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SPECIAL ISSUE

Growing Smart in North Carolina

Popular Government

James Madison and other leaders in the American Revolution employed the term "popular government" to signify the ideal of a democratic, or "popular," government—a government, as Abraham Lincoln later put it, of the people, by the people, and for the people. In that spirit *Popular Government* offers research and analysis on state and local government in North Carolina and other issues of public concern. For, as Madison said, "A people who mean to be their own governors must arm themselves with the power which knowledge gives."

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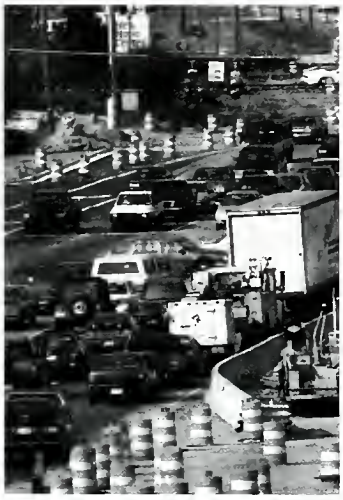

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ON THE COVER

Bumper-to-bumper traffic juxtaposed with furrowed farmland depicts visually some of the issues that North Carolina policy makers face in addressing growth.

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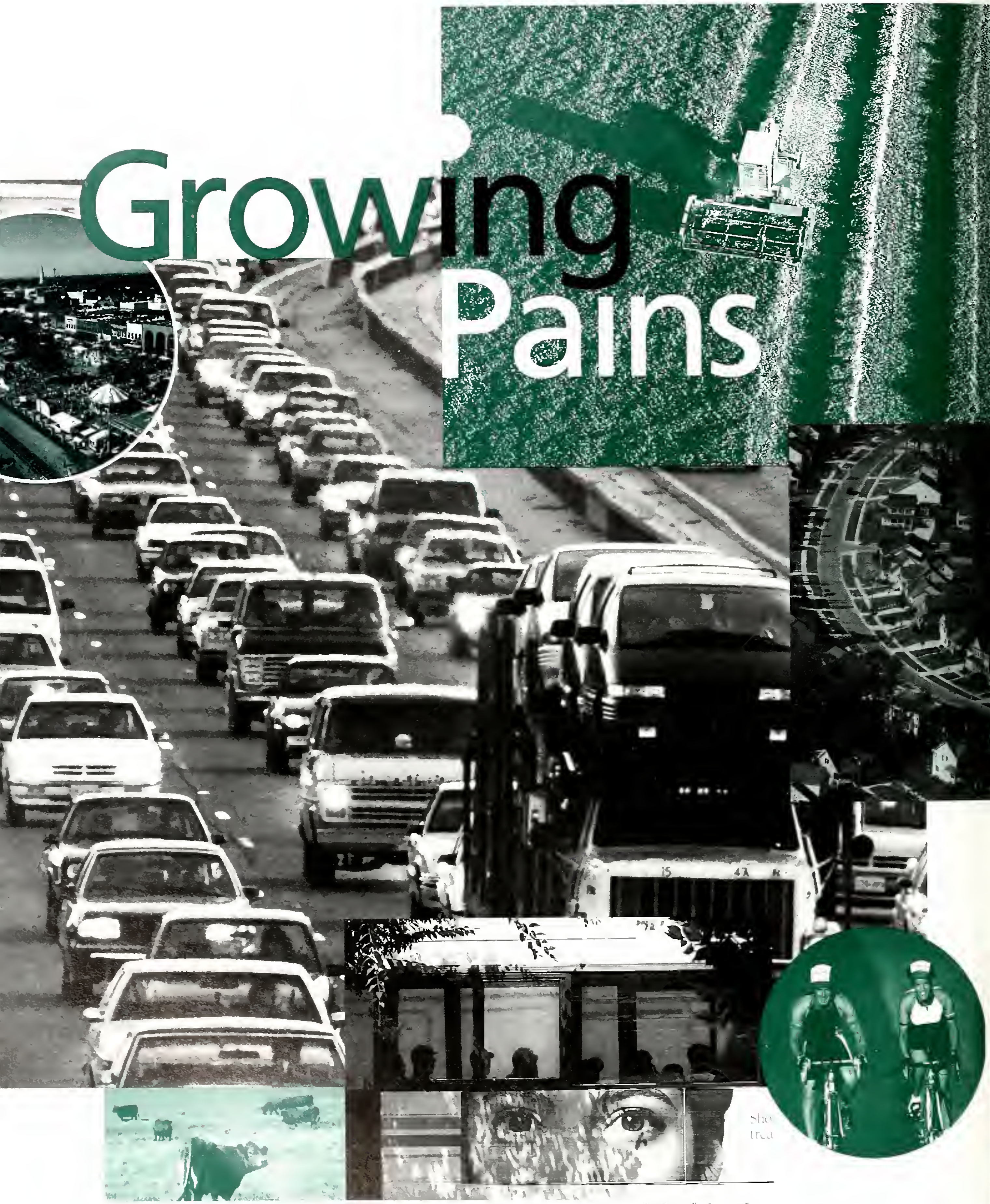


Chris Doane / The Charlotte Observer

KEITH GREENE / THE NEWS AND OBSERVER

GARY O'BRIEN / THE CHARLOTTE OBSERVER

A Tale of Two Cities and a Farm in Between

Richard Whisnant

Imagine a town—call it Millville—where the only large employer recently closed its plant and laid off the workers. The effects of the layoffs are rippling throughout the community in the form of lowered income, increased stress, and reduced property values. Everyone fears the future. Job prospects are limited. The town faces stagnation. Its leaders and its citizens crave growth, which they see as necessary for a return to economic vitality and as motivation for the town's youth to stay and work where they were born.

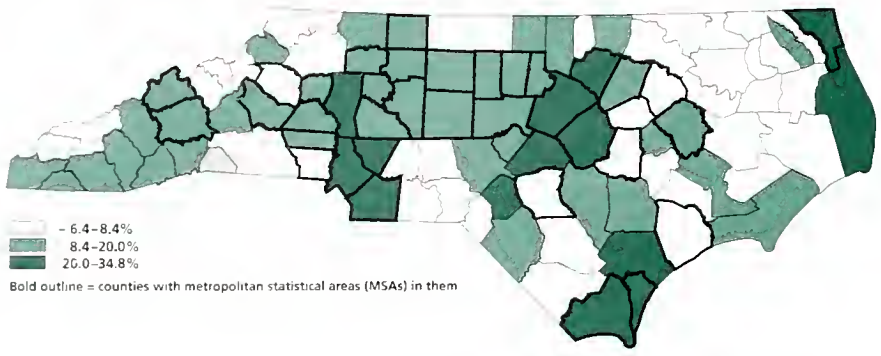
Imagine a second city—call it Mallville—just an hour's drive away. At the edge of Mallville, an interstate interchange has attracted a sprawling host of retailers. Property values in the area are rising rapidly. Houses and condominiums are springing up around the retail strip. Jobs are available in new office buildings rising amid the retail stores. But traffic, noise, polluted stormwater runoff, and air pollution all seem to be rising along with the office towers. Residents of Mallville miss the forests and the farmland that used to lie at their city's edge. The influx of people is creating new demands for expenditures on education and public safety. Rapid changes are dooming businesses elsewhere in the city, especially in the old urban core. Many people in Mallville believe that the growth on the edge of town has outpaced the city's ability to maintain its quality of life, and they demand smarter growth management.

Meanwhile, on a farm between Millville and Mallville, the owners see profits shrinking and land prices rising. If they subdivide and sell, they can afford many things they want—good schools for their children, perhaps a second home at the coast. If they continue to farm as they always have, they see only harder times ahead. As much as they love the land in its present state, development and the money that it will bring look like the easiest route to a better life for themselves and their children.

Millville, Mallville, and the farm in between represent three of the most common viewpoints on growth in North Carolina (and elsewhere in the United States) at the turn of the century. The differences in these viewpoints raise difficult challenges for policy makers in a state that has long sought an elusive geographic balance in growth and development. The historical approach to growth in North Carolina has had two disconnected facets. Uniform statewide policies were mostly concerned with geographic dispersion of public investments and mitigation of environmental impacts. Most local decision makers tried to achieve whatever growth they could. Are these approaches useful in solving the current problems of Millville, Mallville, and the farm in between? This article examines growth policies and trends in the state and discusses some impacts that growth is having on communities in North Carolina. The purpose of the article is to provide a context for the growth management debate now under way in the political realm and in the pages of this issue of *Popular Government*.

The author is an Institute of Government faculty member working primarily in environmental law. *He thanks Ben Hitchings, senior planner, Triangle J Council of Governments, for contributing data and text on recent patterns of growth in North Carolina.* Contact the author at richard_whisnant@unc.edu.

Figure 1. **Population Growth, North Carolina Counties, 1990–98**



Source: North Carolina Dep't of Env't and Natural Resources, Div. of Envtl. Ed., Geographic Information System (GIS) database summarizing U.S. Census Bureau data from various data sets (database in author's possession) (1998).

How North Carolina Has Grown

Population

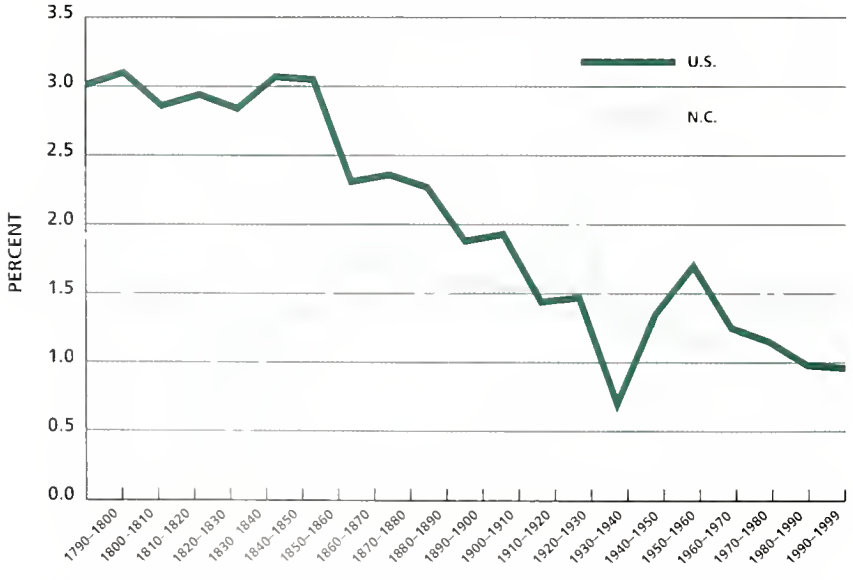
Thomas Wolfe was not the only one who felt about North Carolina that "you can't go home again." For most of the twentieth century, up until the 1970s, North Carolina experienced net out-migration.[1] The state's citizens left its farms and small towns for the manufacturing centers of the Northeast and the Midwest, where the assembly lines of the new industrial order brought relatively high wages. As out-migration slowed with the rise of North Carolina's own mills and factories, the population began to grow faster but also to spread just outside city limits. There was a shift from "a rural farm to a rural non-farm way of life, and on to an urban non-city way of life."[2] After midcentury, the population of the state was moving, not to the city-level densities typical of large metropolises elsewhere but to a suburban-level density that sprawled across the landscape. The dispersion of textile mills throughout the small towns of the Piedmont and the decentralized production of the state's defining cash crop, tobacco, both encouraged this semiurban, semirural form of development.[3]

Beginning in the 1970s, the state formally attempted to encourage this trend through a policy of "dispersed urbanization."[4] The state policy goals were aligned with the direction that demographics supposedly indicated was most people's desire: urban living in a rural setting.[5]

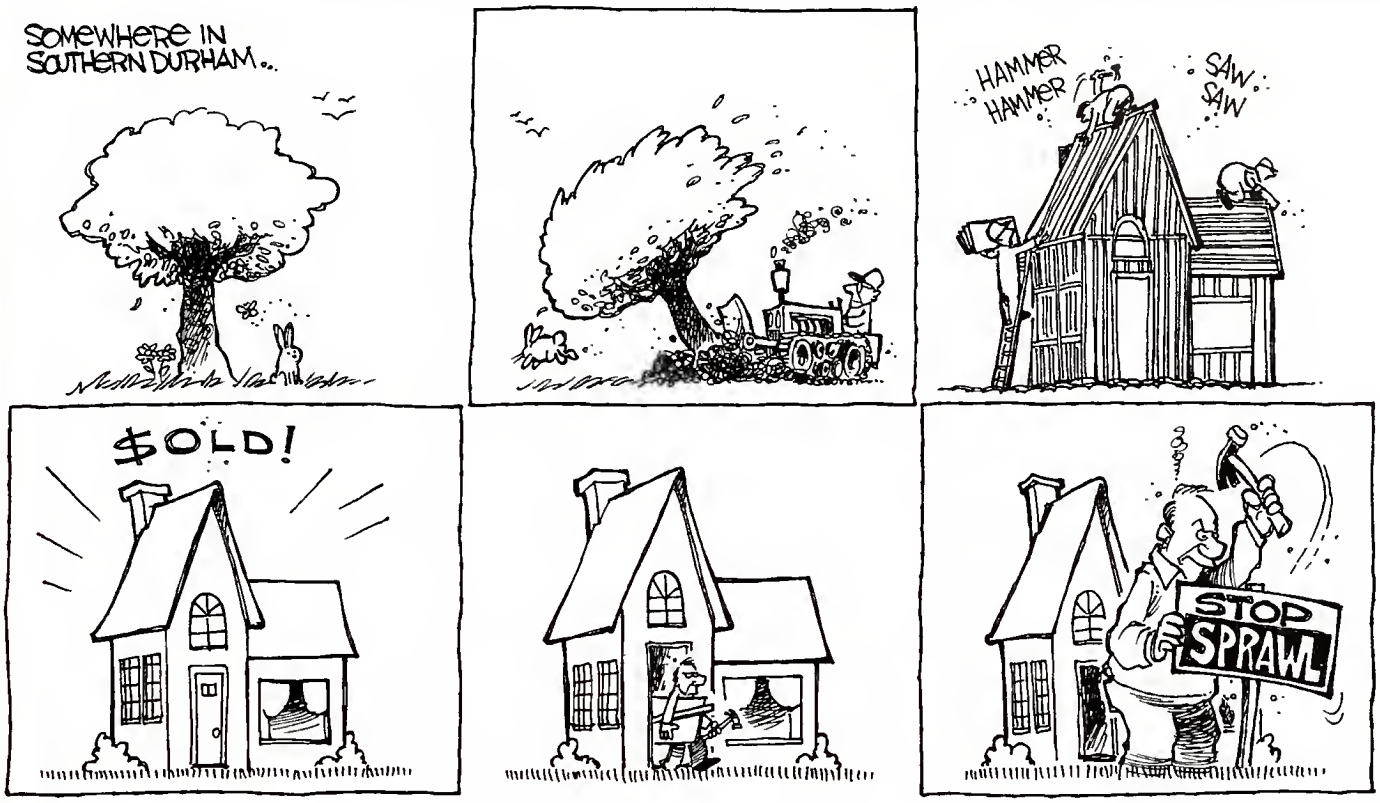
Whatever differences this state policy of "balanced growth" made, it did not change the fundamental trend of faster population growth in and around larger urban areas.[6] As early as the 1830 census, it was apparent that the state's cities were growing at a faster rate than its rural areas. By the 1930 census, although the state remained only 25 percent urban, its cities showed a larger gain in absolute numbers of people than its rural areas did. By 1950 the proportion of the state's population that was urban had increased to 34 percent; by 1980, to 48 percent; and by 1990, to 50 percent.[7] Projections for the 2000 census and beyond show this trend continuing. The Mallvilles are picking up steam; the Millvilles are lagging in growth.[8] As for the farms, North Carolina has been at or near the top of the nation in the decrease in farm employment for the last twenty years.[9] (For a graphic representation of the rate of population growth from 1990 to 1998, see Figure 1.)[10]

The state as a whole now is growing at a historically fast pace. North Carolina's population growth from 1990 to 1999, an increase of 1.02 million people, ranked sixth nationally. Its 15 percent annual growth rate during the same period ranked eleventh nationally.[11] The state is one of fifteen projected to have population increases of more than one million people from 1998 to 2025. Of these fifteen, only five (Florida, Georgia, New York, Texas, and Washington) are projected to have higher growth rates than North Carolina.[12] Sometime in the 1970s, North Carolina's annual growth rate surpassed the nation's average annual growth rate, and it has stayed ahead of the national average since then (see Figure 2). North Carolina's net domestic in-migration was estimated to rank fourth highest in the United States between 1998 and 1999.[13]

Figure 2. **Average Annual Population Growth, United States and North Carolina, 1790–1999**



Source: Rates to 1970 from C. Horace Hamilton, 1 North Carolina Population Trends: A Demographic Sourcebook (Chapel Hill, N.C.: Carolina Population Center, 1975). Rates from 1970 to 1999 calculated from U.S. Census Bureau, State Population Estimates and Demographic Components of Population Change: April 1, 1990, to July 1, 1999, available at http://www.census.gov/population/estimates/state/st-99-2.txt (as of July 13, 2000); and from historical census figures for 1970, 1980, and 1990.



Economy

Despite a favorable climate, good water supplies, a strategic position between major markets, and generally abundant natural resources, North Carolina was among the poorest states through the middle of the twentieth century. As late as 1959, the per capita income of North Carolinians ranked in the bottom five among the fifty states.[14] Political rhetoric has been shaped through the years to explain, if not to address, this problem of relative poverty.[15] A typical form of labor emerged, in which families operated small farms that provided some income and some food, and also worked in nearby mills for low wages. This second income let families purchase goods and boosted the state's percentage of workers drawing a check from the manufacturing sector, but it also kept wages low.[16] Such a system of labor fit the development pattern of dispersed urbanization by allowing factory workers to have small plots of land for farming (unlike their counterparts in larger cities).

North Carolina has rarely touted —indeed, it has officially sought to avoid—the concentration of economic resources represented by the major metropolis and the large, industrialized farm. Only recently, with the rise of Charlotte as a banking center, the rise of the Research Triangle as a center for research and development, and the rise of intensive livestock operations in the east, has the state seen the concentrated forms of production that elsewhere have been major engines for economic growth. The state has some prominent assets in its higher education institutions, highway system, and metropolitan areas that might have been central to an economic development policy, but state leaders in the twentieth century have tried to focus state resources on areas that lacked these assets. The policy has been to leave the metropolitan areas and established institutions to use their own relatively ample means to market themselves and grow.

Just as North Carolina has reversed its population loss, leaving the twentieth century on a strong upturn in growth, it also has moved onto a faster track in economic growth. Per capita annual income from 1970 to 1997 almost tripled in real terms, with an average annual real increase of 11 percent.[17] This economic growth is another new feature of a state with a long history of low wages and poverty. But the engines for this growth statewide are more the metropolises and the private decisions to locate in and around them, than the successes of dispersed urbanization. Growth is following the course predicted by some urban economists, who saw in the Piedmont Crescent the intermediate-sized cities, linked by transportation corridors, that could give all the advantages of urban business concentration ("agglomeration") while avoiding the problems of cities larger than a million people.[18] North Carolina is projected to have none of the nation's top thirty metropolitan economies in 2025, as measured by employment numbers, but Raleigh-Durham and Charlotte are projected to make the top thirty metropolitan areas in employment increases. The Piedmont Triad is projected to rank 45th of the 315 areas studied nationally.[19]

There are other important ways to look at growth. Like the rest of the United States, North Carolina has seen strong economic growth as its baby boomers have worked through their prime productive years. The graying of this population will be a huge challenge for policy makers, including those concerned with growth management.[20] This age shift is somewhat softened by another

important current in growth, the rise in immigration of Latino, African-American, and other populations that are younger than the majority white population.[21] On the economic front, although income has grown, the nonmanufacturing sectors, not the sought-after manufacturing jobs, have driven growth.[22] The income of farmers, however, has not kept pace with the overall rising income of North Carolinians,[23] except for some who have opted for industrialized forms of agriculture.

Growth Strategies

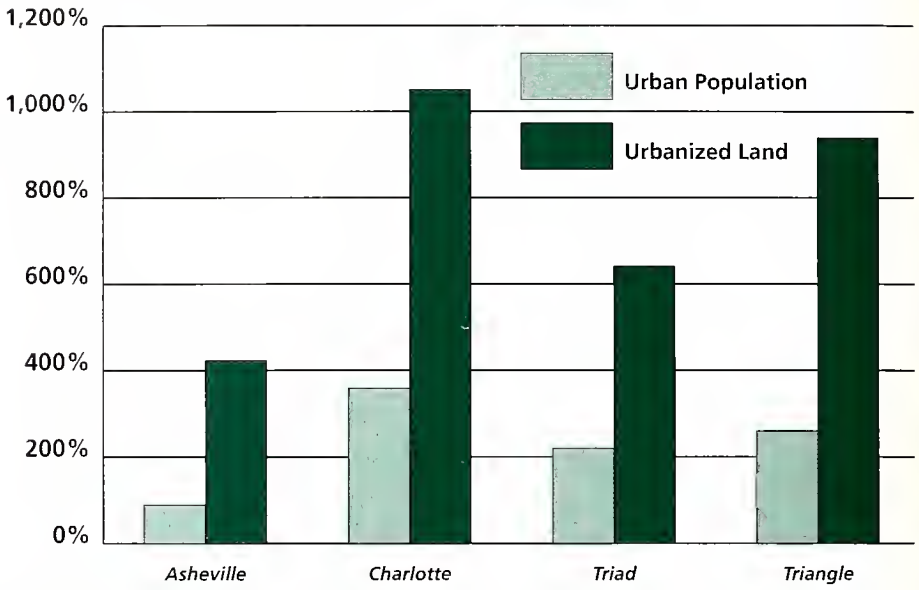
At the start of a new century, and given the manner and the pace of growth in North Carolina today, it seems particularly timely to ask whether the state's historical growth strategies adequately address the problems faced by Millville, Mallville, and the farm in between.[24] The policy of dispersed urbanization was explicitly touted in the 1970s as "a way to prevent the urban sprawl that has attended rapid economic expansion elsewhere in the country. North Carolina's larger cities, which are attractive, prosperous and safe by national standards, remain manageable in size and in touch with their citizenry."[25]

But as the data in this article show, urban sprawl has become a normal feature of growth and development in the state. In some ways the dispersed urbanization makes the sprawl worse. In much of the state, finding where city and suburb end and country begins is hard: development and population have spread for half a century in semiurban, semirural forms.[26] For some people concerned about sprawl, it is exactly this lack of defined urban edges that is most disturbing. Beyond the aesthetic issue—the desire of city residents to be within a five-minute drive of bucolic vistas—there is doubt about the ability of semiurban, semirural dispersed development to create distinctive and livable places.[27]

Recent Patterns of Growth

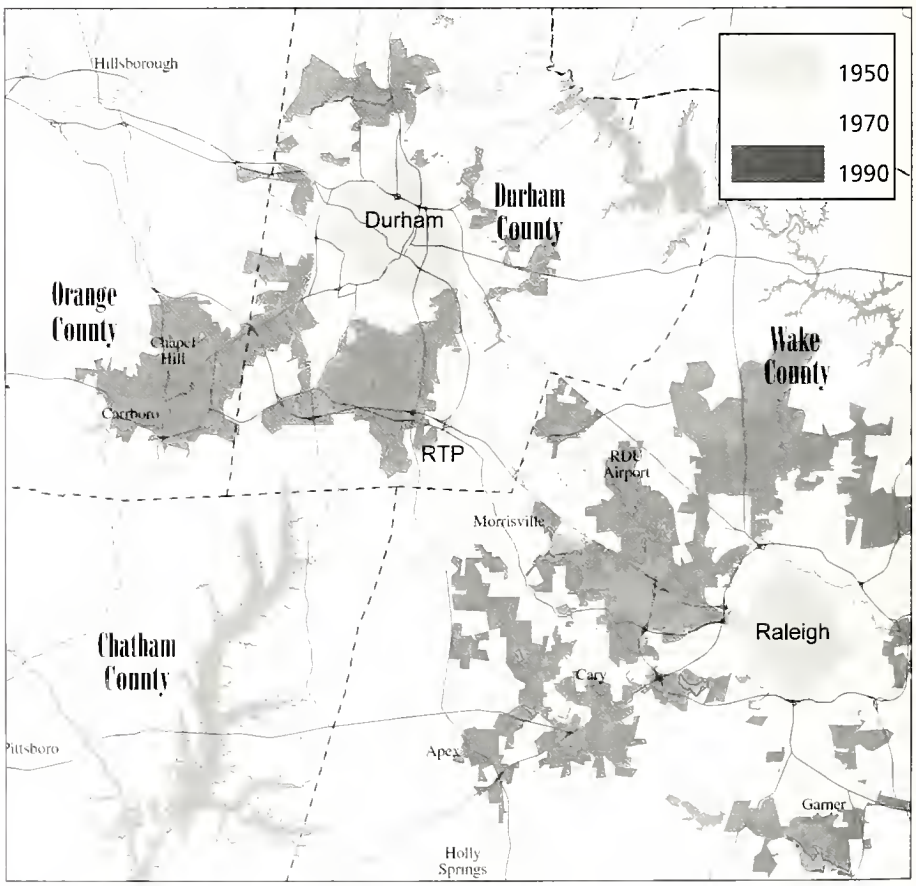
North Carolina has long been a state of small cities and towns separated from one another by unincorporated rural land. However, in the years following World War II, urban regions across the

Figure 3. **Growth of Urban Population and Urbanized Land in Four North Carolina Regions, 1950–90**



Source: UNITED STATES CENSUS BUREAU, 1990 CENSUS OF POPULATION AND HOUSING: GUIDE PART B, glossary 17 (Washington, D.C.: Census Bureau, 1996).

Figure 4. **The Urbanized Area in the Research Triangle, 1950, 1970, and 1990**



Source: Triangle J Council of Governments, Geographic Information System database (in council's possession) (printed Mar. 2000).

In the western part of Wake County, new houses are springing up—some, like these, next to a farm.

GARY ALLEN / THE NEWS AND OBSERVER

state have been spreading faster than they have been growing in population, bringing municipalities closer to one another. As Mallville sprawls out to Millville, it is consuming the farm in between.

Statistics on urbanized areas kept by the U.S. Census Bureau since 1950 provide one means of tracking these changes. An "urbanized area" is defined as a central place and its adjacent densely settled area with a population of 50,000 or more. In general, land is included as adjacent settled area if it has a density of 1,000 people or more per square mile. From 1950 to 1990, urbanized land in the Asheville, Charlotte, Triad, and Triangle regions combined grew more than three times faster than the urban population in those regions (see Figure 3).[28] More recent data available for the Fayetteville and Wilmington regions show similar trends.[29] This dispersed pattern of development has caused the density of the state's urban areas to drop significantly. For example, in 1950 the urbanized area in the Triangle had a density of more than 5,000 people per square mile. By 1990 the density had dropped to less than 2,000 people per square mile. In 1950 the urbanized area in the Triangle included 27 square miles of land. By 1970 it had grown to 114 square miles, and by 1990, to 282 square miles of land (see Figure 4). The result is a continuation of the state's historical pattern of creating places that are neither city nor country but something between that often is too dense to farm but too dispersed to serve efficiently with public transportation and other urban amenities.

Data from the National Resources Inventory document the conversion of rural land to developed uses statewide. From 1982 to 1997 in North Carolina, 1.72 million acres of rural land were developed, an increase of 70 percent in developed land. The rate of conversion increased over this period from 10.1 acres per hour from 1982 to 1987, to 17.8 acres per hour from 1992 to 1997.[30] During the latter period, North Carolina ranked fifth nationally in the number of acres developed.

As more land is urbanized, the total farmland statewide is declining. In the twenty years from 1978 to 1997, it dropped by 17 percent.[31] Over the same period, the number of farms dropped by 40 percent. Suburbanization is adding to the pressures that changing global economics are exerting on North Carolina farmers. Rising land values make the prospect of working the farm less attractive. Global competition and marketing make the business of working the farm more complex.

