed at the military bases may have moved to residences in these townships.

County townships with a lower growth rate (35-75%) included Grays Creek (64%) and Rockfish (37%), both in the southwestern part of the County.

County townships with an even lower rate of growth (2.2-34.9%) included: Cedar Creek (21%), Pearces Mill (20%), Eastover (16%), Beaver Dam (14%), Carvers Creek (11%), and Seventy-First (11%).

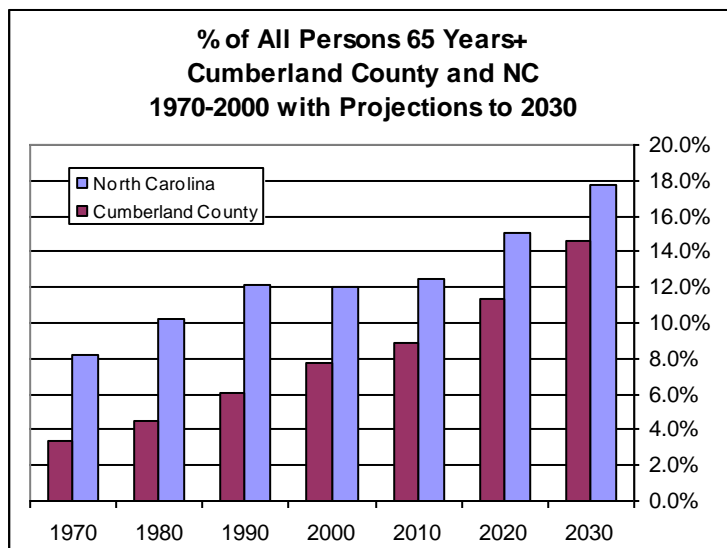
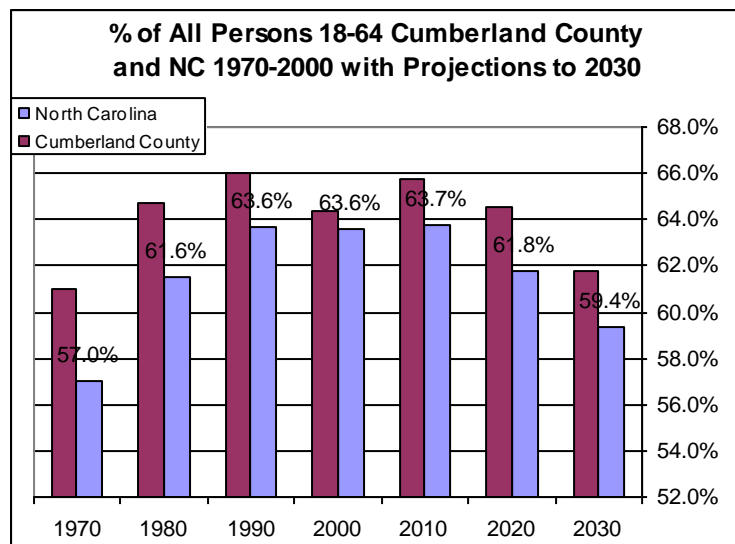
County townships with the lowest growth rate (-11.8% to + 2.1%) were located in the Cross Creek Township (which included the core of the City of Fayetteville). The Black River Township (located in the northeastern corner) decreased by 7%. The Manchester Township (which included Fort Bragg and Pope Air Force Base) decreased by 12%.



Population Composition

The percentage of the total population of Cumberland County represented by school-aged children (ages 5-17) showed relatively steady declines through the 1970's and 1980's. After a modest increase during the 1990's, the percentage of school-aged children is expected to decline again during the 2000's, then increase during the 2010's and level off through 2030. County percentages are expected to more closely align with state percentages during the 2010's and 2020's.

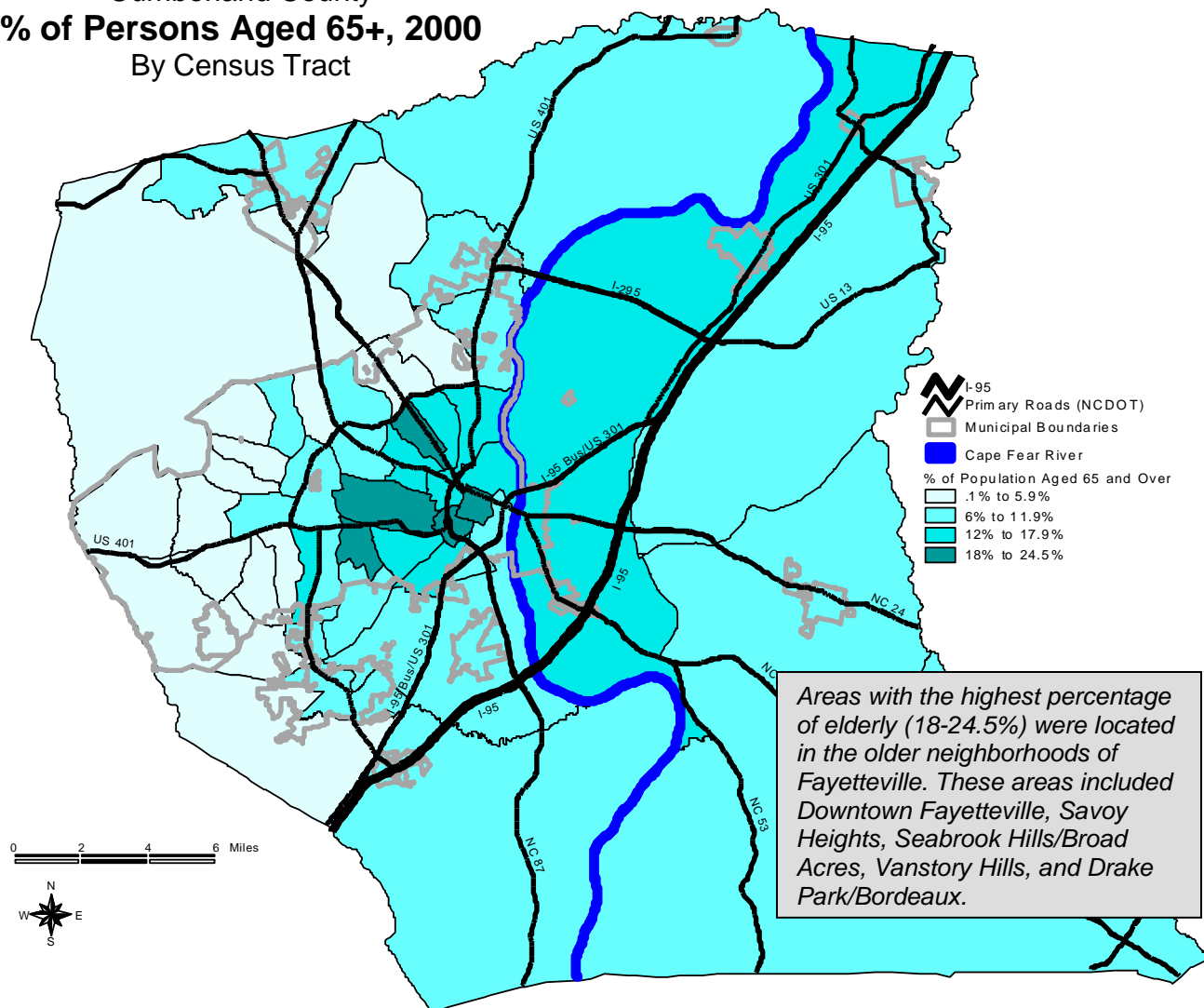
The working-age population of Cumberland County is expected to exhibit a classic, bell-shaped curve for the 60-year period from 1970 through 2030. Note how the working age population starts out very low as a percentage of the total population in 1970, peaks from 1990 to 2010, and then declines through 2030. Also observe that the percentage of school-aged children in Cumberland County is consistently higher than for the State throughout the entire period of analysis.



Cumberland County has a consistently smaller proportion of its total population in the 65 and over age group. These percentages fall short of those of the State, no doubt due to the younger than average military population of Cumberland County. Even so, past figures and projections for the County show a very steady increase in the ranks of elderly through 2030.

While the ranks of the young and middle-aged may rise and fall over the next 25 years, the population of senior citizens as a percentage of the total population will steadily increase.

Cumberland County % of Persons Aged 65+, 2000 By Census Tract



This map shows the percentage of the total population that was 65 years old and over in 2000, by census tract. The darkest shade shows the areas with the highest concentration of elderly.

According to the Census, there were 23,395 persons aged 65 and over in Cumberland County in 2000. This age group represented 7.7 percent of the County's population in 2000. Elderly people tend to live in very small households or alone, and some elderly people live in institutional settings.

Areas with the highest percentage of elderly (18-24.5%) were located in the older neighborhoods of Fayetteville. These areas included Downtown Fayetteville, Savoy Heights, Seabrook Hills/Broad Acres, Vanstory Hills, and Drake Park/Bordeaux.

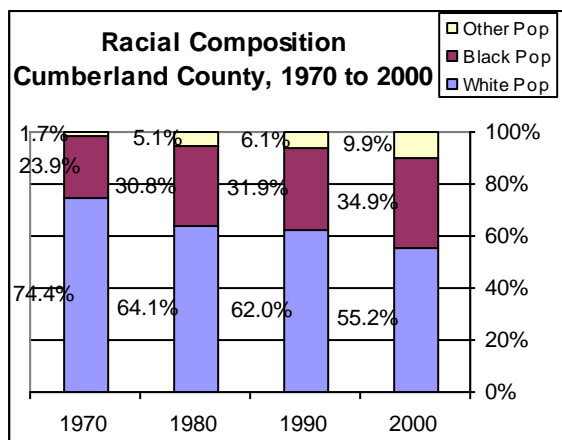
Areas with a lower percentage of elderly (12-17.9%) included older neighborhoods of

Fayetteville and the area between the river and I-95 (including towns of Wade and Godwin).

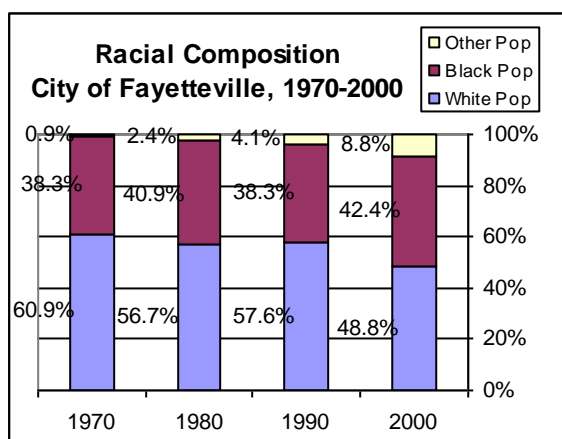
Areas with an even lower percentage (6-11.9%) included lands east of the river (including the towns of Stedman and Falcon), the area along US 401 N (including the town of Linden), and the areas north of Spring Lake.

Areas with the lowest percentage of elderly (.1-5.9%) were located on the western side of the County, north and south of Raeford Road. These areas had high rates of population growth during the 1990's. The low percentage of elderly in these western areas suggests that households here were made up of families with children.

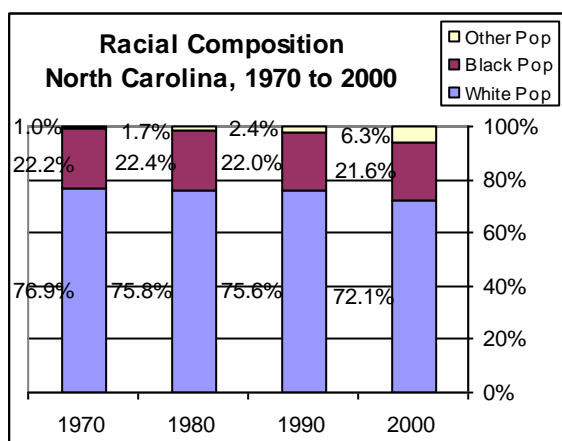
The military enclaves of Fort Bragg and Pope Air Force Base had the very lowest percentage of elderly persons.



The non-White population of Cumberland County has been increasing as a percentage of total County population for the past three decades. In 1970, only about 25% of the population was either Black or "Other". By 2000, minority populations made up about 45% of the population.



The non-White population of the City of Fayetteville, as a percentage of the total population, grew steadily from 1970 to 2000. During this period, the non-White population increased from about 40% of the City's population to more than half by the time of the 2000 Census. (Note: The major annexation of suburbs west of the City that took effect in 2005 will no doubt change these percentages once more.)



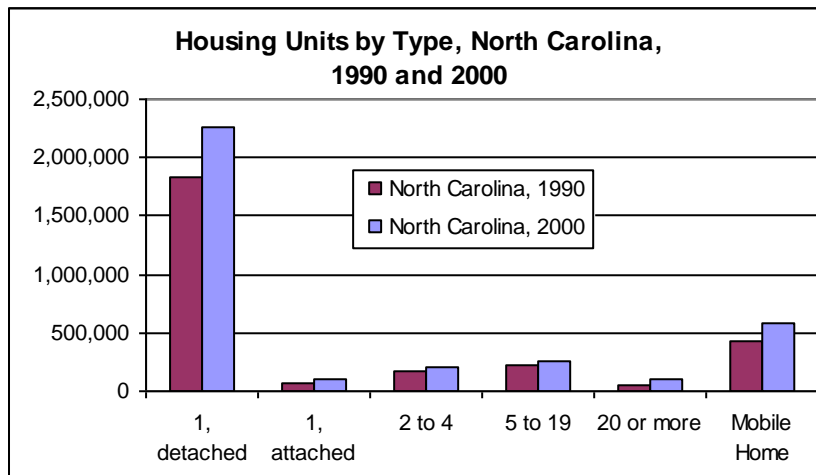
At the State level, the Black population as a percentage of the total population has remained steady at about 22% since 1970. "Other" racial groups have increased their percentage six-fold over the same period. The White percentage of the State's population has decreased from nearly 77% in 1970 to about 72% in 2000.

From 1970 to 2000, the White population of Cumberland County, the City of Fayetteville and North Carolina declined as a percentage of the total population to 55%, 49% and 72% respectively.

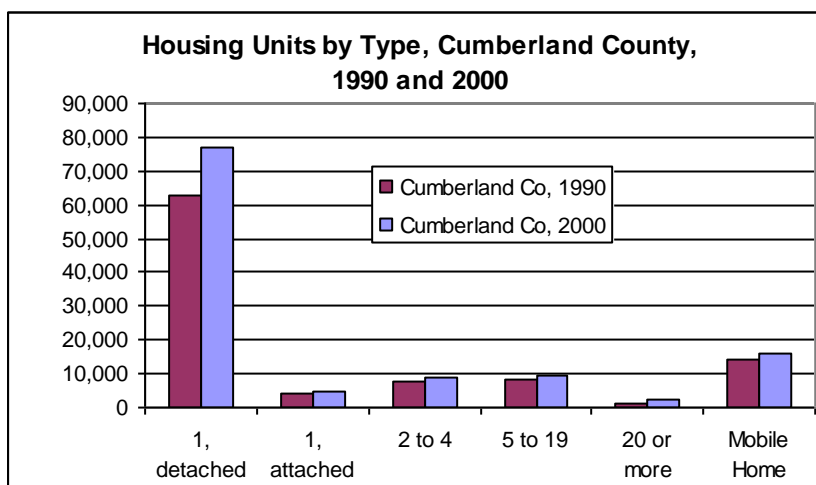
Note: No future projections for racial composition are available.

Housing

This section describes housing units in Cumberland County by housing type compared to the State of North Carolina. A series of maps are then employed to show the relative distribution of housing types throughout the county.

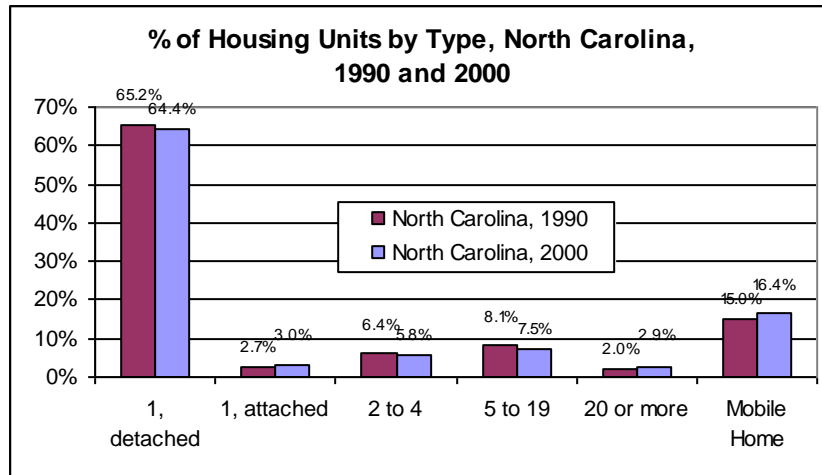


As seen on this page and the next, Cumberland County's housing stock very closely parallels that of the state as a whole. It is clear that the preponderance of housing units at both the State and local level is for *single-family detached homes*.

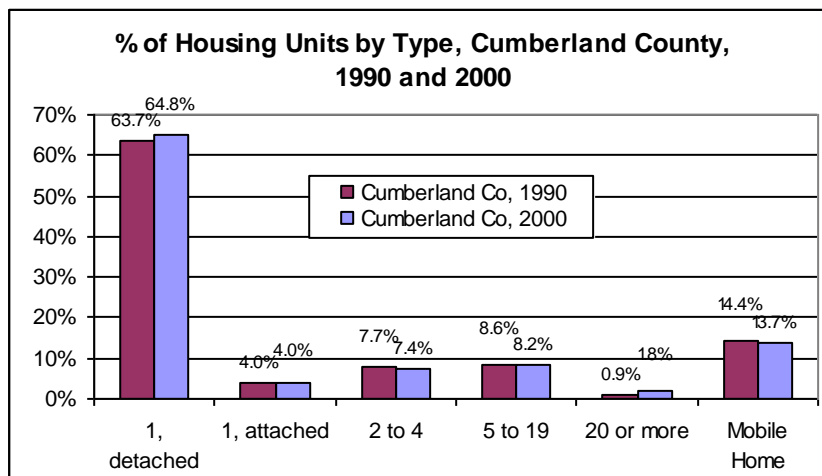


Note: The Census Bureau identifies *single-family attached homes* as basically townhouses, rowhouses and duplexes, where the housing unit extends all the way from ground level to the roof.

The distribution of housing in Cumberland County among various types closely parallels the State as a whole.

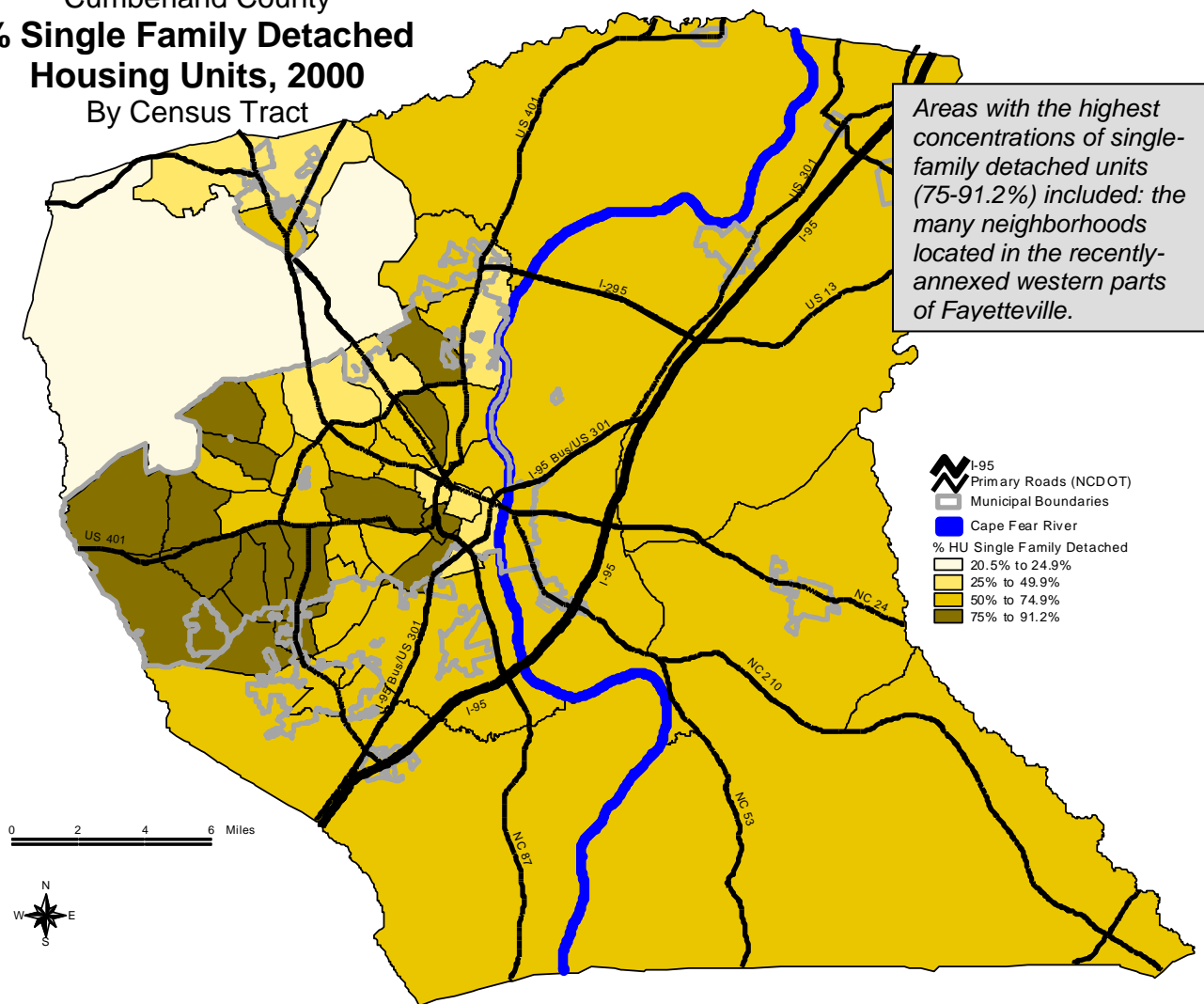


While the housing stocks of North Carolina and Cumberland County are similar to each other in many respects, the two charts on this page reveal two significant differences between state and local trends. First, observe that during the 1990's, the number of mobile homes as a percentage of the total declined in Cumberland County while increasing statewide. Second, the percentage of single-family detached homes is increasing at the County level and decreasing at the state level.



During the 1990's, the number of mobile homes as a percentage of all housing units declined in Cumberland County while increasing statewide.

Cumberland County
**% Single Family Detached
Housing Units, 2000**
By Census Tract



Areas with the highest concentrations of single-family detached units (75-91.2%) included: the many neighborhoods located in the recently-annexed western parts of Fayetteville.

This map shows single-family detached housing units as a percentage of the total in 2000, by census tract. The darkest shade shows areas with the highest concentration of single-family units.

According to the Census, 76,784 (64.8%) of the housing units in Cumberland County were single-family detached in 2000. (Another 4,755 units were classified as single-family attached, including side-by-side duplexes and townhouses.)