As communities across the state spread out, people also are driving more. From 1951 to 1990, North Carolina's population increased by 63 percent while the number of vehicle miles traveled increased by 430 percent, a rate almost seven times faster.[32] From 1995 to 2007, the population is projected to grow by 17 percent, while the number of vehicle miles traveled will increase by 43 percent, a rate about two and a half times as fast.[33]

These are just a few examples of some of the impacts of the state's low-density pattern of development. As North Carolina communities begin to grow into one another, Millville may be increasingly hard to distinguish from Mallville, and many of the farms in between will begin sprouting houses and shopping centers instead of crops.

Growth and Quality of Life in North Carolina

Another way of looking at growth in the state focuses on how population and growth in North Carolina counties over various periods of the twentieth century are "associated" (statistically linked in some way) with important quality-of-life indicators—fiscal and economic status, education, environment, health, and crime.[34] The inquiry reveals several interesting "correlations," or relationships. A correlation does not prove a causal relationship—in this case, between growth or size and any of the quality-of-life variables. It merely suggests that one variable relates in some way to certain other variables (but not to all). So this is a screening analysis that begs for further research to determine whether population growth, size, or other variables are causal factors for quality of life in North Carolina and, if so, how strong the relationships are.[35]

Population Growth and Density

In the recent past, growth led to more growth. The counties with the highest growth from 1950 to 1990 largely continued to grow fastest from 1990 to 1998. Interestingly, however, the counties that grew the fastest from 1900 to 1950 were not as likely to be the fastest-growing counties from 1950 to 1990 and were even less likely to be growth leaders from 1990 to 1998.

Also in the recent past, big counties did not grow faster than small ones. From 1990 to 1998, the bigger counties had only a weak likelihood of being the faster-growing counties. From 1950 to 1990, there was a stronger likelihood of the bigger counties growing faster. The counties with metropolitan statistical areas (MSAs)[36] in them have grown more quickly in all the periods studied.

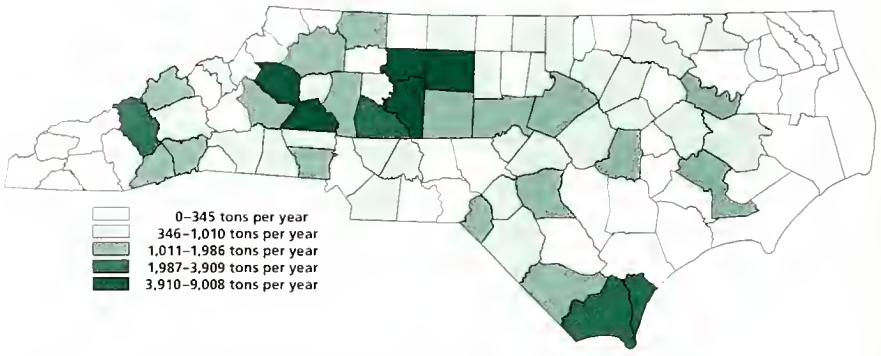
Fiscal and Economic Status

In general, bigger, more urban, and faster-growing counties have higher per capita income, higher wages, and lower unemployment. An important goal of state policy, expressed in the 1997 report of the North Carolina Progress Board,[37] is to raise per capita income beyond the national average by 2010. The county data show a strong association between growth and per capita income, and between MSA status and per capita income. They show an even stronger association between population and per capita income. Interestingly this relationship with per capita income did not hold for the top ten fastest-growing counties in the last decade.[38] The very fastest-growing counties (in percentage terms) do not necessarily have the highest per capita incomes. The same patterns hold for average working wages. Similarly, higher-growth counties had lower average unemployment rates in the 1990s, but this association nearly disappeared for the ten fastest-growing counties.

Some evidence indicates that growth also brings higher costs of living, so increased income may not equate to higher purchasing power. For example, from 1990 to 1998, median income in Wake County increased by 34 percent, while housing prices increased by 52 percent and apartment rents by 57 percent.[39]

Growth's association with overall county tax rates, spending, and debt is ambiguous. For certain periods, growth counties are weakly associated with lower effective tax rates. But there is no association between the change in tax rates from 1990 to 2000 and the growth rates of counties. There are weak associations between county growth and total county government expenditures per capita, as well as between county growth and debt service per capita (debt service being the amount of money spent to repay past borrowing). These correlations are strongest for the counties that grew the fastest between 1950 and 1998.

Figure 5. **Volatile Organic Emissions from Point Sources, North Carolina Counties, 1995**



Source: North Carolina Dep't of Env't and Natural Resources, Div. of Envtl. Ed., Geographic Information System (GIS) database summarizing U.S. Census Bureau data from various data sets (database in author's possession) (1998).

Education

More growth is associated with better educational outcomes. Average scores on the SAT (Scholastic Aptitude Test—a standardized test widely required for admission to college) are positively associated with county growth, size, and MSA status for all the periods studied. So are total public school resources spent per capita. As with income per capita, however, this relationship does not hold as strongly for the ten fastest-growing counties of the last decade.

Environment

Of interest in environmental terms is the association between county growth and three outcomes: water quality, in the form of benthic testing of surface water;[40] air quality, in the form of air emissions; and solid waste generation. The data show no association between growth counties and water quality, as measured by benthic testing results. However, there is a weak association between counties with higher wages and counties with poorer water quality.

The state's air quality problems have been much in the news with press reports that North Carolina ranked as the third smoggiest state in the United States in 1999. Air experts attribute the smog to a combination of "point sources," which are fixed locations such as industrial smokestacks, and mobile sources, such as cars. For most of the air pollutant types of point source emissions examined (particulates, sulfur dioxide, oxides of nitrogen, and carbon monoxide), there are no associations with

ROBERT MILLER / THE NEWS AND OBSERVER

At times, subdivisions have replaced much or all of a family farm. Above, only the farmhouse and a shed remain.

growth. However, the point source emissions of volatile organic compounds, such as gasoline, paints, and solvents, do show a substantial correlation with growth counties in the 1900–1998 period, much of the correlation apparently occurring in the counties that grew fastest from 1900 to 1950. This may reflect the manufacturing that grew in the western Piedmont (the furniture belt) in the first half of the twentieth century, particularly when one examines the counties with the highest level of volatile organic emissions (see Figure 5).

In 1991 the state set a statutory goal of reducing disposal of municipal solid waste by 40 percent on a per capita basis by June 2001.[41] The state will not meet this goal. In fact, it is disposing of at least 6 percent *more* waste per capita as the deadline approaches.[42] As counties grow faster, they generate more solid waste per capita. This association is weak when one looks at all the counties for the 1990–98 period but is stronger for the ten fastest-growing counties and very strong for the longer periods. For more discussion of the environmental consequences of growth, see the article on page 46.

Health

Mortality and childhood poverty are lower in faster-growing counties than in their slower-growing counterparts. Other public health indicators are ambiguous with respect to growth. Growth is associated with lower overall mortality. However, this association, like those with per capita income and SAT scores, is barely discernible for the ten fastest-growing counties of the 1990s. Faster growth is strongly associated with lower childhood poverty. There is some evidence that higher-growth counties have lower pregnancy rates for women less than nineteen years old, and lower infant mortality. Counties that grew faster in the first half of the twentieth century had higher incidences of total cancer as of the mid-1990s. In general, more populous counties reported higher total cancer rates. This effect could be the result of better cancer screening in the larger metropolises. There is a slight negative correlation between total cancer incidence and growth for all the counties in the 1990–98 period.

Crime

Crime rises with faster growth and larger populations. Faster-growing counties for the 1950–98 period saw growth (in both absolute numbers and the crime rate) in "index crimes" (the most serious crimes, including arson) along with growth in population. There is a high correlation between 1997 index crime rates and population, and a moderate correlation between high-growth counties and 1997 index crime rates, especially for the longer periods, 1950–98 and 1900–1998. There also is a high correlation between 1997 index crime rates and measures of economic well-being: counties with higher income per capita and higher average wages also had higher crime rates.

Summary

As North Carolina awakened from slumber and grew in the last half of the twentieth century, the "Rip Van Winkle state" spread its large population around in numerous small towns and semirural areas. State government explicitly tried to maintain the state's characteristically decentralized agriculture and dispersed

urban areas by attempting to funnel jobs and public investment to poorer areas.

At the beginning of the twenty-first century, however, farms have grown increasingly concentrated, and the state's more densely populated urban areas—its Mallvilles—have continued to be the major engines for economic growth. The small towns—Millvilles—and the rural areas still suffer from poor economic conditions and the attendant problems for quality of life. The problems of the major urban areas look very different from the problems of the lagging semi-urban and rural areas. It is increasingly difficult to imagine a development-and-growth policy that could treat Millville, Mallville, and the farm in between the same way, or that could treat them differently just as a function of their geographic location.

In North Carolina of the twentieth century, growth, size, and urbanization (as reflected in MSA status) were positively associated with higher personal income, better educational outcomes, and lower mortality. These are important facts for a state that until recently was near the bottom nationally in per capita income, educational attainment, and many public health measures. The data suggest that growth has significant benefits, although the extent to which it causes the improvement in quality-of-life indicators reported in this article is not clear and requires further study.

At the same time, growth in the metropolitan areas of the state has taken on a character that may deserve special policy treatment. The growth policies of the past, that largely left the metropolitan areas to fend for themselves, were not made with a view to solving urban problems. As North Carolina continues its position among the nation's leaders in urban growth, policy makers and public administrators face difficult management challenges, with little history of concerted statewide efforts to solve them.

Notes

1. C. Horace Hamilton, 2 North Carolina Population Trends: A Demographic Sourcebook 166 (Chapel Hill, N.C.: Carolina Population Center, 1975).

2. Governor Robert W. Scott, The Statewide Development Policy 22 (Raleigh: N.C. Dep't of Admin., Mar. 1972).

3. *See* Brad Stuart, Making North Carolina Prosper: A Critique of Balanced Growth and Regional Planning 14 (Raleigh: N.C. Center for Public Policy Research, 1979).

4. Scott, Statewide Development Policy 90 ("The primary thrust of development policy, therefore, must be to reinforce the growth of smaller and medium sized centers, outside of the Piedmont, in the 5,500 to 50,000 range. This is the only practical way to achieve a jobs-people balance through population dispersal in North Carolina").

5. In the development policy of the Scott administration (in the early 1970s), limiting the rate of growth was off limits: "A Statewide Development Policy . . . is not a policy to set direct limits on growth in any region. This probably is impossible, and no proven techniques are available anyway. Rather, development policy is drawn in a positive sense, supporting the expansion of clusters outside of the Piedmont Crescent as a counter-balance to increased urban concentration." Scott, Statewide Development Policy 90.

6. *See* The Brookings Institution, Center on Urban & Metropolitan Policy, Adding It Up: Growth Trends and Policies in North Carolina 4 (Washington, D.C.: Brookings Institution, July 2000).

7. Data up to 1980 are from Catherine W. Bishir, Charlotte V. Brown, Carl Lounsbury, & Ernest H. Ward III, Architects and Builders in North Carolina: A History of the Practice of Building 354 (Chapel Hill, N.C.: UNC Press, 1990). Data for 1990 are from U.S. Census Bureau, Press Release CB 91-334 (Washington, D.C.: Census Bureau, Dec. 18, 1991). Still, as of 1990, the state ranked forty-fifth in percentage of its population in urban areas; the national proportion in urban areas in 1990 was 75.2 percent.

8. The correlations reported in this article's quality-of-life section confirm this fact: counties that are part of metropolitan statistical areas in North Carolina tended to grow faster than other counties for each period examined. See text at page 8.

9. North Carolina farm employment dropped from 106,319 in 1970 to 87,827 in 1996, a 55 percent decrease. Regional Economic Information System (REIS) database, available at http://fisher.lib.Virginia.edu. Of course, farmers very likely made up a significant component of that decrease by using immigrant farm workers, who may not be reflected in the official surveys.

10. One important exception to the story of North Carolina's urban growth is the dramatic rates of population growth on the coast in the past ten and twenty years. The Coastal Area Management Act (CAMA) of 1974 introduced a regulatory regime and mandatory land-use planning in the state's twenty coastal counties. N.C. Gen. Stat. (hereinafter G.S.) § 113A-100 through -134.3. For a detailed description of CAMA, see the article on page 21. Opponents of CAMA feared that it would slow development on the coast, but there is no evidence that this has happened. On the contrary, viewed in light of the powerful push to the sea that is occurring all around the southeastern United States, including North Carolina, CAMA was a prescient attempt to cope with one of the major trends in the state's population growth.

11. United States Census Bureau, State Population Estimates and Demographic Components of Population Change, ST-99-2 (Washington, D.C.: Census Bureau, Dec. 29, 1999).

12. Nester E. Terleckyj & Charles D. Coleman, Regional Economic Growth in the United States: Projections for 1999–2025, at 5 (Washington, D.C.: NPA Data Services, 1998). The other states are Arizona, California, Colorado, Florida, Georgia, Maryland, Michigan, Minnesota, Nevada, Oregon, South Carolina, Tennessee, Texas, Utah, Virginia, Washington, and Wisconsin.

13. United States Census Bureau, Population Estimates Program, Population Division, State Population Estimates and Demographic Components of Population Change: July 1, 1998 to July 1, 1999 (Washington, D.C.: Dec. 29, 1999) available at http://www.census.gov/population/estimates/state/st-99-1.txt (as of July 13, 2000).

14. United States Census Bureau, Table S3, Per Capita Income by State: 1959, 1969, 1979, and 1989, available at http://www.census.gov/hhes/income/histinc/state/state3.html (as of July 13, 2000).

15. *See, e.g.*, S. H. Hobbs, North Carolina: Economic and Social 148 (Chapel Hill: UNC Press, 1930) ("Wages will rise, and should rise, and working hours and conditions will improve, but it remains a fact that cheap labor of the past and present has had much to do with our industrial growth").

16. Critics of North Carolina's dispersed-growth policies have pointed to dispersion as one of the main factors in the state's low income. *See, e.g.*, Barry Moriarty, *Manufacturing Wage Rates, Plant Location, and Plant Location Policies*, Popular Government, Spring 1977, at 48.

17. Calculated from data presented in United States Dep't of Commerce, Bureau of Economic Analysis, Comprehensive Revision to State Personal Income Estimates 1969–98, available at http://www.bea.doc.gov/bea/regional/articles/0600spi/maintext.htm (June 2000).

18. *E.g.*, Wilbur Thompson, Preface to Urban Economics 35 (Baltimore: Johns Hopkins Press for Resources for the Future, 1965) (citing the Research Triangle as a "federated local economy"); Niles M. Hansen, Intermediate-Sized Cities as Growth Centers: Applications for Kentucky, the Piedmont Crescent, the Ozarks and Texas 109 (New York: Praeger, 1971) (extending

Thompson's argument to the entire Piedmont Crescent).

19. TERLECKYJ & COLEMAN, REGIONAL ECONOMIC GROWTH 15.

20. *See* MDC, INC., STATE OF THE SOUTH 1998 ch. 2, available at http://www.mdcinc.org/SOS98text.html#chap2 (Mar. 28, 2000).

21. *See* James H. Johnson, Karen D. Johnson-Webb, & Walter C. Farrell, Jr., *A Profile of Hispanic Newcomers to North Carolina*, POPULAR GOVERNMENT, Fall 1999, at 2.

22. *E.g.*, OFFICE OF STATE BUDGET AND MANAGEMENT, NORTH CAROLINA LONG-TERM ECONOMIC-DEMOGRAPHIC PROJECTIONS 21 (Raleigh, N.C.: OSBM, 1989).

23. Real farm income for the state actually decreased 45 percent between 1970 and 1990. It rose between 1990 and 1997, making an overall increase for 1970 to 1997 of 11 percent, or just 0.44 percent on an annualized basis. However, the figures for farm income do not look quite as bad on a per capita basis because of the rapid decrease for the period in the number of farms and farmers. United States Dep't of Commerce, Bureau of Economic Analysis, Regional Economic Information System data set, available at http://fisher.lib.Virginia.EDU/reis/ (as of Feb. 28, 2000).

24. As this article was being written, a state legislative study commission was conducting such a review (see the article on page 21).

25. Commerce Secretary D. M. Faircloth, quoted in a WINSTON-SALEM JOURNAL editorial, cited in *Stuart, Making* NORTH CAROLINA PROSPER 39. In particular, the "growth center" concept of the state's balanced growth policy was supposed to prevent sprawl by concentrating water and sewer investments within growth centers, rather than continuing the practice of funding countywide utility systems.

26. In North Carolina the push to the edge and beyond, to the "twilight zone [between urban and rural]," was observed and documented as early as the 1930s by Hobbs, who attributed it "to the fact that much of our industrial development is on the outskirts of incorporated places, a considerable part of it in unincorporated open country mill villages." HOBBS, NORTH CAROLINA 210.

27. *See, e.g.*, JAMES H. KUNSTLER, THE GEOGRAPHY OF NOWHERE (New York: Simon & Schuster, 1993).

28. UNITED STATES CENSUS BUREAU, 1990 CENSUS OF POPULATION AND HOUSING: GUIDE PART B, glossary 17 (Washington, D.C.: Census Bureau, 1996). New regions are included in these listings only when they pass the 50,000-person threshold. The only North Carolina regions that met this criterion in 1950 were Asheville, Charlotte, the Triad, and the Triangle.

29. From 1970 to 1990, the population of the urbanized area in the Fayetteville region grew by 50 percent while the land area increased by 87 percent. In Wilmington over this period, the population grew by 76 percent while the land area grew by 186 percent. For some of the smaller regions, data are available only from 1980 and 1990, and the results vary. In Hickory the population of the urbanized area grew by 12 percent while the size of the area grew by 23 percent, matching the other patterns. In contrast, the population of Goldsboro grew by 4 percent while the urbanized area grew by 2 percent, and the population of Jacksonville grew by 39 percent while the urbanized area grew by only 14 percent.

30. UNITED STATES DEP'T OF AGRICULTURE, NATURAL RESOURCES CONSERVATION SERV. AND IOWA STATE UNIV. STATISTICAL LABORATORY, SUMMARY REPORT: 1997 NATIONAL RESOURCES INVENTORY (Washington, D.C.: USDA, Dec. 1999).

31. UNITED STATES DEP'T OF AGRICULTURE, U.S. CENSUS OF AGRICULTURE (1997), available at http://www.nass.usda.gov/census/.

32. MUNICIPAL GOVERNMENT IN NORTH CAROLINA (David M. Lawrence & Warren Jake Wicker eds., 2d ed., Chapel Hill, N.C.: Institute of Government, The University of North Carolina at Chapel Hill, 1995).

33. North Carolina Dep't of Env't and Natural Resources, Div. of Air Quality, Presentation to the N.C. Envtl. Management Comm'n (Feb. 9, 2000). See also Figure 1, page 54.

34. The "correlation coefficients," or *r* values, for all variables that showed significant relationships to growth, in all the time periods and categories of high-growth counties studied, are available from the author on request at richard_whisnant@unc.edu. The *r* values indicate the magnitude of the correlation, in a range from – 1 to + 1.

35. In this quality-of-life analysis, there are other limitations than lack of causal relationships:

(1) Scale: The article looks at counties as the primary units of measurement for growth because most of the easily accessible quality-of-life data are kept by county. Averaging rates of growth over an entire county undoubtedly misses more localized growth patterns that are having positive or negative effects on the quality of life in a smaller area.

(2) Time frame: Growth rates may differ depending on the time frame chosen. To minimize this possibility, the analysis examines growth rates over several time frames: 1900–1950, 1950–90, 1990–98, and, for some purposes, 1900–1998.

(3) Localized versus external effects: Certain quality-of-life measures, such as environmental data, do not necessarily reflect localized causes. In other words, pollution travels, sometimes great distances. This article focuses on data that seem likely to be related to local growth and local conditions, rather than to external factors.

(4) Definition of high-growth counties: The populations of 57 of North Carolina's 100 counties grew faster than the U.S. average from 1990 to 1998. Should they all be considered high-growth counties? This article handles the issue in two ways: first, by looking at three categories of high-growth counties (those with the top 50, top 25, and top 10 percent growth rates in each of the time periods studied); and second, by also examining correlations between growth rates without grouping the counties at all.

(5) Sources: There are long-standing debates on the proper quality-of-life data to use, and the data easily available to researchers have serious limitations. This article borrows several quality-of-life indicators suggested by the recent report of the North Carolina Progress Board (see note 37) and adds indicators not mentioned by the Progress Board when available data seem interesting to participants in the debate about growth management.

36. Currently an MSA is an area containing at least one city with 50,000 or more inhabitants, or a Census Bureau–defined urbanized area (of at least 50,000 inhabitants) and a total metropolitan population of at least 100,000 (75,000 in New England). For an explanation of metropolitan area definitions, see http://www.census.gov/population/www/estimates/aboutmetro.html.

37. The N.C. General Assembly created the Progress Board in 1995 and charged it, among other things, to set priority goals and measures for the state. *See* NORTH CAROLINA PROGRESS BOARD, MEASURING OUR PROGRESS: TARGETS FOR THE YEAR 2010 (Dec. 1997), available at http://www.ncpb.state.nc.us.

38. One possible explanation for this is that these counties are largely on the coast, and the income figures for the coastal counties do not capture the wealth of the seasonal visitors and second-home buyers who have contributed so much to the growth rates.

39. Wake County Dep't of Social Services, telephone conversation with Ben Hitchings, senior planner, Triangle J Council of Gov'ts (Feb. 1999).

40. Benthic testing examines the health of surface water bodies (waters on the earth's surface, as opposed to groundwater) by counting the numbers and the types of organisms found in the water and giving the water a rating of excellent, good, good-fair, fair, or poor. Benthic methods allow one to observe longer-term pollution issues in streams than does ambient water column testing, which is greatly affected by events around the particular time the samples are taken. For this article I examined the state's 4,242 benthic test results reported as of July 9, 1999, categorized them by county, assigned numbers (5, 4, 3, 2, 1) to represent the benthic ratings, and performed the correlation analysis.

41. G.S. 130A-309.4(c), originally passed in 1989 and amended in 1991.

42. *See* N.C. DEPT. OF ENV'T AND NATURAL RESOURCES, SOLID WASTE MANAGEMENT ANNUAL REPORT 1997–1998 (Raleigh, N.C.: NCDENR, Mar. 1999).

Smart Growth Efforts around the Nation

David R. Godschalk

ETTA HULME / REPRINT COURTESY OF THE FORT WORTH STAR-TELEGRAM

The challenge to us who see the great value in good land use planning is to strip it of its jargon and make it simpler, to help people understand that land use planning is an integral part of making communities livable, along with quality schools, protection against crime, and other factors. This challenge falls first and foremost to the states, who are the obvious level of government to provide leadership.

—Howard Dean, governor of Vermont[1]

Grow Smart, Stop Sprawl!

After some forty years of gradual progress, the state smart growth movement picked up steam in the 1990s. Thirteen states now have adopted laws to encourage their local governments to guide development according to smart growth precepts. At least another fifteen states have initiated studies of smart growth potential.[2] A national Growing Smart effort is writing new model laws for states interested in reforming their growth management legislation.[3]

What is all the fuss about? What does "smart growth" mean? The International City/County Managers Association has described it as a connection between development and quality of life; the leveraging of new growth to improve the community; the restoration of center cities and older suburbs; and a method of preserving open space and other environmental amenities.[4] Currently these are "hot button" issues as communities find that their traditional ways of managing development cannot cope with the problems brought on by today's growth

This article reviews the spectrum of state smart growth programs in order to provide North Carolinians with a sense of the possibilities in this state. The review is timely, for the North Carolina Commission to Address Smart Growth, Growth Management, and Development Issues is scheduled to make recommendations to the legislature in January 2001.

Smart growth initiatives have grown from, and are the latest version of, state growth management programs. Recognizing the critical link between state goals and local government land-use plans, these programs typically include four elements:[5]

- Enactment of state legislation establishing the program
- Preparation of comprehensive plans by local governments
- Review of local plans by a state agency
- Provision of state incentives and disincentives to encourage local compliance

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Statewide growth management can be distinguished from substate growth management. Created in 1974, North Carolina's Coastal Area Management program applies only to the 20 coastal counties and thus is an example of a substate regional program. The Portland (Ore.) Metropolitan Service District, created in 1979, and the Georgia Regional Transportation Authority, created in 1999, are examples of substate metropolitan programs. This article focuses on statewide programs, looking first at their evolution and then at the tools and the techniques that they employ.

A Brief History of State Growth Management

"Growth management" can be defined as a planned government program designed to influence the amount, type, location, design, rate, or cost of private and public development in order to achieve public interest goals. Among the goals sought by growth management programs are efficient transportation systems, livable communities, conservation of natural resources, and orderly urban growth. Without planning, many governments fail to achieve these goals.

First appearing in 1975, the term "growth management" originally was synonymous with rigid growth control, especially no growth or slow growth. Now, however, it refers to a commitment to balance protection of land, air, and water with urban development. According to John DeGrove,

> *[g]rowth management is not pro-growth, nor is it anti-growth. It is deeply committed to a responsible "fit" between development and the infrastructure needed to support the impacts of development, including such things as roads, schools, water, sewer, drainage, solid waste, and parks and recreation. Thus growth management is closely linked to, and necessary for, the achievement of "quality of life[,]". . . a powerful, if somewhat elusive, framework. . . .*[6]

To manage growth, governments use their constitutional and statutory powers—the powers to make and implement plans, to regulate land use and development, to spend funds on public improvements and facilities, to tax according to public needs, and to acquire land for

Web Sites for State Smart Growth Plans

Delaware *(Office of State Planning Coordination):* www.state.de.us/planning/index.htm

Florida *(Department of Community Affairs):* www.dca.state.fl.us

Georgia *(Department of Community Affairs):* www.dca.state.ga.us/

Hawaii *(Office of Planning):* www.hawaii.gov/dbedt/op.html

Maine *(Land Use Regulation Commission):* www.state.me.us/doc/lurc/lurch

Maryland *(Office of Planning):* www.op.state.md.us/smartgrowth/

New Jersey *(Office of State Planning):* www.state.nj.us/osp/ospplan2.htm

Oregon *(Department of Land Conservation and Development):* www.lcd.state.or.us/

Pennsylvania *(Governor's Center for Local Government Services, Department of Community and Economic Development):* www.dced.state.pa.us

Rhode Island *(State Planning Council):* www.planning.state.ri.us/

Tennessee *(Tennessee Advisory Commission on Intergovernmental Relations):* www.ips.utk.edu/growthpolicy/

Vermont *(Department of Housing and Community Affairs):* www.state.vt.us/dca/housing

Washington *(Department of Community, Trade and Economic Development):* www.cted.wa.gov/info/lgd/growth/index.html

A Glossary of Selected Growth Management Terms

This glossary presents general descriptions of growth management terms, including various smart growth tools. For a more complete discussion of tools, see the article on page 29.

Adequate public facilities ordinance—a requirement that infrastructure (roads, schools, etc.) be available to serve new development as the need arises; sometimes called "concurrency."

Cross-acceptance—a negotiated process by which jurisdictions reach agreement on the location and the nature of planned development; its purpose is to ensure consistency among the comprehensive plans and the growth management programs of individual local governments within a region.

Fair-share housing—a program for equitable and balanced distribution of low- and moderate-income housing among the jurisdictions within a region.

Greenprints—regional plans for preserving critical ecological systems, open space, and natural resources.

Impact fees or taxes—assessments levied on new development to help pay for construction of parks and the infrastructure (schools, roads, and other public facilities) needed to serve the new population; impact taxes differ from fees in that they allow assessments to be proportional to the size of the new house or business.

Infill development—new construction on vacant or underdeveloped land within an existing built-up urban area, rather than in "greenfields" beyond the urban fringe.

Infrastructure—water and sewer lines, roads, urban transit lines, schools, and other public facilities needed to support urban areas.

Sprawl—uncontrolled low-density development in rural areas, not adjacent to existing development and infrastructure.

Transfer of development rights (TDR)—a program that permits landowners in development-restricted areas ("sending areas") to sell their development rights to owners in specified "re-

Continued on page 14

Continued from page 13

ceiving areas"; TDR is based on separating land and its associated development potential so that, for instance, property owners in rural agricultural areas can continue to farm while making money from a one-time sale of their development rights to developers seeking to add density to their urban projects.

Tax-base sharing—redistribution of a portion of revenue resulting from growth in the property tax base of individual jurisdictions to a taxing district in which multiple jurisdictions share in regional economic development; the purpose is to spread the benefits of growth equitably throughout a region.

Tax-increment financing—in special districts, dedication of a portion of tax revenue attributable to new development to retiring bonds for the improvements that stimulated the new development; the purpose is to revitalize existing urban areas by facilitating new projects.

Urban growth boundary—a perimeter drawn around a locality's designated urban growth or "urban transition" area, sized to contain sufficient land for the development projected to occur in the locality during the planning period, usually twenty years; within the urban growth boundary, public services and infrastructure are provided by the local government, while outside the urban growth boundary, rural uses are permitted and public services and infrastructure are not provided.

Use permits—zoning permits issued for "special" or "conditional" uses (as opposed to uses "allowed by right") that must be reviewed and approved by a public body and may have to meet extra requirements or standards.

Zoning and subdivision regulations—regulations controlling the use, placement, spacing, and size of lots and buildings within specified districts (zoning) and regulations controlling the conversion of land into building lots, including provision of supporting infrastructure (subdivision); newer forms of these regulations encourage mixed uses, street patterns, and architectural design features to support walkable neighborhoods, sometimes termed "new urbanist" or "neotraditional" development.

LAURA MUELLER / THE CHARLOTTE OBSERVER

A window's vertical and horizontal strips frame a familiar sight of sprawl.

public purposes. Under North Carolina statewide enabling acts, local governments are granted the traditional growth management powers, such as planning and zoning. But they must get permission from the legislature through special local acts to use some advanced or contemporary techniques of growth management, such as "impact fees" and "transfer of development rights" (for a glossary of these and other growth management terms, see page 13).

State growth management began as a reform movement during the last half of the twentieth century. Previously, states simply delegated land-use planning and growth management to their local governments. However, increasingly serious environmental degradation, urban sprawl, inadequate infrastructure, lack of affordable housing, and other quality-of-life issues motivated a number of states to assert a new role and to look for innovative solutions to local and regional growth problems.

The original enabling statutes for local planning, drafted in the 1920s, are no longer adequate for the challenges of the 21st century. Those statutes did not envision a state or regional planning role, and urban sprawl and environmental pollution were not seen as problems at the time. Effects of development now spill over jurisdictional boundaries, calling for broader intergovernmental planning. Deteriorating air and water quality demands systematic assessment of environmental impacts. The original view of land as a commodity to be bought and sold has expanded to include the resource value of land. Citizens have become more active in planning, and the legal environment for management of development has become more complex. In response, the Growing Smart program of the American Planning Association is drafting new model statutes for the planning and management of change, as a resource for states looking to adopt smart growth legislation.[7]

Some skeptics have charged that smart growth is simply a repackaging of traditional growth management issues and techniques, similar to the recent advocacy of "sustainable development"—the balancing of environment, economy, and equity advocated by the World Commission on Environment and Development.[8] Although smart growth is similar to earlier growth management approaches proposed by city and regional planners, there is an important difference. Now the broader public has begun to understand how suburban sprawl results in "disinvestment," a diversion or withdrawal of investment from the city to the outlying areas, contributing to slowed growth in productivity, inadequate schools, ineffective public safety, congested roads, and environmental pollution. Understanding the connection be-

Washington State's Growth Management Program

Washington has 39 counties, 12 of which are located in nine metropolitan statistical areas (MSAs). During the 1980s the three MSAs east of the Cascade Mountains grew slowly, less than 10 percent, while the six in the west grew 20 percent or more.

A home-rule state, Washington grants its cities and counties considerable autonomy in decision making. The challenge for the drafters of its Growth Management Act was to manage the sprawl resulting from its rapid growth in the west, while supporting the needs of the slower-growing east. The resulting act included both incentives (funding for planning and local flexibility in meeting state goals) and sanctions (loss of funding for noncompliance).

The act specified three aims: (1) to guide local governments in preparing and implementing comprehensive plans, (2) to integrate growth management with environmental regulations, and (3) to strengthen regional coordination and planning. It set fourteen policy goals: adequate public facilities to support growth, reduced sprawl, efficient multimodal transportation, affordable housing, economic development, protected property rights, timely permits, open space, environmental protection, quality of life, and more.

Washington's growth management program reflects the state's situation. As amended through 1995, the Growth Management Act requires preparation and implementation of comprehensive plans only by counties with populations of 50,000 or more and 17 percent growth every ten years, or counties of any size with 20 percent growth every ten years. As of last year, 91 percent of the cities and 76 percent of the counties required to adopt comprehensive plans had done so.

The comprehensive plans must designate "urban growth areas"—locations where the next twenty years of projected population growth and supporting infrastructure are to be located. Tools provided to local governments include cluster development, planned-unit development, infill development, mixed land uses, new towns, urban reserves (areas outside the urban growth boundary where development may occur after the twenty-year planning period), and transfer and purchase of development rights.*

All local governments, not just the fast-growing ones, are required to adopt ordinances protecting critical areas and classifying resource lands. Critical areas include (1) wetlands, (2) aquifer recharge areas, (3) fish and wildlife conservation areas, (4) frequently flooded areas, and (5) geologically hazardous areas.

The Washington Department of Trade and Economic and Community Development delivers technical assistance, issues substantive and procedural guidelines, and allocates state funds for local planning but does not have the power to approve plans. Compliance with local planning mandates is delegated to three substate regional Growth Management Hearing Boards created to accommodate the geographic diversity of the state. If a plan is found in noncompliance, state funding to the local government may be reduced.

Washington's act has made planning an integral part of local government decision making in much of the state, and it has reduced political impediments to growth management, through directed state funding and state-provided growth projections. It has concentrated urban growth within designated areas, reducing the rate of increase in vehicle miles traveled and increasing efficiency in supplying public facilities, while encouraging economic development through better planning and permit review. At the same time, it has allowed local governments relatively wide latitude to develop goals and policies for managing growth, and it has encouraged intracounty planning coordination.

*For a more complete discussion of the Washington state growth management tools and their application, *see* Jerry Weitz, Sprawl Busting: State Programs to Guide Growth (Chicago: Planners Press, 1999).

tween paying for sprawl at the edge and disinvesting at the center has mobilized new coalitions of officials in older suburbs, corporate and religious leaders, and advocates for poor urban minorities in support of smart growth reforms.[9] The result is a new set of circumstances, particularly in terms of political salience.

Although the history of statewide growth management is complex, its chronology can be generalized into three phases. In the initial phase, during the 1960s and 1970s, concern about environmental problems led to a so-called quiet revolution in land use, with first Hawaii, then Vermont, Florida, and Oregon enacting programs. The second phase, focusing on comprehensive planning and growth management to deal with lagging provision of infrastructure, occurred from 1985 to 1991, when Florida and Vermont overhauled their existing programs and New Jersey, Maine, Rhode Island, Georgia, and Washington enacted new legislation. Smart growth, the phase starting in 1992, saw new programs developed in Maryland, Delaware, Tennessee, and Pennsylvania[10] that built on the previous programs and, especially in Maryland, added strong state-funding incentives to combat sprawl. (For a chronology of the relevant state legislation, see Timeline, page 18; for Web sites for state smart growth plans, see page 13.)

Currently, state growth management initiatives are flourishing. At least half of the state-of-the-state addresses by governors in the past year discussed smart growth.[11] Gubernatorial support is growing in Arizona, Colorado, Georgia, Illinois, Minnesota, North Carolina, Utah, and Wisconsin, and legislative interest has been expressed in California, Colorado, Hawaii, Iowa, Kentucky, Nevada, New Mexico, Ohio, and Oklahoma.

Maryland's Smart Growth Program

Maryland's Smart Growth Areas Act of 1997 is designed to attack the problem of suburban sprawl and to protect cities and counties for tomorrow. It builds on the visions established in the Economic Growth, Resource Protection, and Planning Act of 1992:

- Concentration of development in suitable areas
- Protection of sensitive areas
- Direction of rural growth to existing population centers and protection of resource areas

Priority Funding Areas

The Smart Growth Act requires the state to target funding for growth-related projects, such as highways, sewer and water construction, economic development assistance, and state office facilities, to Priority Funding Areas (PFAs).* These are locally certified areas that are already developed or in which growth is planned, infrastructure is to be provided, and the land area is of adequate capacity and size to satisfy development demand. By investing funds only in these areas, the state will save taxpayer dollars, protect open space from sprawl, and preserve its heritage.

Counties must prepare plans that designate PFAs on the basis of criteria relating to land use, water and sewer service, and residential density. PFAs are designated according to analyses of the capacity of the land to satisfy demand for development at densities consistent with comprehensive plans. Types of areas eligible for PFA designation include the following:

- Areas zoned for industry and employment
- Existing communities with sewer service
- Existing communities with water service
- Areas beyond the periphery of developed portions of an existing community when they receive sewer service
- Areas other than existing communities, within a designated growth area
- Rural villages designated in the county comprehensive plan

Rural Legacy Program

The Rural Legacy Program provides funding and focus to identify and protect the most valuable farmland and natural resources before they are lost to development. It seeks to preserve rural greenbelts through purchase of easements and development rights from landowners. The goal is to preserve 200,000 acres by the year 2011.

Other Programs

Other Maryland smart growth programs include a Voluntary Cleanup and Brownfields Program, a Job Creation Tax Credit, A Live Near Your Work Program, a Neighborhood Partnership (tax credit) Program, a Smart Growth/Smart Ideas Homeownership Initiative, a Smart Transit Program, and more.

*Smart Growth: Designating Priority Funding Areas (Managing Maryland's Growth: Models and Guidelines Series) (Baltimore: Md. Office of Planning, 1997).

Some of these states already have growth management statutes in place but are interested in updating them to include newer principles of smart growth, such as directing state financial grants to urban growth areas designated in local plans, and coordinating land-use and transportation plans.

Types of State Growth Management Programs

State growth management programs are typically packages of requirements and incentives, or "carrots and sticks," designed to coordinate the growth management efforts of a state and its localities. No single magic formula works for every state because of differences in political institutions, traditions, economic conditions, and tolerance for new forms of governance. However, most programs require local and regional planning and state oversight of the consistency of the plans with overall state goals and standards.

As Vermont Governor Dean notes, certain elements are crucial to success:[12]

- *Consistency* of local and regional plans with state goals, achieved through mandates or incentives
- *Clarity of program objectives and procedures* so that citizens and public officials alike are clear about the purposes and the processes of growth management
- *Inclusion of natural resources, economic development, and affordable housing*, the three elements necessary to ensure the stakeholder coalitions needed to pass the legislation
- *Dedicated funding*, to carry out the planning and implementation necessary to make programs work
- *Political leadership* from the governor and the legislature to pass and implement the new law
- *Consensus building* among the concerned stakeholders about goals and techniques, before introducing a growth management bill in the legislature

Agreement on goals is not difficult. Who can argue against preserving natural resources, supporting existing communities and neighborhoods, targeting development to areas with existing infrastructure, and discouraging sprawl (the goals of Maryland's 1997 Smart Growth Areas Act)? Even at the more detailed level of principles, there is wide agreement on the benefits of smart growth among such disparate groups as public officials, environmentalists, and developers. For example, the published position statements on smart growth of both the American Planning Association (APA) and the National Association of Home Builders (NAHB) highlight the importance of managing growth to protect natural resources and open space, and using land more efficiently.[13]

The rub comes in how to achieve the goals. Should the state mandate that

Table 1. **State Growth Management Tools**

State	Unique Elements	CARROTS Incentives	STICKS Requirements	STICKS Penalties
Delaware		Investment-strategy map and policy	Land-use issues of greater than local concern reviewed by state agencies	
Florida	Concurrency of infrastructure and development; required capital improvement programs	Planning assistance grants	Mandatory local plans and implementation	Loss of eligibility for state grants; state court action
Georgia	Bottom-up approach	Grant eligibility	Regional plans required (local plans optional)	Loss of grant eligibility and impact fee authority
Hawaii	Statewide land classification system		County planning for urban districts; state review of land-use district boundaries	
Maine	Designation of growth and rural areas	State grants for local planning	Mandatory town planning and growth management; regional review of local plans	
Maryland	Priority Funding Areas (PFAs)	Growth-related funding directed to PFAs	Local comprehensive plans that designate PFAs	Loss of eligibility for state grants
New Jersey	Cross-acceptance (consensus building)	Local participation in state planning process; grants consistent with state goals	State plan required (local plans recommended)	Access to state funding
Oregon	Integration of transportation and growth management; use of urban growth boundaries (UGBs) to contain sprawl	Planning assistance grants	Consistency with statewide goals; designation of UGBs and critical lands; ordinances consistent with plans	Loss of eligibility for grants; enforcement orders
Pennsylvania	Bottom-up approach; city-county joint planning	Planning grants and tools: multimunicipal transfer of development rights, tax and revenue sharing, impact fees, designated growth areas, Traditional Neighborhood Development	Mandatory county plans, which must be updated every 10 years (municipal plans optional)	
Rhode Island		State agency consistency with adopted local plans	Required local plans consistent with state plan; adoption of zoning consistent with plans	State adoption of local plan if locality fails to adopt one
Tennessee	Solution to annexation conflicts	Priority for state grants for approved plans	Joint city-county growth plans required, along with 20-year UGBs	Loss of eligibility for state and federal grants
Vermont	Regional review of local plans	Funding for planning from property transfer tax; authorization for towns with approved plans to levy impact fees	Optional local plans but must be consistent with state goals	
Washington	Horizontal, vertical, and internal consistency; Growth Management Hearing Boards	Priority for grants given to high-growth areas; state agency consistency with local plans; authorization for impact fees	Local plans and UGBs required for fast-growing cities and counties	Forfeiture of revenue sources

Timeline: Evolution of Statewide Growth Management

Phase 1: Quiet Revolution in Land-Use Control

Hawaii 1961	Hawaiian Land Use Law
Vermont 1970	Environmental Control Act (Act 250)
Florida 1972	Environmental Land and Water Management Act
Oregon 1973	Land Conservation and Development Act

Phase 2: Comprehensive Planning and Growth Management

Florida 1985	Local Government Comprehensive Planning and Land Development Regulation Act
New Jersey 1985	State Planning Act
Maine 1988	Comprehensive Planning and Land Use Regulation Act
Rhode Island 1988	Comprehensive Planning and Land Use Regulation Act
Vermont 1988	Growth Management Act (Act 200)
Georgia 1989	Coordinated Planning Legislation
Washington 1990	Growth Management Act I
Washington 1991	Growth Management Act II
New Jersey 1992	State Development and Redevelopment Plan

Phase 3: Smart Growth

Maryland 1992	Economic Growth, Resource Protection, and Planning Act
Delaware 1995	Shaping Delaware's Future Act
Delaware 1996	Land Use and Planning Act
Maryland 1997	Smart Growth Areas Act
Tennessee 1998	Annexation Reform Act
Pennsylvania 1999	Growing Greener Act
Pennsylvania 2000	Growing Smarter Acts

Sources. Scott Bollens, *State Growth Management: Intergovernmental Frameworks and Policy Objectives*, 58 Journal of the American Planning Association 454, Patricia Salkin, *Smart Growth at Century's End. The State of the States*, 31 Urban Lawyer 601 (1999); Jerry Weitz, Sprawl Busting: State Programs to Guide Growth (Chicago: Planners Press, 1999)

local government units establish urban growth boundaries to contain their twenty-year population expansion, as in Oregon? Or should it direct funding for infrastructure to areas designated for urban growth in required local plans, as in Maryland? Should local planning be voluntary, as in Georgia, or mandatory, as in Florida? Should growth management be bottom-up and decentralized, as in Washington, or top-down and centralized, as in Hawaii?

Preferred implementation tools coincide with stakeholders' perspectives on protecting their freedom to make decisions on the basis of their own interests. Thus, local governments favor bottom-up, incentive-based programs such as impact fees to help pay for new schools, which maximize their decision-making freedom and provide them with new authority to meet their needs. Regional agencies prefer programs that increase their clout to coordinate local plans and to provide regionwide transportation facilities and open space. State agencies tend to advocate top-down, mandatory programs that help them overcome local reluctance to meet statewide goals. Developers like programs that provide infrastructure to support growth, along with clear and predictable development-review procedures but without defined "urban growth boundaries." Environmentalists opt for programs that stress protection of natural resources and mandatory local planning. The trick is to design programs that can be effective while satisfying the needs of enough stakeholders to ensure passage by the legislature.

Historically, perhaps the most significant change in implementation approaches is the switch from relying primarily on the regulatory police power to relying heavily on the power of the purse—that is, the switch from sticks to carrots. Early programs such as those in phase 1 stressed mandatory local planning implemented by police power regulations—the traditional zoning and subdivision ordinances, along with urban growth boundaries. In phase 2, programs still used planning mandates and regulations, but some also emphasized interjurisdictional coordination. For example, New Jersey created a process of negoriated "cross-acceptance" to achieve

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Creeping traffic at morning and evening rush hour gives witness to America's reliance on the automobile.

consistency between state and local growth plans, and Washington created Growth Management Hearing Boards to ensure that the local plans required in fast-growing areas were consistent with one another and with state plans (see page 15). In phase 3, smart growth programs like Maryland's put the power of the purse up front, using funding incentives targeted to areas of planned growth to lure reluctant local governments into preparing required plans (see page 16). (For a summary of the states' approaches to implementation, see Table 1, page 17.)

This review shows that the perceived differences in state programs may not be as great as many believe. Many early programs were not simply regulatory but combinations of regulations and incentives. Similarly the use of urban growth boundaries has not necessarily disappeared in the more incentive-based programs, such as Maryland's, whose Priority Funding Areas can be seen as a variant on urban growth boundaries. In fact, designating specific spatial-growth areas is a feature of the programs of Hawaii, Oregon, New Jersey, Washington, and Maryland. However, there is a clear progression, as the later programs add to the elements of the earlier ones and adapt the resulting package to their own situations.

One conclusion to be drawn is that an effective statewide smart growth initiative must *combine* incentives and mandates. Each state's particular blend of carrots and sticks will depend on a negotiated consensus among key stakeholders, who must support the passage of new legislation as well as its long-term implementation. Incentives include grants and technical assistance for preparation of local plans, higher local priorities for funding of infrastructure and open space, flexibility in meeting state requirements, mechanisms for intergovernmental coordination and dispute resolution, and assurance that state plans will be consistent with approved local plans. Sticks include mandatory local plans, penalties for noncompliance (such as withholding of state and federal funds), and state preparation of local plans for jurisdictions that fail to adopt required plans.

Alternatives for Smart Growth in North Carolina

Relative to the states leading in growth management, North Carolina is somewhat late in considering smart growth. But it does have some precedents on which to draw. Implementation of the 1974 Coastal Area Management Act has achieved clear successes, though some problems remain unsolved.[14] Experience with the failed 1993 recommendation for a Partnership for Quality Growth, put forth by a legislative study commission on statewide comprehensive planning (see the article on page 21) has shown the necessity of active political leadership if new legislation is to succeed. Meanwhile, the Charlotte-Mecklenburg metropolitan area has forged ahead on its own with a very progressive smart growth initiative that ties together a light-rail transit and busway system and a strong land-use plan, energetically supported by a coalition of business and government leaders (see the article on page 52).[15]

North Carolina also faces obstacles to smart growth. For example, the North Carolina Department of Transportation's policy of providing a four-lane highway within ten miles of 95 percent of the population encourages sprawl. The focus on constructing new highways also drastically limits the state funds available for transit. At present the state allocates only about $50 million in transit funds statewide, about the same as Charlotte raises for transit with its local sales tax. And there is no clear connection between transportation plans and land-use plans.

At the same time, the state is fortunate in being able to review the history of state growth management and select program components that have proven themselves in other states. The state also is fortunate in having a smart growth commission in place to work toward agreement among the stakeholders before legislative proposals are created. Still, the state must make some significant choices about the type and the content of its proposed program.

Given the political culture of North Carolina, some choices are probably foreordained. Rather than choosing either a top-down or a bottom-up approach, the state would be wise to opt for a mix of state oversight and local flexibility. Rather than deciding between regulations and incentives, the state would do well to opt again for a mix, though there is great public relations value in a strategy perceived as based primarily on incentives. Rather than designing a one-size-fits-all type of approach, the state might adopt different approaches for the fast-growth metropolitan regions and the slower-growth rural areas. Rather than specifying all the elements of the program, the state

might create a toolbox of growth management techniques and allow local governments to use the tools that best fit their particular needs and situations.

North Carolina faces two growth problems: too rapid growth in the metropolitan regions and too slow growth in the rural areas and small towns. The fast-growing areas seek to manage their growth; the slower-growing areas want to manage to grow.

Each type calls for a different smart growth strategy. The fast-growing metropolitan regions need mandatory planning and coordinated growth management to bring all the local governments together. The slower-growing rural areas can afford to have voluntary planning and less-formal growth management. In both kinds of places, localities that meet state standards for planning and growth management should receive priority for state funding and be able to take advantage of new statutes that allow innovative land-use, environmental, urban design, tax-incentive, and public facility financing tools.

Fast-growing metropolitan regions need tools to coordinate transportation, infrastructure, and land use across local government boundaries. Existing institutional arrangements are falling short, as evidenced by urban sprawl, traffic congestion, lack of growth-managing capacity, loss of open space, and poor air and water quality. The toolbox for metropolitan regions should include mandatory preparation of local plans and adoption of consistent development regulations. These plans and regulations should be reviewed for consistency by regional agencies and approved through a negotiated cross-acceptance process to resolve differences among local governments. On approval of their plans and development regulations, the regions should be given authority over regionwide priority setting for transportation (including transit and alternative movement systems) and regionwide provision of infrastructure, as well as for regional "fair-share housing" programs and regional "greenprints" for designating and conserving natural systems and open space.

Slow-growing rural regions need tools for economic development, as well as for land-use and environmental planning. Their toolbox should include authority for funding infrastructure, job training, and other economic development activities. But many of them also will want to use new growth management tools to revitalize their downtowns, maintain their agriculture and natural resources, protect their communities from natural hazards, and upgrade their transportation and infrastructure. They will come to realize that creating livable communities is one of their best economic development strategies and that supporting sprawl is impoverishing their established communities.

Local governments need tools for designating their planned urban growth areas, conserving their open spaces, revitalizing their central business districts and older residential areas, paying for adequate public facilities and transportation, and creating walkable neighborhoods. Their toolbox should include authority for transfer of development rights, impact fees or taxes, local-option taxes for transit, "adequate public facilities ordinances," and "tax-increment financing."[16]

It still is too early to say what form of smart growth alternative North Carolina will choose. Informed study and debate are needed to develop a consensus on what the state should do to ensure a desirable future. It will not be easy to overcome a long history of permissive zoning, fragmented provision of infrastructure, and balkanized local governments, concerned more with protecting their individual political domains than with coordinating regional growth. Clearly, though, if the state does not adopt a bold smart growth strategy, future generations of North Carolinians will look back sadly on this time as one of lost opportunity.

Notes

1. Howard Dean, *Growth Management Plans*, in LAND USE IN AMERICA 136 (Henry L. Diamond & Patrick Noonan eds., Washington, D.C.: Island Press, 1996).

2. Patricia Salkin, *Smart Growth at Century's End: The State of the States*, 31 URBAN LAWYER 601 (1999); JOEL HIRSCHHORN, GROWING PAINS: QUALITY OF LIFE IN THE NEW ECONOMY (Washington, D.C.: Nat'l Governors Ass'n, 2000).

3. AMERICAN PLANNING ASSOCIATION, GROWING SMART LEGISLATIVE GUIDEBOOK: MODEL STATUTES FOR PLANNING AND THE MANAGEMENT OF CHANGE (Washington, D.C.: APA, 1998).

4. INTERNATIONAL CITY/COUNTY MANAGEMENT ASSOCIATION, WHY SMART GROWTH: A PRIMER (Washington, D.C.: ICMA, 1998).

5. Dennis Gale, *Eight State-Sponsored Growth Management Programs: A Comparative Analysis*, 58 JOURNAL OF THE AMERICAN PLANNING ASSOCIATION 425 (1992).

6. JOHN DE GROVE, PLANNING AND GROWTH MANAGEMENT IN THE STATES 1 (Cambridge, Mass.: Lincoln Institute of Land Policy, 1992).

7. AMERICAN PLANNING ASSOCIATION, GROWING SMART LEGISLATIVE GUIDEBOOK.

8. WORLD COMMISSION ON ENVIRONMENT AND DEVELOPMENT (THE BRUNDTLAND COMMISSION), OUR COMMON FUTURE (Oxford, Eng.: Oxford University Press, 1987).

9. Henry Richmond, *Metropolitan Land-Use Reform: The Promise and Challenge of Majority Consensus*, in REFLECTIONS ON REGIONALISM (Bruce Katz ed., Washington, D.C.: Brookings Institution Press, 2000).

10. North Carolina's program designers might take note of Pennsylvania's ideas for city-county coordination, a planning toolbox, and implementation funding. The state's two Growing Smarter land-use bills emphasize joint county and municipality planning and implementation, through cooperative agreements and consistent ordinances. They provide new planning tools, including designated twenty-year growth areas, targeted infrastructure, transfer of development rights, and tax and revenue sharing. The state budget provides $3.6 million for local land-use planning and assistance, on top of some $650 million to implement Pennsylvania's Growing Greener initiative.

11. Patricia Salkin, Smart Growth: The State of the States, Presentation at the national conference of the American Planning Association (Apr. 16, 2000).

12. Dean, *Growth Management Plans*, at 144.

13. Uri Avin & David Holden, *Does Your Growth Smart?*, PLANNING, January 2000, at 26. For a list of APA and NAHB principles used in the Charlotte smart growth audit, see the article on page 52.

14. David R. Godschalk, *Progress Report on* Charting a Course for Our Coast: *Not All Smooth Sailing*, CAROLINA PLANNING, Winter 2000, at 7.

15. *See* CHARLOTTE-MECKLENBURG PLANNING COMM'N, 2025 LAND USE-TRANSIT PLAN (Charlotte, N.C.: the Commission, 1998), and CENTERS & CORRIDORS SOURCEBOOK: A USER GUIDE TO THE LONG-TERM GROWTH OF CHARLOTTE-MECKLENBURG (Charlotte, N.C.: the Commission, 1998).

16. For examples of applications of these tools, *see* ARTHUR NELSON & JAMES DUNCAN, GROWTH MANAGEMENT PRINCIPLES AND PRACTICES (Chicago: Planners Press, 1995).

The Evolution of State Initiatives in North Carolina

Hannah Holm

PHOTO COURTESY OF THE NEWS AND OBSERVER

Smart growth can mean improving mass transit, sidewalks, and bike paths; preserving open space; imposing strict boundaries between urban and rural areas; or building neighborhoods in which every house is within walking distance of a shop where a child can buy a popsicle. It also can mean redeveloping downtowns and other underused areas that already are served by roads, water, and sewers. The common theme is that all these measures guide development in a way that makes efficient use of infrastructure, minimizes the amount that people have to drive, and conserves natural resources.

North Carolina's state government has been quite active in attempting to guide growth into areas where it is lacking,[1] but less active in working to control the location of development within communities. There is no statewide requirement for local governments to adopt growth management plans, as there is in Florida, Oregon, Tennessee, and Washington. There also is no requirement that state funding for growth-related infrastructure projects be spent only in areas predesignated for urban growth, as there is in Maryland. (For a discussion of other states' efforts, see the article on page 12.)

This does not mean, however, that efforts to limit the negative impacts of growth are unprecedented in the state. Over the past three decades, North Carolina's leaders have made numerous attempts, some successful and some not, to guide development away from areas where it may be harmful and into more suitable areas. This article reviews the state's current programs to manage growth and

Sandbags hold back the sea at Shell Island Resort, above. North Carolina passed the Coastal Area Management Act in 1974 to protect resources like the Cape Hatteras National Seashore, below.

PHOTO COURTESY OF N.C. DIVISION OF TOURISM, FILM AND SPORTS DEVELOPMENT

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preserve open space, describes measures that have been attempted in the past, and then discusses the work of a legislative study commission that is studying growth management.

Current Growth Management Policies

Most growth management policies in North Carolina either target a specific environmental problem, such as water quality, or are voluntary, incentive-based programs. The Coastal Area Management Act (CAMA) is the most comprehensive of these policies and involves the most extensive regulatory structure. Still, its primary purpose is to protect a specific set of regional resources: the state's beaches, estuaries, and marine ecosystems. Beyond the coastal region, the major development-control measures that the state uses to protect water quality are the Water Supply Watershed Protection Act, requirements for management of stormwater, and rules that protect "vegetated riparian buffers" (strips of vegetation alongside rivers and streams) in selected river basins.[2] In the western part of the state, the Mountain Ridge Protection Act seeks to protect scenic vistas and limit development in areas prone to high winds and forest fires. Other growth management policies include several conservation trust funds, a conservation easement tax credit, the brownfields program, and some limited incentives and technical assistance programs that encourage land-use planning by local governments.