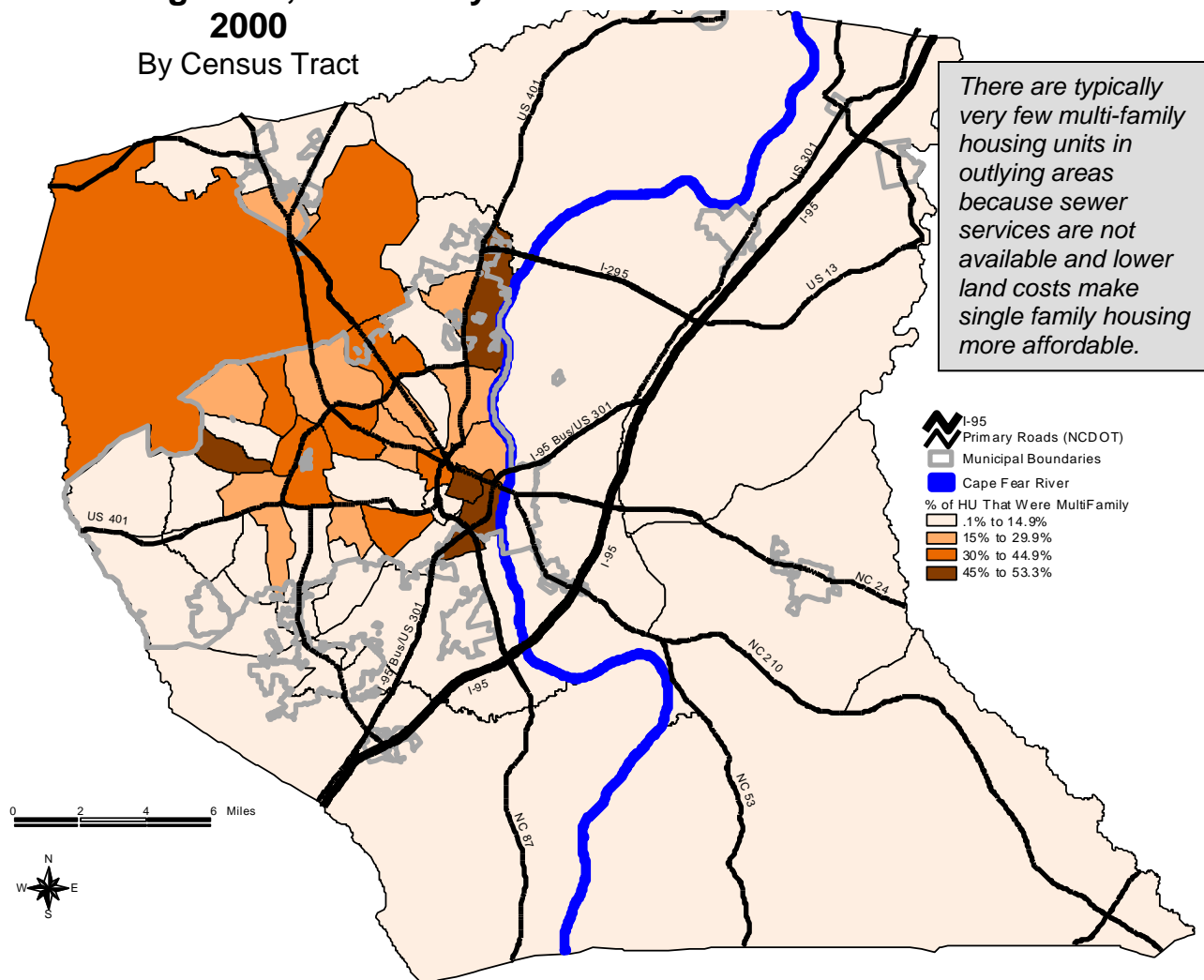
Areas with the highest concentrations of single-family detached units (75-91.2%) included: Vanstory Hills, Savoy Heights, Massey Hill, Broadell/Eccles Park, Hillendale/Tiffany Pines, Devonwood, Lagrange, and the numerous neighborhoods located in the recently-annexed parts of Fayetteville.

Areas having a lower concentration of single-family detached homes (50-74.9%) include most of the County.

Areas with an even lower concentration of single-family detached units (25-49.9%) included: Downtown Fayetteville, the Old Wilmington Road area, Haymount, Bonnie Doone, Shaw Heights, the area near Methodist College, and an area north of Spring Lake.

The area with the lowest concentration (20.5-24.9%) of single-family detached units is Fort Bragg/Pope Air Force Base. It should be noted that a large percentage (41.4%) of the housing units on the military bases is classified as single-family *attached*.

Cumberland County
% Housing Units, Multifamily
2000
 By Census Tract



This map shows the % of multi-family housing by census tract in 2000. The darkest shade shows areas of highest multi-family concentrations.

In 2000, there were 20,581 multi-family housing units (17.4%) in Cumberland County. (I.e. structures with 2 or more apartments or condominiums per building. Not included were 4,755 units classified as single-family *attached*, such as side-by-side duplexes and townhouses.

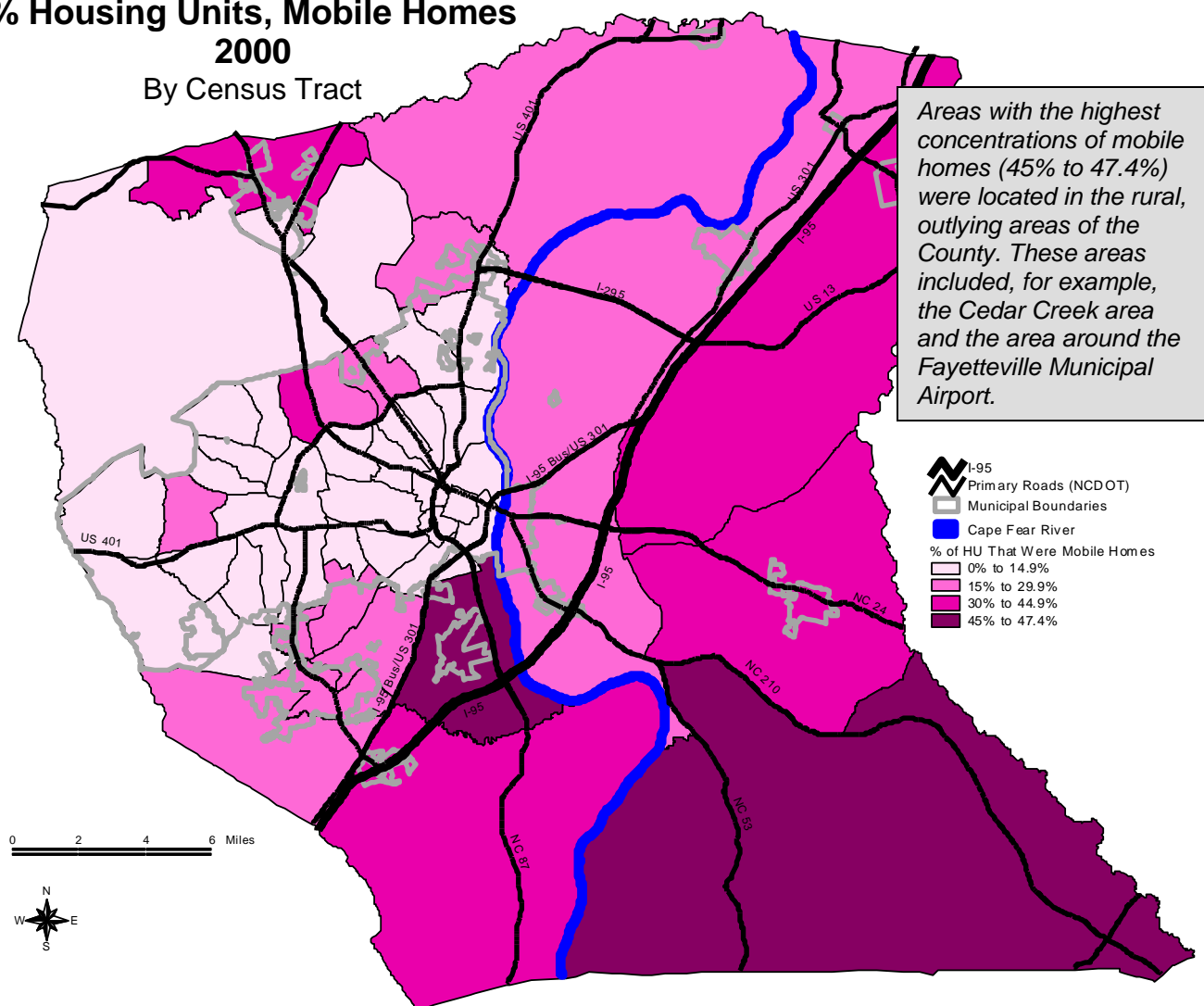
Many multi-family units (45-53%) were in two areas with multiple apartment complexes: (1) near Methodist College, and (2) along the north side of Cliffdale Road, near Reilly Road. Downtown Fayetteville also had many multi-family units; due to conversions of single-family units to duplexes. The Old Wilmington Rd area also ranked high, due to the presence of public housing.

Areas with a lower concentration of multi-family units (30-44.9%) included: Haymount, Briarwood, near Cross Creek Mall, along Bragg Boulevard (near the 401 Bypass), the Lake in the Pines area, the Westlake Road area, and Fort Bragg/Pope Air Force Base. The presence of multi-family in the Haymount area reflects several existing apartment complexes and infill development.

Areas having an even lower concentration of multi-family units (15-29.9%) included areas along Ramsey St, Bragg Boulevard, and Raeford Road.

Areas with the lowest concentration of multi-family (.1-14.9%) were located in the outlying, rural parts of the County. One reason was that these outlying areas have lacked access to water and sewer service, which is generally required for multi-family development.

Cumberland County
% Housing Units, Mobile Homes
2000
 By Census Tract



This map shows the percentage of housing units that were mobile homes in 2000, by census tract areas. The darkest shade shows areas with the highest proportion of mobile home units.

According to the 2000 Census, 16,264 (13.7%) of the housing units in Cumberland County were classified as a mobile home in 2000.

Areas with the highest concentrations of mobile homes (45-47.4%) were located in the rural, outlying areas of the County. These areas included, for example, the Cedar Creek area and the area around the Fayetteville Municipal Airport.

Areas having a lower concentration of mobile homes (30-44.9%) included the Grays Creek area,

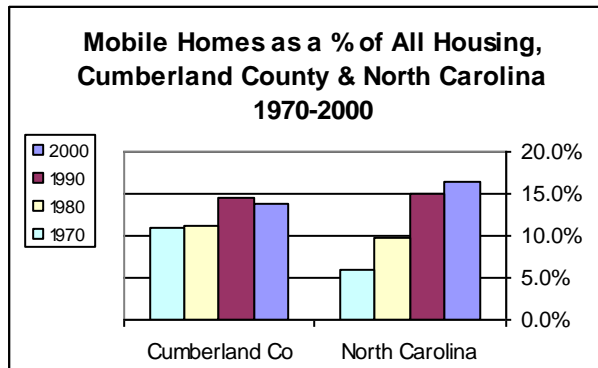
the area east of I-95, the areas north of Spring Lake, and the western side of Bonnie Doone.

Areas having an even lower concentration of mobile homes (15-29.9%) included areas between the Cape Fear River and I-95, areas along US 401 North, areas north and south of Hope Mills, the Southgate-Scotsdale area, the eastern side of Bonnie Doone, and the Shaw Heights-University Estates area.

Areas with no mobile homes or the lowest concentrations (0-14.9%) were located in Fort Bragg/Pope Air Force Base and the core areas of the City of Fayetteville. The City of Fayetteville has traditionally not allowed mobile homes except in approved mobile home parks.

A Focus on Mobile Homes

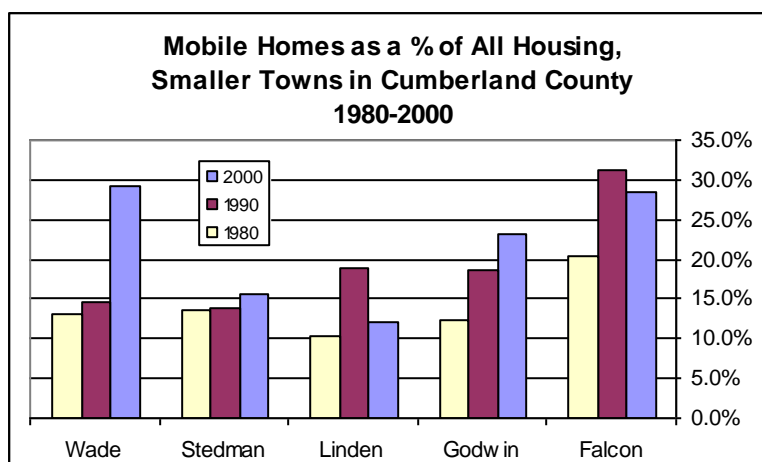
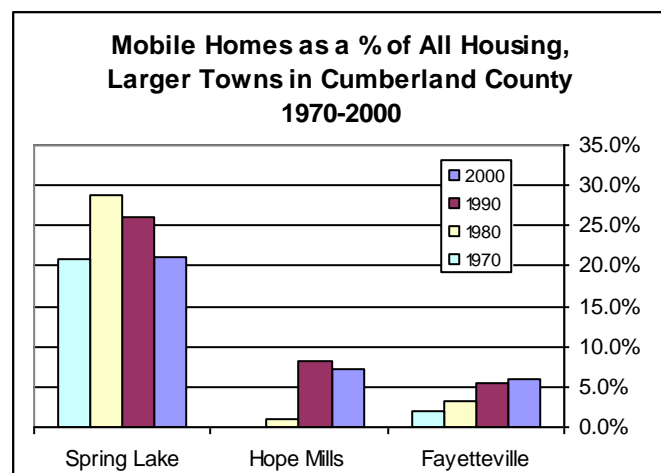
The location and number of mobile homes are often the subject of some interest at the local level. Reasons for this interest have historically related to the impact of mobile homes on nearby property values, tax revenues generated, appearance and abandonment issues, and encroachment into farmland areas. The purpose of this section is not to determine whether these issues are perceived or real. Rather, this page of graphs simply summarizes the numbers and locations of Cumberland County's mobile home housing stock.



As shown in the chart on the left, increases in the size of North Carolina's mobile home housing inventory appear to have abated during the 1990's compared to the previous two decades. Having risen from 5% of the total in 1970 to 10% in 1980 and to 15% in 1990, the percentage was calculated at about 17% in 2000. At the same time, Cumberland County's mobile home housing stock fell from 14% of the total in 1990 to 13% at the time of the 2000 Census.

Among the County's larger municipalities, Spring Lake clearly has the highest percentage of mobile homes. Even so, that percentage rapidly declined during the 1980's and 1990's-- from nearly 30% of all homes in 1980 to about 20% by 2000.

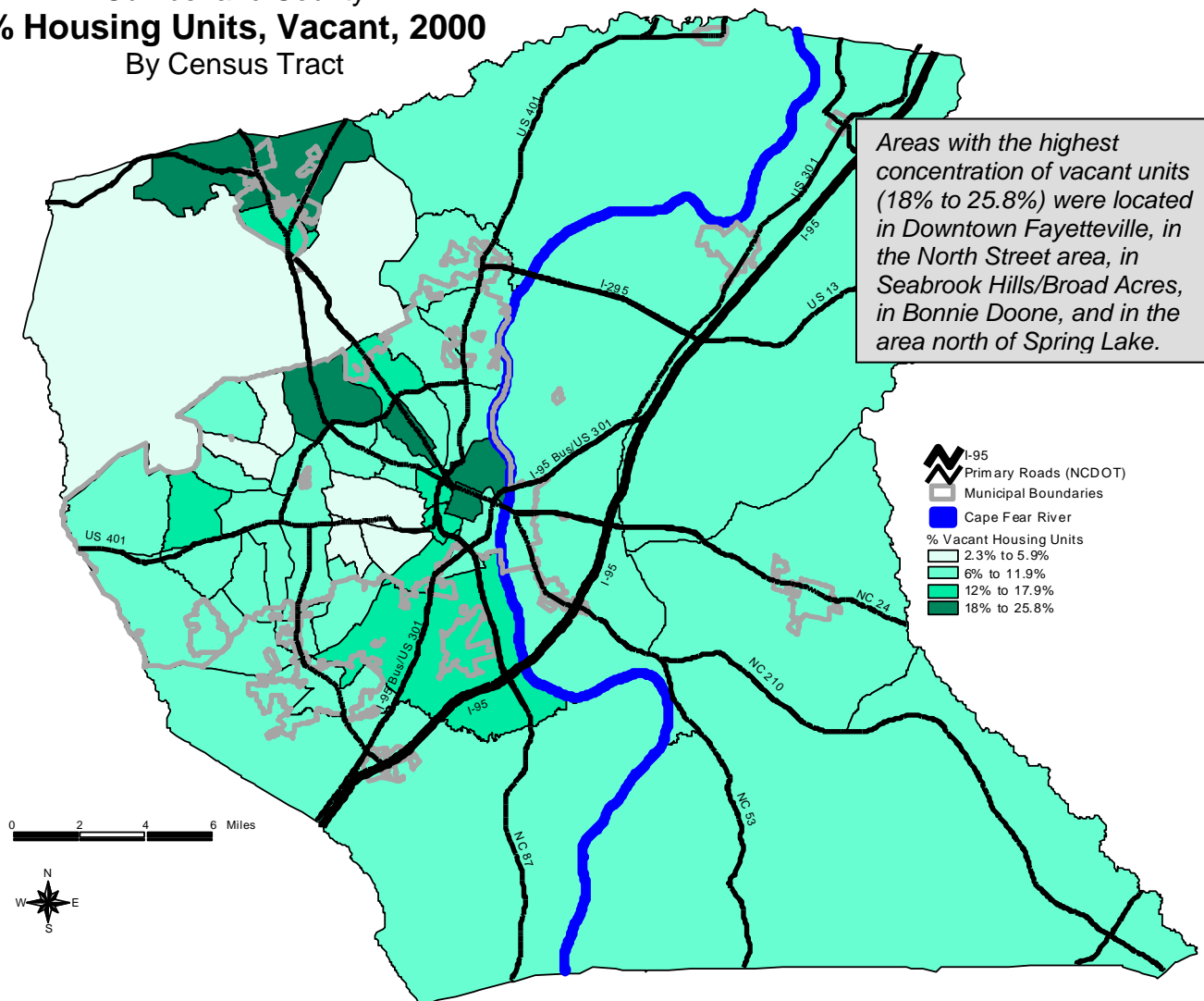
While the Town of Hope Mills and the City of Fayetteville have seen their percentage of mobile homes increase, these increases are largely due to annexation of existing homes rather than new mobile home placements.



Smaller towns in Cumberland County have seen general increases in the percentage of their housing stock made up of mobile homes. Wade and Godwin, in particular, have experienced substantial increases in mobile home placements since 1980. Linden and Falcon saw some reduction in mobile home placements relative to other types of housing during the 1990's.

In Cumberland County, the percentage of all housing made up of mobile homes decreased during the 1990's while continuing to

Cumberland County % Housing Units, Vacant, 2000 By Census Tract



This map shows the percentage of housing units that were vacant in 2000, by census tract. The darkest shading shows the areas with the highest concentration of vacant units.

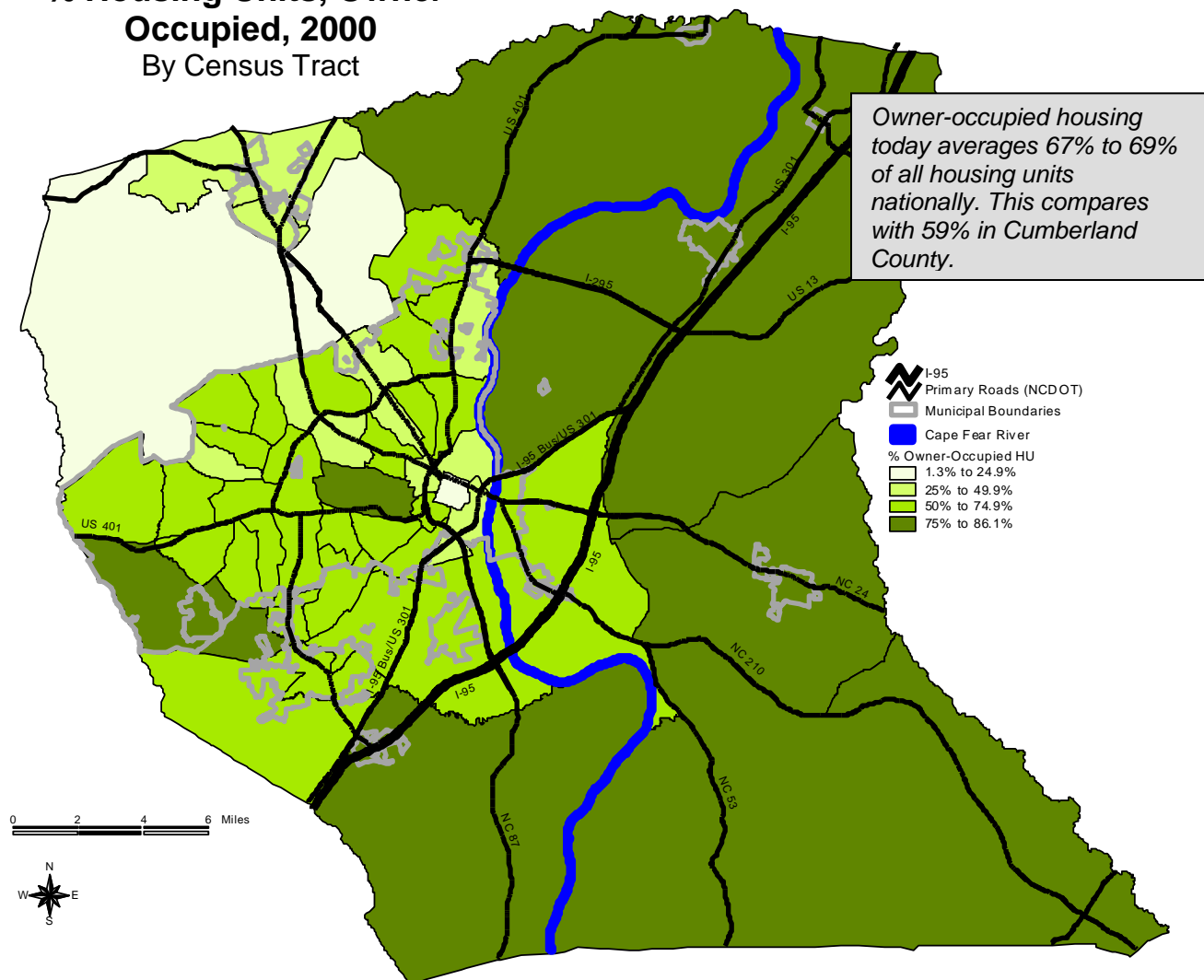
According to the 2000 Census, there were a total of 118,425 housing units in Cumberland County. Of these units, 107,358 (90.7%) were occupied, and 11,067 (9.3%) were vacant. Housing vacancy rates can often be an indicator of neighborhood stability.

Areas with a lower concentration of vacant units (12-17.9%) were located in the Shaw Heights area, in Haymount, in Savoy Heights, in Massey Hill, in Spring Lake, in Southgate/Scotsdale, along Legion Road (north of Hope Mills), and around the Fayetteville Municipal Airport.

Areas with an even lower concentration of vacant units (6-11.9%) were located throughout the County. Most of the area of the County fell into this category.

Areas with the lowest concentrations of vacant units (2.3-5.9%) included Fort Bragg/Pope Air Force Base, and neighborhoods such as Devonwood, Cottonade, Vanstory Hills, Briarwood, and Drake Park/Bordeaux.

Cumberland County
% Housing Units, Owner-Occupied, 2000
 By Census Tract



This map shows the percentage of housing units that were owner-occupied in 2000, by census tract. The darkest shading shows areas with the highest concentration of owner-occupied units.

According to the US Census, there were 107,358 occupied housing units in Cumberland County in 2000. Of these, 63,736 (59.4%) were owner-occupied. Home-ownership is one indicator of neighborhood stability.

Areas with the highest rate of owner-occupancy (75-86.1%) were in more rural, outlying areas. (including the towns of Linden, Falcon, Godwin, Wade, and Stedman and the area around the Gates Four community.) One exception was the Vanstory Hills neighborhood in Fayetteville.

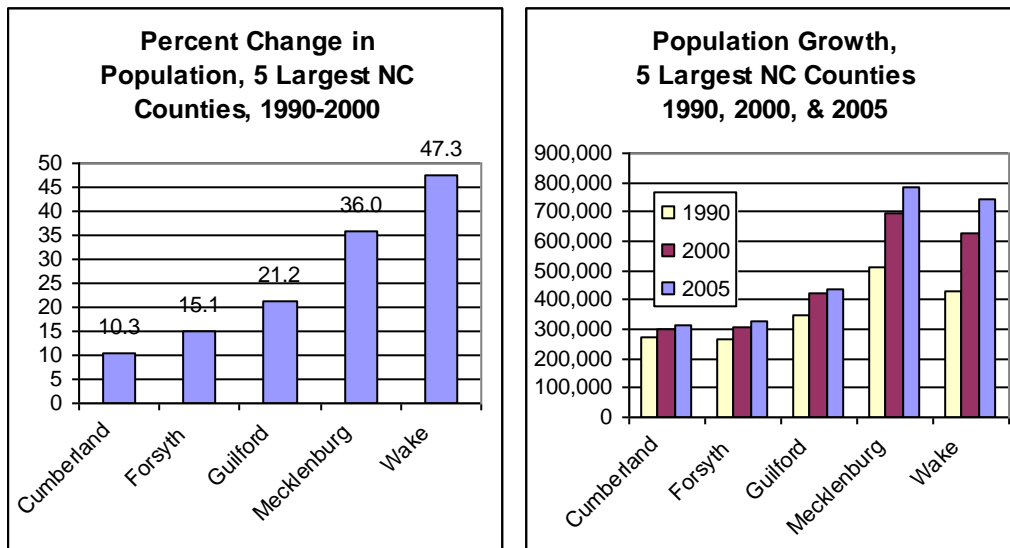
Areas with a lower owner-occupancy rate (50-74.9%) were in the more urbanized parts of the county.

Areas with an even lower rate of owner-occupancy (25-49.9%) included the Old Wilmington Road area and the North Street area adjacent to Downtown Fayetteville. These areas contain public housing complexes. Other areas included: Haymount, areas along Murchison Road, the west side of Bonnie Doone, areas near Methodist College, areas along the north side of Cliffdale Road, and areas east of Cross Creek Mall.

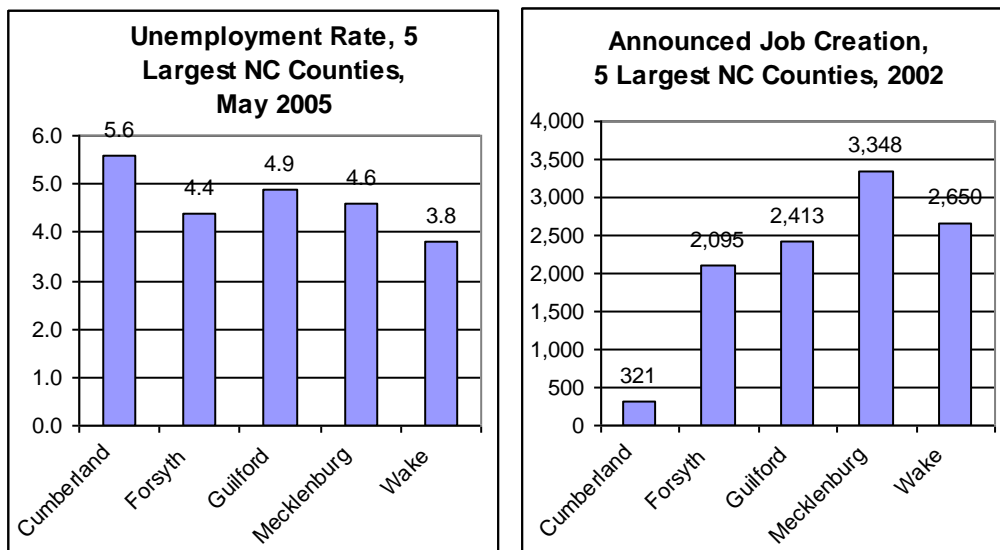
Areas with the lowest rate of owner-occupancy (1.3-24.9%) were located in Downtown Fayetteville and at Fort Bragg/Pope Air Force Base, where the military owns the housing.

Economic Indicators for Cumberland County

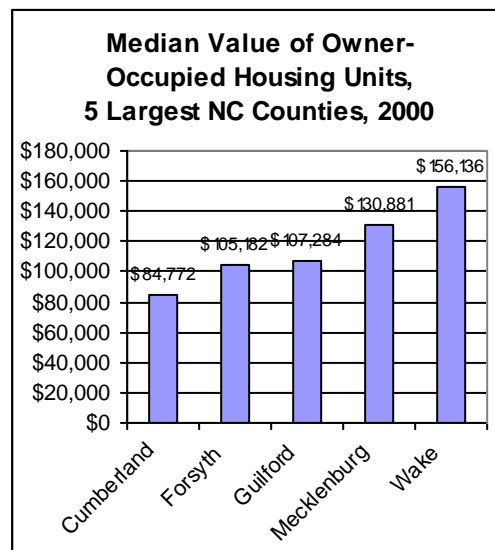
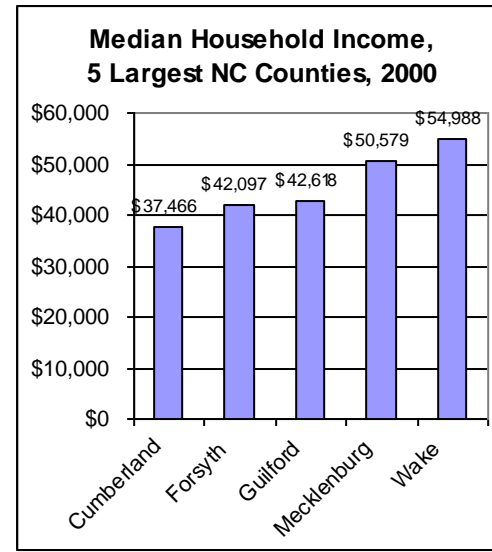
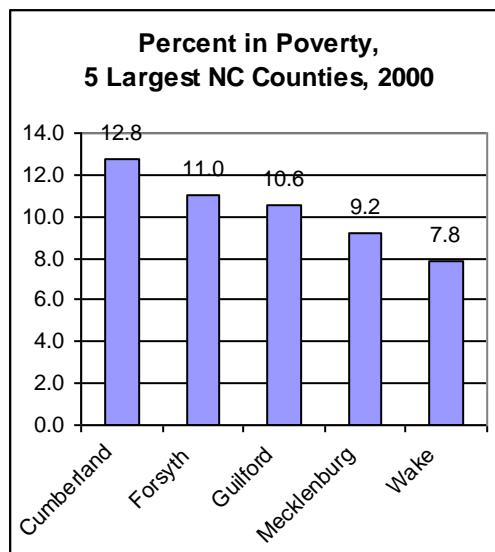
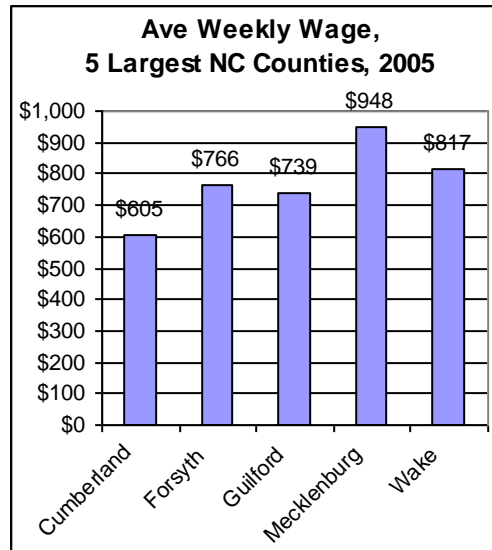
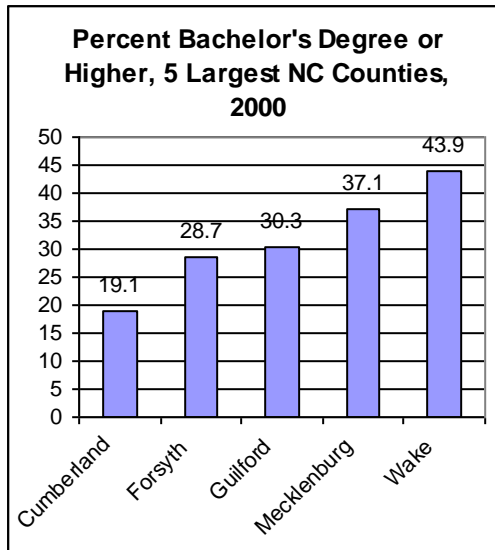
Cumberland County is the fifth most populated in North Carolina. This section compares certain key economic indicators for Cumberland County with the four other most populated counties in the state: Forsyth (Winston-Salem), Guilford (Greensboro), Mecklenburg (Charlotte), and Wake (Raleigh).



Having started from a smaller population base to begin with, Cumberland County's growth since 1990 has been outstripped by the other four largest counties in the state. Significantly, the three fastest growing counties, Guilford, Mecklenburg and Wake, are all part of the economic powerhouse arching across the middle of the state, known as the Piedmont Crescent.



There is a strong correlation between unemployment rates and job creation. A review of statistics over many years would show that Cumberland County has a consistently higher unemployment rate and consistently lower levels of job creation relative to the four other largest counties in the state.

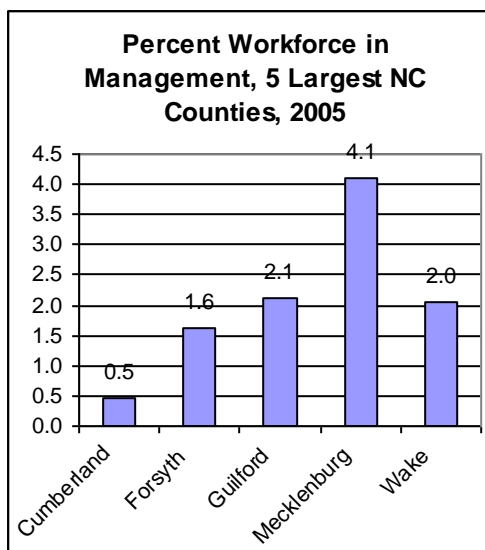
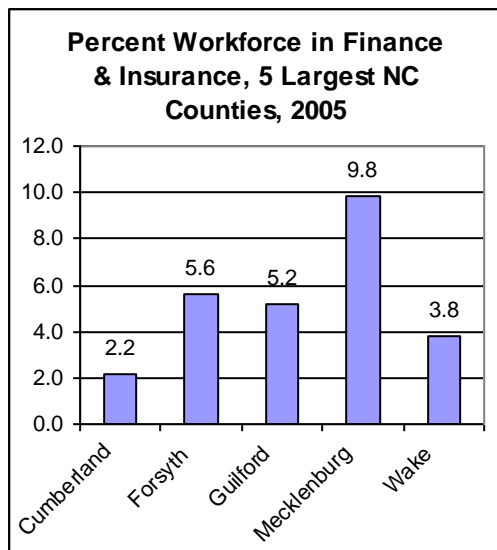


All five charts on this page tell the same story. There is clear relationship between education and economic well-being. A higher level of education results in higher paying jobs, less poverty, and higher household incomes. Finally, higher household incomes enable the purchase of more expensive housing.

Of the five largest counties in North Carolina, Cumberland County had the fewest college graduates, the lowest average weekly wage, the highest poverty rate, the lowest household income and the least expensive housing.

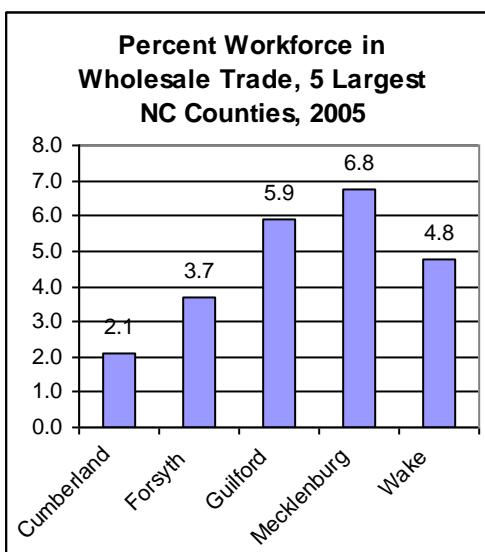
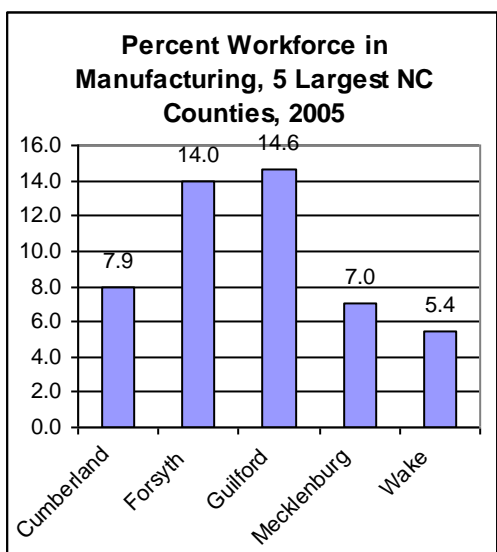
Industry Groups With Lower Than Average Employment in Cumberland County

The charts on this page and the next identify six industry groups that have less than average employment in Cumberland County compared to the other four most populated counties in the state. The six groups are: (1) Finance and Insurance, (2) Management, (3) Wholesale Trade (4) Manufacturing and (5) Information and (6) Professional and Technical Services.



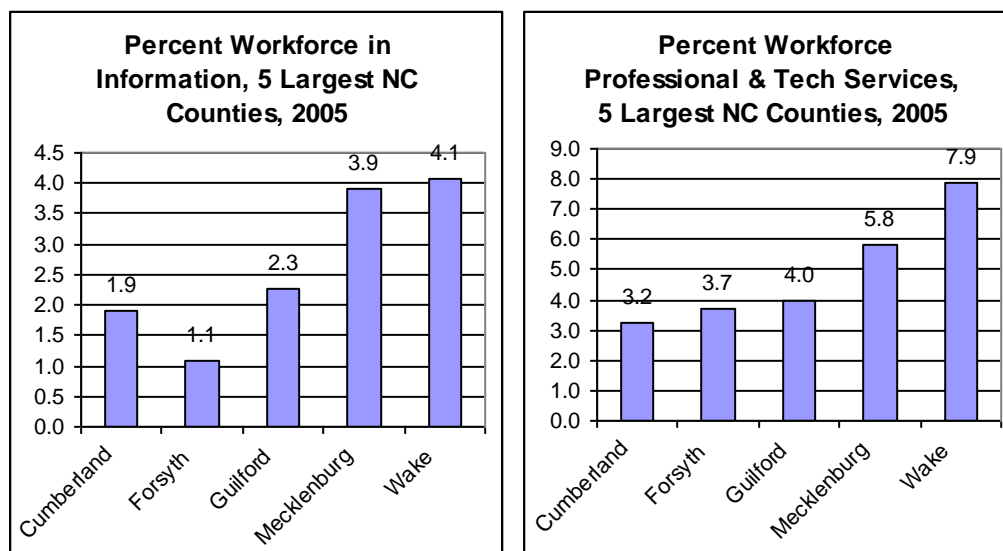
The two charts to the left clearly show Mecklenburg County's dominance as a major financial and corporate center in the Southeastern United States.

The two charts below confirm the Piedmont Triad counties of Forsyth and Guilford as the traditional manufacturing and distribution centers that they continue to be, despite nationwide declines in manufacturing employment. Note that while manufacturing employment as a percentage in Cumberland County exceeds that of Mecklenburg and Wake Counties, it remains below the current state average of 15% for all 100 counties.



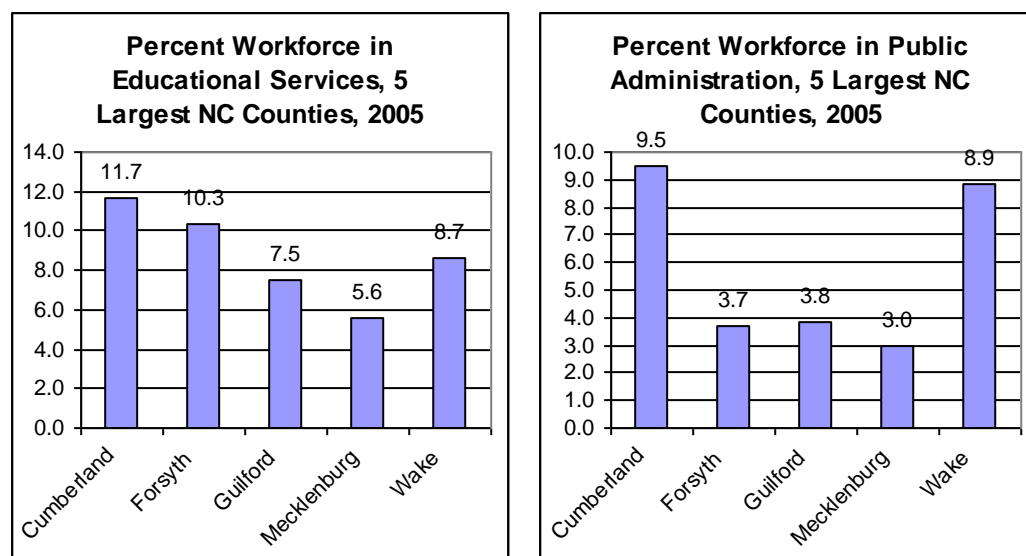
Cumberland County has a much smaller percentage of its work force in "professional" industry segments than do the other four largest counties in the state.

As shown in the charts below, while Wake County has neither the financial dominance of Mecklenburg County nor the manufacturing presence of Forsyth and Guilford Counties, it does stand out as the leader of the five in *Information and Professional and Technical Services*, two of the fastest growing segments of the U.S. economy.

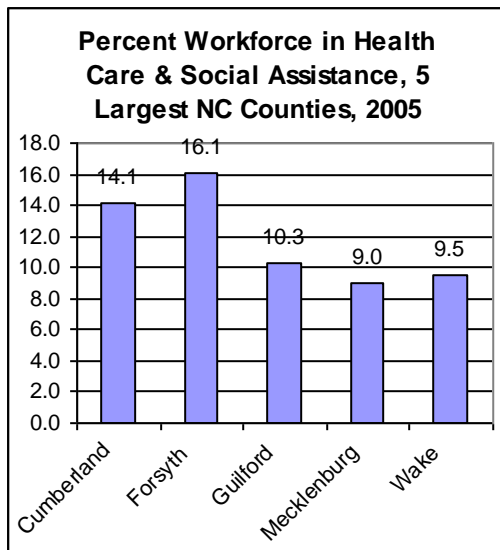


Industry Groups With Higher Than Average Employment in Cumberland County

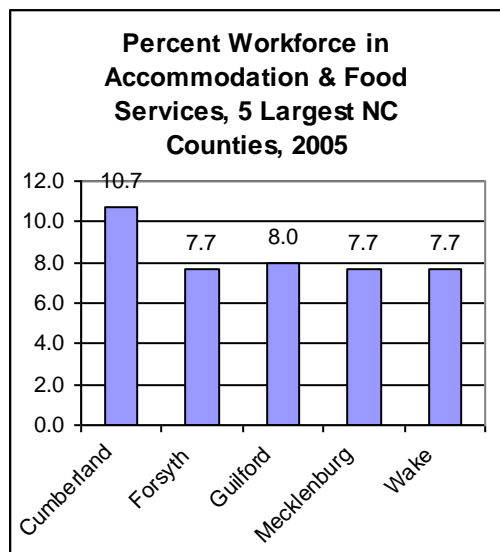
The charts on this page and the next identify five industry groups that have higher than average employment in Cumberland County compared to the other four most populated counties in the state. The five groups are: (1) Educational Services, (2) Health Care and Social Assistance, (3) Public Administration (4) Accommodation and Food Services and (5) Retail Trade. (The one exception is in *Health Care and Social Assistance*, where Cumberland County comes in a close second) As shown in the two charts below, Cumberland County's percentage of its total work force in *Educational Services* is more than twice that of Mecklenburg County's. Cumberland County's percentage of employment in *Public Administration* exceeds even that of Wake County, home of the state capitol and over a dozen incorporated municipalities.



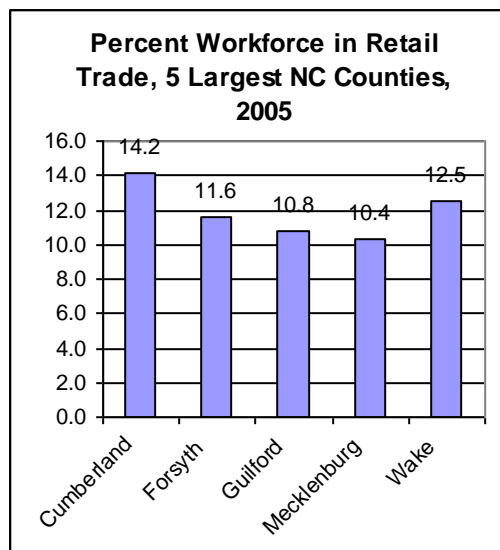
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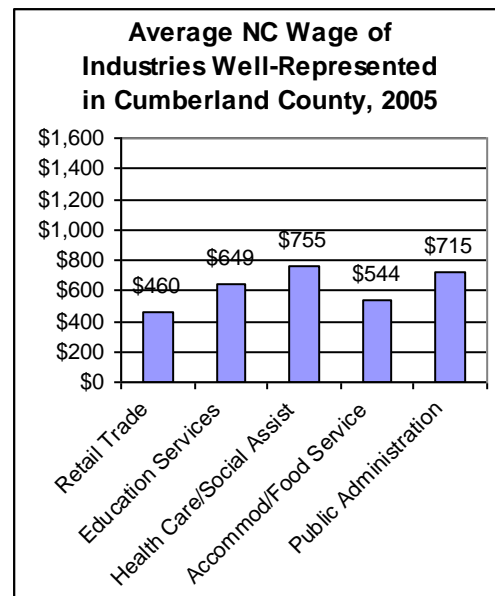
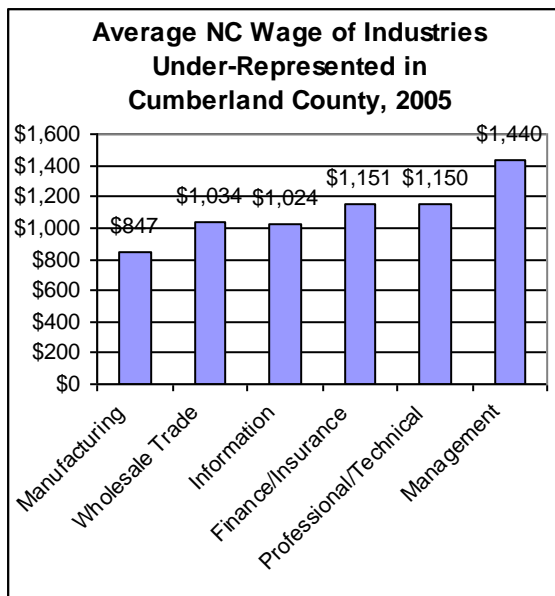
Cumberland County's percentage of employment in Health Care and Social Services is second only to Forsyth County and exceeds the other three counties by as much as five percentage points in this sector.