Coastal Area Management Act

The ratification of CAMA in 1974 was a landmark event in the history of planning in North Carolina. Noting that the coastal area faces increasing pressures from expanding industrial development, population, and "recreational aspirations," the act states, "Unless these pressures are controlled by coordinated management, the very features of the coast which make it economically, esthetically, and ecologically rich will be destroyed."[3]

To achieve its goal of preserving coastal resources, CAMA restricts development in environmentally sensitive areas. It also requires local governments in the state's twenty coastal counties to adopt land-use plans and update them every five years. These plans must be consistent with state guidelines developed by the Coastal Resources Commission (CRC) and must include objectives, policies, and standards for public and private land and water use. They are subject to the approval of the CRC.

CAMA was passed two years after

Selected North Carolina Resources on Growth Management

State Agencies

Coastal Resources Commission
The Coastal Resources Commission reviews local government plans required by the Coastal Area Management Act of 1973.

Web page: http://dcm2.enr.state.nc.us/MAIN_PAGE.HTM

Contacts: Eugene B. Tomlinson, Jr. , chair, telephone (910) 457-6805; Donna Moffit, director, Division of Coastal Management, telephone (919) 733-2293, e-mail Donna_Moffitt@mail.enr.state.nc.us

Community Planning Program, Division of Community Assistance, Department of Commerce
The Community Planning Program provides planning assistance to local governments.

Web page: http://www.dca.commerce.state.nc.us/cpp.htm

Contact: John Berndt, assistant director, telephone (919) 733-2851, e-mail jberndt@dca.commerce.state.nc.us

Governor's Office
Beau Mills in the Governor's Office works on sustainable development and growth management issues.

Contact: Beau Mills, telephone (919) 715-5889, e-mail bmills@gov.state.nc.us

Office of Planning and Environment, Department of Transportation
The chief planning and environment officer does transportation planning and coordinates with the Department of Environment and Natural Resources to address environmental implications of transportation planning decisions.

Web page: http://www.dot.state.nc.us/planning

Contact: Janet D'Ignazio, chief planning and environment officer, telephone (919) 733-2520, e-mail jdignazio@dot.state.nc.us

Office of State Planning
The Office of State Planning collects, analyzes, and disseminates demographic and geographic information, including information on land-use trends. It also provides information on state government programs offering financial and technical assistance to local communities.

Web page: http://www.ospl.state.nc.us/lib/html/ospsr.html

Contact: Sheron Morgan, director, telephone (919) 733-4131, e-mail sheron.morgan@ncmail.net

Planning Section, Division of Air Quality, Department of Environment and Natural Resources
The Division of Air Quality's Planning Section does air quality planning for North Carolina.

Web page: http://daq.state.nc.us/Offices/Planning

Contact: Brock Nicholson, supervisor, telephone (919) 715-0587, e-mail brock_nicholson@aq.ehnr.state.nc.us

Water Supply Watershed Protection Program, Department of Environment and Natural Resources
The Water Supply Watershed Protection Program offers technical assistance to local governments in meeting the requirements of the state's water supply watershed protection rules.

Web page: http://h2o.enr.state.nc.us/wswp/index.html#top

Contact: Coleen Sullins, chief, Water Quality Section, telephone (919) 733-7015, e-mail coleen.sullins@ncmail.net

adoption of the federal Coastal Zone Management Act, which promised federal planning and assistance grants to states that enacted coastal protection programs.[4] The first version of the act was developed by a blue-ribbon study commission and then revised by the administration before being submitted to the General Assembly in 1973. Strong opposition from local governments to the top-down nature of the proposal, which concentrated decision-making power at the state level, resulted in a series of public hearings on the bill between the 1973 and 1974 legislative sessions. The revised proposal, introduced in 1974, gave local governments a stronger role in planning and implementing the program and was more broadly supported than the first version. Despite significant opposition and exhaustive debate, the bill was ratified and has stayed substantially intact, even in the face of numerous legal and legislative challenges.[5]

CAMA remains controversial today, with environmentalists claiming that it has not done enough to protect the coastal environment and some local governments and property owners claiming that it is too heavy-handed. The conflict escalated in 1998, when the CRC announced that it was considering draft rules to expand the area near inland shorelines where CAMA development controls apply, and to increase requirements for protection of buffers along


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Academic Programs

Department of City and Regional Planning, The University of North Carolina at Chapel Hill
The University of North Carolina at Chapel Hill's nationally respected Department of City and Regional Planning has been training planners since 1946. The department's David R. Godschalk is a member of the North Carolina Commission to Address Smart Growth, Growth Management, and Development Issues.

Web page: http://www.unc.edu/depts/dcrpweb

Contact: David R. Godschalk, telephone (919) 962-5012, e-mail dgod@email.unc.edu

Faculty profile: http://www.unc.edu/depts/dcrpweb/facstaff/faculty.htm

Institute of Government, The University of North Carolina at Chapel Hill
The Institute of Government (IOG) provides in-depth research and up-to-date reporting on issues of interest to North Carolina planners.

Web page (planning resources): http://www.iog.unc.edu/organizations/planning/index.html

Contacts: Richard Ducker, IOG liaison to NC APA (see next column), telephone (919) 966-4179, e-mail ducker@iogmail.iog.unc.edu; David Owens, IOG liaison to NC APA, telephone (919) 966-4208, e-mail owens@iogmail.iog.unc.edu

Undergraduate Programs Granting Planning Degrees
Department of Geography and Planning, Appalachian State University
Web page: http://www.geo.appstate.edu/academics/planning/planning.html

Contact: Garry Cooper, telephone (828) 262-7051, e-mail coopergv@appstate.edu

Department of Planning, East Carolina University
Web page: http://www.sit.ecu.edu

Contact: Wes Hankins, telephone (252) 328-1270, e-mail hankinsw@mail.ecu.edu

Public Interest Groups and Professional Associations

Conservation Trust for North Carolina
The Conservation Trust is a statewide land trust. Its Web page provides links to other land trusts working to preserve open space and farmland.

Web page: http://www.ctnc.org/ctnc/index2.html

Contact: Charles Roe, executive director, telephone (919) 828-4199, e-mail info@ctnc.org

North Carolina Chapter of the American Planning Association (NC APA)
The NC APA provides information and networking resources for planners in North Carolina.

Web page: http://www.nc-apa.org

Contacts: Mike Avery, president, telephone (252) 636-4063, e-mail cnl296@abaco.coastalnet.com; David Knight, lobbyist, telephone (919) 788-9799, e-mail dwknight@mindspring.com

North Carolina Smart Growth Alliance
The North Carolina Smart Growth Alliance is a diverse coalition of private and public organizations working to promote a smarter pattern of development in North Carolina. It focuses on inclusion, education, communication, and consensus building.

Web page: http://www.ncsmartgrowth.org

Contact: Rich Bell, executive director, telephone (919) 928-8700, e-mail ncsmartgrowth@mindspring.com

Save Our State
Save Our State is a group of more than 150 civic and corporate leaders that works to promote sustainable economic development.

Contact: Alan Briggs, director, telephone (919) 834-4891, e-mail alanb@sosnc.org

Sierra Club
The Sierra Club has made fighting urban sprawl one of its primary issues.

Web page (national organization): http://www.sierraclub.org

Contact: Mary Kiesau, Sprawl Watch Campaign, telephone (919) 833-8467, e-mail smartgrowth@sierraclub-nc.org

rivers and streams in the coastal counties. In response to intense and widespread protests from local governments, the CRC replaced this controversial proposal with a more modest one for protection of buffers and charged a panel of stakeholders with recommending more extensive measures for protection of water quality.

The panel completed its recommendations in July 1999.[6] It expressed frustration that the state was expecting coastal communities to carry more than their fair share of the burden for protecting coastal water quality and recommended extension of requirements for riparian buffers and land-use planning upstream into noncoastal counties. A bill introduced in the 2000 General Assembly responded to this concern by requiring upstream local governments to prepare plans for protection of water quality.[7] The General Assembly took no action on the bill, although the Studies Act of 2000 authorizes the Environmental Review Commission to study the stakeholders' report and make related recommendations to the 2001 General Assembly.[8]

Water Supply Watershed Protection Act

The Water Supply Watershed Protection Act, enacted by the General Assembly in 1989, limits the density of development in watersheds that drain into water supplies—that is, drinking-water reservoirs.[9] The act requires local governments to adopt watershed protection programs that meet state standards. Rules to implement the act were adopted in 1992 by the Environmental Management Commission (EMC), the appointed body responsible for rule making for most environmental programs.[10] To help local governments comply, the EMC adopted a model ordinance. Staff from the Division of Water Quality in the North Carolina Department of Environment and Natural Resources also provide technical assistance to local governments to help them implement the program. Protection of watersheds for water supplies may be achieved by limiting the density of development, requiring engineered controls for stormwater management (such as ponds to hold stormwater and strips of vegetation to filter it), or both.[11]

Rules and Programs for Management of Stormwater

The intent of the state's stormwater management rules is to "achieve the water quality protection which low density development near sensitive waters provides."[12] The rules apply only to larger projects that may affect sensitive waters, and they require different controls for low- and high-density projects.[13] For low-density projects, deed restrictions must ensure that the projects remain low-density. Also, there must be provision for transport of stormwater primarily along vegetated channels. For high-density projects, there must be engineered stormwater controls.

Rules for Protection of Riparian Buffers

In 1995 the discovery of five hundred thousand dead fish floating in the Neuse River provoked widespread concern about water quality. Learning that excessive nitrogen in the water contributed to the fish kill, the General Assembly established the goal of reducing nitrogen in the Neuse River by 30 percent by 2001.[14]

In 1997, to achieve this goal, the EMC established the Neuse Buffer Rule, which requires the maintenance of 50-foot-wide vegetated buffers along rivers and streams in the Neuse River Basin.[15] An earlier draft of the rule required the establishment of new buffers where they did not exist, but the EMC backed away from this proposal in response to criticism that it would be too onerous for riverfront property owners. Instead, the EMC limited the scope of the rule to the protection of existing buffers.[16]

In 1997 a bill was introduced in the General Assembly to disapprove the Neuse Buffer Rule, but a group of stakeholders negotiated a compromise. The compromise left the rule's provisions for protection of water quality substantially intact, but it added a provision allowing property owners to take alternative steps (called "compensatory mitigation") when preservation of buffers is not practical.[17]

Temporary rules for buffer protection went into effect for the Tar-Pamlico River Basin on January 1, 2000. Similar rules are under development for the Catawba River Basin.[18]

Mountain Ridge Protection Act

The Mountain Ridge Protection Act, enacted in 1983, prohibits the construction of tall buildings on high mountain ridges. The act states that the construction of tall buildings on high-elevation ridges can cause "unusual problems and hazards" for residents and visitors, and notes that providing water to high-occupancy buildings at high elevations may infringe on the groundwater rights and endanger the health of those at lower elevations.[19] The act also mentions fire hazards and states that tall structures on ridges detract from the natural beauty of the mountains. Local governments are authorized to enact ordinances to implement the act, but minimum state standards apply even when no ordinance has been enacted.

Conservation Trust Funds

State funds for the acquisition of open space and conservation easements include the Clean Water Management Trust Fund, the Parks and Recreation Trust Fund, the Natural Heritage Trust Fund, and the Farmland Preservation Trust Fund. (For a further discussion of conservation easements, see the article on page 42.)

The act that established the Clean Water Management Trust Fund authorized the expenditure of moneys from the fund for riparian buffer acquisition; acquisition of property and conservation easements to protect surface-water quality and urban drinking-water supplies; restoration of degraded lands to protect water quality; and repair or elimination of failing sewage and septic tank systems.[20] The act also provided that the fund would receive 6.5 percent of any unreserved credit balance remaining in the General Fund at the end of each fiscal year, or $30 million, whichever is greater.[21] In fiscal years 1996–97 through 1998–99, the total amount reserved for the fund was between $45 million and $50 million, and in fiscal year 1999–2000, it was $30 million.

Revenue for the Parks and Recreation Trust Fund comes from 75 percent of the funds generated by the excise tax on land conveyances.[22] The fund received $24.4 million in the 1998–99 fiscal year and $27.9 million in the 1999–2000 fiscal year.[23] The revenue must be disbursed as follows: 65 percent for the state parks

Construction of condominiums on Sugar Top Mountain in western North Carolina led to passage of the Mountain Ridge Protection Act.

MIKE ROMINGER

system; 30 percent to provide matching grants for local governments for parks and recreation purposes; and 5 percent for the state's Coastal and Estuarine Water Beach Access Program, which provides matching grants to local governments for low-cost projects to improve pedestrian access to beaches.[24]

Revenue for the Natural Heritage Trust Fund comes from 25 percent of the same excise tax that funds the Parks and Recreation Trust Fund[25] and from a portion of the receipts from the sale of personalized license plates.[26] The fund received $10.5 million in the 1998 calendar year and $15.3 million in the 1999 calendar year.[27] Moneys may be used to acquire natural lands for conservation and outdoor recreation purposes and to conduct inventories of natural areas. Projects protecting outstanding ecological and cultural resources receive the highest priority.[28]

The Farmland Preservation Trust Fund was established in 1991 to provide funds for the purchase of conservation easements and the payment of costs to administer conservation easements that are donated.[29] No money was appropriated for the fund until the 1998–99 fiscal year, however, when it received an appropriation of $250,000. The General Assembly then appropriated $500,000 for the fund in the 1999–2000 fiscal year and $1.7 million in the 2000–2001 fiscal year.

In May 2000, Governor James B. Hunt announced an initiative to preserve an additional one million acres of open space by 2010, primarily through increased support for existing conservation funds.[30] In June 2000 the General Assembly approved a bill to codify this goal in the General Statutes.[31] House and Senate members have stated that the funding to realize the goal is not likely to be forthcoming until the state's budget situation improves.[32]

Conservation Easement Tax Credit

North Carolina's Conservation Easement Tax Credit, enacted in 1983, provides an income tax credit of up to 25 percent of the value of an easement donated for conservation.[33] The tax credit is nationally recognized as an innovative conservation incentive. In 1998 the General Assembly raised the maximum tax credit allowed for donating an easement from $250,000 to $500,000 for a corporation and from $100,000 to $250,000 for a person.[34] According to the Trust for Public Land, a national conservation group, use of the credit has been limited because no money has been allocated for promotion of it.[35]

Brownfields Redevelopment

The state's Brownfields Property Reuse Act facilitates the reuse of old industrial sites by allowing a developer to use the property after doing a "less-than-pristine" cleanup without the threat of legal liability for remaining contamination, provided that the developer takes the measures needed to make the property "safe." These measures may include land-use restrictions on the property that are recorded in the deed to ensure that future owners do not use it in a less safe manner.[36] This exchange is called a Brownfields Agreement and is available only to prospective purchasers who are not responsible for the original contamination. The program has been criticized for the small number of Brownfields Agreements it has administered, although individual developers who have used the program have praised it. Program officials note that the General Assembly has never appropriated any money for the program.[37] All implementation costs for the program to date have been paid for with moneys from the federal government. A bill ratified in the 2000 regular session of the 1999 General Assembly will provide a temporary tax abatement for improvements to brownfields properties in order to encourage more use of the program.[38]

Clean Water Revolving Loan and Grant Program

The Clean Water Revolving Loan and Grant Program gives bonus points to local governments that take steps toward enacting comprehensive land-use plans.[39] Although this is just one of many criteria used to evaluate grant applications under the program, these bonus points can give applicants higher priority on the funding list for assistance for water and sewer system upgrades. Economically distressed communities can obtain assistance in preparing comprehensive land-use plans from the Division of Community Assistance in the North Carolina Department of Commerce.

Basinwide Planning for Water Quality

One major state-led activity under way is basinwide planning for water quality, carried out by the Division of Water Quality in the Department of Environment and Natural Resources.[40] Basinwide planning involves both the analysis of water quality data and discussions with various stakeholders in the river basin. Although the plans themselves do not carry the force of law, they may be used by policy-making bodies at the state and local levels to develop rules for protection of water quality. The plans also are used to guide the allocation of resources by other programs, such as the Wetlands Restoration Program.[41]

Transportation Planning

Legislation approved by the General Assembly in May 2000 promotes regional transportation planning by authorizing the creation of voluntary rural planning organizations (RPOs).[42] Unlike the existing metropolitan planning organizations (MPOs), which develop transportation plans and set funding priorities for transportation projects in their areas, the RPOs will not directly influence transportation spending. They will, however, provide a forum for regional cooperation in the development of rural transportation plans.

Another bill that passed in spring 2000 mandates the development of regional transportation strategies, although it does not require consolidation of the current MPOs.[43] (For a further discussion of transportation planning, see the article on page 52).

Measures Attempted in the Past

Other than CAMA, most of the legislation enacted in North Carolina has sought to alleviate some impacts of development rather than to control where it occurs. In the wake of CAMA's passage, however, attempts were made to enact similar planning requirements and development controls in other parts of the state. These included bills to manage mountain areas, introduced in 1974, 1975, and 1991, which never passed.[44] A notable bill that did pass was the Land Policy Act of 1974. Its intent was to

> *undertake the continuing development and implementation of a State land-use policy, incorporating environmental, esthetic, economic, social, and other factors so as to promote the public interest, to preserve and enhance environmental quality, to protect areas of natural beauty and historic sites, to encourage beneficial economic development, and to protect and promote the public health, safety, and welfare.*[45]

The act created the Land Policy Council as an advisory council to the governor and directed it to analyze existing policies affecting land use, establish a method for coordinating public programs affecting land use, and develop a state land-use policy and a state land-classification system.

The Land Policy Council submitted a report to the governor and the General Assembly in 1976.[46] In the area of growth management, the council recommended that the General Assembly enact legislation to require the development of state growth policy and to require counties and municipalities to prepare local land-classification plans expressing local growth policies. The council also recommended that the location of major public works projects be consistent with state, regional, and local policy objectives for development and land use. The land-classification system recommended by the council consisted of the following classes, which are similar to but less detailed than those currently used in the local land-use plans prepared pursuant to CAMA:

- Developed: existing urban areas
- Transition: land suitable for urbanization that is needed to accommodate the next ten years' growth
- Community: clustered rural development
- Rural: land used for farming, forestry, mining, and other low-intensity purposes
- Conservation: areas with significant natural, recreational, or scenic resources

Governor Hunt formally adopted the report by executive order in 1977,[47] but the General Assembly did not enact legislation to implement the report's recommendations. The Land Policy Council was abolished by the General Assembly in 1981 (although technically the Land Policy Act remains on the books).

Previous Study Commissions

In the early 1990s, the General Assembly established two commissions to study issues related to growth management, but neither one made any substantive recommendations to the General Assembly.

In 1991 the Legislative Research Commission (LRC) appointed a committee to study statewide comprehensive planning. After conducting public hearings around the state, the committee concluded that there was significant public interest in comprehensive planning in the state, but it did not have enough time to develop substantive legislation for the 1993 General Assembly.[48] On the committee's recommendation, however, in 1993 the LRC appointed a Partnership for Quality Growth Study Committee. This committee met only once because of the length of a special legislative session on crime and the 1994 regular session of the General Assembly. The single recommendation of the committee—that an independent study commission be established to study comprehensive planning and quality growth[49]—was not enacted by the 1995 General Assembly.

The Current Study Commission

A provision in the 1999 budget bill created the Commission to Address Smart Growth, Growth Management, and Development Issues.[50] The commission is

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In the early 1990s, entrepreneurs transformed a contaminated scrapyard in Charlotte, North Carolina (left), into practice facilities for the Carolina Panthers (right). The agreement to reclaim this "brownfield" helped set the stage for enactment of North Carolina's Brownfields Property Reuse Act of 1997.

directed to study growth management, economic development, and workforce training and to recommend initiatives that will promote coordinated local, regional, and state planning. It consists of both legislative and nonlegislative members.

Among the specific items that the smart growth commission is to study are recent growth management laws passed in Maryland, Tennessee, and other states, as well as House Bill 1468, introduced by Representative Joe Hackney in 1999. A key feature of that bill is a provision that would authorize counties that adopt growth management plans to levy "impact taxes" on new development in order to pay for school construction (for a discussion of "impact fees," see the article on page 29).

While the legislature was in session in summer 2000, working groups on specific topics met and studied existing policies that affect growth, and they discussed potential legislative initiatives. The working groups were assigned to study the following topics:

- Community development and downtown revitalization
- Farm and open space preservation
- Regional partnerships
- Transportation

The full commission resumed meeting in fall 2000 and is developing recommendations to submit to the General Assembly in January 2001.

Conclusion

North Carolina leaders have been reluctant over the years to undertake measures that might be seen as imposing mandates on local government or infringing on private property rights. They have, however, demonstrated a willingness to require planning and to place restrictions on development in order to achieve specific, overriding goals, such as preserving the character of the coastal environment, preventing fish kills, or protecting drinking-water supplies. The history of past efforts suggests that any state-led growth management initiative in North Carolina must be linked to specific goals with clearly understood public benefits, not to a more general notion that statewide planning is a good idea. The current smart growth study commission is delving into the details of smart growth rather than focusing on the broader issue of statewide planning, as past study commissions did. As a consequence, the prospects for substantive legislative proposals to emerge and obtain approval may be greater than in the past.

Notes

1. *See*, for example, the Balanced Growth Policy Act [N.C. GEN. STAT. (hereinafter G.S.) ch. 143, art. 55A, which directed state agencies to facilitate economic development throughout the state and growth patterns that would support the maintenance of a dispersed population, and the William S. Lee Quality Jobs and Business Expansion Act (S.L. 1996-13; significant amendments in S.L. 1999-360), which established a number of tax incentives for industry.

2. The Sedimentation Pollution Control Act (G.S. 113A art. 4) also is important for the protection of water quality, but it requires measures to control sediment runoff during construction rather than influencing where development may occur.

3. CAMA is codified at G.S. 113A art. 7. The quote appears at G.S. 113A-201(a).

4. The Coastal Zone Management Act is codified at 16 U.S.C. ch. 33. Federal grants to states for administration of coastal management programs are provided for at 16 U.S.C. § 1455.

5. For a review of the history of the CAMA legislation before its passage, *see* Milton S. Heath, Jr., *A Legislative History of the Coastal Area Management Act*, 53 NORTH CAROLINA LAW REVIEW 345 (1974). For a review of challenges and amendments to CAMA, *see* Milton S. Heath, Jr., & David W. Owens, *Coastal Management Law in North Carolina: 1974–1994*, 72 NORTH CAROLINA LAW REVIEW 1413 (1994).

6. NORTH CAROLINA ESTUARINE SHORELINE PROTECTION STAKEHOLDERS, PROTECTING NORTH CAROLINA'S COASTAL RESOURCES: A FRAMEWORK FOR MAINTAINING AND IMPROVING WATER QUALITY (Raleigh: N.C. Dep't of Env't and Natural Resources, Div. of Coastal Management, Aug. 1999).

7. House Bill 1858, introduced in the 2000 regular session of the 1999 General Assembly.

8. Senate Bill 787, ratified July 13, 2000 (in the 2000 regular session of the 1999 General Assembly).

9. G.S. 143-214.5.

10. 15A NCAC 2B.0104. Additional information on the program is available on the Internet at http://h2o.ehnr.state.nc.us/wswp/index.html.

11. More information on the Water Supply Watershed Protection Program is available on the Internet at http://h2o.ehnr.state.nc.us/wswp/index.html.

12. The rules are codified at 15A NCAC 2H.1000. Statutory authority for the rules is provided in G.S. 143-214.7. The quotation appears at 15A NCAC 2H.1003.

13. The rules apply to projects that (1) require a "major development" permit under CAMA or a sedimentation and erosion control plan under the Sedimentation Pollution Control Act and (2) drain into waters classified by the EMC as "high quality waters" or "outstanding resource waters."

14. S.L. 1995-572.

15. 15A NCAC 2B.0233. Additional information on rules to protect riparian buffers is available on the Internet at http://h2o.enr.state.nc.us/nps/neuse.htm.

16. James Eli Schiffer, *Neuse Woodland Buffer Protections Now in Effect*, RALEIGH NEWS & OBSERVER, Jan. 22, 1998.

17. S.L. 1998-221. The provision for compensatory mitigation permits a person who can demonstrate no practical alternative to destroying a buffer, to pay a compensatory mitigation fee, provide for the establishment of a buffer elsewhere in the same river basin, or construct an alternative mechanism to reduce nutrient loading. Any such measure must provide water quality protection that is equal to or greater than the protection provided by the lost buffer. The first two alternatives were introduced by S.L. 1998-221, the third by S.L. 1999-448.

18. These temporary rules were authorized by the Clean Water Act of 1999 (S.L. 1999-329).

19. G.S. 113A art. 14. The quotation appears at G.S. 113A-207.

20. G.S. 113 art. 13A. The expenditures authorized from the fund are set out in G.S. 113A-143.5(c); the revenue source for the fund is set out in G.S. 143-15B(a).

21. S.L. 2000-67. The budget approved in 2000 appropriates $30 million for the 2000–2001 fiscal year and provides that annual appropriations be increased in stages, leveling off at $100 million a year starting in 2003.

22. G.S. 105-228.30.

23. Figures are from the North Carolina General Assembly, Fiscal Research Div.; N.C. DEP'T OF ENV'T AND NATURAL RESOURCES, DIV. OF PARKS AND RECREATION, NORTH CAROLINA PARKS AND RECREATION TRUST FUND: 1998–99 ANNUAL REPORT (Raleigh: Div. of Parks and Recreation, NCDENR, 1999).

24. G.S. 113-44.15.

25. G.S. 105-228.30.

26. G.S. 20-79.7.

27. DEWEY W. WELLS, CHAIRMAN, BOARD OF TRUSTEES, N.C. NATURAL HERITAGE TRUST, & BILL HOLMAN, SECRETARY, N.C. DEP'T OF ENV'T AND NATURAL RESOURCES, NORTH CAROLINA NATURAL HERITAGE TRUST: 1999 AWARD REPORT TO THE GOVERNOR AND GENERAL ASSEMBLY (Raleigh: NCDENR, 1999).

28. G.S. 113-77.7.

29. G.S. 106-744(c).

30. NORTH CAROLINA DEP'T OF ENV'T AND NATURAL RESOURCES, CONSERVING OPEN SPACE TODAY FOR THE CHILDREN OF TOMORROW: NC MILLION ACRE PLAN (Raleigh: NCDENR, Apr. 2000). The plan is available on the Internet at http://www.enr. state.nc.us/million.htm.

31. S.L. 2000-23.

32. These statements were made during the May 9, 2000, meeting of the ERC, which recommended the proposal to the General Assembly, and during the May 30, 2000, meeting of the Senate Agriculture, Environment, and Natural Resources Committee, which gave the proposal (Senate Bill 1328) a favorable report.

33. G.S. 105-130.34; G.S. 105-151.12. For a further discussion of the tax credit, *see* Bonny A. Mollenbrock, *North Carolina's Conservation Tax-Credit Program*, POPULAR GOVERNMENT, Summer 1997, at 28. The article gave a brief history of the program and an overview of its initial implementation. It also recommended expansion of the program (which subsequently occurred).

34. S.L. 1998-212 § 29A.13.

35. The Trust for Public Land's profile of the conservation tax credit is available on the Internet at http://www.tpl.org/tech/resources/northcarolina.html.

36. G.S. 130A art. 9, pt. 5. For a further discussion of brownfields redevelopment, *see* Richard Whisnant, *Brownfields in a Green State*, POPULAR GOVERNMENT, Winter 1999, at 2.

37. This issue was discussed at the March 16, 2000, meeting of the ERC.

38. Senate Bill 1252, which was introduced in the 2000 regular session of the 1999 General Assembly and was ratified July 11, 2000.

39. G.S. 159G.

40. Statutory authority for basinwide planning for water quality is provided by G.S. 143-214.14. Additional information on the program is available on the Internet at http://h2o.enr.state.nc.us/basinwide/index.html.

41. Additional information on the wetlands program is available on the Internet at http://h2o.enr.state.nc.us/wrp/index.htm.

42. S.L. 2000-123.

43. S.L. 2000-80.

44. Senate Bill 951 was introduced in the 1973 General Assembly; House Bill 596 in the 1975 General Assembly; and House Bill 742 in the 1991 General Assembly.

45. The act is codified at G.S. 113A art. 9. The quotation appears at G.S. 113A-151(5)(b).

46. LAND POLICY COUNCIL, A LAND RESOURCES PROGRAM FOR NORTH CAROLINA (Raleigh, N.C.: Office of State Planning, Dec. 1976).

47. Executive Order No. 2, signed by Governor James B. Hunt on Feb. 4, 1977, published in 1977 N.C. Sess. Laws.

48. NORTH CAROLINA GENERAL ASSEMBLY, LEGISLATIVE RESEARCH COMMISSION, STATEWIDE COMPREHENSIVE PLANNING COMMITTEE: REPORT TO THE 1993 GENERAL ASSEMBLY OF NORTH CAROLINA 1, 4 (Raleigh: NCGA, Jan. 15, 1993).

49. NORTH CAROLINA GENERAL ASSEMBLY, LEGISLATIVE RESEARCH COMMISSION, PARTNERSHIP FOR QUALITY GROWTH STUDY COMMITTEE: REPORT TO THE 1995 GENERAL ASSEMBLY (Raleigh: NCGA, Jan. 11, 1995).

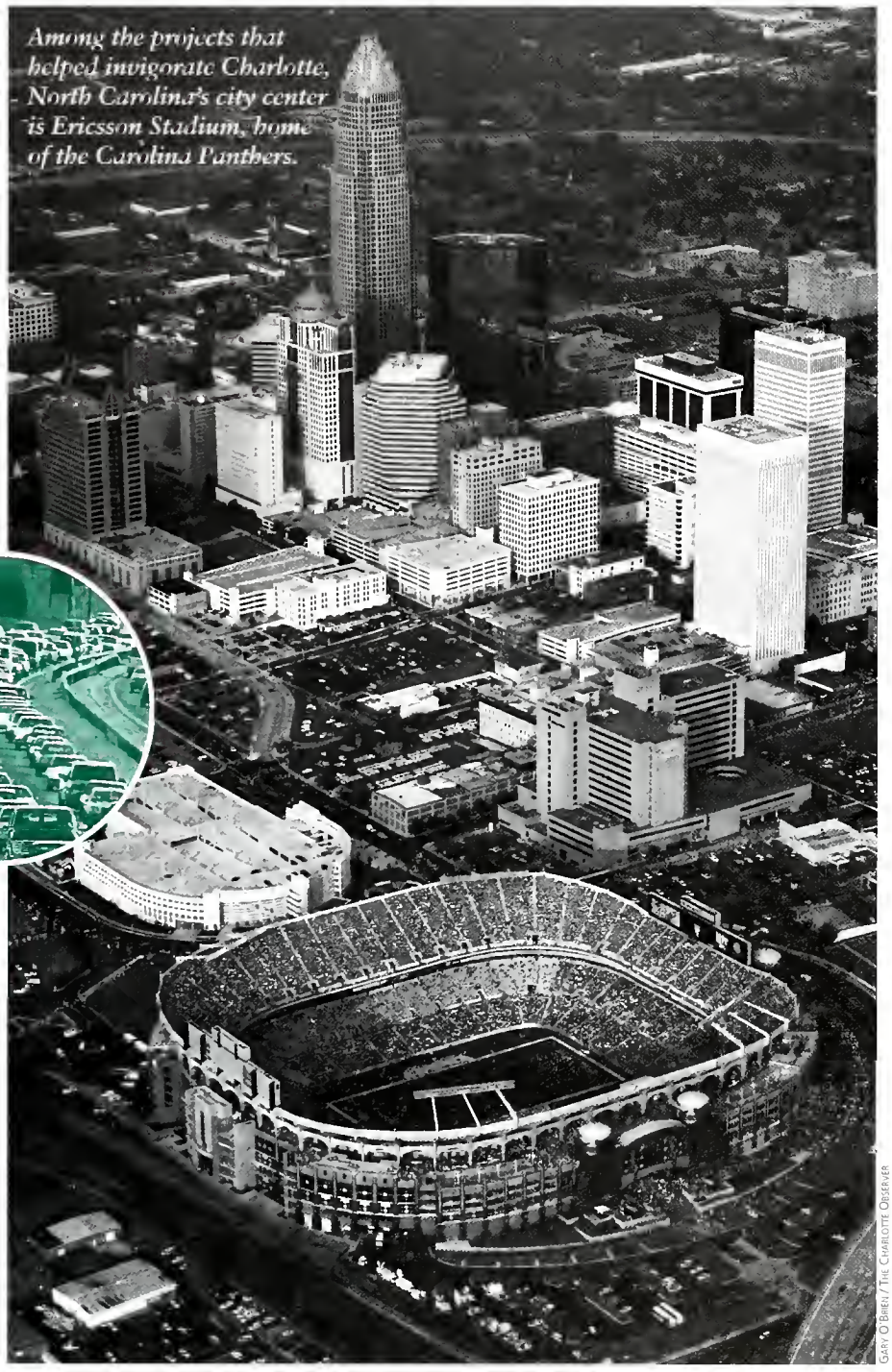
50. S.L. 1999-237 § 16.7.

A Smart Growth Toolbox for Local Governments

Richard D. Ducker and David W. Owens

Builders and environmentalists, business and neighborhood groups, urban and rural residents all champion the idea of their communities growing responsibly and sensibly. Local governments face the daunting task of translating this broad support for smart growth into concrete programs for action. Just what kind of growth is smart, and how does a community accomplish it?

This article provides an overview of the principal management tools that a North Carolina local government might consider in developing and implementing a smart growth program. Each of these tools addresses a particular aspect of growth. Some of the aspects will be important for a particular city or county, some not. However, it is vitally important that a local government adopting a smart growth program carefully consider all the tools and the ways in which they can work together. An effective local program of smart growth must integrate planning, regulations, public investments, and education programs. It must include a mix of incentives and mandates, allowing some development practices, encouraging others, and requiring still others. Further, it must be coordinated with the state and federal transportation and environmental programs described in other articles in this issue. Determining the right mix of management tools for a particular



Among the projects that helped invigorate Charlotte, North Carolina's city center is Ericsson Stadium, home of the Carolina Panthers.

GARY O'BRIEN / THE CHARLOTTE OBSERVER

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community requires thoughtful study and planning, active participation by many affected people, and some tough choices for elected officials.

Urban Form and Design

A major thrust of many smart growth programs is encouraging, facilitating, or even mandating new forms of urban development. The mix of land uses, the design of developments, and the reuse of previously developed land all have an influence on urban sprawl. Planners, architects, and developers tout "new urbanism," "traditional neighborhood design," pedestrian-friendly development, and transit-friendly development as means of reducing reliance on automobiles and making more efficient use of existing roads, utilities, schools, and other public services. A variety of management tools are available to address these issues.

Mixed uses. A principal criticism of traditional zoning ordinances is that they overly segregate land uses. A predominant pattern of residential development in the past fifty years has been to have large tracts of single-family homes, with everyone having to drive out of the subdivision to a major road to get to jobs, shopping areas, or schools. Although much of this development pattern may reflect prevailing consumer desires, many zoning ordinances now mandate this pattern. Often, residential zoning districts do not allow multifamily housing, much less any commercial or office uses. Many zoning ordinances prohibit residential uses in downtown commercial areas.

Much as the "planned-unit developments" of the 1960s allowed some mixture of commercial, office, and industrial uses, smart growth proponents today propose amending zoning ordinances to allow a richer mix of residential, office, and commercial uses. For example, a large tract might be zoned to allow construction of a town square or a village center (perhaps with modest-sized shops, theaters, and restaurants; some professional offices; a school; and a church), surrounded by apartments and single-family homes, all within convenient walking distance. Also, zoning ordinances might allow a return to apartments over storefronts in urban areas. In addition, in urban areas with mass transit potential, the area around stops might be zoned for higher-density residential and commercial uses, further reducing reliance on the automobile as the sole source of transit for some people.

Local governments have the authority to allow mixed uses. The typical segregation of uses in zoning ordinances is a policy choice by elected officials, not a statutory mandate. However, allowing closely mixed uses presents a number of planning considerations that need attention to prevent conflict among uses. For example, commercial development should be limited to a neighborhood scale if it is to be compatible with nearby residential uses. Although careful attention and review are needed, if a local government wants to encourage mixed-use development, it should not create a review process that is substantially longer or more burdensome than that required for more traditional developments.

Traffic. How a new development is laid out can have a tremendous influence on traffic, which in turn affects air quality, traffic congestion, and the desirability of neighborhoods. If there are no sidewalks or bikeways, people may have no alternative to use of cars. If one subdivision's streets are not connected to the neighboring subdivision's streets, everyone has to drive out to more congested collector streets to go anywhere. If streets are designed solely to move a lot of traffic as quickly as possible, they will be considerably less attractive to pedestrians and bikers.

A variety of management tools are available to address these considerations. Subdivision ordinances can require that developers install sidewalks. Street-design standards can be revised to allow or require narrower roads, with on-street parking permitted in residential areas.[1] Ordinances can require connection of streets in adjoining subdivisions. Traffic circles and roundabouts are even making a comeback in congested areas as a way to slow cars to a speed that is more compatible with pedestrian presence while

Tapping the Brakes on Growth

Mooresville, North Carolina, is building a national reputation as a NASCAR mecca, boasting the highest concentration of NASCAR race shops in the country, according to a recent article in *The New York Times*.[1] This Iredell County town has doubled in size in the last ten years, fueled by Charlotte's economic engine and aided by the community's proximity to Lake Norman.

Home to more than twenty race shops that build cars and trucks for the Winston Cup and other race circuits, Mooresville gains both jobs and tourism from the racing connection. When race fans come to the nearby Lowe's Motor Speedway, they drop by Mooresville to tour the complex of Dale Earnhardt, stock car racing's top money winner. The race shops and the sport's related businesses provide about 1,400 jobs, said *The New York Times*.

Mooresville welcomes the growth that racing has brought but, for the short term at least, wants to confine that growth to an area served by existing infrastructure.

Photo courtesy of N.C. Division of Tourism, Film and Sports Development

According to Rick McLean, Mooresville manager, NASCAR drivers and owners chose the community because it was convenient to Interstate 77, Lowe's Motor Speedway, and Lake Norman. "They like living at the lake and being able to get their cars to the races easily," he commented.

Although Mooresville leaders welcome growth, they have taken steps to manage it, using smart growth techniques. In Mooresville's case these include establishing an "urban growth boundary" (see accompanying article) and ensuring the vitality of the downtown core.

maintaining a reasonable traffic flow.

Local governments have the legal authority to accomplish most of these purposes. When they create new subdivisions, they clearly may require that developers build roads, sidewalks, and bikeways to specified standards. They also may require developers to pay for or construct these thoroughfares, as long as the required contribution of the developer is no more than an amount roughly proportional to the anticipated impacts of the development. The authority to impose such requirements as a condition of various zoning approvals, such as site-plan or conditional-use permit decisions, is less clear. Legislation giving local governments explicit authority to require such contributions in zoning or other development approvals, as well as in subdivision approvals, would clarify and simplify the law in this area.

Beyond statutory authority the principal questions are ones of design, cost, and political feasibility. How wide must a street be for traffic safety and for accessibility by school buses and garbage trucks without being so wide and fast-moving that it intimidates pedestrians? How much potential pedestrian use must there be to justify the cost of installing sidewalks? These technical and practical considerations should be carefully examined as local governments modernize their subdivision and zoning ordinances.

Other design features. A related issue that arises in smart growth discussions is the design of individual structures. Many neotraditional neighborhood designs feature homes that are built close to the street, are situated close to one another, and have design elements such as "front" porches and garages at the rear of the dwelling, with alleyway access. Local governments can amend existing development regulations to add the flexibility they need to accommodate these features (as several North Carolina cities already have done, including Belmont Abby, Chapel Hill, Cornelius, and Davidson).[2] Mandating these design features is unusual, but it is permissible to provide regulatory incentives (such as expedited permit processing) for developments that incorporate them.

Infill and reuse. Smart growth proponents suggest that one way of securing compact development patterns is more efficient use of vacant or underused land within existing urban areas. Rather than constantly locating new development at or beyond the urban fringe, the notion is to encourage use of land that already has streets, utilities, schools, and other needed urban services available. This tool can be applied to new industrial or commercial development, affordable housing initiatives, or general residential development.

Several management tools allow or encourage this. Some communities are amending zoning regulations to allow carefully designed manufactured-housing units or small multifamily buildings on

An effective local program of smart growth must integrate planning, regulations, public investments, and education programs.

vacant urban lots in existing residential neighborhoods.[3] Communities have amended their zoning ordinances to allow basement or garage apartments within single-family zoning districts. Others have created neighborhood-conservation zoning districts that allow infill while protecting a neighborhood's character. These steps sometimes require amending the list of permitted uses in zoning ordinances or adjusting setbacks or density limits to make new construction feasible on small lots, either of which local governments have legal authority to do. The question is more one of developing carefully crafted design and density standards to address the neighborhood compatibility issues raised by existing residents. There are several approaches to securing active neighborhood involvement in designing these changes, including developing focused small-area or neighborhood plans and working with community organizations such as community development corporations.[4] In addition to reforming regulations, successful infill strategies must address other concerns that are necessary to make

McLean said that the city council adopted the urban growth boundary less than two years ago when it determined that the city's resources might be stretched too thin if unrestrained growth was permitted everywhere. "This is part of the council's planning to ensure adequate infrastructure capacity," he explained.

If a developer comes in with plans that call for extension of water and sewer lines beyond the urban growth boundary, city staff tell the developer to come back in a few years. The boundary has not been in place long enough to determine if it will be successful in guiding growth, McLean said, but so far it has worked well.

Mooresville has undeveloped areas where it wants infill development, McLean continued. In 1996 the city completed a major annexation and then built twenty-six miles of water and sewer lines costing $10 million. With the urban growth boundary, the council wants to encourage development along the existing water and sewer lines.

Mooresville also is looking ahead to regional mass transit. Municipal leaders see that higher-density development will be needed along the rail corridor to support light rail between their city and Charlotte. "We may be looking at the type of development you see in downtown Charleston [South Carolina]," said McLean.

City leaders in this community always have paid close attention to the downtown core. A long-time Main Street Community,[2] Mooresville recently built the Citizen Center, a combination community and civic center in that core.

"It has succeeded beyond all our expectations," said McLean, "bringing 85,000 people into downtown every year." More than 90 percent of the downtown storefronts are occupied, McLean added. The others are vacant mostly because of ownership problems.

Through growth management, downtown revitalization, and regional transportation planning, Mooresville is quietly going about the business of building and protecting its future.

inner-city neighborhoods attractive for residents, such as providing good schools, safe neighborhoods, and ready accessibility to commercial areas.

Innovative "brownfields" programs are available that encourage reuse of old industrial sites by limiting the new user's liability for past environmental problems. These programs require neighborhood involvement and approval of clean-up plans by an environmental regulatory agency.[5] With larger-scale commercial and mixed-use redevelopment projects, public investment in parking and other improvements may be needed to make the project financially viable.

Other examples of public assistance for more efficient use of existing resources include the state and federal tax credits for renovation and restoration of historic structures, the state's Main Street Program (which provides technical assistance for revitalization of small-town commercial centers), creation of municipal service districts to finance downtown revitalization, and public investments in critical public uses in downtown areas (such as courthouses, public safety centers, and post offices).

Protection of Open Space and Natural Areas

Another important goal of many smart growth programs is environmental protection. In the past, many local governments assumed that federal and state environmental programs were adequate to protect air, water, land, critical habitats, natural-hazard areas, and the like. A more active local role has emerged in recent years. Sometimes the local effort is in collaboration with state and federal agencies, as in local floodplain zoning that is necessary for residents to participate in the national flood insurance program, state-mandated programs to protect the watersheds of local water supplies, or local receipt of grants. More recently a number of local governments have undertaken independent efforts to adopt regulations, acquire interests in land, and develop education programs for environmental protection.

Regulatory measures. How new development takes place can have a dramatic impact on the environment. Sediment runoff during construction can choke creeks and streams. Polluted stormwater runoff can degrade downstream rivers. Unmanaged urban sprawl can consume farmland and open spaces. Development in flood-hazard areas can lead to extensive property damage and loss of life.

Local governments have extensive authority to adopt regulations to address these concerns. Land-use plans can clearly identify areas that are appropriate for high-density development and areas suitable for only low-density development, and regulations then can be put into place to guide development levels accordingly. (For full effectiveness, these decisions should be carefully coordinated with decisions to improve transportation and utilities.) Regulations can allow (or require) clustering of new development or require that each development preserve a specified amount of open space. Regulations also can require that vegetated buffers be left along waterways to limit the impacts of stormwater runoff and protect streamside habitats.

Further, regulations can limit the amount of impervious surfaces that are constructed in sensitive areas and can require holding ponds for runoff, or systems that allow the stormwater to sink into the ground. Regulations also can limit development on steep slopes to prevent soil erosion, and local sediment-control regulations (which can exceed minimum state standards) can reduce soil erosion when sites are cleared for development. Regulations can limit development in floodplains and other natural-hazard areas. Landscaping and tree protection regulations can require preservation or restoration of vegetation as development takes place. Agricultural zoning districts can be established in rural areas to limit the intrusion of industrial, commercial, or even residential uses in prime farmlands.[6]

Acquisition of interests in land. Occasionally a local government must go beyond regulation to land acquisition—for example, when there will be active public use of a property (such as

Acting Regionally

When it came time to update their Coastal Area Management Act plan last year, Wilmington and New Hanover County took it to another level. It is no longer just a land-use plan but a comprehensive plan, addressing housing, public infrastructure, economic development, and transportation. Now the city and the county share a comprehensive plan, an uncommon although not unique situation in North Carolina.

According to Mary Gornto, Wilmington's manager, the city and the county now are working on a unified development ordinance. "We are trying to be smart about growth," she said, "trying to be more efficient." Wayne Clark, Wilmington's director of development services, expects the unified development ordinance to be ready in mid-2001.

Located on the Cape Fear River and the Intercoastal Waterway, Wilmington is rich in aquatic resources.

One new element that the city plans to have in place, even before the unified code is finished, is mixed-use districts, combining commercial, residential, and recreational operations. Clark said that such districts offer more flexibility. At least one developer has begun developing a tract this way. The city's requirements will include a 25 percent set-aside for green space and an additional 10 percent for common space (fountains, areas for benches, plantings, and so on).

Clark said that the area local governments are involved in a number of regional cooperative efforts, including planning for transit, roads, and preservation of waterways and corridors along waterways.

Gornto sees smart growth in Wilmington as a means to ensure the vitality of all

Photo courtesy of N.C. Division of Tourism, Film and Sports Development

for recreation) or when large tracts must be preserved in a natural state with no development at all. Local governments can acquire land alone or in collaboration with local nonprofit groups, as described in the article in this issue on land trusts (see page 42).

Where no active public use of the land is planned, more management options are available. For example, a regulation can require a buffer or open space to be undeveloped, but the title (and the right to exclude the public) can be retained by the private owner.

A local government can tailor its smart growth land acquisitions to the needs of particular programs. It can buy the land outright (called acquiring the "fee interest") and hold the property for public use as parkland, pathways along streams or natural areas (such as the increasingly popular greenway programs now present in many North Carolina cities), or open space. It can acquire property and later sell or give that property to nonprofit groups under restrictive covenants, as often is done with redevelopment and affordable housing programs. Further, a local government can acquire easements when leaving some aspects of ownership in private hands is appropriate. Examples include acquiring the development rights on farmland or an access easement for greenways.[7] North Carolina local governments have authority to purchase land for open space preservation, farmland preservation, parks and recreation, stormwater management, and any other legitimate governmental purpose.[8]

Development regulations can require the conditioning of subdivision approval on the owner conveying land to the public for open space and recreation, to address the impacts and the public needs that will be created by that subdivision. The amount of land required to be dedicated as a condition of development approval, however, must be reasonably related to the impacts of the development and roughly proportional to their scope.

Beyond the question of legal authority, careful attention should be given to ensuring that there will be adequate maintenance and long-term management of areas acquired, as well as adequate planning to guide acquisition priorities.

In addition to use of local funds, there are several significant state and federal sources of grant funds for land acquisition. These include the state's Clean Water Management, Farmland Preservation, Parks and Recreation, and Natural Heritage Trust Funds and the substantial state and federal funding for acquiring hazard areas following the disastrous floods of 1999. Governor James B. Hunt's recently adopted Million Acre initiative[9] and the proposed massive federal reinvigoration of the Land and Water Conservation Fund may substantially increase the financial resources available to local governments for these acquisition programs.

Tax policies. Tax policies play an important role in protection of open space and natural resources. Examples include income tax deductions for contributions of land, use valuation for property taxes, and innovative financing for local acquisition programs (such as real estate transfer fees). North Carolina local governments have no independent authority to institute or amend such policies; they can only apply laws enacted by the legislature and Congress.

Economic Equity

One criticism of some smart growth programs is that they focus on the concerns of affluent suburban areas—urban sprawl, traffic congestion, design of new subdivisions, environmental protection, and the like—without adequate consideration of economic equity issues. A related criticism is that smart growth programs may actually exacerbate economic inequities by restricting the availability of affordable housing. In response, smart growth proposals increasingly incorporate management measures to address economic equity issues directly. These include efforts to secure more affordable housing and preferences for developments that enhance economic opportunity within the community.

Affordable-housing initiatives. One consequence of rapid development is a concomitant rise in housing prices. Al-

its neighborhoods. The continued cooperation between the city, the county, and other local governments in the area will aid in that effort, said Gorno.

Being Hickory by Choice

No growth management plan is smart unless the citizens support it. Several years ago, through a process called Hickory by Choice, citizens in Hickory, North Carolina, gave serious consideration to how they wanted their community to look.[3] The plan, adopted by the Hickory City Council two years ago, emphasizes downtown revitalization, pedestrian-friendly streets, more mass transit, more open space, and neighborhood centers where people can live, work, and shop.

The City Center Plan, the initiative to restore Hickory's core, is a key element of Hickory by Choice. The plan, developed with tremendous citizen participation, calls for older business districts to become neighborhood service centers. It also envisions narrow streets with tree-lined sidewalks, apartments over shops, and traditional buildings on now-empty lots. Duany Plater-Zyberk & Company, known for its neotraditional planning efforts, helped develop the plans.

To carry out the plan, Hickory has rewritten its zoning codes to permit and encourage housing in its downtown areas and the redevelopment of older commercial areas for multifamily housing.

According to Tom Carr, Hickory's executive assistant for development, the downtown is ready for housing, although market forces will determine exactly when housing will be built.

Hickory took a major step last fall to make the downtown area more accessible and safe: it changed the city's grid of one-way streets to two-way streets. Carr explained that one-way streets were "late sixties or seventies traffic planning" designed to move more cars. The two-way streets provide better access to properties, are more pedestrian friendly, and slow traffic, Carr said.

There now is more interest in locating downtown. Renovations will turn a former grocery store into corporate offices,

though homeowners usually view this as good news, rapidly escalating housing prices make it difficult for the less affluent to enter the housing market. Often, it is not just the poor who have difficulty finding housing; schoolteachers, firefighters, police officers, and many middle-class workers also struggle to find adequate housing in the fast-growing areas where they work.

A variety of techniques are available to local governments to address affordable-housing concerns. Provision of public housing and housing assistance can aid the poor in securing shelter. Zoning can allow more multifamily housing in appropriate areas. Regulations that increase the cost of development can be carefully scrutinized to see if standards might be relaxed and the development-approval process for affordable housing streamlined.

Some communities have experimented with regulatory incentives for affordable housing. For example, if a specified proportion of a development will provide affordable housing, it becomes eligible for expedited permit processing or a density bonus.[10] Other communities move beyond incentives to inclusionary zoning mandates. Carrboro and Chapel Hill, for example, require that new residential developments above a certain size include a specified percentage of smaller houses. Communities in other states (Montgomery County, Maryland, for example) directly mandate that large residential developments include a minimum number of houses with sales prices that meet affordable-housing targets.

North Carolina cities and counties have the legal authority to undertake most of these initiatives. Although the public investment and regulatory incentive programs are on solid legal footing, how far local governments can go with regulatory mandates for affordable housing is unclear. To date, North Carolina courts have been wary of allowing land-use regulations to address socioeconomic concerns directly.[11] Still, securing adequate housing for all segments of the community and promoting geographic diversity for all segments of the housing market are legitimate governmental objectives. To the extent that large new commercial, office, or industrial developments create a need for additional affordable housing, it may well be constitutionally permissible to require the developers to assist in providing that housing through, for example, mandatory contributions to a housing trust fund. However, North Carolina statutes do not currently authorize such requirements.[12]

Employment and other linkage requirements. Unlike local governments in other parts of the country, local governments in North Carolina have infrequently used "linkage" requirements, which tie approval of development to the provision of jobs and services for disadvantaged members of the community. For example, a large commercial development might be required to employ a specified number of low-income residents during construction or as workers in the eventual business.

In North Carolina it is not unusual for a developer to offer such a plan voluntarily during the development-approval process, and for local governments to consider it informally as a factor in the potential community benefits of a project. However, the legality of requiring it is less clear. Although a local government may require that a developer address the impacts it is creating (for example, by helping the people who will work there secure public transportation or adequate day care), requiring that the developer provide jobs to a specified community likely goes beyond what a local government can legally mandate.

Planning and Intergovernmental Coordination

Local government planning is necessary to anticipate the impacts of growth and development, to secure broad public involvement in discussions of how best to deal with these impacts, and to know what management tools to use and how to employ them. Without adequate planning, the tendency is to lurch from crisis to crisis, always trying to catch up with worsening problems. Also, even if a sin-

and a federal agency is considering office space in the core.

The city is increasing its commitment to sidewalk construction throughout the community, setting aside $200,000 per year for that purpose.

In the planning stages is an "artwalk" to link cultural institutions with shopping and other attractions. Hickory has borrowed this idea from Asheville.

Another element in Hickory's growth management is incorporating transportation planning into land-use planning. Streets and roads being built need to accommodate the surrounding land uses. For example, Carr says, the city is working with Catawba Community College to ensure that new streets fit into the campus.

Citizens and visitors flock to Hickory's pedestrian mall during Oktoberfest.

Hickory leaders know that completion of Highway 321 to Gastonia will spur major development south of the city, and they are working to make sure that the growth is deliberate. At one new interchange just two miles from downtown, the city will encourage a connected center of employment, schools, parks, and the like through approval of water and sewer connections. "Being able to decide who can and who can't get water and sewer service will help us guide the growth into a community rather than something that looks like a jumble," Carr said.

Regional cooperation is evident in this area of North Carolina. Local governments are working with the private sector on air quality issues and on water quality planning for the Catawba River.

—Margot Christensen

gle local government is planning and managing its growth, some issues can be effectively addressed only through strong coordination and cooperation among neighboring units of government. Transportation, water quality, water supply, air quality, and habitat protection usually must be addressed regionally as well as locally.

North Carolina local governments have extensive authority to plan together and coordinate with one another. City planning programs were first authorized by statute in 1919, county planning programs in 1945. These statutes include broad authorization to create advisory boards, conduct studies, and prepare plans.

Comprehensive planning is entirely *voluntary*, however (except in the twenty coastal counties, where local land-use plans were mandated by the 1974 Coastal Area Management Act, discussed in the article on page 21). Also, even if local governments adopt a comprehensive plan, there is no state mandate that the local governments (or state agencies) follow the plan in their regulatory or public investment programs. Moreover, there are relatively few state financial incentives for local planning, such as priority access to state transportation or utility funding, though this has begun to change.[13]

The situation with intergovernmental coordination is similar. There is authority for *voluntary* interlocal coordination on planning and management issues. Regional planning commissions and councils of government may undertake cooperative planning efforts, but there is no mandate to do so.[14] The state is beginning to address individual growth management issues on a regional basis, such as regional transportation planning and water quality plans for river basins, but many of those efforts are still in the early stage of development. A critical question for North Carolina's smart growth efforts is whether to provide additional incentives or mandates for local planning and coordination.