Cumberland County stands alone among the four other largest counties in the state in terms of employment in *Accommodation and Food Services* as a percentage of the total. This figure is perhaps heavily influenced by the number of food service workers it takes to feed the tens of thousands of soldiers at Fort Bragg.



Interestingly, Cumberland County also exceeds the other four counties in the percentage of total employment in *Retail Trade*.



The two charts above illustrate with striking clarity why *average weekly wage* and *median household income* in Cumberland County are the lowest of the five most populated counties in North Carolina. Cumberland County's principal industry groups pay about half the average wage of the principal industry groups of the other four counties.

In 2005, the average wage of industries under-represented in Cumberland County was about two times the average wage of industries well-represented.

A Note on the Influence of the Military on the Local Economy

No assessment of economic indicators for the Cumberland County area would be complete without acknowledgement given to the influence of the military on the local economy. As the area's single largest employer, Fort Bragg and Pope Air Force Base have a huge impact on area economic conditions. Because of the importance of the military to the local economy, a separate full section of this report has been set aside exclusively to cover that subject. (See Military Influence in the Region)

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Military Influence

For nearly a century, Fort Bragg has been almost synonymous with Fayetteville and Cumberland County. As the area's single largest employer, Fort Bragg (and Pope Air Force Base) has a huge impact on area growth and economic conditions. Given the importance of the military to the region, this separate white paper has been set aside exclusively to address the influence of the military on the local economy.

*Note: As this is being written (2006), major changes are set to occur at Fort Bragg and Pope Air Force Base, due to decisions emerging from the recent, congressionally authorized Base Realignment and Closure process. Conditions and information presented in this white paper will likely be quite different by the time the 2030 Plan Policies are written, reviewed and adopted. For the most recent information concerning regional impacts and plans for implementing the BRAC realignment at Fort Bragg, go to www.bractf.com (**BRAC Regional Task Force: Community Planning for BRAC Implementation**)*

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Population and Land Area

Ft. Bragg, home of the XVIII Airborne Corps and the US Army Special Operations Command, covers approximately 251 square miles and includes land area within Cumberland, Harnett, Hoke and Moore Counties ([Exhibit 1](#)). The base's pre-Iraq active duty population was approximately 45,000. Currently, Fort Bragg is home to a population of 52,280 (includes Active Army Reserves and National Guard). With family members, retirees, contractors, civilian employees and other military personnel included, the army base supports a population of over 241,000 ([Exhibit 2](#)). Within Ft. Bragg is Pope Air Force Base, home to the 43rd Airlift Wing which includes 3,600 personnel and the 23rd Fighter Group with about 860 personnel.

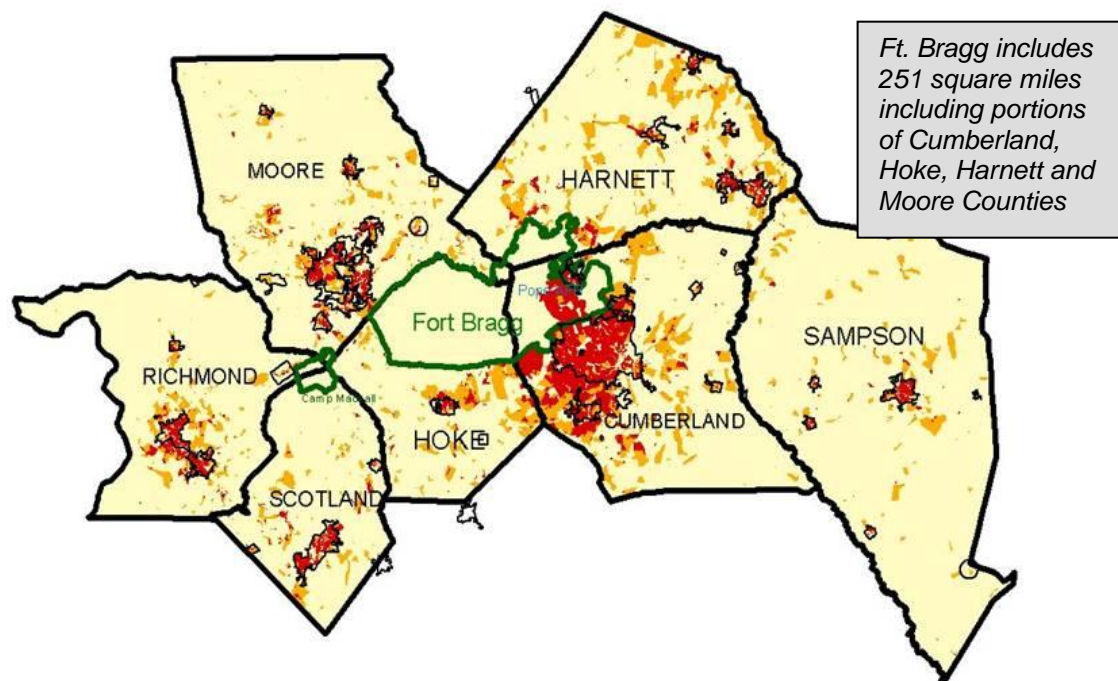


Exhibit 1

Exhibit 2: Fort Bragg Demographic Profile 2006

Active Duty Military	52,280
Annual Reserve Components	9,503
Temporary Duty Students	3,121
Mobilized Soldiers Assigned	2,742
Civilian Employees	8,757
Contractors	3,516
Active Duty Family Members	62,962
Retirees and Family Members	98,507
Total Population Supported	241,388

Economic Impact

Dr. Sid Gautam of the Center for Entrepreneurship at Methodist College, in May 2000, conducted an Analysis of the Economic Impact of Ft. Bragg and Pope Air Force Base. Among his conclusions were the following:

- Ten classes of payroll dollars contribute \$1.2 billion in wages for 50,000 jobs and result in an economic impact of \$3.48 billion annually
- Ft. Bragg and Pope Air force Base represent no less than 35% of the economies of Cumberland and Hoke Counties--on the order of fifteen times the impact of the area's largest manufacturing facility.
- By itself, Bragg-Pope would be North Carolina's eighth largest metropolitan economy."
- A very significant part of military payrolls go to long-term residents. On average, a Bragg-Pope dollar circulates 2.64 times through the economy in a year.
- While Fort Bragg dominates, Pope is a huge factor on its own: Fort Bragg outweighs Pope Air Force Base in economic impact by about 8:1, but this still means that Pope contributes nearly \$400 million to the economy. By comparison, this is roughly twice the impact of Kelly-Springfield to the Fayetteville area."

Ft. Bragg and Pope Air force Base represent no less than 35% of the economies of Cumberland and Hoke Counties--on the order of fifteen times the impact of the area's largest manufacturing facility.

BRAC (Base Re-Alignment and Closure) Ramifications

BRAC will have a positive effect on Ft. Bragg and the surrounding communities both in terms of numbers of soldiers and also in construction dollars expended. Exhibit 3 shows forces that will be gained or lost (Pope Air Force Base will be absorbed into Ft. Bragg) as the BRAC recommendations are implemented. These changes will result in a net gain of 6, 772 military personnel and 12,190 family members (total 18,962). Personnel are expected to arrive at Ft. Bragg over a 5 year period, starting in about 2011. Included in these numbers is the Ft. McPherson headquarters which will deliver twelve general officers and attendant staff. This command will create a need for on-post housing for the general officers and off post housing for lower ranking officers (Majors and Lt Cols).

The number one issue affecting Ft. Bragg's planning for its continued mission is having very limited areas for growth due to development constraints.

Military construction for FY05 – FY11 was estimated at \$1.147 billion pre-BRAC. The Post BRAC estimate for FY07 construction funding alone is predicted to be on the order of \$1.57 billion.

AGGREGATE ARMY POPULATION GROWTH FROM FY05 TO FY11

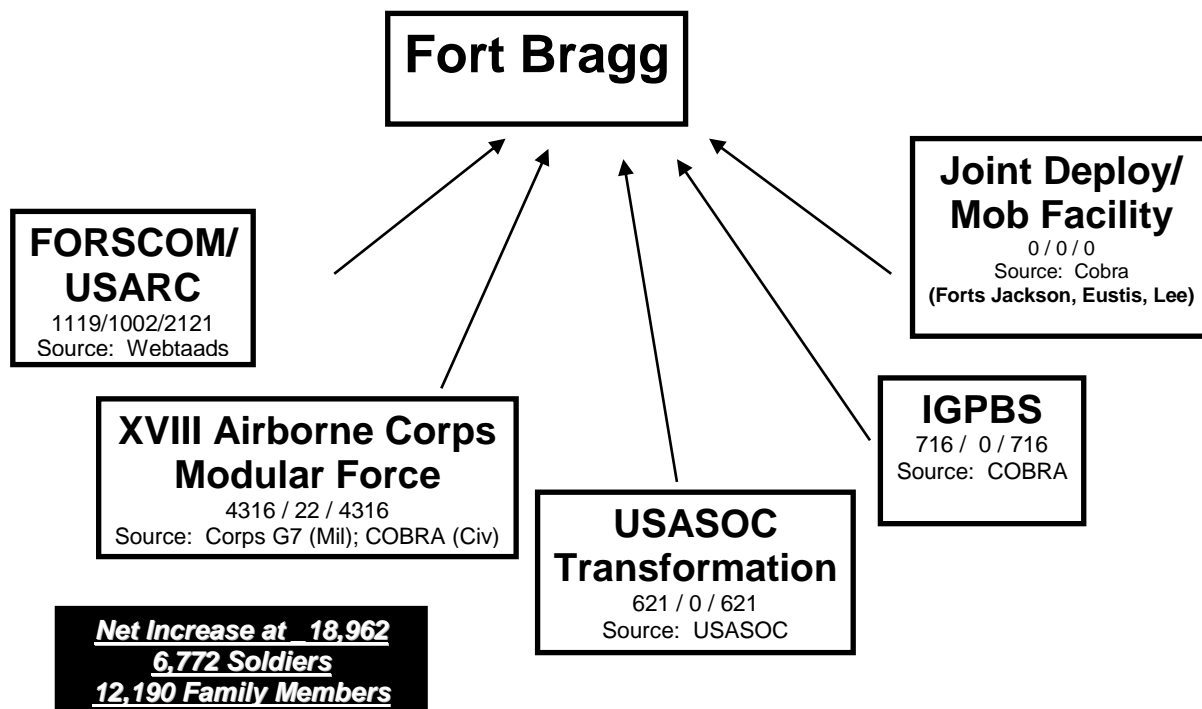


Exhibit 3

Constraints to the Military Mission

Ft. Bragg is postured for no-notice worldwide deployment by air, sea, and land. Its mission includes training, mobilization and rapid deployment. The number one issue affecting Ft. Bragg's planning for its continued mission is having very limited areas for growth due to development constraints.

One development constraint is the Post's mandate for recovery of the red cockaded woodpecker – an endangered species. While areas outside of Ft. Bragg are prevented from disturbing RCW habitat, Ft. Bragg is charged with its actual recovery. Lying in the midst of one of the last longleaf pine forests, this fragile ecosystem presents a challenge for training and growth.

An additional constraint is development occurring on the fringes of Ft. Bragg that is not compatible with the activities on post. Exhibit 4 is an oblique aerial photo showing residential development huddled close to training drop zone on Ft. Bragg. Though few houses are located within designated noise contours or accident potential areas of the base, the impacts on residents include noise and vibration. Ft. Bragg has adjusted training areas to avoid conducting dangerous operations in close proximity to urban development.

*Exhibit 4: Development **Near Fort Bragg's Ste. Mere Eglise Drop Zone***



North Carolina Military Business Center

According to the North Carolina Military Business Center (NCMBC) web site, the center is...

*“a collaborative effort between North Carolina business and industry and the North Carolina Community College System. Funded in 2004 by a grant from the North Carolina General Assembly, the NCMBC operates under the supervision of Fayetteville Technical Community College. The NCMBC has satellite locations at Craven Community College, Coastal Carolina Community College and Wayne Community College. The NCMBC is also working through the 53 Small Business Centers located at the other Community Colleges across the state to provide services. The **mission** of the Military Business Center is to leverage the presence of the military in North Carolina to promote economic development and quality of life for all.*

The goals of the NCMBC are:

- *To increase military business for existing North Carolina companies*
- *To integrate transitioning military personnel and family members into the workforce*
- *To support recruitment and development of defense-related businesses in North Carolina*

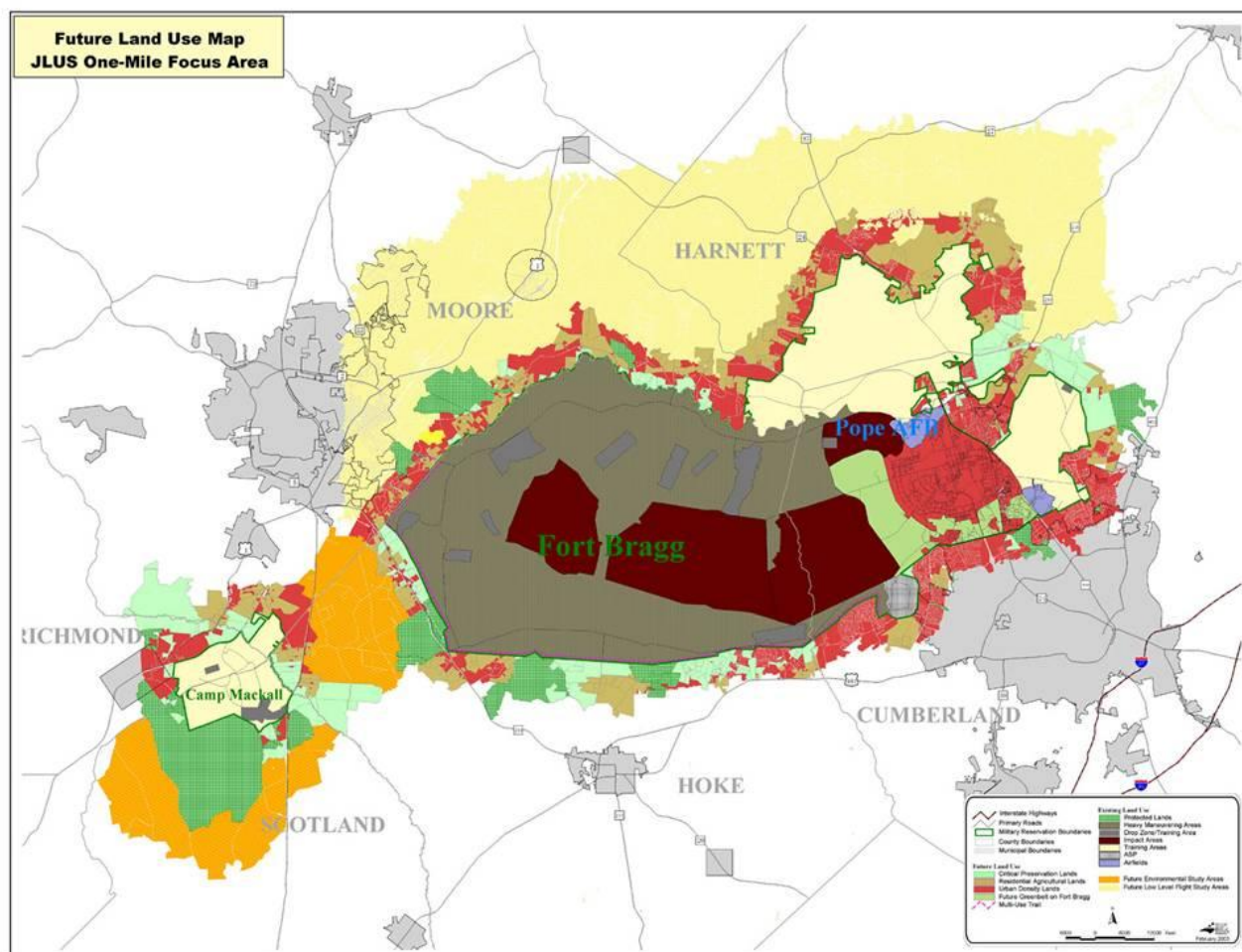
An August 2005 Interim Report from the Center's Director Scott Dorney states that 31 training sessions have been held with small businesses and 65 briefings and meetings have been held with government agencies, chamber leadership and other civic organizations. In addition, a direct e-mail campaign has been sent to over 6,000 North Carolina businesses and numerous training opportunities for small businesses have been arranged. The report concludes “...*The General Assembly's investment in the North Carolina Military Business Center will result in more federal contracts, revenues and jobs for these businesses – and improved quality of life for everyone in North Carolina.*”

Opportunities for Cooperative Planning

The Regional Land Use Advisory Commission (RLUC) was formed in the late 1980's to afford local governments the opportunity to meet and plan with military officials. The recommendations of this early Commission were not widely implemented. The Commission was revived in 2000 with a new purpose – to look at compatible development with an eye to the impending Base Realignment and Closure activities. The resulting report recommended several actions that were endorsed by a majority of the RLUC members (spring 2003) but not endorsed by Cumberland or Hoke Counties (two counties with the largest land area adjacent to the post).

Exhibit 6 (next page) shows the study map outlining a one-mile buffer area and recommendations for land use and preservation of these areas. A subsequent Small Area Study conducted by Cumberland County outlined *compatible development* opportunities for a great percentage of lands to be protected as well as a process for *open space agreements* between the County and rural landowners. The Small Area Study was endorsed in concept by the Cumberland County Board of Commissioners to begin offering the open space agreements; subsequent zoning changes have yet to be recommended to the Board for consideration.

Exhibit 6



An additional opportunity for joint planning lies in an organization called the Sustainable Sandhills. Sustainable Sandhills was an initiative developed by Ft. Bragg to ensure that their military mission could be supported without depleting the natural resources needed to sustain their presence. Ft. Bragg set goals in the areas of land use, air quality, water conservation, materials use and energy use. These ambitious goals are supported by the Department of the Army and are intended to reduce the amount of natural resources consumed by the military.

Working with the Department of Environment and Natural Resources, efforts have been made to promote the Sustainable Sandhills in the six county area surrounding Ft. Bragg. Teams have been formed to develop strategies for resource preservation and the organization's first Executive Director has been hired. Sustainable Sandhills is an example of a regional initiative that could have significant impact if promoted widely throughout Cumberland County.

As noted in the introduction to this white paper, a major planning initiative involving all local governments and many stakeholders in a several county region around the base is just getting started. All local governments participating in the 2030 Growth Vision Plan have also been invited to participate in the new BRAC planning effort.

All local governments participating in the 2030 Growth Vision Plan have also been invited to participate in the new BRAC planning effort.

Statewide Initiatives

The following bills were enacted during the 2004 legislative session. These bills were aimed toward making North Carolina a “most military-friendly state”:

- Notice is now required to be sent to military installations when zoning actions taken are within 5 miles of a military base.
- There will be representation from the League of Municipalities and the NC Association of County Commissioners on the Governor’s Military Affairs Advisory Commission
- In-state tuition is now available to military and their dependents.
- Preferential employment for military spouses
- A Study Commission on Military Affairs, chaired by Rick Glazier, has been appointed.
- The North Carolina Military Business Center (mentioned above), with headquarters at Fayetteville Technical Community College, was created and funded (\$1.7 million)
- A bill was enacted enabling Conservation Trust Funds to issue \$20 million in debt for the purchase of properties around military installations.

In addition, the **Clean Water Management Trust Fund** partnered with the Natural Heritage Trust Fund, the Parks and Recreation Trust Fund, the Department of Environment and Natural Resources, the Wildlife Resources Commission, the Division of Parks and Recreation, the Nature Conservancy, the Conservation Fund, the NC Coastal Land Trust, the Sandhills Area Land Trust and others, and authorized \$1,843,000 from State Parks to acquire the 1172-acre Clark tract to protect Carvers Creek and Ft. Bragg/Pope Air Force Base in Cumberland County.

Conclusion

As described above, the military has had a tremendous influence on Cumberland County’s growth and development over many decades. On-going cooperative planning and implementation efforts for BRAC will ensure that recently announced additions to base personnel will have a continuing, significant, positive impact of the economic and social condition of the area.

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Transportation

Introduction

This Transportation white paper is presented in five sections. First an overview of current transportation system capacities and existing conditions is provided. Second, the organizational structure for transportation planning in the region is described. Third, the long range planning process for delivering transportation services and making improvements is summarized. Fourth, a summary of air quality issues, federal requirements, and air quality improvement measures are described. Fifth, a variety of existing and potential funding sources for transportation improvements are catalogued. And sixth, specific priorities for transportation and transit service improvements are identified.

Current Capacity/Existing Conditions

Highways and Roads

The 2000 Census placed the Cumberland County population at 302,963 with an Urbanized Area population of 276,368. The following table illustrates Cumberland County Population and its percentage of increases in the last five Census surveys:

Table 1. **Cumberland County Census Data**

CENSUS YEAR	1960	1970	1980	1990	2000
Total County Population	148,418	212,042	247,160	274,713	302,963
Percent Change	0	42.86%	16.56%	11%	10.28%

Source: [Population Estimates program](#), Population Division, U. S. Bureau of the Census, Washington D.C., 20233 and [Census 2000 Fact Finder](#), U. S. Bureau of the Census, Washington D.C., 20233.

As population has grown over the past forty years, national trends have shifted to a single occupancy vehicle lifestyle. This trend has increased sprawl and reduced the effectiveness of the highway system. Cumberland County has over 1200 miles of roads, of which a little over 30 miles is interstate. Annual vehicle miles traveled in the county total about 449,000,000. Currently, I-95 is the only interstate in the county; however, the Fayetteville Outer Loop will be designated as I-295 and will connect I-95 from just north of Fayetteville, circle around the city, and reconnect south of Hope Mills in Robeson County.

Cumberland County has over 1200 miles of roads, of which a little over 30 miles is interstate.

Air Travel

The City of Fayetteville owns and operates the Fayetteville Regional Airport. The airport offers a variety of air travel options for the people of Cumberland County and the surrounding areas. Based at the airport are 44 single engine airplanes, 9 multi engine airplanes, and 5 jet airplanes. The airport includes 4 runways with the longest runway being 7712 ft x 150 ft.

Commercially, US Airways and Delta offer daily flights from and to Fayetteville. USAirways has daily nonstop flights to Charlotte, with Delta offering a daily connection flight to Atlanta. During peak times of the year, USAirways also offers non-stop flights to Philadelphia.

Rail Travel

Railroads serve regional and national transportation functions and are an important part of Cumberland County's integrated transportation system. There is increased interest in rail as an economically efficient and environmentally sound mode to transport people and goods in and around our area. Currently, there are new and more stringent regulations regarding the environment, which warrant the investigation of alternate modes of transportation, including rail. Railroads currently serving the Fayetteville area include:

- Amtrak (Passenger Service)--The National Railroad Passenger Corporation, better known as Amtrak, was established in 1970 to provide continued passenger service. Two passenger trains, the Palmetto and the Silver Meteor, serve Fayetteville and Cumberland County. Ridership on this train has increased steadily since service began with more than 180,000 passengers using the service to travel to or from North Carolina each year. For the past several years, the Carolinian has been one of Amtrak's top performing trains in terms of cost recovery.
- Norfolk Southern (Freight Service)--The existing railroads, properties and certain franchises of the Raleigh, Charlotte and Southern Railway Company were deeded to the Norfolk Southern Railroad Company between July 1912, and January 1913.
- Aberdeen and Rockfish Railroad Company (Freight Service)--The A & R Railroad Company began its first passenger service to Fayetteville in 1912. From 1920 to about 1950, Aberdeen and Rockfish ran self propelled cars referred to as "railroad busses" or "jitneys" on their tracks from Aberdeen to Fayetteville to carry mail from Moore and Hoke Counties to Fayetteville. With expansion of the highway system, Aberdeen and Rockfish lost the mail contract to a bus service and the jitney service ended.

Two passenger trains, the Palmetto and the Silver Meteor, serve Fayetteville and Cumberland County. Ridership on this train has increased steadily since service began with more than 180,000 passengers using the service.

Waterway Travel

The Cape Fear River is not used as a major transportation alternative, because the navigable portion ends just south of the city and could not support commercial transportation of goods. The river is used for smaller boat traffic between Fayetteville and Wilmington. A proposal by the Cape Fear River Assembly has been developed to demonstrate the potential for effective water resource management efforts through a diverse stakeholder approach.

Bicycle and Pedestrian Facilities

Bicycle and pedestrian travel has become a point of emphasis in the Fayetteville area over the past few years. Increased demand for bicycle and pedestrian facilities has led to initiatives to increase amounts of sidewalks, walking trails, parks and recreation areas, and open space developments in Cumberland County. Even so, there are still very few bicycle facilities in the area, which probably contributes to the reason why there have been so few riders. Interest in bicycling has increased, however, since the City of Fayetteville elected to allow bikers to use the sidewalks (Bicycle Regulations, City of Fayetteville, Section 20-79, "Riding on Sidewalks") along with new and improved bicycle facilities.

The following bicycle facilities are located in the area: 401 Bypass Bike Path, Honeycutt Park, Mazarick Park, Clark Park, Hope Mills Municipal Park, Hope Mills Lake, Mendoza Park in Spring Lake, Cumberland County Parks, Share-The-Road Signs, Cape Fear River Trail, and Fort Bragg Bike Paths.

The following pedestrian facilities are located in the area: all sidewalks in Fayetteville, Hope Mills, Spring Lake, Cumberland County and Fort Bragg; (formerly) 401 Bypass Bike Path, Honeycutt Park, Mazarick Park, Mendoza Park in Spring Lake, Hope Mills Lake, Hope Mills Municipal Park, Fayetteville State

University, Methodist College, Fayetteville Academy, Cumberland County High Schools, Cumberland County Parks, the Cape Fear River Trail, etc.

Transit Service

The Fayetteville Area System of Transit (FAST), a department of the City of Fayetteville, provides mass transit service in the City of Fayetteville. The City operates all fixed-route and paratransit services in-house. Currently, FAST operates a very basic radial fixed route system. Ridership is good for what is offered (1,117,392 passengers for FFY 2002 and 1,241,201 passengers for FFY 2003). FAST serves most of the City of Fayetteville and portions of Cumberland County and Ft. Bragg. The population of its service area is approximately 130,762.

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The City operates a network of 11 fixed-routes. Service is provided weekdays from 5:45 a.m. to 7:30 p.m. Saturday service is operated from 7:30 a.m. to 7:00 p.m. There is currently no service on Sundays. The City provides complementary paratransit service during the same hours as the fixed-route bus service. The basic adult fare for bus service is \$0.75. A reduced fare of \$0.35 is offered to the elderly and disabled riders during all hours of service. The fare for ADA paratransit service is \$1.50.

FAST operates from a single maintenance administration facility in the City of Fayetteville. FAST operates a fleet of 16 buses for fixed-route service, and a fleet of 16 vans, used for ADA paratransit service. FAST also provides paratransit service for the City's Department of Human Services.

According to FAST officials, a lack of service to many neighborhoods, inconvenient hours, lack of bus shelters and benches and a poor transfer facility have been the subject of many complaints. In the meantime, routes have been redesigned and operating hours adjusted to provide at least minimal service to most of the areas of the city. This results in some routes that do not operate during portions of the day and not at all on Sundays. The city's street network prohibits efficient route design that would allow efficient connections between many neighborhoods. Therefore, current routes are designed to conform to the available infrastructure. Bus shelters have been purchased and are being installed. In summary, many efforts have been made to address the complaints but an expansion of service days and hours appears to be the only satisfying answer to most of the concerns.

Community Transportation

The Community Transportation Program provides transportation services to the citizens of Cumberland County. All services are provided through contracted vendors. Currently, the Elderly and Disabled Transportation Program (EDTAP) contracts are serviced by the Fayetteville Area System of Transit (FAST) and a local taxi company. FAST also provides the transport vehicle and drivers for the Route 40 Rural General Program (RGP) section. The local taxi company also provides transportation to the medical clients of the Area Agency on Aging (AAA) Block Grant through the Mid-Carolina Council of Governments. General transportation services are scheduled with a local bus company. Work First funding is managed by the Cumberland County Department of Social Services. These funds are used for mileage reimbursement, car repairs, or automobile insurance supplements and therefore no vendor is used.

Organizational Structure for Transportation Planning

Long Range Transportation planning is performed for both the urban and rural portions of Cumberland County. The Fayetteville Area Metropolitan Planning Organization (FAMPO) serves as the transportation planning agency for the urban portion of Cumberland County, to include the City of Fayetteville, Hope Mills, and Spring Lake, Fort Bragg and Pope AFB. The MPO boundaries stretch outside of Cumberland County as well, covering portions of Harnett and Hoke Counties. (See Figure 1, next page)

The Fayetteville Area Metropolitan Planning Organization Planning Boundaries

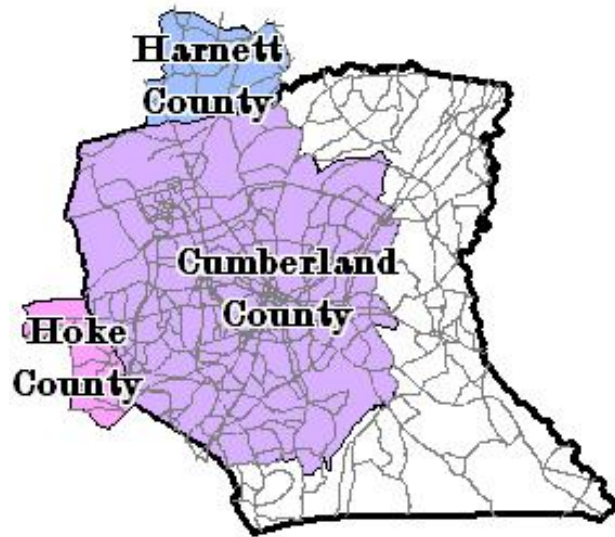


Figure 1

Much of Cumberland County is rural and outside FAMPO's service area. The rural portions of the county are served by the Mid Carolina Council of Governments. The COG also serves Bladen, Harnett and Sampson Counties. See Figure 2.

The Mid-Carolina Council of Governments Transportation Planning Area

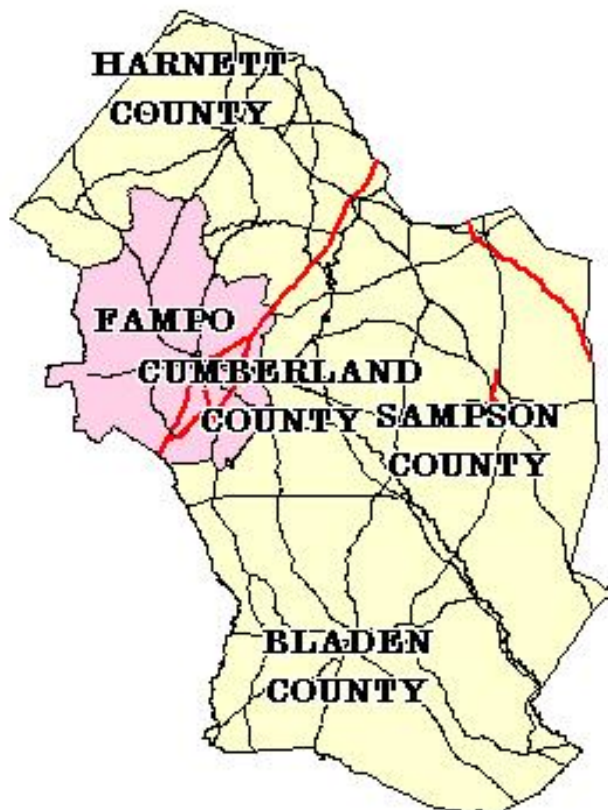
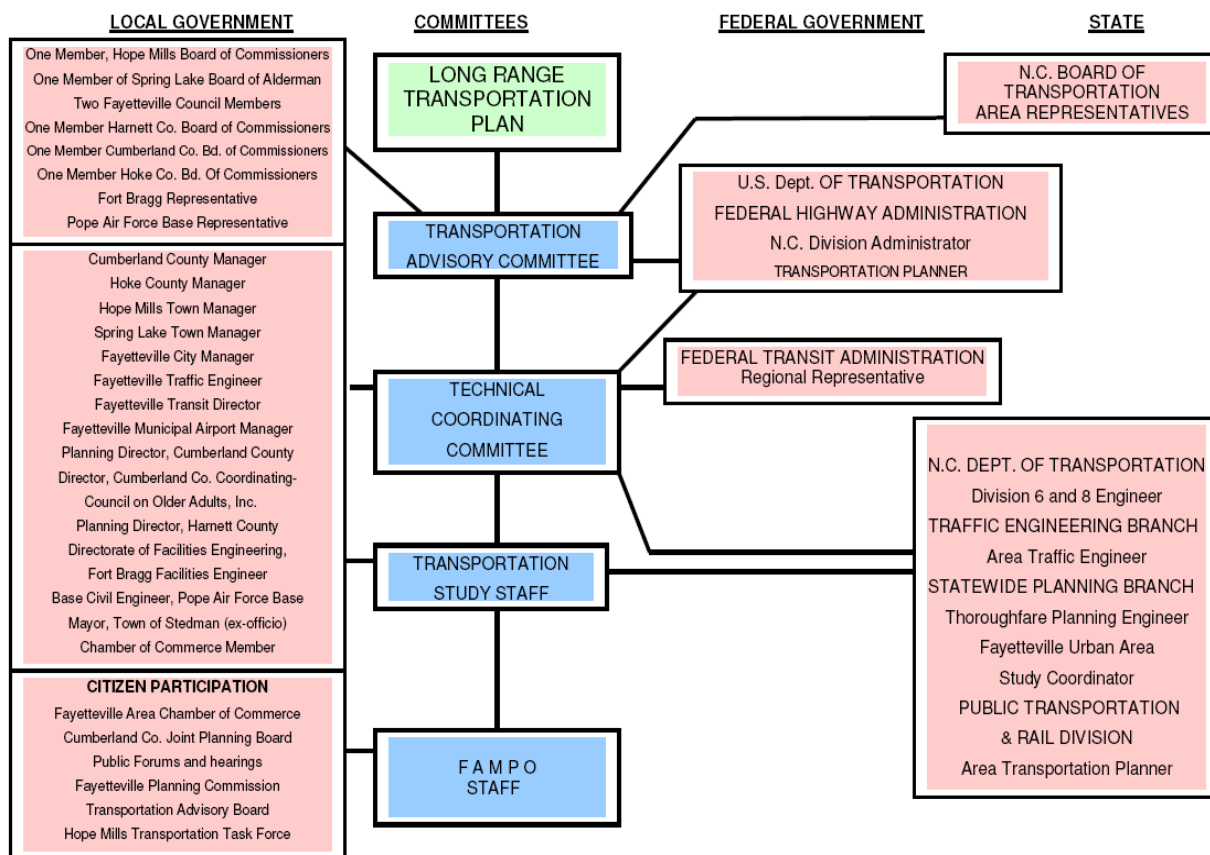


Figure 2

Administrative and Planning Relationships

The Metropolitan Planning Organization (MPO) is responsible for carrying out the transportation planning process in the Fayetteville Urban Area. The MPO is an organization consisting of the *Transportation Advisory Committee* and a *Technical Coordinating Committee*.

FAYETTEVILLE AREA METROPOLITAN PLANNING ORGANIZATION (FAMPO) ORGANIZATIONAL CHART



- Transportation Advisory Committee

The municipalities of Fayetteville, Hope Mills and Spring Lake, Cumberland County, Harnett County, Hoke County, Fort Bragg Military Reservation, Pope Air Force Base and the North Carolina Department of Transportation, in cooperation with the U.S. Department of Transportation, established, through a Memorandum of Understanding, the *Transportation Advisory Committee* (TAC). The TAC is the federally recognized local policy board that ensures the continuing transportation planning process in the Fayetteville Urban Area. The Memorandum of Understanding also establishes TAC membership (elected officials representing their local jurisdictions) and the general operating procedures and responsibilities by which short-range and long-range transportation plans are developed and continuously evaluated.

The TAC is the federally recognized local policy board that ensures the continuing transportation planning process in the Fayetteville Urban Area.

The TAC is responsible for:

- (1) review and approval of the Unified Planning Work Program;
- (2) review and approval of the area's Metropolitan Transportation Improvement Program (MTIP) which ensures coordination between local and State programs;
- (3) review of the National Highway System, review and approval of changes to the Functional Classification Designation and review and approval of the Metropolitan Area Boundary;
- (4) endorsement, review, and approval of the Prospectus;
- (5) guidance on transportation goals and objectives; and
- (6) review and approval of the Long-Range Transportation Plan. Revisions to the highway component of the Long Range Transportation Plan must be jointly approved by the TAC and the NCDOT.

- Technical Coordinating Committee

A *Technical Coordinating Committee* (TCC), also established by the Memorandum of Understanding, is responsible for supervision, guidance, and coordination of the continuing planning process, and for making recommendations to the Transportation Advisory Committee regarding any necessary action. The TCC is also responsible for review of the National Highway System and for development, review, and recommendation for approval of the Prospectus, UPWP, TIP, Functional Classification Designation (as it pertains to the Surface Transportation Program), Metropolitan Area Boundary revisions, and technical reports of the transportation study. The membership of the TCC consists of, but is not limited to, key staff from the North Carolina Department of Transportation, the Mid-Carolina Council of Government, Federal Highway Administration, the counties, transit operators, and the municipalities.

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- Lead Planning Agency

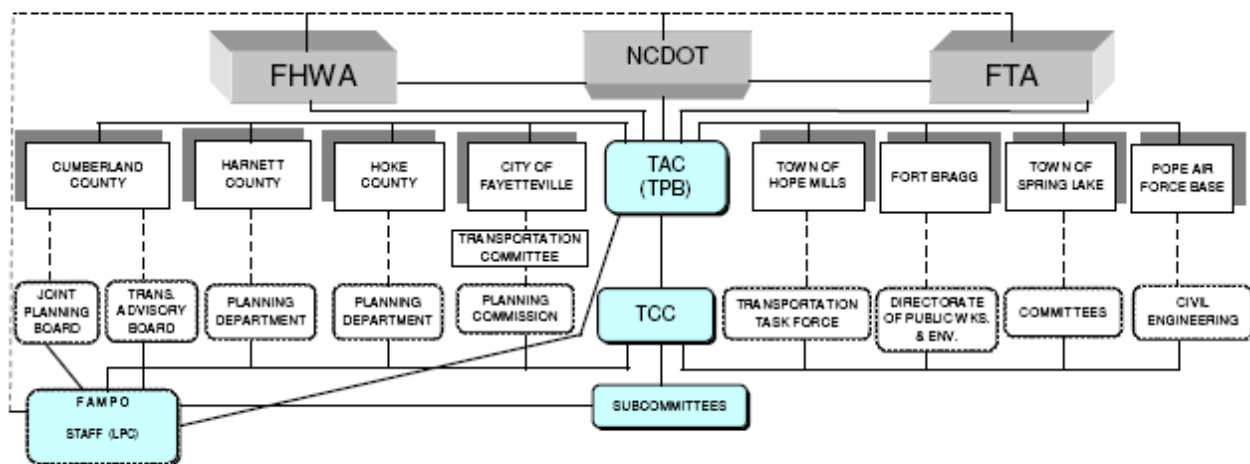
The Cumberland County Planning Department (Transportation Section) is designated as the Lead Planning Agency (LPA) and is primarily responsible for the preparation of all administrative actions of the MPO, to include the annual preparation of the Unified Planning Work Program and Metropolitan Transportation Improvement Program. Cumberland County is the primary local recipient of planning funds received from USDOT for the Fayetteville Urban Area.

2030 Long Range Transportation Planning

The Fayetteville Area Metropolitan Planning Organization (FAMPO) has compiled a comprehensive long-range multi-modal transportation plan. The plan provides executive summaries of the individual plans that address the mobility future of FAMPO. The separate elements of the Long-Range Transportation Plan are interrelated and demonstrate the multi-modal goals of transportation planning. Detailed information can be obtained by viewing each individual plan located at the FAMPO web site (www.fampo.org).

FAMPO is responsible for developing the *Transportation Plan* pursuant to Federal Highway Administration and the Federal Transit Administration (FHWA/FTA) guidelines. The plan balances the unique complexities of providing the safest and most efficient transportation systems for one of the largest military bases in the country, and concurrently protects and enhances the agrarian landscape and the environmentally sensitive wetlands and waterways of the Fayetteville Metropolitan Area, an increasingly urbanized area with a population in excess of 306,000.

FAYETTEVILLE AREA METROPOLITAN PLANNING ORGANIZATION (FAMPO) TRANSPORTATION PLANNING PROCESS



FHWA - FEDERAL HIGHWAY ADMINISTRATION
 NCDOT - NORTH CAROLINA DEPARTMENT OF TRANSPORTATION
 FTA - FEDERAL TRANSIT ADMINISTRATION
 TAC - TRANSPORTATION ADVISORY COMMITTEE
 TPB - TRANSPORTATION POLICY BOARD
 TCC - TECHNICAL COORDINATING COMMITTEE (Staff)

LPC - LOCAL POINT OF CONTACT FOR -- FHWA -- FTA -- NCDOT -- also:
 * SECRETARY AND STAFF ADVISOR TO TAC
 * SECRETARY AND STAFF ADVISOR TO TCC
 * COORDINATOR FOR SUB-COMMITTEES

The federal legislation calls for a metropolitan planning process that establishes a *cooperative, continuous, and comprehensive* framework for making transportation decisions in the Fayetteville Metropolitan Area. Local officials, in cooperation with FHWA, FTA and the NCDOT work with the MPO staff through a comprehensive public involvement process to determine the best combination of transportation investments. The FAMPO Transportation Plan is guided by the seven planning factors set forth in the federal guidelines:

- Support the economic vitality of the Fayetteville Metropolitan Area, especially by enabling global competitiveness, productivity and efficiency;
- Increase the safety and security of the transportation system for motorized and non-motorized users;
- Increase the accessibility and mobility options available to people and for freight;
- Protect and enhance the environment, promote energy conservation, improve quality of life;
- Enhance the integration and connectivity of the transportation system, across and between modes, for people and freight;
- Promote efficient system management and operations; and
- Emphasize the preservation of the existing transportation system

This plan addresses the transportation needs, environmental protection and quality of life issues in the Fayetteville Metropolitan Area. This plan includes a series of documents that examine and address transportation issues by mode:

- Public Involvement – Environmental Justice and Public Involvement Plan
- Highway Element – Highway Plan, Collector Street Plan, Bicycle and Pedestrian Plan

- Public Transportation Element – Countywide Transit System and Human Services Transportation System, Rail Plan
- Aviation Element – Airport Master Plan
- Waterway Element – Waterway Plan
- Transportation Management System – Congestion Management Plan and Safety issues, Intelligent Transportation Systems, Air Quality Planning

Air Quality Early Action Compact



Background

The Federal Clean Air Act, as amended in 1990, is the most recent version of a law first passed in 1970. The 1990 Amendment made some major changes in the act, by empowering the US Environmental Protection Agency (EPA) to set up permitting and enforcing programs for larger sources that release pollutants into the air. In addition, the EPA's principal responsibilities under the Clean Air Act are:

- to set National Ambient Air Quality Standards (NAAQS) for pollutants considered harmful to the public health and the environment
- to ensure that air quality standards are met or attained
- to ensure that the sources of toxic air pollutants are controlled
- to monitor the effects of the program

Current Conditions Locally

Non-attainment is a critical designation for local areas under the Clean Air Act. A *non-attainment* area may be subject to special federal actions, including limitations on federal funding for transportation improvements. Under the most recent federal standards, Cumberland County has registered air quality values that will make the area non-attainment for ozone. There are two monitoring sites in Cumberland County: one in Wade and one in Golfview (Hope Mills). The EPA may designate part or all of the metropolitan statistical area (MSA) as non-attainment even if only one monitor in the MSA violates the NAAQS.

Under the most recent federal standards, Cumberland County has registered air quality values that will make the area non-attainment for ozone.

Cumberland County registered a “marginal” reading for the years 2001-2003 for both monitoring sites, making participation in the “Early Action Compact” (EAC) a logical step for the area. The purpose of the EAC would be to implement a program of actions and strategies to improve air quality, along with milestones and a timeline to measure progress. Should the area fail to achieve the milestones, the area would have to “revert to the traditional State Implementation Plan”.*

EPA officially designated non-attainment areas in April 2004. However, as long as Early Action Compact Areas meet agreed upon milestones towards clean air, the impact of the designations will be deferred. As an Early Action Compact area, Cumberland County was to have attained the 8-hour ozone standard no later than December 31, 2007.

Current Efforts Locally

The local EAC control measures are designed to reduce point, highway mobile, and non-road mobile sources emissions. Many of the measures have already been implemented, while others will soon be implemented. These control measures were modeled for 2007, and are discussed in the paragraphs following.

* (Source: Air Quality Update – Sheila Holman – MPO Conference, Rocky Mount, September 26, 2002)

- Retrofitting Diesel School Buses--A \$50,000 grant has been received to fund retrofitting of 50 school buses serving the Fort Bragg Schools. It is expected that this project will decrease VOC emissions as well as other pollutants.
- Transit/Pedestrian/Mixed Use Oriented Development--Add a mixed-use district to zoning ordinance along transit lines and include sidewalks, shade trees, benches, and landscaping as well as bike paths/lanes, to increase the desirability of walking and biking and promote the use of transit. Work with schools and parks to facilitate pedestrian crossing from subdivisions to schools. Fort Bragg is building upon existing mixed-use development by adding pedestrian trails and sidewalks.
- Shared Parking Facilities and Connectivity--This will reduce the amount of impervious surface, which contributes to the heat island effect and reduces the amount of stop and go traffic
- Retrofitting of public buildings. Encourage construction of energy efficient buildings. --Through the "Guaranteed Energy Savings Contract", the County will evaluate and upgrade buildings equipment and material to increase energy efficiency. The Public Works Commission as well as some smaller municipalities are members of the "Good Cents" Housing Program. Participating builders receive heat pump rebates and free listing of energy efficient homes for sale in the newspaper and on the PWC website. Fort Bragg is currently implementing energy reduction as part of its Sustainability Plan by retrofitting buildings on the base. Fort Bragg also constructs new homes and retrofits older homes to meet "ENERGY STAR" standards.
- Landscape Ordinance--Require landscaping of major nonresidential developments in the MSA.
- Infill Development-- Promote infill and brownfield development in urban areas, to utilize existing infrastructure. Strengthen the downtown area through economic incentives, available for businesses through the Downtown Loan Program and Historic Properties, a public/private partnership.
- Urban Reforestation/ Green Space--The Public Works Commission has policies to maintain tree coverage and expand land acquisition in the watershed area. NC Forest Services is seeking grant funding to plant at least 100 trees. Cumberland County completed a public green space inventory of the entire county in March 2004 and has a conservation subdivision option.

Repercussions of Non-Attainment

If Cumberland County fails to meet the standards set by the Environmental Protection Agency, the area stands to lose some key features that will contribute to the economic vitality of the area. It is possible that transportation dollars could be cut, therefore pushing current and planned projects further into the future. A non-attainment status would also make the area much less appealing to interested industries. New industries would have to comply with much tougher standards that they may not have to comply with in another area, therefore causing them to locate elsewhere.