Growth and Public Facilities: Impact Fees

It seems elementary that growth should lead to a larger tax base, more tax revenues, and more opportunity for a local government to provide and pay for the new public facilities that are needed. In areas of rapid growth, however, public revenues do not necessarily come in fast enough or in the right form to cover growing public costs. Rapid change can make it difficult for communities and their local governments to adjust. Several important tools of growth management influence the timing of growth and the financing of public facilities. Impact fees are one such tool.[15]

Impact fees, also known as facility fees or project fees, can best be thought of as exactions from developers because they are incident to the power of local governments to regulate the development of land. An "exaction" is "a condition of permission for development that requires a public facility or improvement to be provided at the developer's expense."[16]

The land and the improvements for streets, utility lines, recreation areas, and the like that developers have traditionally been expected to provide have been located on site because these exactions principally serve the residents or the users of the development. But many public facilities, such as arterial streets and community parks, serve far more than a single development. Exactions in the form of impact fees allow public facility costs to be more carefully and equitably apportioned throughout the planning area. Impact fees also can provide a more uniform approach to developer contributions because they apply to all development projects, not just those that are subject to regulation in the form of subdivision approval, special- or conditional-use permits, or site-plan approval.

Although the North Carolina General Statutes authorize various types of exactions from developers (particularly under the power to approve subdivisions), they do not include express enabling legislation for impact fees. As a result, several dozen North Carolina cities and counties have secured local acts authorizing the use of impact fees to provide for various types of public facilities.[17] Only a portion of the affected local governments have actually adopted fee ordinances. Some of these include Raleigh in 1987 (covering roads, parks, and greenways), Durham in 1987 (covering streets, parks and recreation facilities, and open space), and Cary in 1989 (covering roads).

Express enabling legislation authorizing impact fees for certain uses may not always be needed in North Carolina, however. The courts have held that North Carolina cities have the implicit authority to impose impact fees to fund capital improvements for water and sewer systems.[18] In addition, the North Carolina Supreme Court has held that municipal authority must be construed broadly and that cities have the power to charge user fees to recover the costs of reviewing land-development proposals.[19]

An essential ingredient—indeed, a constitutional requirement—of an impact fee program is that the use of the fees be adequately connected to public facility needs resulting from the development for which they are paid.[20] A local government first must show that the development will create a need for the new capital facilities. This is the so-called attribution principle. A second principle, proportionality, requires that the developer shoulder no more than its proportionate share of the needs created by the new development. The third principle, benefit, requires that the lands or the public facilities funded by the developer provide sufficient benefit to the development for which the fees were imposed. The collected fees must be earmarked to ensure that they are for the particular type of public facility for which they

Notes

1. Richard Sandomir, *Auto Racing: Race Car Paradise without Fumes,* THE NEW YORK TIMES, May 25, 2000.

2. The Main Street program seeks to revitalize downtowns by stimulating economic development in the context of historic preservation. It is administered by the North Carolina Main Street Center, which is part of the North Carolina Department of Commerce, Division of Community Assistance.

3. This story is based in part on Eleanore Hajian, *Growing into the Community That Citizens Want,* SOUTHERN CITY, Feb. 1999, at 1; *Strengthening the Core of Hickory,* SOUTHERN CITY, Mar. 1999, at 12.

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were collected (for example, roads) and that the facility is geographically located close enough to the development to be truly beneficial. A corollary requirement is that impact fees be spent soon enough after they are collected to provide such a benefit.

Moratoria on Development

In some communities, planning and management programs that could have anticipated and dealt with the impacts of growth are not in place before the advent of rapid growth. In other communities the political will to do something about these impacts does not exist until the problems become severe and readily apparent. In either situation it takes time to put a smart growth program in place once a decision is made to do so. There are technical studies to conduct, plans to prepare, ordinances to craft, and funding to secure, all with substantial public discussion and debate. While this is taking place, the problems may worsen and become more difficult and expensive to fix.

One technique to maintain the status quo while management tools are developed and put into place is a moratorium on development. For example, a local government may put approval of new subdivisions on hold for six months while it prepares new design standards or crafts an adequate public facilities ordinance (discussed later in this article).

There is no explicit statutory authority for North Carolina cities and counties to adopt a moratorium, but they have the implied authority to do so under their zoning, subdivision, and general ordinance-making authority.[21] In the absence of an urgent public health or safety emergency, it is prudent for a local government to follow all the public notice and hearing requirements for zoning amendments when adopting a moratorium.[22]

To be valid, a moratorium should include the following features. It should be adopted only to address a real need that has been adequately documented. It should apply only to projects that affect the identified need. It should have an explicit duration that is reasonably limited to the time it will take the local government to address the needs that led to its imposition. Finally, the local government must actually initiate and responsibly pursue action to address those needs during the moratorium.

Permit Quotas

Another approach to influencing the pace of growth is to set a limit on the number of residential building permits that the local government will issue each year. The limit may be based on the average growth rates over some period before the most recent surge of construction activity. Some communities base the quota on the availability of key public facilities and services (for example, water supply) and the ability of the local government to expand them according to a schedule of construction during the planning period. Several prominent cities have instituted point systems or "merit systems" for allocating permits.[23] They rate proposed projects according to criteria such as the availability of public services, the quality of architectural and site design, and provisions for amenities such as pedestrian paths and special open spaces. Permit quotas fare reasonably well in the courts as long as the quota and permit allocation systems are an integral part of a well-conceived growth management plan and include no absolute caps on permits.

Urban Growth Boundaries

Urban growth boundaries are one of the most controversial growth management tools used by local and state governments. An "urban growth boundary" is a boundary line used to separate land that may be developed for urban purposes from land that may not. A local government designs such a boundary to accommodate the urban growth projected to occur in the area during the immediate planning period. Although an urban growth boundary may be adjusted from time to time, areas beyond the boundary are meant to remain rural or undeveloped. Such boundaries are generally intended to prevent urban sprawl, protect open space and agricultural land in rural areas, and enhance the vitality of downtowns, urban neighborhoods, and existing urban areas.[24]

A closely related concept is the "urban service area," a geographic area within which urban governmental services are being provided or will be provided within the immediate planning period and outside of which such services will not be extended. For several reasons, urban service areas are most closely associated with extensions of water and sewer services.[25] First, these utility extensions are major shapers of urban growth because they enable development at densities that could not be sustained otherwise. Second, municipalities, the local governments most likely to provide water and sewer services in urban areas, are generally authorized to do so in areas outside as well as inside municipal limits and may be the only public providers of utility service in areas on the urban fringe.

The establishment of an urban service area, however, is only one feature of a program to enforce an urban growth boundary. The integrity of an urban growth boundary also must be protected through policies governing other urban services (such as stormwater services, traffic control, and bus service), through local land-development regulations, and through policies governing annexation of land by the municipality. Most urban growth boundary programs are either based on intergovernmental agreements affecting the responsibilities of at least several local governments or adopted in response to mandates and incentives in state growth management programs. Generally at the heart of an urban growth program is a comprehensive land-use and public facilities plan that serves as its blueprint.

There are few examples of urban growth boundaries in North Carolina that have been used effectively. (For a discussion of the use of urban growth boundaries in other parts of the country, see the article on page 12.) One exception involves Orange County, Carrboro, and Chapel Hill. These units established a "rural buffer" around the two towns in the 1980s. The jurisdictions entered into an interlocal agreement concerning planning jurisdiction, adoption and enforcement of land-development ordinances, extension of water and sewer

Building Bridges—Another Tool for Local Governments

I support smart growth to create investments and housing in central city areas. But I also ask who will benefit from smart growth? Smart growth could create a nomadic poor. Too often the latest planning initiative does more harm than good for minority communities. Who can forget how urban renewal destroyed minority communities?

—Stella Adams, North Carolina Fair Housing Center[1]

Despite lingering concerns about the ability of smart growth programs to address economic and racial equity issues, advocates for low-income and minority communities are an often overlooked ally in communities' efforts to manage growth. Local governments can strengthen their planning for smart growth by helping to build bridges between community development advocates, or "community developers," and smart growth proponents.

The common ground between the two groups is not difficult to find. Both smart growth proponents and community developers readily agree that urban sprawl often has resulted in land use that is segregated by race and economics: the outer rings of communities tend to be more affluent and white; the inner rings, poor and minority. Further, both agree that the abandonment of city centers by industry and higher-income residents has devastated the segregated areas left behind.[2] Thus, both also agree that sprawl and the movement of capital from inner cities "are key points that must be addressed if we aspire to solve the paradox of great wealth and great poverty coexisting in our metropolitan areas today."[3]

Smart growth and community development principles lead to some of the same solutions for the problems of both disinvestment in inner cities and overinvestment in suburbs. These solutions include restoring and reusing existing buildings, reinvesting in existing infrastructure, developing infills, returning jobs to inner cities, improving public transportation, and reusing industrial brownfields.

Proponents of smart growth and community development arrive at the solutions from very different orientations, however. Smart growth proponents typically talk about sprawl in terms of the costs to those who have left city centers or to the community at large: expensive housing and poor quality of life in suburbia, and high infrastructure, transportation, energy, and environmental costs to the community.[4] Community developers focus on the concerns of those who remain in the cities: unemployment, poor schools, poor housing, environmental racism, and crime.

Neither group can solve the problems of its constituency in isolation. Suburbanites will not return to city centers unless the physical and social conditions are improved. Cities will not be able to address their problems fully without the resources of suburbanites. Together the two groups might have an unprecedented opportunity to transcend issues of race and class to craft solutions that address long-unmet economic, environmental, and social problems. Indeed, smart growth may have the greatest chance of sustained success if the planning process reflects a commitment to inclusiveness, diversity of participation, and equity.

On a statewide level, the two groups have begun to build a bridge. In September 2000 the North Carolina Community Development and Smart Growth Leadership Roundtable assembled for the first time to discuss the potential connection between smart growth initiatives and community development efforts. The opportunities for working together to control sprawl, redirect public and private investments into low-income and minority communities, and ultimately manage growth in the interests of the entire community were clear. Local governments encouraging this type of collaboration might begin by simply inviting community developers to participate in the local smart growth debate.

—Anita R. Brown-Graham

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Notes

1. Stella Adams, Executive Director, North Carolina Fair Housing Center, Presentation at the North Carolina Community Development and Smart Growth Leadership Roundtable, Durham, N.C. (Sept. 6, 2000).

2. Marc Seitles, *The Perpetration of Residential Segregation in America: Historical Discrimination, Modern Forms of Exclusion, and Inclusionary Remedies,* 14 Journal of Land Use & Environmental Law 89 (1998).

3. Charles M. Haar, Suburbs Under Siege: Race, Space and Audacious Judges 186 (1996).

4. *See, e.g.*, Real Estate Research Corp., The Costs of Sprawl: Environmental and Economic Costs of Alternative Residential Development Patterns at the Urban Fringe, Vol. 1, Detailed Cost Analysis; Vol.2, Literature Review and Bibliography (Washington, D.C : U.S. Gov't Printing Office, 1974), which does not include any examination of sprawl's social effects, such as its impacts on cities.

lines into the area by the Orange Water and Sewer Authority, and annexation of territory on their fringes.[26]

Advantages and drawbacks. Urban growth boundaries can help steer development to delineated areas and prevent the costly overextension of public services. They have proven to be effective in protecting open space and agricultural land. They also offer the public a simple and understandable means of influencing growth patterns. Generally they benefit current urban residents and property owners.

Nonetheless, urban growth boundaries tend to drive up the price of real estate within the boundary, particularly if inadequate land is provided to accommodate growth there. Further, although

such boundaries are designed to encourage compact development, designated urban growth areas tend not to develop at the densities allowed, perhaps reflecting a market preference for lower-density development. This underdevelopment of existing urban areas tends to encourage more lenient designations of urban growth areas and adjustments to the boundary. Also, the use of urban growth boundaries can be undermined if surrounding jurisdictions allow urban development beyond the boundary, sometimes causing a leapfrog effect that results in development miles away.

Legal issues. The effective use of urban growth boundaries requires cooperation among local governments and, in many instances, regional agencies. Some effective programs rely on intergovernmental agreements initiated by the local governments involved. However, even if the local governments and service providers (such as private water companies and metropolitan sewer districts) bargain with one another in good faith, they may not contract away their legislative powers. For example, North Carolina local governments may not legally obligate themselves to rezone property, annex land, or accept streets at some future time. Legislation is needed to allow a local government to obligate itself in advance to conform its planning jurisdiction and annexation plans to a jointly established urban growth boundary and to amend its land-development ordinances in particular ways.

In addition, legislation is needed to ensure that state agencies that provide public facilities and services (for example, the North Carolina Department of Transportation) respect local and state growth plans in their siting decisions and that state agencies that authorize or regulate nonprofit and private service providers conform their permitting decisions to local plans and growth boundaries. It is no coincidence that many of the local units that employ urban growth boundaries are located in states in which the state legislature has directed local governments to carry out local growth programs that include the establishment of urban growth areas.[27]

A second set of legal issues concerns the legal authority of a provider of water or sewer service to decline to extend service into an area beyond the urban service area or urban growth boundary. North Carolina counties and cities operating water and sewer systems within city limits take on the special obligation of a public service corporation to provide equal service to their current and potential customers.[28] Once such a utility holds itself out as providing service in an area, it generally must serve those in the area who request it.[29] Refusal to extend service within those areas generally must be based on a utility-related reason, such as inadequate system capacity or inadequate financial resources to provide additional service. It is unclear whether a local government that does take on the special utility obligation of a public service corporation may refuse to extend service on the ground that doing so would be inconsistent with a growth management plan. Courts elsewhere have reached mixed conclusions.[30]

However, a North Carolina municipality has no obligation to furnish service outside its city limits and has broad discretionary power to determine whether and on what terms it does so.[31] Thus a North Carolina municipality may refuse to extend water or sewer service beyond an urban service area or urban growth boundary to the extent that such an area or boundary is located outside city limits.

Adequate Public Facilities Standards

Certain growth management techniques demand that a community measure the impacts of a project against its standards for public facilities. One of these techniques involves use of standards for development approval known as "adequate public facilities" (APF) standards.[32] The key feature and perhaps the prime virtue of an APF program is that it regulates the timing of development so as to prevent a community's growth from outpacing government's ability to provide necessary public facilities to serve that growth. It also funnels growth into the geographic areas that are more capable of handling new development. The APF criterion is that for a development project to be approved, the developer must show that public facilities have currently available capacity to accommodate the project or that such capacity will be available when the project is ready for occupancy. Because facilities must be provided concurrently with development, the APF criterion is sometimes known as the "concurrency" criterion.

North Carolina programs. APF programs are widely used in states like Florida and Washington, where concurrency is mandated; in states like Maryland and New Hampshire, where APF standards are expressly authorized by statute; and by a number of other local governments throughout the country. The three major APF programs in North Carolina make adequacy a criterion not only in rezoning decisions but also in various decisions related to project approval. In 1994, Currituck County adopted APF standards in its unified development ordinance for school, fire and rescue, law enforcement, and other county facilities. They apply to large residential subdivisions, multifamily residential developments, and other uses requiring conditional- or special-use permits. Cabarrus County's subdivision ordinance includes an APF standard for most of the facilities covered by Currituck's ordinance, but the standard applies only to residential subdivisions. Cabarrus County and the municipalities within it (Concord, Harrisburg, Kannapolis, and Mount Pleasant) are currently considering adoption of a unified development ordinance that calls for a far-reaching APF program. Cary's ordinance, adopted in 1998, includes APF standards for schools and roads and applies to all subdivisions and site plans.

Legal issues. Under current North Carolina enabling legislation, incorporating APF provisions into a municipal development ordinance appears to be permissible. City and county zoning statutes specifically mention that a purpose of zoning is to "facilitate the adequate provision" of various public facilities.[33] Whether such an ordinance is legally defensible, however, may depend on the justification for the ordinance, the types of development subject to the APF criteria, and the way in which the ordinance is linked to the local government's comprehensive land-use plan and capital improvement program. In the one North Carolina appellate court case involving review of an APF ordinance,

the court did not directly address the question of enabling authority but did uphold Currituck County's denial of a residential development because county schools were inadequate.[34]

Uncertainty about the provider. An APF program can result in some uncertainty about who will provide or pay for a particular street, utility extension, or park improvement. If a public facility is inadequate, the deficiencies can be remedied by either the government or, by implication, the developer. If the developer faces substantial delays, it may be inclined to make concessions to the regulating unit to move ahead, and agree to furnish more than its proportionate share of the costs of the required improvements. These concessions can prompt the local government to spend less on its capital improvement program.

Allocation of excess capacity. Like the use of a permit quota system (discussed earlier), the use of an APF program can result in an erratic pace of development as developers queue up to take advantage of excess capacity for a public facility before the capacity disappears. Most APF programs allow the allocation of excess capacity on a first-come, first-served basis.[35] If the community places a moratorium on applications, then the community may expect a flood of applications once facility capacity is expanded. In any case the pace of development and the rate at which development applications are received can be uneven.

Transfer of Development Rights

Traditional zoning ordinances and related ones controlling development often create uneven impacts on landowners. One way of evening out these impacts is to require all landowners who benefit from an area's development to pay the costs associated with the preservation and the protection of lands that arguably should not be developed. The advantage of such a program is that it allows the owners of land worthy of protection to enjoy economic benefits without having to develop the land and without the government having to purchase it. A transfer of development rights (TDR) program is intended to achieve these purposes.

Most TDR programs are closely associated with resource protection programs. One of the most prominent and long-lasting programs has been adopted in Montgomery County, Maryland, where development rights may be transferred from rural agricultural areas to urban areas just beyond the District of Columbia boundary. TDR programs also have been used to protect open space; to protect historic buildings and landmarks, as in Chicago, Denver, and New York City; to protect areas with critical environmental significance, as in the New Jersey Pinelands; and to protect natural-hazard areas from development.[36]

Concepts of property. TDR programs modify conventional property concepts in several ways. First, they divide "property" into two components: (1) the land itself and (2) the development potential or "development rights" associated with that land, usually measured in terms of the zoning and land-subdivision purposes allowed for the land. Second, they allow the development rights to be severed from the host parcel, thus allowing the rights to be bought, sold, taxed, and used as security. Third, they allow the rights to be acquired by the owner of land at another location and exercised to increase the permissible development at that new location.

The usual TDR approach requires identification of "sending areas"—areas in which property owners may sell development rights--and "receiving areas" —areas to which property owners may transfer development rights. Identifying the sending areas is relatively simple because these are the areas that a community generally is the most concerned about protecting. Identifying receiving areas is more difficult for both political and practical reasons. They are more suitable for intense development because of their location, the availability of public facilities such as utilities, and the community's overall development pattern. There is typically a conventional maximum density in the receiving areas, but that density may be exceeded by the importing of rights severed from land in a sending area.

Administration. Although the concept of TDR programs has been a topic

Without adequate planning, the tendency is to lurch from crisis to crisis, always trying to catch up with worsening problems.

of interest in the planning and legal communities for years, the programs themselves pose notoriously complex administrative problems. This accounts for their rather limited use. For a program to work, development rights must have value, and there must be a balance between sending and receiving zones. If too many development rights flood the market, the owners of the land being protected will be seriously disadvantaged. In addition, the jurisdiction in which the TDR program is used must include growing areas with a strong demand for intense development. If there is no market for intense urban uses of land (that is, high-density residential and compact commercial and office development), there will be little incentive for landowners in receiving areas to purchase development rights. Likewise there will be no market for such rights if the zoning rules in receiving areas allow landowners to develop land to its most profitable use without acquiring any additional development rights.

Legal issues. TDR programs were validated by the U.S. Supreme Court in the seminal case of *Penn Central Transportation Co. v. City of New York*. The city had designated Grand Central Station as a landmark and required all of its exterior alterations to be approved by a city commission. However, it accorded the owner, Penn Central, additional development rights that could be severed and transferred for use at a noncontiguous parcel. When Penn Central proposed to lease the air rights above the terminal for a high-rise office tower, the commission rejected the plans as being destructive of the terminal's aesthetic and historic features. The Court rejected Penn Central's claim that a taking had occurred, stating that although the availability of transferable development rights "may well not have constituted 'just compensation' *if* a 'taking' had occurred, the rights nevertheless undoubt-

edly mitigate whatever financial burdens the law has imposed. . . ."[37]

There is express enabling authority for North Carolina local governments to adopt a TDR program, but the circumstances under which the program may be used are limited. G.S. 136-66.10 and -66.11, adopted in 1987, allow a North Carolina city or county to provide "severable development rights" under its zoning and land subdivision ordinances if a landowner dedicates right-of-way for a new or widened thoroughfare shown on a thoroughfare plan. However, because these development rights are established only when a property owner makes a special form of road right-of-way dedication, the potential supply of development rights is too small to support a viable market. As a result, local governments have made virtually no use of this statute.[38]

Variations. There are several variations on the TDR theme. Perhaps the most conservative alternative involves transfer of development potential from one part of a zoning lot to another. If the less-developed area of the parcel is later subdivided and sold, then a conservation easement may be recorded that restricts the use of that area. For example, Winston-Salem is considering such an arrangement to encourage the transfer of development potential from flood fringe areas to "upland" portions of land parcels.

Conclusion

North Carolina cities and counties have substantial legal authority to enact smart growth programs. Although a few innovative tools may not be legally available, the smart growth toolbox for local governments is robust. Local governments can use a coordinated program of regulations, plans, and public investment strategies to reduce urban sprawl, protect the environment, and promote wider economic opportunities for their citizens. These programs can reduce the public and private costs of growth and promote the development (and maintenance) of the types of communities in which people want to live. The state does not mandate the use of any of these tools. The choice of whether and how to manage growth and how to coordinate efforts has largely been left to local governments. Charting how growth will be managed is in the hands of local citizens and their elected leaders.

Notes

1. The North Carolina Department of Transportation recently approved amendments to its rules to allow construction of narrower streets with on-street parking. These rules set the minimum standards for roads that are turned over to the state for maintenance and thus are very important design considerations for many county subdivisions.

2. Aesthetics is a legitimate basis for local regulation. State v. Jones, 305 N.C. 520, 290 S.E.2d 675 (1982) (upholding junkyard-screening requirement); A-S-P Assoc. v. City of Raleigh, 298 N.C. 207, 216 S.E.2d 444 (1979) (upholding historic district regulations). A few local governments in the state have regulatory appearance codes to prevent dilapidated commercial buildings in redevelopment areas or community entranceways. Others have aesthetic standards for new commercial developments. However, regulation of architectural details for residential development outside historic districts is generally left to private restrictive covenants rather than to governmental regulations (though local regulations in other states do prohibit homes that are either too uniform, or too dissimilar from neighboring homes).

3. Raleigh and the Manufactured Housing Institute recently cooperated in development of a demonstration house to illustrate affordable infill housing.

4. For additional information on community development corporations, *see* Anita R. Brown-Graham, *Thinking Globally, Acting Locally: Community-Based Development Organizations and Local Governments Transform Troubled Neighborhoods*, POPULAR GOVERNMENT, Winter/Spring 1996, at 2.

5. For details on these redevelopment options, see Richard Whisnant, *Brownfields in a Green State*, POPULAR GOVERNMENT, Winter 1999, at 2. The program is codified at N.C. Gen. Stat. § 130A-310.30 through -310.40 (hereinafter the North Carolina General Statutes will be referred to as G.S.).

6. Counties also may establish voluntary agricultural districts that limit water and sewer assessments for farmland and require special public hearings before condemnation of farmland. G.S. 106-735 through -743. Further, state law allows farmland to be assessed at agricultural rather than market value for property taxes and protects preexisting farms from nuisance suits. On the other hand, city and county authority to regulate subdivisions in agricultural areas is somewhat limited by the exemption of land divisions greater than ten acres from subdivision regulation (local governments may, however, establish minimum lot sizes greater than ten acres in appropriate rural-agricultural zoning districts).

7. Another possibility is to establish a program that facilitates sale or transfer of development rights, discussed later in this article.

8. The authority of local governments to "condemn" land (that is, to acquire it from an unwilling landowner by right of eminent domain) is more limited. In the smart growth context, this authority is generally available only for parkland and drainage projects. Local governments also can condemn land for streets and public utilities. Several local governments, including Asheville, Greensboro, Guilford County, High Point, and Raleigh, have secured local legislation authorizing condemnation for acquisition of open space.

9. The goal of protecting an additional one million acres of open space is codified at G.S. 113A-240 and -241.

10. For example, a zoning ordinance might provide that if a development will price at least 10 percent of its housing units at an "affordable" level, the development may have 10 percent more housing units than would be permitted otherwise.

11. For example, the court ruled that Chapel Hill could not use zoning to regulate the conversion of apartments to condominiums, holding that form of ownership was not a legitimate concern of land-use regulation. Graham Court Assoc. v. Town Council of Chapel Hill, 53 N.C. App. 543, 281 S.E.2d 418 (1981). The court invalidated a Harnett County rezoning that was based on concerns about crime (and allegedly the ethnicity of potential residents of manufactured housing parks), noting that, in zoning, it was arbitrary and capricious to consider impacts other than those on land use. Gregory v. County of Harnett, 128 N.C. App. 161, 493 S.E.2d 786 (1997).

12. Although such exactions would meet the constitutional requirement of being reasonably related to the impacts generated by the development approval, the more difficult question in North Carolina is one of statutory authority. Dedications can be required for streets, utilities, and recreational lands, and for construction of "community service facilities," but provision of affordable housing probably does not fit any of these categories.

13. G.S. 159G-10 provides priority funding under the Clean Water Revolving Loan and Grant Fund to local governments with comprehensive plans that protect existing water uses and ensure compliance with water quality standards. The statute gives even higher priority to local plans that exceed minimum standards and are being implemented. After July 1, 2001, local adoption of a flood-hazard ordinance (where applicable) also will be a factor in setting priorities.

14. For additional background on regional planning, *see* James H. Svara, *Regional Councils as Linchpins in North Carolina*, Popular Government, Spring 1998, at 21. Coordination of local planning has been a central feature of smart growth initiatives in many states.

15. For a fuller review of the topic, *see* James C. Nicholas, Arthur C. Nelson, & Julian C. Juergensmeyer, A Practitioner's Guide to Development Impact Fees (Chicago: Planners Press, 1991); and Development Impact Fees: Policy Rationale, Practice, Theory and Issues (Arthur C. Nelson ed., Chicago: Planners Press, 1988). For more on North Carolina's experience, *see* Richard D. Ducker, *Using Impact Fees for Public Schools*, 26 School Law Bulletin 1; William R. Breazeale, *Raleigh's Facility-Fee Program*, Popular Government, Fall 1989, at 2.

16. Batch v. Town of Chapel Hill, 92 N.C. App. 601, 613, 376 S.E.2d 22, 26 (1989), *rev'd on other grounds*, 326 N.C. 1, 387 S.E.2d 655 (1990), *quoting* Richard D. Ducker, *Taking Found for Beach Access Dedication Requirement*, Local Government Law Bulletin No. 30, at 2 (1987).

17. Unless otherwise noted, the following acts authorize the affected local governments to adopt fees for (1) streets, roads, and related improvements; (2) parks, open space, and recreational facilities; and (3) stormwater and drainage facilities. 1985 N.C. Sess. Laws ch. 357: *Carrboro* (not open space or recreational facilities); 1985 N.C. Sess. Laws ch. 498, as amended by 1987 N.C. Sess. Laws ch. 514: *Raleigh*; 1985 N.C. Sess. Laws ch. 536, as amended by 1988 N.C. Sess. Laws chs. 986–988: *Kill Devil Hills, Kitty Hawk, Manteo, Nags Head*, and *Southern Shores* (fire stations, city administration buildings, and emergency refuge shelters); 1986 N.C. Sess. Laws ch. 936: *Chapel Hill*; 1986 N.C. Sess. Laws ch. 936: *Hillsborough*; 1987 N.C. Sess. Laws ch. 460: *Chatham County* (water and sewer also); 1987 N.C. Sess. Laws ch. 460, as amended by 1991 N.C. Sess. Laws ch. 324: *Orange County* (water and sewer also); 1987 N.C. Sess. Laws ch. 460: *Pittsboro*; 1987 N.C. Sess. Laws ch. 705: *Hickory* (water and sewer also); 1987 N.C. Sess. Laws ch. 801: *Cary* (roads only); 1987 N.C. Sess. Laws ch. 802, as amended by 1989 N.C. Sess. Laws ch. 476: *Durham*; 1988 N.C. Sess. Laws ch. 996: *Rolesville* (water and sewer, and schools); 1988 N.C. Sess. Laws ch. 1021: *Catawba County* (emergency medical facilities, fire stations, schools, cultural facilities, libraries, and solid waste facilities); 1989 N.C. Sess. Laws ch. 430: *Knightdale*; 1989 N.C. Sess. Laws ch. 502: *Wake Forest* (same as Catawba County); 1989 N.C. Sess. Laws ch. 606: *Zebulon*; 1989 N.C. Sess. Laws ch. 607: *Southern Pines* (water and sewer also); 1991 N.C. Sess. Laws ch. 660: *Dunn*.