If Cumberland County fails to meet air quality standards set by the EPA, federal transportation dollars could be cut and new industries would have to meet much tougher standards, possibly causing them to look elsewhere.

Funding for Transportation

The Fayetteville Area Metropolitan Planning Organization receives grant money to perform the daily planning tasks needed. These grants are from the US Department of Transportation; more specifically, the Federal Highway Administration and the Federal Transit Administration. The local governments serviced by the MPO also have a local match contribution. The money received by the MPO through Cumberland County, is used for administrative and transportation planning activities. In contrast to administrative funding, project level funding can come from numerous sources. The following table lists possible funding sources for transportation projects:

• Highway, Aviation, Ferry and Passenger Rail Funding Sources

Congestion Mitigation Air Quality	Urbanized Area Formula Program	Regional and Inter-City Maintenance Assist.
Capital Program – Bus Earmark	Job Access and Reverse Commute	Technology-Computer/Software Assistance
Clean Fuel Formula	Rural Transit Assistance Program	State Facility Capital Assistance
Federal	Surface Transportation Program	State Maintenance Assistance Program
Elderly and Persons with Disability	Capital Assistance – Community Transportation	State – Public Transportation
Metropolitan Planning	Elderly and Disability Transportation	Statewide
Capital Program – New Start	State Administrative Assist. – Human Services	State Transit Capital program
Rural and Small Area	Operating Assistance – Work First/Employment	Tech.-Computer-Software Purchase – Urban
State Planning and Research	State Maintenance Assist. – Community Transportation Systems	Local Share

• Public Transportation Funding Sources

Appalachian Development	Federal Lands Program	Personalized Automobile License Plate Fund
Bridge Inspection	High Hazard-Safety	Rail/Highway-Safety
Bureau of Indian Affairs	Federal-Aid High Priority	State Construction
Bond Loop	Interstate Completion	Scenic Byway Grant
Bridge Inspection	Interstate Maintenance	Ferries
City	Bridge Replacement Off-Federal Aid System	Safety Grant
Congestion Mitigation Air Quality	Municipal Bridge Replacement Program	Surface Transportation Program
Discretionary or Demonstration Project	National Highway System	Surface Transportation Program, Enhancement
Bridge Replacement On Federal Aid System	National Recreational Trails Grant	Highway Trust Fund

Transportation Improvement Priorities

Major Highway Projects

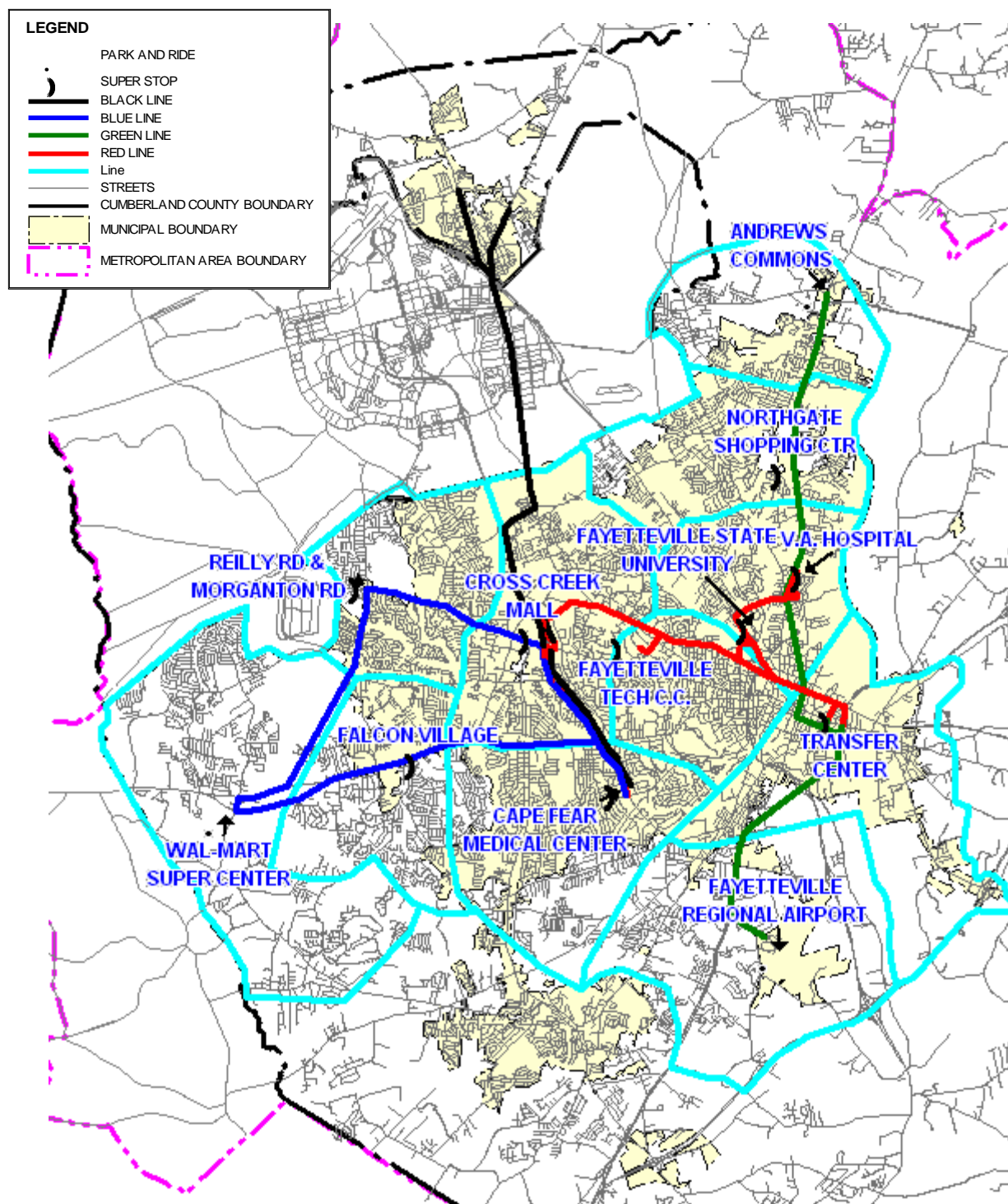
The Highway Map (see next page) for Cumberland County was updated in 2004 to show the future of the road system in Cumberland County. Some of the many projects included in the latest Highway Map are listed below:

- Fayetteville Outer Loop: New four lane freeway, 27.80 Miles The Fayetteville Outer Loop will complete a major circumferential facility around Fayetteville. The facility will serve both regionally based trips as well as meeting local travel desires.
- NC Hwy 24: New four lane freeway, 7.34 Miles. The new Highway 24 will provide a better connection from I-95 to Clinton and I-40.
- Owen Drive Extension: New multi-lane facility, 2.10 Miles This new facility will allow a connection from the All-American Freeway to NC 87 and also provide access to the Crown Coliseum.
- Hope Mills Bypass: New multi-lane facility, 3.90Miles The Hope Mills Bypass offers an alternative to using NC 59 in Hope Mills and provides access directly north of the town.

Proposed Transit System Improvements

The Fayetteville Area System of Transit is redesigning routes to be more convenient to riders; plans are to increase frequency of transit services to 15 minutes. The plan is a hybrid, deviated, fixed route demand response system. It allows for riders to be picked up from their home by a van and transported anywhere in that zone by the van. Riders also can be picked up and taken to a large super stop, where they can catch the bus and be transported all across the service area.

FAYETTEVILLE AREA SYSTEM OF TRANSIT PROPOSED ROUTES



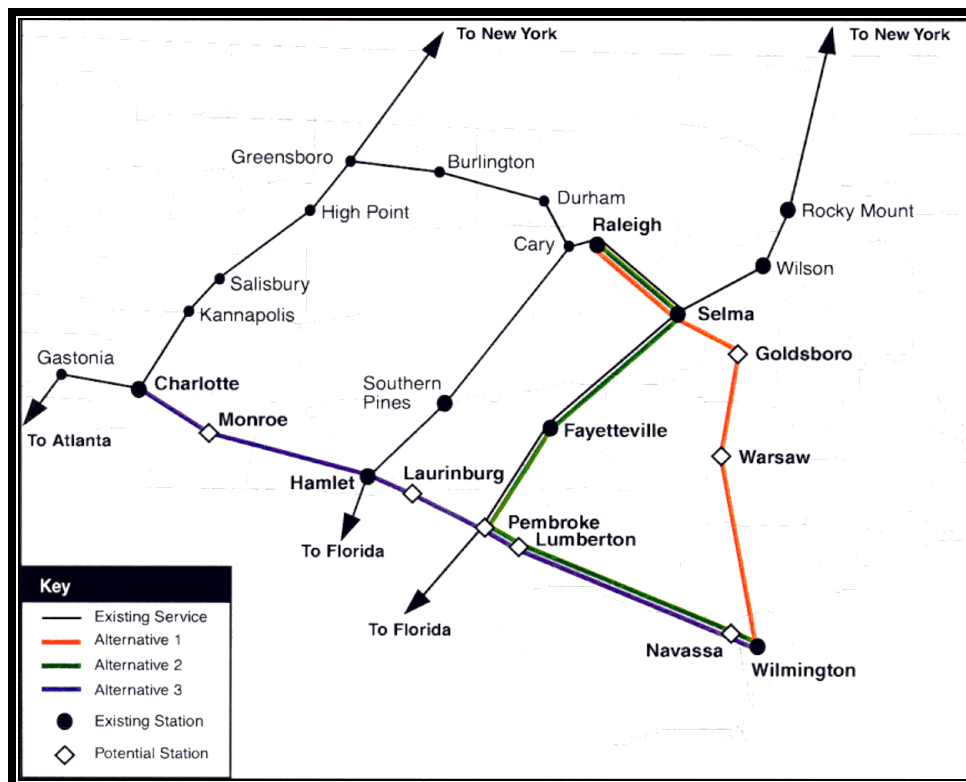
Proposed Passenger Rail

Preliminary studies indicate that there is potential for future passenger rail service that includes the Fayetteville area. Two of the five routes that connect to the Northeast Corridor produced financial results similar to other short distance Amtrak services that merit additional consideration; further detailed studies must be conducted that will include forecast of potential ridership and revenue, estimates of operating costs, track and signal improvements and conceptual plans for station renovations and construction.

The Fayetteville Area Metropolitan Planning Organization established a special committee, the Regional Rail Task Force. This Task Force was formed to include representatives of all counties within the proposed route with a purpose to provide evidence of feasibility, where as the Southeastern NC Passenger Rail Service Regional Plan Proposal was created.

This committee is dedicated to promoting the passenger rail line through the Fayetteville Area, whereby a resolution to support this effort was created and endorsed from 28 government bodies and institutions from the area. This MPO feels that the connection of one of the state's largest metro areas (located in the heart of the state) with other major cities utilizing existing rail corridors, is the logical step in a true interconnected, multi-modal regional transportation system.

Preliminary studies indicate that there is potential for future passenger rail service that includes the Fayetteville area. Two of the five routes that connect to the Northeast Corridor produced financial results similar to other short distance Amtrak services that merit additional consideration.



Walkable Communities

The Fayetteville Area Metropolitan Planning Organization (FAMPO) and the Mid-Carolina Council of Governments Rural Transportation Planning Organization (Mid-Carolina RPO), in cooperation with the National Center for Bicycling and Walking, held a series of Walkable Community Workshops in May 2005, to coincide with Cumberland County's Air Quality Week. Eight half-day workshops took place in the Clifffdale area of Cumberland County as well as in Clinton, Fayetteville (Haymount), Hope Mills, Lillington, Spring Lake, Stedman and White Lake.



A Walkable Community Workshop is a four-hour interactive community workshop designed to bring together key stakeholders (elected officials, citizens and professionals in the fields of planning, engineering, law enforcement, public health and education, etc.) to focus on issues related to making local communities pedestrian friendly. During the four-hour workshops, trainers deliver a presentation on the elements of a walkable community and solutions to common issues. They then lead participants on an interpretive walking tour (called a "walkabout") of a pre-determined study area. The trainers emphasized seeing the community from the perspective of a pedestrian. Participants then gather in small breakout groups to identify specific measures to

improve conditions for pedestrians. The workshop closes with presentations from the breakout groups and discussions to reach consensus on priority action items to create more walkable environments.

The workshops were very successful. The average participation was of 15 to 20 individuals representing a wide range of stakeholders, from citizens to elected officials and agencies' representatives. The weather cooperated, with the exception of the Clifffdale and Haymount workshops, and the walking audits took place at a leisurely pace. All of the workshops were well organized and professionally carried out.

The next step for the MPO and RPO will be to follow up and coordinate with the participating jurisdictions in getting short, medium and long range actions drafted and implemented. The MPO staff will generate a final report to be submitted soon to the National Center for Bicycling and Walking. Some areas should implement minor short range actions by then, which will be included in the report.

Cumberland County School Facilities

Introduction

Consistent with the physical planning emphasis of the 2030 Growth Vision Plan, this white paper focuses on the physical and financial aspects of locating, building and maintaining school facilities serving students in Cumberland County. Information related to test scores, curriculum development, teacher pay, school achievement and other “non-bricks-and-mortar” type issues are not covered here.

Overview of Student Population and School Facilities

Student Population Served

In 1986, Cumberland County Schools merged with Fayetteville City Schools to form one school system, resulting in a combined student population (K through 12) of 43,839. By 2005, the County's school aged population had reached 53,421, including 865 pre-kindergarten (Pre-K) students. This total increase of 9,582 students equated to about 460 additional students per year for each of those 19 years. The current school-aged population is enrolled in eighty-six public school facilities distributed among ten high school districts. (See map below) The Cumberland County School (CCS) System is the fourth largest school system in North Carolina and seventy-sixth largest in the nation.

In 2005, enrollment in Cumberland County Public Schools stood at 53,421 making it the 4th largest school system in North Carolina and 76th largest in the nation. There were about 10,000 more students in 2005 than in 1986 when the unified school system was created.

Cumberland County High School Districts

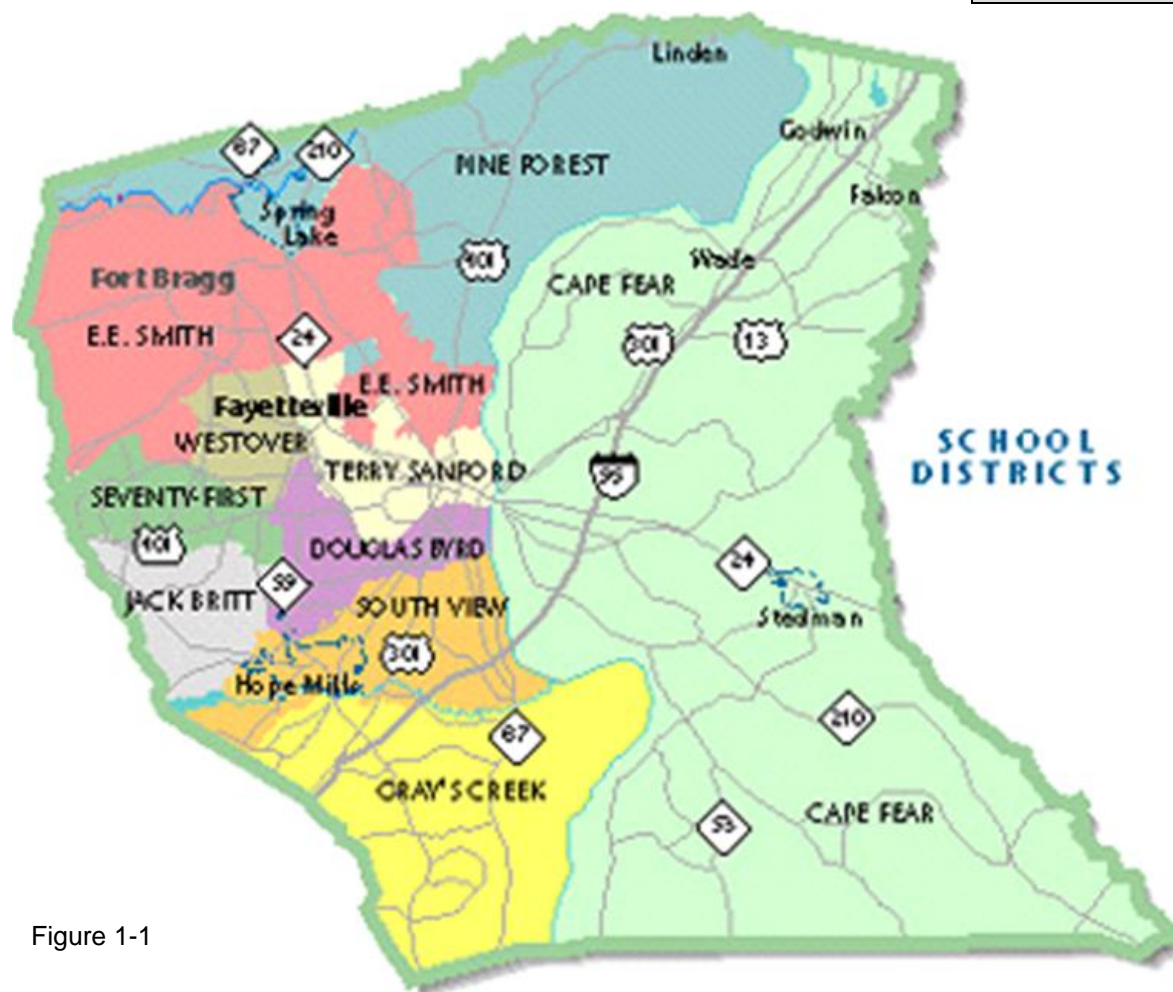


Figure 1-1

Other School Options in Cumberland County

In addition to public schools, other options available to school-aged children in Cumberland County include charter schools, Fort Bragg Schools, private schools, and home schooling.

Charter Schools: There is one charter school in Cumberland County, Alpha Academy, that enrolls grades 6-9. During the 2004-05 school year, the academy had forty-three students. As a charter school, Alpha Academy is eligible for state funding,

Fort Bragg Schools: Families with enlisted personnel in the military and who occupy military housing have the option of using the nine schools of the Fort Bragg School System. Eight schools are located on the army base while one is located at Pope Air Force Base. There are seven elementary schools (pre-K through fourth grade), one middle school (5-6 grades) and one junior high (7-8 grades). Grades nine through twelve are bussed to high schools in Cumberland County. According to Fort Bragg Education Administration Office, the total enrollment in grades kindergarten through eighth grade was 3,760 as of January 2006.

Private Schools: There are over twenty-five (25) private schools in Cumberland County that provide educational instruction for grades pre-K through twelve. The majority of the private schools are sponsored by faith-based organizations.

Home Schooling: According to North Carolinians for Home Education, Cumberland County has the third largest number of home-schools in the state with 976 home-school families. A local support group called HOME (Homes Offering Meaningful Education) welcomes new members and has contacts for other support groups in Fayetteville and the region.

Cumberland County has the third largest number of home-schools in the state with 976 home-school families.

Growth in School Facilities Since 1986

Growth in student population, combined with state mandated reductions in class size, has required the County to build a number of elementary, middle, and high schools. Since 1986, the County has constructed eight elementary schools, three middle schools, and two high schools. Additions and improvements to existing facilities have also been an on-going effort. Over the past 19 years, there have been sixty addition projects to elementary schools, fourteen addition projects to middle schools, twenty-two additions to high schools, and nine additions to County facilities to support thirty-five departments of CCS administrative employees. Collectively, these multiple additions have resulted in 852 more classrooms. As the student population and the provision of specialized services have increased, the demand for teachers and space also increased, resulting in 977 more teaching positions in the county.

Since 1986, the County has constructed eight elementary schools, three middle schools, and two high schools.

School Redistricting

School redistricting is employed to better utilize the available capacity of existing schools, prepare for future populations, and foster economic diversity within the school system. In December 2005, Cumberland County Schools approved a Middle and High School Reassignment Plan for the 2006 school year that shifted approximately 900 students from one school district to another. The Plan did not need voter approval and was implemented by the School Board.

At the high school level, the Reassignment Plan sought to create room for growth within the Jack Britt, Pine Forest, Seventy-First, and South View Districts while best utilizing the facilities at Douglas Byrd, Westover, E.E. Smith, and Terry Sanford (See School System Map and Map Legend, Figures 1-6 and 1-7, at end of chapter).

At the middle school level, the Reassignment Plan sought to create room for growth in South View Middle, Hope Mills Middle, and Pine Forest Middle while best utilizing the facilities at Max Abbott, Ireland Drive, Douglas Byrd, and Nick Jeralds. This plan is designed to align with the High School Plan as much as feasible (See School System Map and Map Legend, Figures 1-6 and 1-7, at end of chapter).

Use of Mobile Units to Address Space Shortfalls

Mobile units have been employed at existing schools that are operating at capacity to meet space demands. Ongoing evaluations are routinely conducted to determine the school's growth in population and the need for additional space. When growth spurts occur within an area, the County uses the projected population growth that is based on a five (5) year history of the particular school district, records of previous School Planning Board meetings, and COHORT study (age-group patterns over a period of time) to estimate the number of new students. When the size of the increase has been determined, mobile units are prepared and used as temporary classroom space to accommodate the increase in student population.

2004 Facility Needs Survey

In addition to an increase of nearly 10,000 students since 1986, the current North Carolina governor's mandate to reduce class size throughout the state has created a challenge for CCS to keep up with demands for classroom space. Growing demands placed on existing facilities prompted Cumberland County Schools to conduct a Facility Needs Survey in September/October of 2004. The survey identified facility needs totaling nearly \$125 million. The survey consisted of four (4) color-coded classifications. From highest priority need to lowest they were:

The 2004 Cumberland County Facility Needs Survey identified some \$125 million in necessary capital improvements.

	<u>Priority</u>	<u>Projected Cost</u>
Red	Priority A	\$90,633,481
Blue	Priority B	\$7,226,819
Yellow	Priority C	\$4,352,132
Green	Priority D	\$22,611,000

**Cumberland County Schools Facility Needs Survey
Conducted September/October 2004**

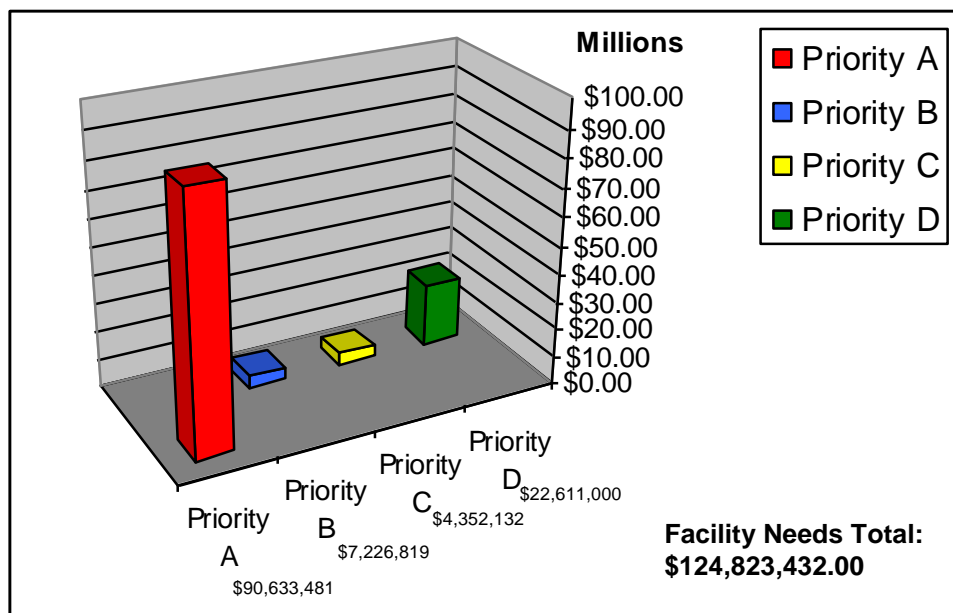


Figure 1-2

Within each priority classification there were eight (8) categories of improvements identified:

1. Additions (\$74.2 million) – academics/vocational classrooms, arts education, land acquisition, physical education, core facility, administrative, other demolition of existing
2. Site Improvements (\$2.15 million)– parking/drives, sewer system, water system (well), grading/drainage, canopy (covered walks), field bleachers, field/track, other site work
3. Building Exterior/Structure (\$1.6 million)– roof replacement, structural repairs, window replacement, masonry/extensive wall repairs, other building exterior
4. Interior Finishes (\$1.6 million) – partition/wall construction, ceilings, flooring painting, doors/hardware, other building interior
5. Plumbing/HVAC/Electrical (\$7.0 million) – boilers, pumps, chillers, cooling towers, duct/pipe insulation, AC kitchen, AC gymnasium(s), other HVAC equipment; HVAC controls, electrical capacity, lighting, plumbing equipment, other plumbing/HVAC/electrical
6. Building Code/Life Safety (\$1.2 million) – ADA ramps/HC access, ADA toilet renovations; fire alarm, sprinkler system, bleacher restoration/motorization, other code/safety
7. Hazardous Material/Environment (\$2.8 million) – hazardous material abatement, underground fuel tanks, indoor air quality, other environmental
8. Other Renovation Not Included Above (\$0.1 million)

Of the \$90 million in facility needs identified as high priority (Priority A), \$67 million involve building additions for academic and vocational classroom space.

A more detailed analysis of the various facility needs revealed that, of the \$90 million in the Priority A column, \$67 million involved building additions for academic and vocational classroom space.

Certificates of Participation and North Carolina Education Lottery

Recently, the NC General Assembly established a state lottery to be used for education funding. Projections anticipate that \$425 million will be produced statewide for the 2006-07 fiscal year. Lottery proceeds for Cumberland County have been pegged at about \$7.7 million the first year.

At the time of this writing, the school administration has proposed a \$55 million Certificate of Participation (COPs) Plan for 2006. If implemented, the proposal will allow the County to borrow up to \$55 million to be paid back over a 15 to 20 year period. The County's annual lottery proceeds would be employed, in part, to make annual payments on the COP. In the first year, for example, the County would make a \$4.5 million annual COPs payment, leaving 3.2 million for other purposes. The table at right shows how the \$55 million in COP's borrowing might be applied to eliminate temporary classroom huts at various schools around the county.

SCHOOL	CLASSROOMS	COST	HUTS
Baldwin Elementary	10	\$ 2,000,000	7
Stoney Point Elementary	12	\$ 2,500,000	5
North Pre K- Kindergarten	12	\$ 3,500,000	Howard 3 Raleigh Rd 1 Longhill 3
Walker Spivey	12	\$ 2,400,000	11
Sherwood Park Elementary	6	\$ 1,100,000	6
Cumberland Mills Elementary	6	\$ 1,100,000	6
(New) West Middle (includes L Chapel and J Griffin)	40	\$ 16,500,000	Griffin 0 Chapel 8
(New) Gray's Creek Middle (convert existing GOMS to 4-6 elem, joined w/Culterry)	40	\$ 16,000,000	5
South View Middle	8	\$ 1,600,000	0
Honeycull Elementary	8	\$ 1,600,000	0
Eastover Elementary	7	\$ 1,600,000	3
TOTAL	161	\$ 49,900,000	58
CONTINGENCY		\$ 5,100,000	
GRAND TOTAL		\$ 55,000,000	

Figure 1-3

Cumberland County Schools November 2005 Report

School System Operating Budget

Previous sections identified capital improvement (facility) needs totaling about \$125 million. An overview of the school system's operating budget is provided here for comparison.

Authority Over the School System Budget

All County expenditures fall under the budget approval authority of the County Commissioners. The Commissioners also have the authority to approve or deny bonds brought before the public prior to the voting process. Other financing mechanisms, such as Certificates of Participation, also come under the responsibility of the County Commissioners. While the County Commissioners have responsibility for determining the overall funding levels locally, the Cumberland County School Board determines how the money is to be used within the school system.

Overview of the Operating Budget

The 2003-2004 Operating Budget for Cumberland County Schools was \$350 million. To meet this budget, the school system received \$38 million in federal funds, \$228 million in State funds and \$84 million in local funds. *Instructional Programs* required approximately \$256 million while *Supporting Services* required about \$75 million. An additional \$14 million was used for *Supporting Services* such as school administration, maintenance, child nutrition, and technology (see figure 1-4).

The 2003-2004 Operating Budget for Cumberland County Schools was \$350 million, of which all but \$84 million were non-local funds.

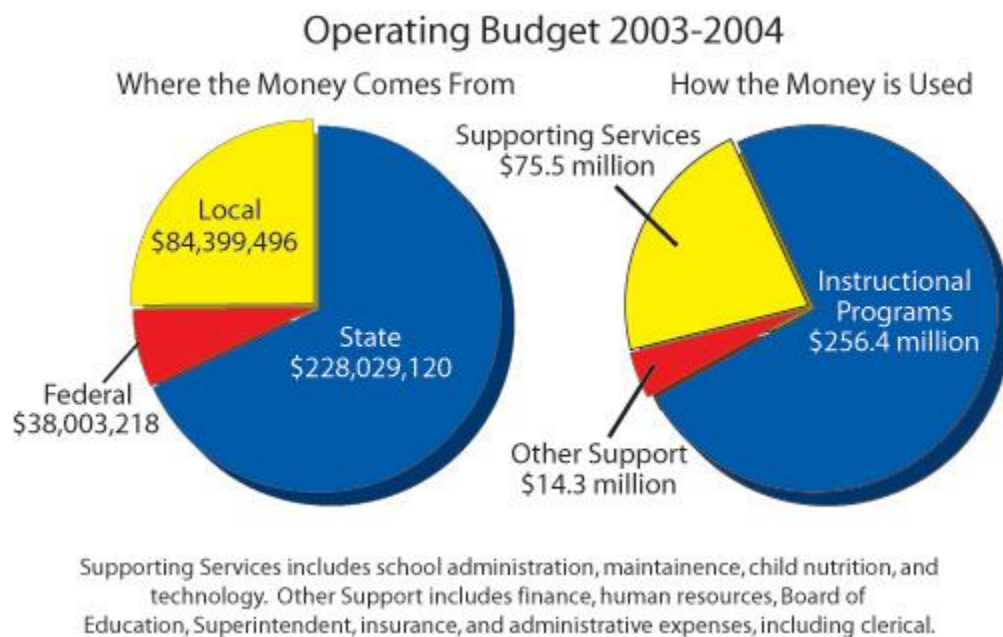


Figure 1-4

New School Facilities Planned

Cumberland County Schools plans on building two new middle schools and a Pre-K Center in the next few years. Gray's Creek Middle School will be built next to Gray's Creek High School. The second middle school will be constructed in the western part of the county near Jack Britt High School. This school would affect the enrollment of students at John Griffin Middle, Jack Britt High and Anne Chestnut Middle, Lewis Chapel Middle and Seventy-First High School. The Pre-K Center would affect Howard Hall Elementary, Raleigh Road Elementary, Long Elementary, and all of Pine Forest High School Districts.

Cumberland County Schools plans on building two new middle schools and a Pre-K Center in the next few years.

2030 Projected School Population

At the time of this writing, School Administration projections call for an increase in the public school population of 4,000 more students by 2030. (See table following) However, these estimates were published prior to announcements regarding the 2005 Base Realignment and Closure (BRAC). According to the latest information*, Fort Bragg will see an additional 7,500 military, civilian and contractor personnel at the base by 2011. When families and other civilians are added to these numbers, a total of over 17,000 new residents are expected at Fort Bragg (and within the region surrounding) over the next five years.** It is difficult to predict how many new student-aged persons will be included in these numbers, or to which school they may be assigned. It is safe to say, however, that the numbers previously projected are conservative and clearly lower than the numbers that will be arriving in the area as a result of BRAC. Currently, the Department of Defense (DOD) and Fort Bragg are in the process of conducting studies and plans to more accurately determine the ultimate impact of the BRAC decisions on a multi-county region surrounding the military base.

Over 17,000 new military and military related residents are expected at Fort Bragg (and in the surrounding region) by 2011. These numbers do not include other residents that will be drawn to the area as a result of the "multiplier effect."

Projections for Total Public School Student Enrollment Cumberland County Schools, 2005–2030

Year	Elem.	Middle	High	Total
2005	24,454	12,164	15,938	52,556
2010	24,391	11,548	14,842	50,781
2020	26,594	12,112	14,753	53,459
2030	27,865	12,974	16,136	56,975

Figure 1-5

* December 2006, Department of Defense

** Significantly, these numbers do not include other new residents that will be drawn to the area as part of a "multiplier effect". The multiplier effect occurs whenever there is an expansion in a region's basic employment. *Basic employment* is defined as jobs that bring new dollars into the local economy from outside the region (such as DOD dollars). Non-basic employment, on the other hand, simply re-circulates dollars within the economy (such as retail sales). The new dollars brought in by basic employment create demand for additional non-basic employment, thus creating a multiplier effect.

Highlights

- ❖ In 2005, enrollment in Cumberland County Public Schools stood at 53,421 making it the 4th largest school system in North Carolina and 76th largest in the nation. There were about 10,000 more students in 2005 than in 1986 when the unified school system was created.
- ❖ Since 1986, the County has constructed eight elementary schools, three middle schools, and two high schools. There have also been sixty addition projects to elementary schools, fourteen addition projects to middle schools, twenty-two additions to high schools, and nine additions for administrative space needs. Collectively, these additions have resulted in 852 more classrooms.
- ❖ Currently, the school system maintains eighty-six public school facilities distributed among ten high school districts.
- ❖ A 2004 Cumberland County Facility Needs Survey identified some \$125 million in necessary capital improvements. About \$90 million worth of improvements were identified as high priority. Of these high priority projects, about \$67 million involved building additions for academic and vocational classroom space.
- ❖ At the time of this writing, school officials were proposing to borrow \$55 million through certificates of participation (COPs) to be paid off annually from monies received by the County from the new State Education Lottery. The money was to be used to build school additions to replace the need for temporary classroom “huts” at school campuses.
- ❖ The 2003-2004 Operating Budget for Cumberland County Schools was \$350 million, funded by \$38 million in federal monies, \$228 million in State monies and \$84 million in local monies.
- ❖ Cumberland County Schools plans on building two new middle schools and a Pre-K Center in the next few years.
- ❖ As a result of base realignment and closure (BRAC) decisions, at least 17,000 new military and military related residents are expected at Fort Bragg (and in the surrounding region) by 2011. These numbers do not include other residents that will be drawn to the area as a result of the economic “multiplier effect.” Previous school system estimates of 4000 more students by 2030 are likely conservative in light of the BRAC numbers.
- ❖ The map on the following page shows the location of all publicly schools in Cumberland County.

CUMBERLAND COUNTY MAP OF ALL SCHOOL SYSTEMS (Public, Charter, and Alternative Schools)



Figure 1-6

Map Legend Identifying Area Schools According to Preceding Map

Figure 1-7

■ Elementary Schools

- | | |
|------------------------------------|----------------------------------|
| 1. Alger B. Wilkins Elementary | 28. Lillian Black Elementary |
| 2. Alma Easom Elementary | 29. Long Hill Elementary |
| 3. Armstrong Elementary | 30. Loyd Auman Elementary |
| 4. Ashley Elementary | 31. Lucile Souders Elementary |
| 5. Beaver Dam Elementary | 32. Mae Rudd Williams Elementary |
| 6. Benjamin Martin Elementary | 33. Manchester Elementary |
| 7. Bill Hefner Elementary | 34. Margaret Willis Elementary |
| 8. Brentwood Elementary | 35. Mary McArthur Elementary |
| 9. Cliffdale Elementary | 36. Montclair Elementary |
| 10. College Lakes Elementary | 37. Morganton Road Elementary |
| 11. C. Wayne Collier Elementary | 38. Pauline Jones Elementary |
| 12. Cumberland Mills Elementary | 39. Ponderosa Elementary |
| 13. Cumberland Road Elementary | 40. Raleigh Road Elementary |
| 14. District 7 Elementary | 41. Rockfish Elementary |
| 15. Eastover-Central Elementary | 42. Sherwood Park Elementary |
| 16. E.E. Miller Elementary | 43. Stedman Elementary |
| 17. E. Melvin Honeycutt Elementary | 44. Stedman Primary |
| 18. Ed Baldwin Elementary | 45. Stoney Point Elementary |
| 19. Elizabeth Cashwell Elementary | 46. Sunnyside Elementary |
| 20. Ferguson-Easley Elementary | 47. T.C. Berrien Elementary |
| 21. Gallberry Farm Elementary | 48. VanStory Hills Elementary |
| 22. Glendale Acres Elementary | 49. Warrenwood Elementary |
| 23. Gray's Creek Elementary | 50. Westarea Elementary |
| 24. Howard Hall Elementary | 51. W.T. Brown Elementary |
| 25. J.W. Coon Elementary | 52. William H. Owen Elementary |
| 26. J.W. Seabrook Elementary | 53. Young Howard Elementary |
| 27. Lake Rim Elementary | |

● Middle Schools

1. Anne Chesnutt Middle
2. Douglas Byrd Middle
3. Gray's Creek Middle
4. Hope Mills Middle
5. Ireland Drive Middle
6. John Griffin Middle
7. Lewis Chapel Middle
8. Luther 'Nick' Jeralds Middle
9. Mac Williams Middle
10. Pine Forest Middle
11. R. Max Abbott Middle
12. Reid Ross Classical Middle and High
13. Seventy-First Classical Middle
14. South View Middle
15. Spring Lake Middle
16. Westover Middle

▲ Charter Schools

1. Alpha Academy

● High Schools

1. Cape Fear High
2. Douglas Byrd High
3. E.E. Smith High
4. Gray's Creek High
5. Jack Britt High
6. Massey Hill Classical High
7. Pine Forest High
8. Seventy-First High
9. South View High
10. Terry Sanford High
11. Westover High

▲ Alternative Schools

1. Hillsboro Street School
2. Ramsey Street Alternative School
3. Walker-Spivey

Last updated: August 2004

**Total = 84 Schools located in county (map does not illustrate (1) web and (1) evening academy)*

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Stormwater Management in Cumberland County*

Introduction

This stormwater white paper is comprised of three sections. The first section gives a brief explanation of current stormwater regulations and a chronology of the establishment of the program administered by Fayetteville-Cumberland Stormwater Services. The second section describes existing and possible future problems in unincorporated Cumberland County as well as the portions of western Cumberland County that were recently annexed by the City of Fayetteville. The last section deals with the entirely different set of problems that already exist within the corporate limits of Fayetteville. Other municipalities within the County have not been required to regulate stormwater to date, yet will likely be involved in the not too distant future.

Overview of Stormwater Management in Cumberland County

Impetus for Fayetteville-Cumberland Stormwater Services

In 1972, the National Pollutant Discharge Elimination System (NPDES) program was established under the authority of the federal Clean Water Act. The early focus of the program was on “point source discharges”, such as those produced by a factory and discharged at the end of a single pipe or “point”. More recently, attention has shifted to non-point sources, such as stormwater runoff from streets, parking lots, rooftops and farm fields. Phase I of the NPDES stormwater program was established in 1990. Phase I addresses on site and operations planning to reduce pollutant sources.

There are three types of activities that the Phase I program regulates through NPDES permits:

- Industrial facilities that fall into one of ten categories,
- Construction activities that disturb five or more acres of land (the Phase II rules reduced this threshold to 1 acre), and
- Municipal separate storm sewer systems (MS4s) serving populations of 100,000 or more (based on 1990 census data).

In North Carolina, there are six permitted local governments that have municipal separate storm sewer systems (MS4s) serving 1990 populations of 100,000 or more (Raleigh, Durham, Fayetteville/Cumberland County, Charlotte, Winston-Salem, and Greensboro). Each of these local governments is required to develop and implement a stormwater management program that includes public education, illicit discharge detection and elimination, storm sewer system and land use mapping, and analytical monitoring.

Phase II of the NPDES Stormwater program was signed into law in December 1999. This second phase builds upon the Phase I program by requiring smaller communities and public entities that own and operate an MS4 to apply and obtain an NPDES permit for stormwater discharges.

EPA regulation through Phase II requires permittees at a minimum to develop, implement, and enforce a stormwater program designed to reduce the discharge of pollutants from the MS4 to the maximum extent practicable. The stormwater management program must include the following six elements:

Under Phase I of the NPDES stormwater program, each participating local government is required to develop and implement a stormwater management program that includes public education, illicit discharge detection and elimination, storm sewer system and land use mapping, and analytical monitoring.

* The information in this paper was derived from three sources: City and County engineers and US Infrastructure of Carolina, the consultant for Fayetteville/Cumberland Stormwater.

1. Public education and outreach on stormwater impacts
2. Public involvement/participation
3. Illicit discharge detection and elimination
4. Construction site stormwater runoff control
5. Post-construction stormwater management in new development and redevelopment
6. Pollution prevention/good housekeeping for municipal operations

Structure and Purpose of the Fayetteville-Cumberland County Stormwater Services Utility

The City of Fayetteville and Cumberland County currently have a stormwater program administered by *Fayetteville/Cumberland Stormwater*, which was created in 1995. This joint utility operation was designated a Phase I community, along with five other municipalities across the state. The program is unique in the way that it was originally formed. It is the only program in the state where a county and a municipality are permitted jointly. Phase I programs were set up to address *quality* of water but not the *quantity*. The only requirements of a Phase I community are the six items identified above. However, in February of 1999, the Stormwater Utility Ordinance was amended to allow funds to be spent on minor repair and maintenance. This primarily addressed the replacement of pipe or repair of damaged catch basins. After the flooding of 2003, the Stormwater Ordinance was again amended to allow the installation of new drainage pipe on a small scale to remedy existing drainage problems.

Phase II Requirements to Address the Quantity of Runoff

Phase II requirements will mandate that Cumberland County and the City of Fayetteville address item number 5 above (post-construction stormwater management in new development and redevelopment). This will be the biggest change required of Cumberland County and the City of Fayetteville under Phase II. In a nutshell, under the new requirements, post-construction runoff rates for new development sites will not be allowed to exceed the pre-construction runoff rates. This in turn means that some type of stormwater control (detention, bio-retention areas, infiltration, etc.) will have to be designed and implemented on these sites. Currently, the only detention requirements that the City of Fayetteville/Cumberland County have are related to development within a water supply watershed. With the Phase II requirements, all large sites constructed within the County and outside of the city limits of Fayetteville will have to be reviewed by City engineers for stormwater control.

In a nutshell, under Phase II requirements of the NPDES stormwater management program, post-construction runoff rates for new development sites will not be allowed to exceed the pre-construction runoff rates.

Unincorporated Cumberland County and Parts of the Newly Annexed Western Cumberland County

Stormwater Issues Facing Rural and Suburban Areas

Like many areas in North Carolina, Fayetteville and Cumberland County have experienced rapid change due to urban development in areas that were once rural. Frequently, new developments have been approved and constructed without due consideration of potential downstream impacts. As areas are developed upstream and natural ground is converted to buildings and pavement, more stormwater runoff is generated. In most instances, the downstream systems have not been sized to accommodate the increased flows. Since the systems are too small to handle the increased flows, stormwater backs up with water standing in the streets, and homes and businesses flood.

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Maintenance of Stormwater Systems-- An Emerging Issue

Like any utility system, a stormwater system must be maintained to function properly. One of the biggest emerging issues in stormwater management is determining responsibility for maintenance of stormwater improvements. Developers will want to turn responsibility of maintenance over to either the County, City, or Homeowner's Associations. However, the stormwater utility does not generate enough revenue to take on such a large responsibility for maintaining these measures.

A lack of proper routine maintenance of the drainage system has created problems in many subdivisions in the county. The roads and associated drainage in these subdivisions are owned and maintained by the North Carolina Department of Transportation (NCDOT). Due to limited budgets and manpower, many of these systems are not properly maintained or may receive attention only when a complaint is received. Therefore, these systems, primarily roadside ditches, are prone to fill with sediment and fail to carry the stormwater they were initially designed to carry.

Other homes and business are subject to periodic flooding due to their location. Properties located along a creek where upstream development is increasing will be subjected to larger downstream flows. When these increased flows are restricted due to a lack of maintenance or cleaning of stream beds, flooding is exacerbated. Also, if buildings are located in areas with poorly drained soils or very flat areas, they may be subject to standing water, as it takes longer for stormwater to flow offsite.

Eastern and Western Cumberland County Present Different Stormwater Challenges

Cumberland County can be divided into two markedly different soil and drainage regions as far as stormwater is concerned. The dividing line runs along an approximate north-south axis formed by Interstate 95 and the Cape Fear River. The portion of the county to the west of this line, most of which is now located in the City of Fayetteville, has good slopes, sandy soils, and drains fairly well. Nonetheless, stormwater problems in this area are associated with drainage systems that are undersized to handle post-development flows or systems that are not adequately maintained. Therefore, these are *system type* failures that can be remedied with system upgrades or better maintenance.

The eastern portion of the county, on the other hand, is very flat with poorly drained hydric soils. As a result, areas east of the river generally have very poor drainage. Many areas have standing water after storm events. Unlike the western part of the county, drainage problems in the eastern area are primarily due to a lack of topography with insufficient slope to move the stormwater downstream. Therefore, these problems are a result of the *lay of the land* and cannot necessarily be improved with system upgrades or better maintenance.

Since these eastern hydric soils are by nature very wet, they do not allow much infiltration of stormwater during rain events. Because the stormwater cannot infiltrate into these soils, it instead runs off. As a result, two things occur: (1) more stormwater runoff is being generated in areas that are very flat and difficult to drain, and (2) areas in the eastern portion of the county have standing water and flooding during and after heavy rainfalls.

Very distinctive drainage features are found west of the Cape Fear River in Fayetteville, Fort Bragg, and Hope Mills. Most of the drainage features in these areas are associated with major creeks, streams, and rivers. East of the Cape Fear River, drainage features are less well defined. In many cases, it is obvious that the main drainage features in the east are manmade. Ditches have been dug by the farming community in an attempt to lower the water table and make the land farmable. Overall, the drainage features are haphazard and not well connected.

Unlike the western part of the county, drainage problems in the eastern area are primarily due to a lack of topography with insufficient slope to move the stormwater downstream. Therefore, these problems are a result of the lay of the land and cannot necessarily be improved with system upgrades or better maintenance.

In summary, factors contributing to drainage problems in the eastern part of the county include:

1. Lack of topography or very flat land.
2. Poorly drained soils.
3. High groundwater table.
4. Wetlands in many areas.
5. Carolina Bays-- areas that are basically bowl shaped with elevations in the center lower than on the perimeter. Therefore, there is no natural drainage outlet.

Many Areas Are Not Suitable for Urban Development, Even With Water and Sewer Services.

Largely due to the factors listed above, there are many areas in the unincorporated county, particularly in the eastern portion, not appropriate for urban development densities. As densities are increased, so is the amount of impervious surface area and related stormwater runoff. These larger amounts of stormwater cannot be adequately absorbed into the ground and require large systems with sufficient slope to handle the volume. This is why most of the areas in the eastern portion of the county have been zoned agricultural or for rural development only.

Thus, there are many areas in the unincorporated county, particularly in the eastern portion, not appropriate for urban development densities... This is why most of the areas in the eastern portion of the county have been zoned agricultural or for rural development only.