18. South Shell Investment v. Town of Wrightsville Beach, 703 F. Supp. 1192 (E.D.N.C. 1988) (finding authority in public enterprise statutes, G.S. 160A-313, -314), *aff'd*, 900 F.2d 255 (4th Cir. 1990). Virtually identical statutes apply to counties. G.S. 153A-276, -277.

19. Homebuilders' Ass'n of Charlotte v. City of Charlotte, 336 N.C. 337, 442 S.E.2d 45 (1994) (finding authority in zoning, land subdivision control, and other development-control enabling statutes), *rev'g* 109 N.C. App. 327, 427 S.E.2d 160 (1993). *See also* River Birch Assoc. v. City of Raleigh, 326 N.C. 100, 388 S.E.2d 538 (1990) (holding that, like other local governmental powers, power to require land dedication under subdivision ordinance must be construed broadly).

20. The test adopted in North Carolina and certain other states is the "rational nexus" test, which consists of the three principles discussed in the text. *See* Batch v. Town of Chapel Hill, 92 N.C. App. 601, 376 S.E.2d 22 (1989), *rev'd on other grounds*, 326 N.C. 1, 387 S.E.2d 655 (1990); Franklin Road Properties v. City of Raleigh, 94 N.C. App. 731, 381 S.E.2d 487 (1989).

21. For more detailed background on the legal issues involved in development moratoria, *see* David W. Owens, *Land-Use and Development Moratoria*, Popular Government, Fall 1990, at 31.

22. A two-month moratorium on building permits for projects inconsistent with the land-use plan was invalidated for failure to follow these procedural requirements in Vulcan Materials Co. v. Iredell County, 103 N.C. App. 779, 407 S.E.2d 283 (1991).

23. Perhaps the best known of these systems, from Petaluma, California, was upheld in Construction Industry Ass'n of Sonoma County v. Petaluma, 522 F.2d 897 (9th Cir. 1975), *rev'g* 375 F. Supp. 574 (N.D. Cal. 1974).

24. *See* V. Gail Easley, Staying Inside the Line 2 (Planning Advisory Serv. Report No. 440, Chicago: American Planning Ass'n, 1992).

25. Many growth boundary programs also include an urban expansion or reserve area beyond the urban service area or urban growth boundary where services will be phased in during the latter portions of the planning period. The urban growth boundary thus is located at the farthest edge of the urban expansion or reserve area, not necessarily at the urban service boundary.

26. Because the agreement limits the powers of the three units, they sought and obtained local legislation specifically authorizing the agreement's provisions (1987 N.C. Sess. Laws ch. 233). For a discussion of the agreement, *see* Richard D. Ducker, *The Orange County Joint Planning Agreement*, Popular Government, Winter 1988, at 47.

27. *See, e.g.*, Washington Growth Management Act (codified in large part as Wash. Rev. Code Ann. ch. 36.70A).

28. Fulghum v. Town of Selma, 238 N.C. 100, 76 S.E.2d 368 (1953).

29. Whether service must be extended is distinct from who will pay for the extension.

30. *Compare* Dateline Bldrs. v. City of Santa Rosa, 194 Cal. Rptr. 258 (Cal. Ct. App. 1983) (holding that refusal of city to provide service because project was outside growth area as designated by city-county growth management plan, was necessary and proper exercise of city's police power), *with* Robinson v. City of Boulder, 547 P.2d 228 (Colo. 1976) (holding that city was obligated to extend service despite city's determination that development in area would conflict with city-county growth management plan).

31. *Fulghum*, 238 N.C. 100, 76 S.E.2d 368; Atlantic Constr. Co. v. City of Raleigh, 230 N.C. 365, 53 S.E.2d 165 (1949).

32. For a fuller discussion of APF standards in the context of state and local growth management, *see* State and Regional Comprehensive Planning: Implementing New Methods for Growth Management (Peter A. Buchsbaum & Larry J. Smith eds., Chicago: American Bar Ass'n, 1993). *See also* S. Mark White, Adequate Public Facilities Ordinances and Transportation Management (Planning Advisory Service Report No. 465, Chicago: American Planning Ass'n, 1996).

33. G.S. 160A-383; G.S. 153A-341.

34. Tate Terrace Realty Investors v. Currituck County, 127 N.C. App. 212, 488 S.E.2d 845 (1997).

35. An alternative system used in Ramapo, New York, was upheld in Golden v. Planning Board of Town of Ramapo, 285 N.E.2d 291 (N.Y. 1972). It was based on a comprehensive plan for the development of all land in town according to an eighteen-year capital improvement program. A developer could obtain a development permit by acquiring a designated number of points based on the availability of five essential services, not all of them controlled by the town.

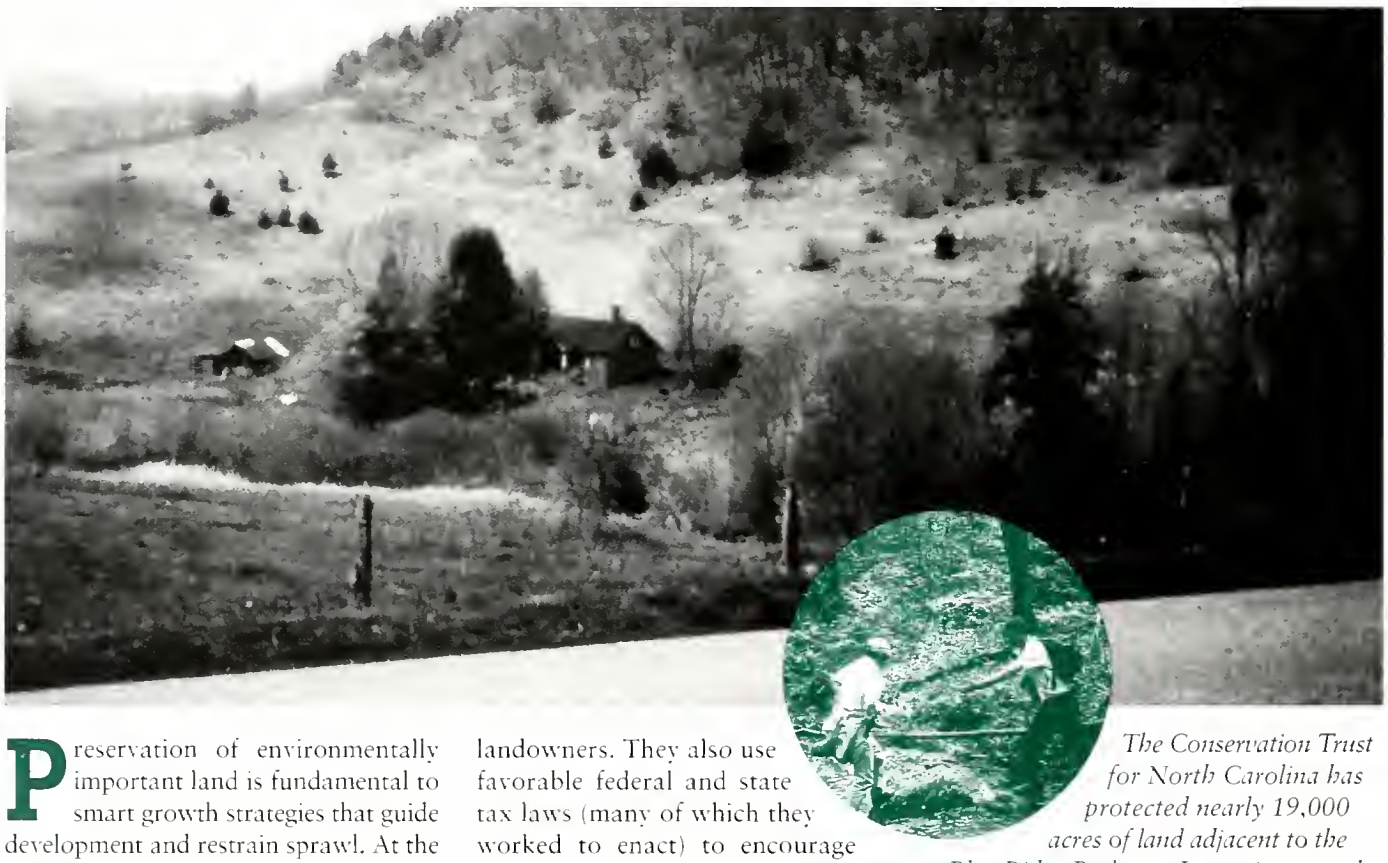
36. For a comprehensive review of TDR programs throughout the country, *see* Rick Pruetz, Saved by Development: Preserving Environmental Areas, Farmland and Historic Landmarks with Transfer of Development Rights (Burbank, Cal.: Arje Press, 1997).

37. Penn Central Transp. Co. v. City of New York, 438 U.S. 104, 137 (1978) (emphasis added).

38. The existence of these statutes may by implication serve to prevent local governments from adopting TDR programs that are not otherwise expressly enabled. Provisions that would have authorized the town of Huntersville to establish a TDR program were deleted in conference committee from House Bill 684 in the 2000 session of the General Assembly.

Private Land Trusts: Partners for Community Conservation

Charles E. Roe



COURTESY OF CONSERVATION TRUST FOR NORTH CAROLINA

The Conservation Trust for North Carolina has protected nearly 19,000 acres of land adjacent to the Blue Ridge Parkway. In one instance the Conservation Trust purchased a 47-acre tract near Boone to block subdivision and commercial development, then resold the property subject to a permanent conservation easement restricting its use to only a single home with pastures and woodlands.

Preservation of environmentally important land is fundamental to smart growth strategies that guide development and restrain sprawl. At the forefront of local community efforts to save vital green spaces and natural areas are private land trusts. This article describes the purpose of such trusts and the tools that they use to accomplish their mission.

Private land trusts are nonprofit, tax-exempt corporations supported by public membership and designed to meet the unique interests of the local communities in which they are established. Dedicated to preserving environmentally significant land areas, private land trusts work to acquire properties from willing landowners. They also use favorable federal and state tax laws (many of which they worked to enact) to encourage landowners to donate property to them or to establish permanent conservation easements (discussed under the heading "Tools Used by Land Trusts") on land that the landowners retain. Land trusts raise their operating revenues and funds for acquisition of land and easements from public and private contributions and increasingly with grants from state and local governments. The properties acquired and managed by the trusts are spared from intensive development and thus reserved for future generations.

In community after community, in North Carolina and around the country, private land trusts are ensuring that natural areas, stream corridors, wetlands, farms, woodlands, and urban open spaces are not all cleared, paved over, and buried by urban and suburban development. Across America, local and regional land trusts have protected more than 4.7 million acres. To date, the two dozen private land trusts working in North Carolina, most of which have been established in the last decade, have protected nearly 60,000 acres in 260 differ-

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ent locations throughout the state (see map below).

Local and regional land trusts concentrate their efforts on places most valued by local residents and most beneficial to local communities. The trusts, and the land they protect, are distinct from national conservation organizations, such as The Nature Conservancy (TNC), the Conservation Fund, and the Trust for Public Land. The national conservation organizations focus on preserving ecologically unique areas that often are large in size and remote in location from populated urban centers. For example, TNC in North Carolina, in partnership with state and federal agencies, has protected nearly 500,000 acres over the past twenty-five years, most of them in the coastal and mountain regions. The majority of the lands acquired by TNC and other national conservation groups working in this state have been conveyed to the government—most often as additions to the state park system, to wildlife refuges and management areas, to state and national forests, to nature preserves, and to coastal ecological reserves. Occasionally TNC retains ownership of a site of globally significant ecological resources, creating a new nature preserve.

Land Trusts and Local Governments

Because local and regional land trusts tend to focus on protecting environmental resources identified as priority areas to the people of local communities, they are increasingly forming partnerships with local governments to save critical pieces of land.

Dramatic successes accomplished by North Carolina's land trusts, often in unique private-public partnerships, include acquisitions of nature reserves, public gardens, and parks in Asheville, Charlotte, Durham, Greensboro, Raleigh, Salisbury, Southern Pines, Wilmington, Winston-Salem, and other communities across the state. Land trusts have saved farms and forests on the fringes of metropolitan areas with permanent conservation easements. They are protecting watersheds for and shorelines of public water supply reservoirs in Charlotte and Asheville, among other places. Protection plans designed by land trusts for dozens of streams and rivers in all regions of the state are beginning to be implemented through land purchases and conservation management agreements with private owners of properties along those streams. In the past three years, land trusts have received nearly $20 million in grants from the state's Clean Water Management Trust Fund to purchase land critical to the preservation and the restoration of water quality in sensitive streams and rivers. Such successes will continue as greater public funding is extended to private land trusts acting in the public interest.

A number of North Carolina cities and counties are preparing their own public funding initiatives to acquire more parks and nature reserves and to establish networks of greenway trails, frequently following watercourses and connecting parks and neighborhoods. Nationally over the last few years, the success rates for local and state ballot initiatives authorizing public spending for parks and protection of open space have been extraordinary, with the initiatives passing in more than 85 percent of 250 public referenda. Such public bond issues and funding initiatives are under consideration in many of North Carolina's urban areas.

Conservation Trust for North Carolina

The Conservation Trust for North Carolina serves as both the statewide land trust and an umbrella service center for the network of local land trusts. The Conservation Trust is sponsoring research on ways to increase public funding for conservation of land and establishment of parks and greenways. It also is seeking new funding sources to help local land trusts cover their transaction costs for conserving land and their long-term costs for monitoring and managing land.

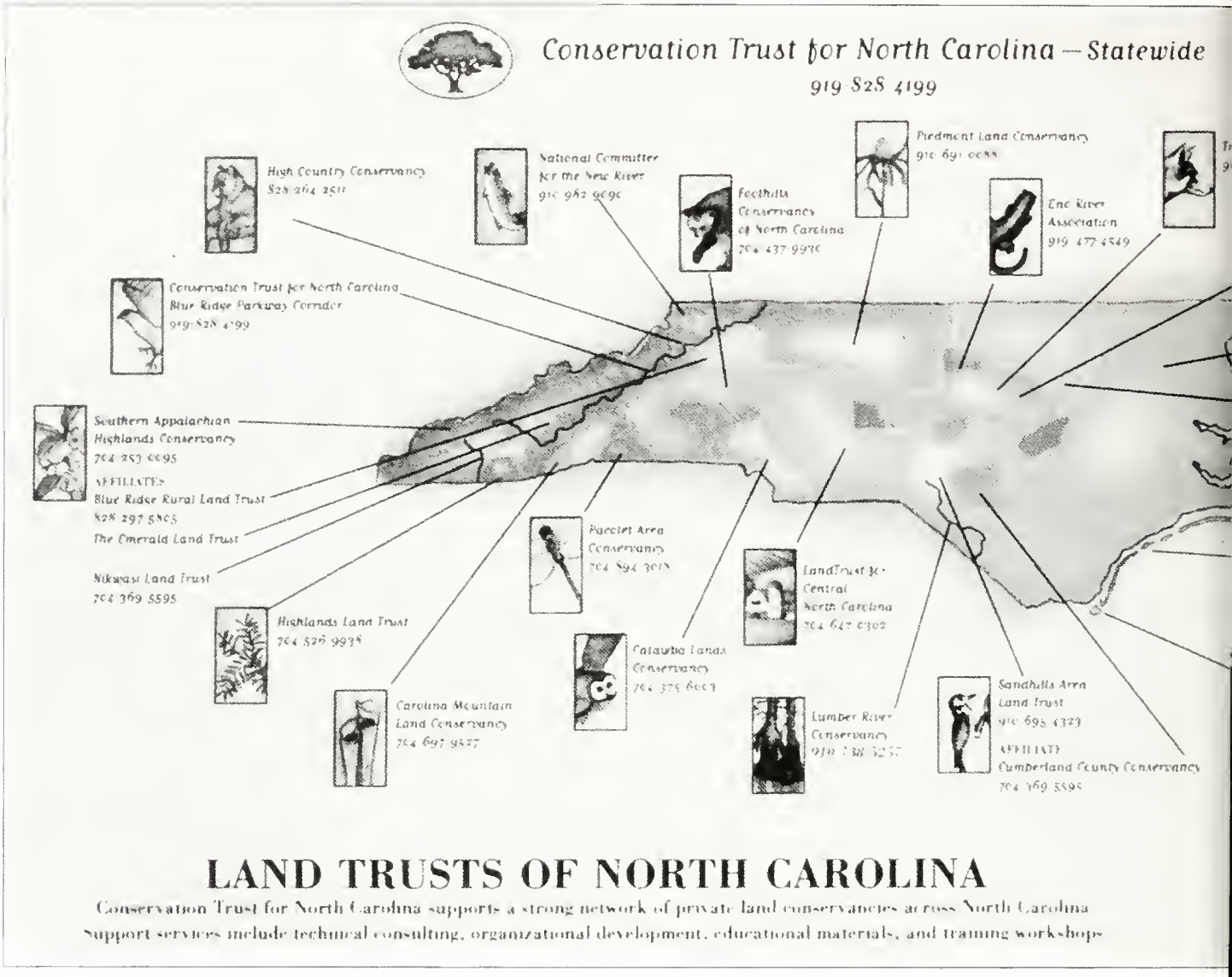
Efforts of the Conservation Trust to protect more of the natural and scenic land adjacent to the Blue Ridge Parkway demonstrate the challenges and the opportunities for land trusts in protecting sensitive land under assault by development pressures. The parkway is the state's top tourism attraction and the most visited unit of the entire national park system, but it is only a narrow ribbon of publicly owned land, averaging 800 feet wide as it meanders through a mountain landscape of forests and pastures. The beloved parkway is a victim of sprawl from uncontrolled residential and commercial development. The Conservation Trust has arranged for donations of land and conservation easements

COURTESY OF GRANT MACNICHOLS

on numerous private properties next to the parkway and in some cases has purchased critical tracts. Its land purchases in Watauga and Buncombe counties have blocked intensive development of several tracts considered highest priority to protect the parkway's natural beauty.

One of the Conservation Trust's recent land purchases along the parkway was an 80-acre mountainside parcel north of Asheville that was owned by Buncombe County but declared surplus property and offered for sale for development or conservation. The county has decided to dedicate part of the sale proceeds as seed funding for its farmland preservation and greenways programs.

Although the Conservation Trust has protected more than a dozen parcels next to the parkway, it cannot compete with development forces that are going unchecked by local government land-use



controls. Real estate prices for land adjacent to the parkway, in areas where land uses and development are virtually unregulated by local governments, have in the past few years quadrupled in market value (soaring to more than $40,000 per acre in the Boone–Blowing Rock vicinity).

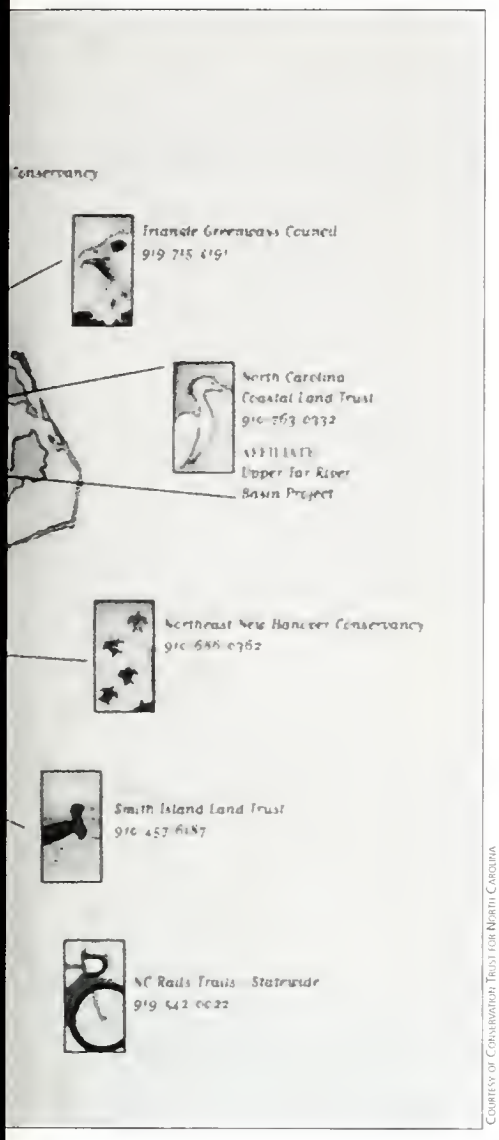
Tools Used by Land Trusts

Conservation Easements

In addition to acquiring property from willing landowners, local land trusts increasingly employ a tool that is an alternative to land ownership—the "conservation easement." This is an interest in land, granted by the owner, that significantly restricts further development and damage to natural resources, and entitles the easement holder to monitor and enforce the restrictions. More than half of the land thus far protected by North Carolina's land trusts has been saved from intensive development and natural resource destruction by deed restrictions providing for permanent conservation easements. These easements may be donated or sold by landowners to land trusts. Private landowners are encouraged to donate conservation easements by substantial inducements in the form of federal and state income tax deductions and credits, lowered estate or inheritance taxes, and sometimes reductions in local property taxes. The land restricted by the easement, which is subject to a management agreement, remains in private ownership and on the local property tax rolls, but its future uses are controlled and its property tax assessment is based on current, restricted-use rates. The use of conservation easements by private land trusts and local governments is likely to grow as landowners and their advisers become more familiar with the advantages of such easements.

Farmland and Rural Land Protection

The Conservation Trust for North Carolina and a coalition of land trusts in the more urban parts of the state are working to promote conservation of agricultural land and to protect farmlands in urban fringes and environmentally sensitive areas. The protection of the "working" rural landscape provided by productive farms and forest-based business is a major component of preserving North Carolina's rural character. In 1998 and 1999, the North Carolina General As-



Courtesy of Conservation Trust for North Carolina

sembly appropriated $250,000 and $500,000, respectively, to begin a demonstration program for farmland preservation. In 2000 the legislature appropriated $1.5 million to extend the program for a third year. The North Carolina Department of Agriculture contracted with the Conservation Trust to administer the program. Funds were used to purchase conservation easements or to pay the transaction costs for easement donations over large parts of twelve farms, mostly in urban growth areas of the Piedmont. Nonfarm development rights valued in excess of $5 million were permanently extinguished by the easements, which provide for continued uses of the land for agricultural and "silvicultural" production (tree production and harvesting of forest products). The challenge is to persuade state and local governments to establish and fund effective protection programs similar to those in several other mid-Atlantic states.[1] A minimum of $15 to $20 million in annual state funding probably is necessary to build a successful farmland protection program.

Partnerships with Private Buyers

To influence new development designs that preserve important environmental resources and green spaces, land trusts are occasionally involved in limited development partnerships. In some instances, land trusts acquire properties and subdivide them for combinations of users, with portions preserved in natural condition and portions resold for low-impact development. The Conservation Trust for North Carolina has begun a "conservation buyers" program, which matches significant properties on the real estate market with conservation-minded private buyers. Ideally, restrictive covenants and conservation easements are applied to the properties. The program is similar to ones used by preservationists of historic properties.

Public Involvement

As important as direct protection of land is another dimension that land trusts bring to efforts against sprawl—namely, thousands of supporters who are giving their time and money to improve their communities and protect important environmental resources. When people voluntarily invest themselves in protecting the places they love, they begin to understand the threats and the costs of poorly planned and uncontrolled development. They start to look less favorably on public policies that subsidize inappropriate development. They begin to support alternatives to sprawl, including spending more tax dollars to buy open space or development rights. And they start to support establishment of urban growth boundaries (see the article on page 29), redevelopment and revitalization of downtowns and inner cities, and formulation of better transportation policies. Land trusts, which have attracted broad-based public support, help show communities how to work together and create healthy and attractive places in which to live and work.

Conclusion

Private land trusts are keys for North Carolina to "grow greener." Most of North Carolina's land trusts are still relatively young—the two dozen land trusts are on average less than ten years old—but their accomplishments already are impressive and their record of land protection is steadily rising. As the national conservation organizations successfully protect large-scale natural areas and critically endangered species, usually in public parks and wildlife refuges, the local and regional land trusts protect smaller areas of great community interest and conserve land that will remain in private hands.

These land trusts are vital components of smart growth strategies. They are busily at work saving land while public programs and processes are being devised to prevent uncontrolled development and promote conservation of natural resources. The trusts are critical partners for communities and public agencies that choose the route to smarter and greener growth patterns, for they protect the land that North Carolinians most love, and save the state's places of natural beauty and environmental well-being.[2]

For more information about land trusts, the Conservation Trust for North Carolina, or land conservation methods and programs, visit http://www.ctnc.org or http://www.lta.org, or write to the Conservation Trust, P.O. Box 33333, Raleigh, NC 27636-3333. The Web sites provide a link to the local and regional land trusts operating in North Carolina.

Notes

1. See the American Farmland Trust's Web site, http://www.farmland.org, for a listing of state and local programs that protect productive farm and forest lands. The best-funded state programs in the nation are those of Connecticut, Delaware, Maryland, New Jersey, and Pennsylvania.

2. For more information about land trusts and other conservation efforts, *see* Charles E. Roe, *Private Initiatives in Land Conservation: A Grassroots Movement*, Popular Government, Winter 1993, at 2; Charles E. Roe, *Strategies for Protecting North Carolina's Natural Areas*, Popular Government, Winter 1986, at 15; and Chris Powell, *Common Ground*, Wildlife in North Carolina (published by the N.C. Wildlife Resources Comm'n), July 1998, at 8.

The Environmental Consequences of Growth

Michael Shore

HARRY LYNCH / THE NEWS AND OBSERVER

As you arrive from the South through Cape Hatteras National Seashore Park, you see nothing but sand and surf and sea bats and water birds in great profusion, and your impression is of "the Goodliest Land Under the Cope of Heaven." If you arrive from the North, through Kitty Hawk and Nags Head, which is the way most people arrive, you pass through a clutter of clapboard and a forest of billboards . . . and a chaos of hot dog stands and T-shirt shops and strip malls and amusement parks. These two environments collide at the Mobil Station at Whalebone Junction. North of the gas station, nothing but scenic discord, which depresses people. South of it, all natural harmony, which elevates people. I think of that Mobil Station as the fulcrum upon which is balanced the worst nightmare and the best hope of all of us. . . .

—*Charles Kuralt*[1]

Just as bees are attracted to the most vibrant flowers, the mobile citizens of the United States migrate to communities with vibrant economies. North Carolina's strong economy has contributed to an increase in the state's population of 16.6 percent over the last decade. Further, the state is expected to grow by approximately 200,000 people per year through 2020.[2]

New residents create a demand for more housing, more roads, and more goods and services. Although a strong economy is vital to the quality of life in North Carolina, unplanned and unfettered growth can undermine the foundations of a healthy environment. A damaged environment will, in turn, harm economic growth. As the Roman Marcus Aurelius said in the *Meditations* nearly 2,000 years ago, "That which is

not good for the beehive cannot be good for the bees."

In one way or another, almost all human-induced environmental problems can be traced to population growth. The environmental consequences of an expanding population can be minimized, however, if North Carolina grows smart. This article outlines the specific consequences of growth for North Carolina in terms of impacts on the water, the air, and the earth of this "Goodliest Land." Because the consequences of unplanned growth often go well beyond its direct impacts, the article also explores cumulative and secondary impacts. Finally, it briefly introduces an alternative approach to growth that is more environmentally friendly than current patterns.