Despite limitations for development in these areas, the availability of water and sewer utilities creates a natural tendency to get the property rezoned to accommodate urban density development. Investments in centralized water, and in particular sanitary sewer, call for urban development densities to pay for such systems. Even with central water and sewer, however, these properties and their existing drainage systems are not able to handle the increased stormwater runoff. As a result, the newly developed properties, along with the surrounding area, are likely to experience flooding problems. Therefore, even though public utilities become available in these areas, rural development densities should be maintained as they are developed.

Responsibilities for Drainage in the Unincorporated County Are Fragmented

The drainage system in the unincorporated county is very fragmented. Many drainage ditches parallel roads over which the County, by law, has no ownership or maintenance responsibility. The majority of the roads in the unincorporated county are owned and maintained by the North Carolina Department of Transportation (NCDOT). In addition to the road surface, NCDOT owns and maintains the drainage system within the NCDOT rights-of-way. Once the stormwater leaves the NCDOT right-of-way, NCDOT is no longer responsible for the balance of the drainage system.

There are some off-road drainage easements scattered throughout unincorporated Cumberland County. These easements have been granted primarily to prevent a property owner from blocking the flow of drainage. If Cumberland County were to accept these drainage easements for maintenance, the County would be responsible for their continuing upkeep. In certain instances, homeowners associations are set up to handle the drainage in a particular development. This scenario will become increasingly more prevalent with new development in the future. However, in most cases, these organizations lack the financial resources to adequately maintain these systems. In the end, many drainage systems outside NCDOT rights-of-way fall into disrepair and eventually become non-functional.

The existing drainage system is comprised of some large drainage canals in the eastern portion that were constructed primarily by the Soil Conservation Services (SCS) in the 1940's. These canals have not been maintained through the years; thus many of them have become clogged with sediment and other debris. Even if the County had the means to dredge or clean out these canals, there are now many environmental regulations that would restrict or prevent the canals from being upgraded. To compound this issue, new developments with urban densities are being developed in these areas.

Since Cumberland County does not own and maintain the drainage system, the County does not have any stormwater system standards whereby the County would take over responsibility for the system after

construction. The County does require, however, that new developments include a properly designed stormwater system based on good engineering practices to ensure that post-development runoff is equal to the runoff previous to that development. What happens to the stormwater once it leaves the new development in many cases is not adequately addressed. The result is that the new development often discharges into a system that is undersized or not maintained, resulting in flooding downstream due to the increase in stormwater runoff.

Therefore, even in those portions of the County where there are good soils and adequate slopes, the drainage system is left to chance. There are no stormwater requirements to speak of and once the system is constructed, it is not maintained. This is a recipe for flooding problems down the road. These problems are made worse in the eastern part of the county by those factors previously mentioned.

It should be noted that many of the problems that exist in the county also exist in the towns of Spring Lake, Stedman, Hope Mills, Falcon, Godwin, Wade and Linden. Development in these municipalities also intensifies problems downstream. These towns should also consider the consequences of more pavement and overall development as it affects areas outside their respective corporate limits.

...Even in those portions of the county where there are good soils and adequate slopes, the drainage system is left to chance. There are no stormwater requirements to speak of and once the system is constructed it is not maintained.

City of Fayetteville

Stormwater Issues in the City of Fayetteville

The City of Fayetteville owns and maintains many miles of roadway and associated drainage systems. Therefore, the City is responsible for maintaining the drainage system in public rights-of-way. Additionally, once the stormwater leaves the public right-of-way, the City may acquire easements for drainage features on private property.

Currently, the Stormwater Utility also provides for some of the maintenance of the existing stormwater infrastructure and is geared to respond to stormwater service requests received. Furthermore, the Stormwater Utility funds drainage projects to repair, maintain, and/or improve the existing drainage system both in the city and county. Since the County does not own and maintain the drainage system, the opportunities for drainage projects in the unincorporated county have been limited to date.

Many of the maintenance procedures performed on a drainage system are done as routine maintenance. This involves the cleaning of the system such as removing accumulated sediment from pipes and culverts, debris and sediment from bridges, leaves and debris from inlets, and debris in and around outfalls. The repair of specific drainage structures that have failed or pipes that have collapsed are commonly classified as remedial maintenance.

...the Stormwater Utility funds drainage projects to repair, maintain, and/or improve the existing drainage system both in the city and county. Since the County does not own and maintain the drainage system, the opportunities for drainage projects in the unincorporated county have been limited to date.

The Stormwater Inventory database resulted in a list of various maintenance needs totaling approximately \$1.8 million in remedial maintenance costs. As the inventory is completed, these costs will rise.

Stormwater Inventory of Needed Repairs and Improvements Is Underway

A good source of remedial maintenance needs in the city is the *Stormwater Inventory* being conducted at the time of this writing. Since the inventory has not yet been completed, there is only partial data available. Even with these limitations, approximate projections can be made. The *Stormwater Inventory* database has resulted in a list of various maintenance needs totaling approximately \$1.8 million in remedial maintenance costs thus far. As the inventory is completed, these costs will rise.

Capital Improvement Needs for Fayetteville's Stormwater System

It is estimated that stormwater-related capital improvement projects in the city are currently about \$44 million.

In addition to maintenance issues, deficiencies also exist in the natural and structural components of stormwater drainage systems throughout Fayetteville. Detailed studies of individual watersheds reveal that the conveyance capacity of many stormwater drainage systems in Fayetteville is inadequate. The City of Fayetteville engineering staff has compiled information on long-standing drainage problems and the anticipated costs of the needed improvements. The City developed Stormwater Master Plans for its major drainage basins in the early 1990's. These plans identified system deficiencies along the city's main

drainage ways such as Blounts Creek and Cross Creek. One thing to consider is that the city has grown considerably since the early 1990's, primarily through annexations. As these new areas have been incorporated into the city, any drainage deficiencies and related capital improvements have also become part of the City's responsibility. It is estimated that stormwater related capital improvement projects in the city are currently about \$44 million.

Summary

Stormwater needs over the next twenty years will focus on repair, maintenance and regulatory compliance within the city and new development overview and monitoring in the county. Within the 2030 Growth Vision Plan, policies will have to address the relationship between stormwater management and other utility extensions, particularly sewer. As sewer is extended, development will follow. New development should take place in areas that have the least deleterious effect on existing drainage. Passive, low impact development should be emphasized in sensitive areas, with responsibility for routine maintenance agreed upon in advance.

HIGHLIGHTS

Unincorporated County

- ❖ As areas are developed upstream and natural ground is converted to buildings and pavement, more stormwater runoff is generated. In most instances, the downstream systems have not been sized to accommodate the increased flows.
- ❖ Eastern Cumberland County is topographically unlike the western portion. Drainage problems in the eastern portion of the county are due in part to a lack of topography with insufficient slope to move the stormwater downstream. Therefore, these problems are a result of the lay of the land and cannot necessarily be improved with system upgrades or better maintenance.
- ❖ In the unincorporated county, once water and sewer become available, the natural tendency has been to get the property rezoned to accommodate an urban density. However, existing drainage systems are not able to handle the increased stormwater runoff. As a result, newly developed properties, along with the surrounding area, are likely to experience flooding problems. Therefore, even though public utilities become available in these areas, rural development densities should be maintained as they are developed.
- ❖ Drainage systems and maintenance in the county are fragmented between NCDOT, private property owners and developers. With no drainage requirements to speak of, once stormwater leaves a site, drainage is left to chance.

City of Fayetteville

- ❖ The City of Fayetteville maintains drainage systems within public rights-of-way.

- ❖ As a secondary function, stormwater funds are used for maintenance and for remedial repairs to existing drainage systems in both the city and the county.
- ❖ The on-going Stormwater Inventory Database has thus far resulted in maintenance needs of \$1.8 million and \$44 million in known capital improvement needs.

All this points to the need to address downstream drainage systems and topography when considering future development.

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Parks and Recreation

Introduction

This white paper provides an overview of parks & recreation services within Cumberland County. Recreational activities within Cumberland County span a variety of programs offered by private, non-profit and public agencies that may include targeted audiences or the general public. All of the communities in the county have some form of recreation facilities. The focus for this report is the services, facilities and programs offered by the Fayetteville\Cumberland Parks & Recreation Department.

History

The City of Fayetteville Parks & Recreation Department was established in the late 1940's while the Cumberland Parks & Recreation Department was established in 1972. Although there were some joint programs and activities through the years, both departments largely operated independently of each other for many years. In 2002, the Cumberland County Board of Commissioners and the Fayetteville City Council began discussions to combine the two departments into one. The merger of the two departments occurred on July 1, 2004 with the City of Fayetteville administering the parks & recreation department under the name of the Fayetteville\Cumberland Parks & Recreation Department.

In 2004, the parks and recreation programs of the City of Fayetteville and Cumberland County were merged. Under the new arrangement, the City of Fayetteville administers the parks and recreation under the name of the Fayetteville\Cumberland Parks and Recreation Department.

Service Area & Funding

The Fayetteville\Cumberland Parks & Recreation Department provides services throughout the county. Fort Bragg and the Town of Spring Lake provide their own parks & recreation programs; the Fayetteville\Cumberland Parks & Recreation does not build or maintain facilities in those two locations. Even so, residents of those two communities often use or participate in Fayetteville\Cumberland Parks & Recreation activities.

Prior to merger, the City of Fayetteville Parks & Recreation Department derived its funding from fees and funding from the City's General Fund. The County Parks & Recreation derived its funding from fees and funding from a special recreation tax set at 5 cents per hundred dollars of property valuation for the area outside the City of Fayetteville and the Town of Spring Lake.

The merger agreement provided for the funding method to remain as is with the City funding parks & recreation service for the city area through its General Fund while the County supports parks & recreation service in the areas outside of Fayetteville through the special 5 cent recreation tax.

Master Plan

The merger of the two departments provided the need and opportunity to develop a Master Plan for the future. The purpose of the Master Plan is to review recent changes throughout the county, initiate a public discussion on future needs for park and recreation facilities, and establish standards for future park development. Utilizing these standards, the Master Plan proposes a plan of action for achieving these standards.

An important aspect of the Master Plan study was identifying the public's desire for park & recreation facilities. The public was offered the opportunity to participate in this planning effort through:

- Five public meetings held throughout the county
- A Park Planning Committee comprised of 21 local stakeholders
- Interviews with six key park & recreation stakeholders
- A countywide telephone survey of 400 randomly selected households

The results of the telephone survey indicated the following:

- 78% of respondents agree parks and recreation should be a government priority.
- 80% of respondents feel there is a need for additional parks and recreation facilities.
- 87% of respondents feel that parks and recreation is important for quality of life.
- 72% of respondents indicate they use a public park in the county.
- Walking and jogging activities are the most popular activity in parks.
- Open space and greenways scored higher than athletic fields in terms of desired facilities.
- 50% of respondents were satisfied with public parks in the county.
- 28% of respondents would support allocating new taxes to pay for public parks.
- 61% of respondents said “yes” to funding new park and recreation facilities by sale of bonds.
- 19% of respondents would pay more than \$200 annually to improve parks & recreation facilities.
- 31% of respondents not pay at least \$25 per year to improve parks and recreation facilities.

19% of respondents to a random telephone survey said they would pay more than \$200 annually to improve parks and recreation facilities while 31% of respondents would not pay even \$25 per year.

Parks & Recreation Standards and Needs Assessment

Another critical element of the Master Plan was the development of standards and a needs assessment. There are different types and sizes of parks that are designed to serve a certain geographic area and level of participation. It is important in the planning effort to evaluate the type of park and the general population it serves so as not to spread the service too thin or to duplicate existing services.

The plan classifies the Fayetteville\Cumberland Parks System as follows:

- **Regional Parks\Nature Preserves** – regional parks serve the entire county with an acreage\population ratio of 3.25 acres per 1,000 persons. The minimum size of a regional park is 100 acres with the facilities commonly found within park being nature trails, swimming, fishing, picnicking, environmental center and camping.
- **Sports Complex** – sports complexes serve a three to five mile radius with an acreage\population ratio of 1 acre per 1,000 persons. The minimum size of a sports complex is 50 acres with the facilities commonly found within the complex being playground, basket courts, tennis courts, volleyball courts, baseball\ softball fields, football\soccer fields, picnicking and nature trails.
- **Community Parks** – community parks serve between one-half to a three-mile radius with an acreage\population ratio of 1.25 acres per 1,000 persons. The minimum size of a community park is 50 acres with the facilities commonly found within the complex being recreation center, basketball courts, tennis courts, soccer fields, swimming pool, volleyball courts, baseball\softball fields, picnicking and nature trails.
- **Neighborhood Park** – neighborhood parks serve between one-half to a three-quarter mile radius with an acreage\population ratio of 2.25 acres per 1,000 persons. The minimum size of a neighborhood park is 7 acres with the facilities commonly found within the park being a playground, benches, informal play area, picnicking and walkways.

- **Mini Park** – mini parks is the smallest park classification with a service area of a quarter mile radius with an acreage\population ratio of .25 acres per 1,000 persons. The minimum size of a mini park is one-half acres with the facilities commonly found within the park being a playground, open play area, benches and picnicking.

Open Space Requirements

Generally, most developments provide for open space and recreational activities within their complex or development. Condominium and apartment developments often have a swimming pool, tennis court and play area within their site. The standard single-family subdivision usually contains open space, but not any recreational amenities.

The Fayetteville City Council and the Cumberland County Board of Commissioners in 1996 revised their subdivision ordinances to require either a dedication or payment-in-lieu for the purpose of providing park, recreation and open space areas. These ordinances revisions were based upon the recommendations outlined in the 2010 Plan.

Under the 1996 requirements, the amount of park, recreation, or open space area shall be 500 square feet per dwelling unit when the land is above the floodplain; 1,000 square feet per dwelling unit when the open space land is located within the floodplain area; and 2,000 square feet per dwelling unit when the area is a water body.

Under the 1996 amendments to City and County regulations, the amount of park, recreation, or open space area is to be 500 square feet per dwelling unit when the land is above the floodplain; 1,000 square feet per dwelling unit when the open space land is located within the

Given the overall need for recreational areas and the fact that the open space requirements are now over ten-years old, recreation and open space requirements associated with new residential development should probably be reevaluated as a follow-up action to the 2030 Growth Vision Plan.

Future Considerations

The consolidation of the Fayetteville Parks & Recreation Department and the Cumberland County Parks & Recreation Department has been achieved and accepted by the community and the local officials. The activities and sports programs continue to thrive and grow. The City of Fayetteville recently completed the construction of a new recreation center next to Westover School and Cumberland County is constructing a new recreation center on property adjacent to Eastover-Central School. While the overall assessment of the parks & recreation program is positive, there are funding issues that need addressing, as outlined below.

Funding for the Unincorporated Areas

The consolidation agreement between the City of Fayetteville and Cumberland County calls for the method of funding, the allocation and the distribution to remain as is prior to consolidation. The City of Fayetteville method of funding is from user fees and appropriation from the City's General Fund while the County's method of funding is user fees and revenue from the five-cent property tax for areas outside of Fayetteville, Spring Lake and Linden.

The concern is that the area annexed by the City of Fayetteville identified as Phase 5 removes roughly 27 square miles subject to the five-cent property tax. The funding previously received by the County is no longer available for county parks & recreation services. The remaining area subject to the County's five-cent property tax may not be adequate to support current parks and recreation activities in the unincorporated area.

If this scenario develops, changes to the present funding arrangement will be needed. This could involve the County Commissioners increasing the dedicated five-cent property tax for county parks & recreation services, consideration by Fayetteville City Council and Cumberland County Board of Commissioners to establish a system wide tax district, or a revisit by the governing bodies of the operating agreement developed and approved in 2004.

Capital Funding Plan

The Master Plan noted earlier in this paper includes an \$85.7 million Capital Improvement Budget Plan. The plan includes current park renovations, land acquisition, park development programs and special use facilities. The capital improvement plan attempts to implement the parks and recreation standards mentioned earlier in this paper.

The current funding arrangement for parks & recreation, whether by the City of Fayetteville or by the County in the unincorporated area, does not provide adequate revenue for the proposed capital improvement plan. It is critical for the success of the capital improvement plan that the Fayetteville City Council and the Cumberland County Board of Commissioners agree on a plan that is financially equitable for both parties. The situation is ripe for allegations that one entity is carrying the financial burden or one entity is receiving much of the benefits from the capital improvement program. The current funding and operational arrangements could possibly cause concern.

Before moving forward on any capital improvement plan, the financial and operational methods should be reviewed to better understand future impacts.

The City of Fayetteville employs user fees and appropriation from the City's General Fund to fund parks, while the County relies upon user fees and revenue from the five-cent property tax for areas outside of Fayetteville, Spring Lake and Linden. The current funding arrangement for parks & recreation, whether by the City of Fayetteville or by the County in the unincorporated area, does not provide adequate revenue for the proposed capital improvement plan.

Water and Sewer Services

Introduction

This section provides an overview of water and sewer services in Cumberland County. The City of Fayetteville Public Works Commission (PWC) is the primary provider of water and sewer service in Cumberland County. In addition to PWC service, American Water, a private water company, provides water service in the western area of the county. Harnett County Water System provides water service in the northern area of the county. The Town of Spring of Lake provides water and sewer service for the Town of Spring Lake and some outlying areas. Eastover Sanitary District provides water service for their district and plans include expansions to that district. The Town of Linden provides water for their jurisdiction and Robeson County provides water to an area in the southwestern portion of the county.

Eastover Sanitary District

In June, 2006 Congressman Mike McIntyre announced that the Eastover Sanitary District would receive \$5,971,000 in federal funds to help build a new water system. Funds appropriated by Congress and disbursed by the United States Department of Agriculture, Rural Development would be used to construct Phase 2 of a district-wide water distribution system. The \$4,971,000 loan and \$1,000,000 grant will help construct approximately 63 miles of water distribution lines and a 250,000 gallon water storage tank. This will provide potable water to 1,092 residential users.¹

Water and Sewer Capacities of the Public Works Commission

The City of Fayetteville Public Works Commission water distribution system currently provides water to approximately 77,000 customers. There are two water treatment facilities that have a combined capacity of 50 million gallons per day. Plans are in place to boost that total to 57 million gallons per day. The water treatment plants are the Glenville Plant located on Little Cross Creek and the Hoffer Plant located adjacent to the Cape Fear River. The primary water source for both plants is the Cape Fear River, with additional supplies available from lakes and dams located along Little Cross Creek and a pumping station located on Big Cross Creek. The average daily water demand in 2005 was 24 million gallons per day.

The recent Water Master Plan, done by PWC, projected adequate water supply beyond 2030. Infrastructure improvements will be necessary to meet demand, but supply will be available. Currently, PWC has the capability to provide water to Fort Bragg, Spring Lake, Stedman and Hoke County while expanding its water system countywide. This requires coordinating with the County, towns and rural water districts.

The sewer system currently provides service to approximately 64,000 customers. The system includes seventy lift stations and two wastewater treatment plants with a total capacity of 41 million gallons per day. The Cross Creek plant located on the Cape Fear River has a capacity of 25 million gallons per day; the average daily flow in 2005 was 12 million gallons per day. The Rockfish Creek plant, located on Rockfish Creek, has a capacity of 16 million gallons per day with the current average daily flow of 13 million gallons per day in 2005. At the time of this writing, construction is underway to increase the capacity of the Rockfish Creek plant to 21 million gallons per day.

There is an ample supply of water and wastewater capacity with the PWC system. The abundant supply of water, coupled with the current treatment plants, provides the opportunity for expansion of water and sewer services. It is critical that any future expansions be done in a well-planned and effective manner.

¹ Source: [US Fed News Service, Including US State News](#) Jun 28, 2006

System Growth

County-Wide Water

There is general agreement among the governing entities that a countywide water system be implemented in Cumberland County. In the 1980's and 1990's the counties surrounding Cumberland developed countywide water systems within their jurisdictions. An important goal for the Cumberland County Commissioners is the development of a countywide water system.

Efforts are underway to provide water in areas of the county lacking a water system. Recent projects include a water extension to Stedman that will eliminate that community's need for individual wells and the agreement with the Eastover Sanitary District and the City of Fayetteville for PWC to provide water to for that area.

Existing service providers and their service areas must be considered in the development of a countywide water system. As mentioned, private water companies, adjacent county water systems and water and sewer sanitary districts, as well as PWC, are involved in the delivery of water. A plan utilizing these entities in a cooperative manner to implement a countywide water system, rather than duplicating service, should be an element of any water system plan.

The installation of a countywide water system discontinues the reliance on individual wells for a clean and reliable water source. This factor is a greater impact than potential changes to development patterns. Although a community water system may allow the reduction of individual lots, the preferred size of residential lots served by a septic tank is one acre in size or more. It is not uncommon for an area served by a community water system to remain rural or suburban, but an area served by sanitary sewer will eventually become urban.

Centralized Sewer Services

The installation of sanitary sewer is often lumped together in the discussion of countywide water. However, the cost, distribution and the impact of sanitary sewer is very different from the installation of a water system.

Sanitary sewer provides an impetus to the developer to maximize investment in the property either through higher density residential development or a non-residential development. Such added economic benefit is needed to justify the extension of sanitary sewer. Although the extension of water is expensive, sanitary sewer is more expensive and complicated to extend service than water. A sanitary sewer system, unlike a water system, relies primarily on gravity to move the effluents through the pipeline. As sanitary sewer systems are expanded, it becomes more difficult to rely solely on gravity. The need for lift stations to pump the effluents is necessary, raising the cost of expanding the sewer system.

The extension of sanitary sewer should generally be limited to areas designated as urban. A growth boundary area identifying the urban area to receive sanitary service should be a key element of the 2030 Growth Vision Plan. In absence of such a plan, uncontrolled growth will continue making the cost of development more expensive.

System Extensions

The extension of PWC water and sewer service is straightforward within the corporate limits of Fayetteville, but it is less clear for areas outside the city's boundaries.

In November 2003, the Fayetteville City Council adopted a policy outlining a petition zone area whereby anyone developing property within that area requesting PWC water or sewer must petition for annexation. The logic of this policy is that PWC water and sewer service is provided by the City of Fayetteville,

therefore the property served should be within the corporate limits of Fayetteville. Should the City Council choose not to annex the property, the developer still receives the water and sewer service.

This approach accomplishes some of the concerns associated with water and sewer extensions, but fails to address the overall lack of planning and direction with regard to growth.

The current system typically has a developer wishing to develop land in the unincorporated area of the county contacting PWC on the cost and availability of water and sewer service. This may result in water and sewer expansion in a desired area for growth or spur growth in an area not designated for this type of development. This system is haphazard in terms of planning for orderly growth.

A proposal to change this approach entails designating specific areas designated for sewer expansion and urban development. As mentioned earlier, sanitary sewer is the key element in determining whether an area will develop as an urban or rural setting. A plan involving the county, municipalities, school board and utility providers designating the urban area appropriate for sanitary sewer extension would go a long way in planning and serving developed areas and protecting areas designated as rural. The plan would not only encompass the area designated by the City of Fayetteville, but each municipality could have an urban area outside their municipal borders designated as urban. This is especially helpful given the NORCRESS sanitary sewer project for Wade, Falcon and Godwin as well the sewer service to the Town of Stedman. Other areas several miles beyond municipal boundaries now slated or currently having sanitary sewer could also be included.

The benefits of having such a plan include:

- Avoids utility providers and local governments having to react to individual requests that are outside the proposed urban area;
- Promotes orderly growth;
- Maximizes the investment made by the utility providers and local government regarding sanitary sewer outfalls and needed plant capacity;
- Informs the development community as to where urban growth is to occur and where areas are to remain rural;
- In addition to sanitary service, the urban area identifies the needs for other urban services and the necessary expenditures from the local governments.

A sewer service area plan should not be a static document. It must be reviewed periodically so it remains relevant and addresses ongoing factors in the community.

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