Direct Consequences of Growth

Data indicate that North Carolina currently is on an unsustainable path. Many environmental trends show that North Carolinians' use of natural resources is outstripping the capacity of the environment to sustain them. As Governor James B. Hunt observed in 1998,

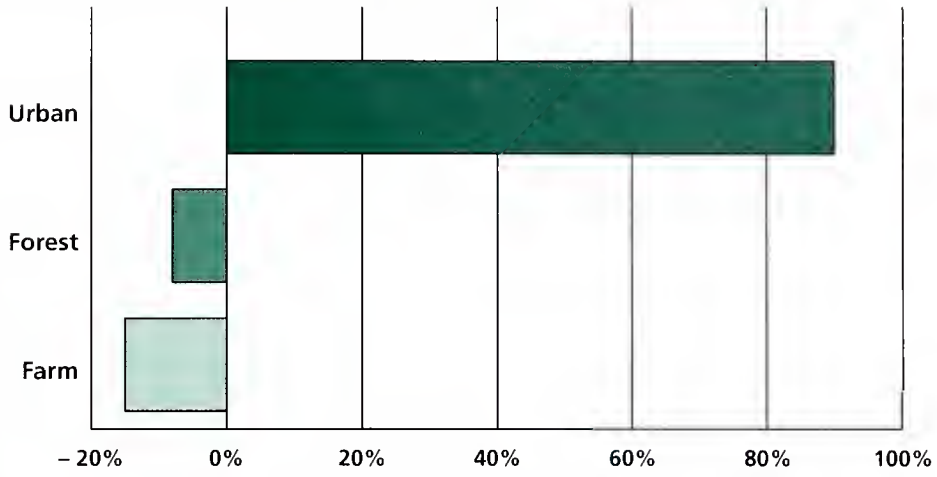
> *Over the centuries of human progress, we came to think of Earth merely as a giant storehouse of raw material and the ultimate disposal site. And only now, at the close of this millennium, are we coming to realize that this thinking was a vast oversimplification of people's relationship to the environment.*[3]

The environmental consequences of unmanaged growth include the following:

- Loss of open space and biodiversity
- Depletion of water resources
- Degradation of air quality
- Degradation of water quality
- Increased generation of waste

At the time he wrote this article, the author was senior policy analyst for the North Carolina Department of Environment and Natural Resources. Currently he heads the Southeast Air Quality Initiative for Environmental Defense, a nonprofit organization in Raleigh. Contact him at mshore@environmentaldefense.org.

Figure 1. **Percent Change in North Carolina Land Use, 1982–97**



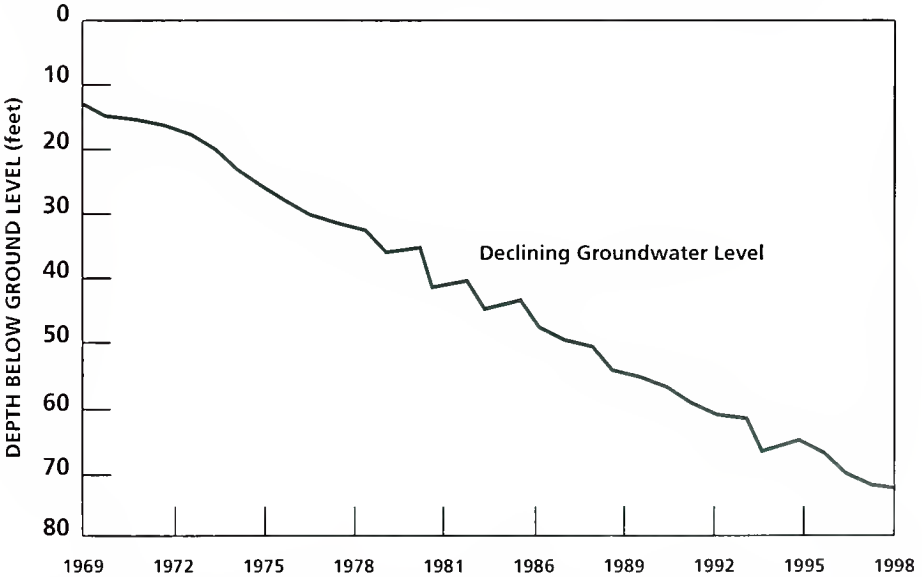
Source: Iowa State Univ. Statistical Lab., For U.S. Dep't of Agric., Natural Resource Conservation Serv., Natural Resources Inventory (Washington, D.C.: NRCS, Dec. 1999).

Loss of Open Space and Biodiversity

Loss of open space or undeveloped land is a direct and obvious consequence of poorly planned growth. Urban areas, including sprawling developments, are increasing at the expense of farmland and forests (see Figure 1). Development encroaches on "riparian buffers" (the zones of vegetation adjacent to rivers and lakes that protect water quality). It reduces the quantity of natural areas and forests. It threatens wildlife habitats and "biodiversity" (the array of plant and animal species that make up a healthy ecosystem). And it reduces North Carolina's capacity to provide the outdoor recreational opportunities required by an expanding population.

North Carolina is the fifth-fastest urbanizing state in the nation. Currently, 14.7 percent of its land area has been developed, compared with 10.2 percent only ten years ago.[4] At this rate, 37.2 percent will be urbanized by 2050. Only 8.6 percent of the state's land area is currently set aside as permanent open space.[5]

Figure 2. **Rate of Depletion of the Black Creek Aquifer, 1969–98**



Source: North Carolina Dep't of Env't and Natural Resources, Div. of Water Resources, DENR Monitoring Well Database, as measured at the Wilmar Monitoring Station, Black Creek Aquifer, well #P21K9 (as of July 26, 2000), available on the Internet at http://dwr32.ehnr.state.nc.us/cgibin/foxweb.exe/c:/foxweb/leveltab.

More than 50 percent of North Carolina's Significant Natural Heritage Areas (places that include plants and animals so rare that they merit special consideration as land-use decisions are made) remain unprotected from development.[6]

Depletion of Water Resources

Increased use of water is another consequence of more people. North Carolinians can no longer assume that their water supply is adequate. For example, "aquifers" (underground layers of water that serve as sources of drinking water) are being depleted in eastern North Carolina. The Black Creek Aquifer, a huge reservoir underneath more than fifteen coastal counties, supplies water to communities such as Greenville, Jacksonville, Kinston, and New Bern. The rapid pace of growth on the coast is surpassing the Black Creek Aquifer's ability to recharge itself naturally (for a graphic representation of the consistent and rapid decline of this aquifer, see Figure 2, page 47). Once areas of an aquifer are depleted, the geological structure becomes compacted and permanently loses its ability to hold groundwater.

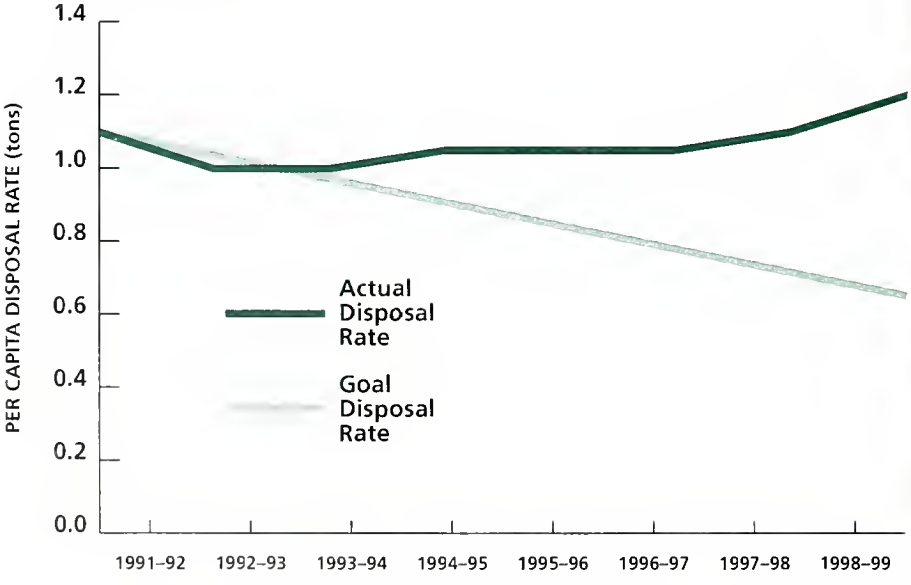
Droughts, combined with increased population, have forced other communities, such as Asheville and Greensboro, to restrict water use. The swell of growth in Cary compelled that community to put a moratorium on new development in 1999 because of limited water resources.

Degradation of Air Quality

The miles that North Carolinians travel in their automobiles and the electricity that they consume are increasing at even faster rates than the state's population.[7] Currently, both automobile travel and energy consumption depend largely on the combustion of fossil fuels. These fuels are the source of most of North Carolina's air quality problems, including ground-level ozone pollution (smog). For example, of the thirty-two counties monitored for ozone pollution, twenty-four are not in compliance with North Carolina standards, posing public health risks to all residents, especially children, older people, and people with asthma. In 1998 the North Carolina Division of Air Quality began forecasting ozone pollution to inform the public when the air quality is good to moderate (Codes Green and Yellow), unhealthy for sensitive groups (Code Orange), unhealthy (Code Red), and very unhealthy (Code Purple). The number of unhealthy days (Codes Orange, Red, and Purple) doubled from the early 1990s to 1999.[8]

Visibility is reduced as well. For example, officials in Great Smoky Moun-

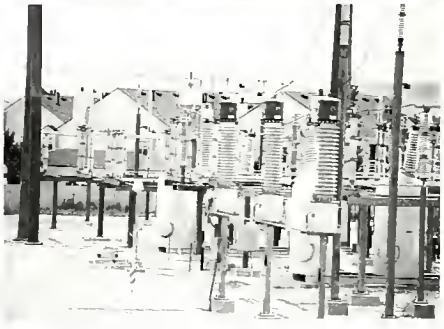
Figure 3. **Rates of Solid Waste Generation, 1991–92 through 1998–99**



Source: North Carolina Dep't of Env't and Natural Resources, North Carolina Solid Waste Management Annual Report, July 1, 1998–June 30, 1999 (Raleigh: NCDENR, Mar. 2000).

Brad Smith / The News and Observer

The News and Observer



Top to bottom: Congestion on Capital Boulevard north of Raleigh's beltline; a fish kill on the lower Neuse River; industrial smokestacks; power grids, companions to development.

BELOW: JOHN D. SIMMONS / THE CHARLOTTE OBSERVER, JEFF KEITH GREENE / THE NEWS AND OBSERVER

Stormwater runoff caused by the construction of a residential development.

tains National Park estimate that pristine visibility should be approximately 60 miles in the summertime. Today, average summertime visibility is only 15 miles.

Greater energy consumption and automobile usage worldwide also increase carbon dioxide and other greenhouse gases. The resulting global warming threatens North Carolina in ways that scientists are just beginning to understand, from a rise in the sea level and coastal flooding to reduction in crop yields. The average temperature in North Carolina has increased 1.5 degrees Fahrenheit over the last century, and it is expected to rise another 3 degrees by 2100.[9]

Degradation of Water Quality

The development that often accompanies growth also damages water quality through increased "sedimentation" (depositing of eroded soil in rivers and lakes), encroachment on riparian buffers and wetlands, and increased runoff pollution from impervious surfaces such as roads. For example, 34 percent of North Carolina's coastal wetlands have been altered in some way and no longer fulfill their natural function to filter runoff and protect water quality. Because wetlands act as a sponge, the draining of wetlands for development contributes to the extent of flooding after a disaster such as Hurricane Floyd.[10]

The health of waters inhabited by shellfish is an indicator of water quality on the coast. Currently, 17 percent of all shellfish waters are closed to harvesting, primarily because of high levels of pollutants. The vast majority of the pollution affecting shellfish can be attributed to sedimentation and runoff from impervious surfaces such as roads, and from increased development.[11]

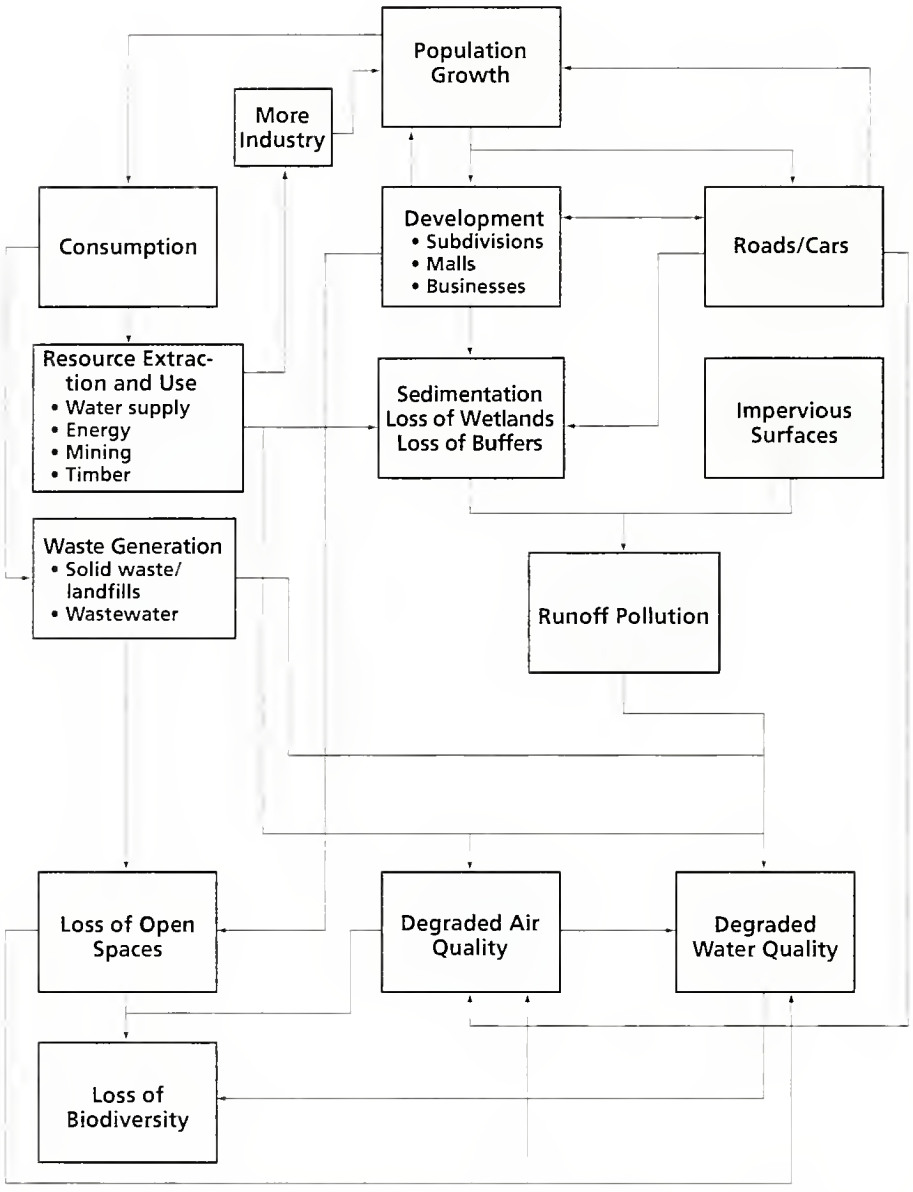
Increased Generation of Waste

More people generate more waste. Wastewater treatment facilities and landfills in North Carolina are processing greater amounts of waste than ever before. For example, in 1999, North Carolina generated over 9.2 million tons of garbage, up 29 percent from 1990.[12] Even though recycling has increased significantly on a per capita basis in North Carolina, the sprawling developments, the high levels of construction waste, and the high rates of consumption will keep North Carolina from meeting its goals of reducing waste by 40 percent by 2001. In fact, waste generation is headed in the wrong direction (see Figure 3).

Cumulative and Secondary Impacts

More people leads to more development, which in turn attracts more people and leads to more development. The environment can be the victim of this relentless cycle, particularly if growth is poorly planned. The consequences of new developments or roads often go

Figure 4. **A Partial Inventory of the Secondary Impacts of Population Growth**



beyond the direct and immediate environmental impacts, to cumulative and secondary impacts.

"Cumulative impacts" are the incremental effects of activities when they are added to other past, present, and future impacts on the environment. For example, if a community builds a wastewater treatment plant, the cumulative impacts would be the combined effect on water quality of the new discharges plus the discharges from all the existing sources that affect a water body such as a river. Even when the environmental impacts of a single project, such as a wastewater treatment plant, are not notable, the cumulative impacts of many projects may pose considerable threats to the environment.

"Secondary impacts" are the impacts of an activity that occur later in time or are more removed in distance. For example, a new or expanded road may directly result in runoff or loss of open space, but it also may lead to more subdivisions, shopping malls, and traffic, each of which may harm air and water quality. (For some common secondary impacts of growth, see Figure 4, which shows the causal relationships—direct and indirect—between human actions and environmental impacts.)

A Smart Growth Approach for North Carolina

Ralph Waldo Emerson said in the *Conduct of Life*, "We learn geology the morning after the earthquake." Clearly, North Carolinians have felt the tremors of sprawl. Fortunately an earthquake is not inevitable. North Carolina can take a number of steps to reverse current environmental trends, such as tightening emission standards for cars and power plants; conserving additional land as permanent open space; enforcing regulations to reduce stormwater pollution; and limiting development in wetlands, riparian buffers, and the 100-year floodplain.

But all these efforts will be like Sisyphus eternally pushing the boulder uphill if society is unable to tackle the root cause of environmental problems: rapid and unplanned growth. To create a sustainable future, growth must be based on a common vision, and the tools that a community uses to grow must support this vision.

For many communities, growth is desirable or at least inevitable. To develop a common vision, communities and regions of the state must determine what they need and want from growth. In other words, they must decide (1) how to grow in a way that will enhance quality of life and (2) what they want their community or region to look like twenty or fifty years from now. A common vision for a community might include a vibrant downtown, abundant parks, widely available bike paths and footpaths, and a sufficient industrial tax base to help support local government services. An element that must be present in all common visions, however, is growth occurring in a way that protects, and even enhances, the quality of the environment.[13]

Tools that shape growth must be employed to support the determined purpose. Conventional approaches to growth must be modified to be more protective of the environment (see Table 1).

All economic activity occurs within the confines of the environment. The environment provides the resources to power industries and build homes, and it provides an outlet for absorption of wastes. North Carolina's actual carrying

Table 1. **Issues That Influence Growth**

Issues	Conventional Growth Approach	Environmental and Smart Growth Approach
Transportation	Focus on automobile	Consumer choice among automobiles, mass transit, and other options
Planning	Sporadic land-use planning	Widespread, integrated land-use, transportation, and air quality planning
Density	Sprawl outward	Denser, mixed-use developments
Industrial Recruitment	Environment considered only after site selection	Environmental issues integral in process of site selection; brownfields emphasized*
Conservation of Open Space	Land conservation not emphasized	Permanent conservation of some open spaces
Energy Use	Population and energy use growing in tandem	Conservation and alternative energy sources emphasized
Authority	Responsibility for growth lying with local government only	Responsibility for growth lying with partnership among local government, state government, business, citizens, and others
Tax Policy	Taxes often favoring or even subsidizing population growth	Taxes creating incentives for smart growth and disincentives for unplanned growth

*See Richard Whisnant, *Brownfields in a Green State*, POPULAR GOVERNMENT, Winter 1999, at 2 (discussing efforts to reuse abandoned, idle, or underused properties that have been contaminated in the past by hazardous substances).

capacity for the human population may never be known, but it is known that every additional person consumes resources and produces wastes. To minimize the impact of growth on the environment, North Carolina must grow smart.

As Charles Kuralt's words at the beginning of this article remind readers, North Carolina is at a junction. If it fails to grow smart, the environmental damage caused by additional people will undermine the state's quality of life and economic vitality.

Notes

1. *Kuralt: A Look Homeward* [excerpts from "North Carolina Is My Home," by Charles Kuralt and Loonis McGlohon], CHARLOTTE OBSERVER, July 5, 1997, at 17A.

2. North Carolina Office of State Planning, State Demographics (as of June 13, 2000), available at http://www.ospl.state.nc.us/.

3. Governor James B. Hunt, Speech at the North Carolina Emerging Issues Forum (Feb. 26, 1998).

4. United States Dep't of Agriculture, Natural Resource Conservation Serv., 1997 Natural Resources Inventory, Acreage and Percentage of Non-Federal Land Developed (as of June 28, 2000), available at http://www.nhq.nrcs.usda.gov/CCS/pcntnon.html.

5. North Carolina Center for Geographic Information and Analysis, Farmland and Open Space Preservation in North Carolina, handout at presentation (Mar. 10, 2000).

6. North Carolina Natural Heritage Program, Protection Actions (as of July 26, 2000), available at http://ils.unc.edu/parkproject/nhp/index.html.

7. North Carolina Dep't of Env't and Natural Resources, Div. of Air Quality, Presentation to the N.C. Envtl. Management Comm'n (Feb. 9, 2000). See also Figure 1, page 54.

8. Telephone conversation with Sheila Holman, Chief for Attainment Planning, Div. of Air Quality, N.C. Dep't of Env't and Natural Resources (June 19, 2000). *See also* Governor Hunt's Clean Air Plan for North Carolina (as of January 14, 2000), available at http://daq.state.nc.us/News/.

9. UNITED STATES ENVTL. PROTECTION AGENCY, OFFICE OF POLICY, CLIMATE CHANGE AND NORTH CAROLINA, EPA DOC. NO. 236-F-98-007Q (Washington, D.C.: USEPA, Sept. 1998).

10. Curtis Richardson, *Hurricane's Devastation Teaches Some Lessons*, WETLAND WIRE (newsletter of Duke Univ., Nicholas School of the Environment, Wetland Center), Autumn 1999, at 1.

11. Telephone conversation with George Gilbert, Section Chief, Shellfish Sanitation Program, Div. of Envtl. Health, N.C. Dep't of Env't and Natural Resources (May 31, 2000).

12. NORTH CAROLINA DEP'T OF ENV'T AND NATURAL RESOURCES, NORTH CAROLINA SOLID WASTE MANAGEMENT ANNUAL REPORT, JULY 1, 1998–JUNE 30, 1999 (Raleigh: NCDENR, Mar. 2000).

13. The smart growth principles developed by the Triangle Smart Growth Coalition (available at http://www.mindspring.com/~tsgc/) represent an expression of a common vision.

Growing Smart about Transportation

Janet D'Ignazio

North Carolina Department of Transportation

Durham County Road Commission

Ortega Gaines / The Charlotte Observer

Sprawl is emerging as the hot topic for political debate. Relentless development eating up acres of open space, hour-long commutes in bumper-to-bumper traffic, permanent water restrictions, and air that is brown with pollution—all these aspects of sprawl are vivid and easy for politicians and policy makers to communicate to the public. Voters see the problem; now they want solutions. This article explores solutions from the perspective of transportation planning.

There are no easy solutions, of course. From 1995 to 2007, North Carolina's vehicle miles traveled (VMT) is projected to grow about 43 percent. This is about two and a half times faster than the growth in population (see Figure 1, page 54). That trend is enough to make any transportation planner lose sleep because it translates into a huge demand for more transportation investments.

There are many explanations for this trend: a booming economy that permits ownership of more cars, few high-quality alternatives to driving a car, women joining the workforce in record numbers, and sprawling automobile-oriented patterns of land development. But for transportation planners, the reasons are not the issue; the solutions are.

Transportation planners are charged with the responsibility of finding ways to deal with this incredible growth in VMT. More road capacity is part of the solution, but for several reasons it cannot be the only solution. First, roads are a huge public investment. On the average, widening a two-lane road to four lanes on the North Carolina intrastate system costs $5.4 million per mile, and building an outer loop around one of North Carolina's major metropolitan areas costs $20.9 million per mile.

Second, planning and building roads takes much longer than planning and building new residential or commercial developments. In North Carolina, planning, environmental review, and design of "new alignment roads" (new roads built where no road exists) can take as long as twelve years. In the private sector, planning and building new developments takes only a fraction of that time. As a result, development quickly outpaces the transportation improvements needed to support it.

Third, adding road capacity does not seem to eliminate congestion. This is the classic transportation planning debate: Does the road cause the development, or does the development cause the road? When an area has a viable economy, roads and development are closely intertwined, and more of either results in more of both. Because adding roads cannot keep pace with new development, the result is traffic congestion.

Fourth, like any new infrastructure, roads have a negative impact on the environment. Although every proposed road goes through an environmental review process that is designed to balance the need for the road against impacts on the environment and the community, in the end the natural and built landscapes are forever altered by the road.

In summary, just building more roads cannot meet the increasing demand for travel represented by the growth in VMT.

Smart Growth as a Potential Solution

Many transportation planners recognize that smart growth has the potential to help them meet their mission in a new way—by affecting the demand side of travel, rather than the supply side. Smart growth provides a vision for a community's future that must be accomplished by integrating transportation and land-use planning. Over time, a smart growth vision can fundamentally alter the travel patterns in ways that will reduce VMT.

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BELOW: CHRIS DOANE / THE CHARLOTTE OBSERVER, LEFT; N.C. DEPARTMENT OF TRANSPORTATION, DIVISION OF BICYCLE AND PEDESTRIAN TRANSPORTATION

Opposite, left to right: a crowded train station in Greensboro, N.C.; a traffic circle in Okemos, Mich.; a bus transporting a passenger's bike. Above: bikers on the open road.

A smart growth vision can be found in the conceptual definition of smart growth—to *direct* development in ways that preserve and enhance an area's or a city's *livability* and *natural resources* while providing for *economic prosperity*. The critical words in this definition are emphasized. Smart growth is proactive rather than reactive. It is a thoughtful choice about where and when development will occur, and what type of development it will be. Smart growth is balanced, including quality of life, economic growth, community-defined livability, and protection of the natural environment.

Local Efforts

This deceptively simple vision can be implemented only through a complex process of thoughtful, continuous, comprehensive, and integrated decision making that is based on the commitment and the values of the residents of a community. The decisions to be made address nearly every aspect of community planning and implementation, including planning for future transportation. Smart growth is not a quick solution, and it cannot be simply a political agenda. The cumulative decisions will not have a visible impact on the community for years. Therefore the vision must come from the residents of the community through a broad-based process of public involvement. Once the vision is in place, it must be implemented by elected officials through myriad day-to-day decisions about development.

When a community accepts smart growth as its vision for the future, it needs a set of working principles to govern its plans, policies, and practices. An example appears in *A Smart Growth Audit for Charlotte–Mecklenburg County*, recently published by the Charlotte-Mecklenburg Planning Commission and based in part on smart growth principles from the American Planning Association and the National Association of Home Builders. The principles identified by the commission (see page 55) recognize the importance of comprehensive and integrated planning to smart growth. Infrastructure is one of the key categories, and a balanced, multimodal transportation system (that is, a system balanced among several modes of transportation) is specifically highlighted. These principles point to the need to integrate land-use, transportation, and infrastructure decisions.

The Charlotte–Mecklenburg County audit also details some characteristics that reinforce integrated decision making and demonstrate its importance to smart growth:

- Consistency between infrastructure and land-use plans
- Implementation of compact and infill development strategies
- Street-design standards that promote and support the use of transit, walking, and biking
- Reduction of parking availability
- Coordinated implementation of land-use and transportation decisions

Decisions reflecting these characteristics can either reduce the need to travel or support the implementation of viable alternatives to the car, both of which can reduce VMT. For Charlotte–Mecklenburg County, these principles and the detailed characteristics and indicators provide a decision-making framework within which each decision can be evaluated for its consistency with the community's smart growth vision.

Although the Charlorte–Mecklenburg County audit provides an array of strategies and tools, the same set might not be appropriate or acceptable in a different setting. When a community chooses smart growth as its vision, there are many tools that it can use to develop a supportive transportarion system. A guide recently published by the North Carolina Department of Transportation (NCDOT) highlights a broad range of tools and techniques that can create less automobile-dependent communities.[1] The guide is divided into four categories of tools:

- Policy tools to promote integrated, comprehensive planning
- Land-use tools to increase densities and mix of use
- Site- and building-design tools to provide convenient, continuous, and direct connections for travel by other means than car
- Transit-facility design tools to address the placement of facilities and the amenities for transit access

The guide includes nearly fifty specific actions to help implement a transportation system that supports a smart growth vision.

State Efforts

The Charlotte–Mecklenburg County model and the tools outlined in the NCDOT guide described earlier are examples of smart growth implementarion that is locally driven. However, a local commitment ro smart growth is not enough. In every state, the state government makes or heavily influences major infrastructure investments that shape the community. This is particularly true of transportation, an area in which vast amounts of federal aid to build roads is spent by, or funneled through, state departments of transportarion. This substantial infrastructure investment is driving many governors and state legislators to push smart growth from the state level through legislation that mandates or strongly encourages communities to implement land-use patterns more consistent with smart growth principles.

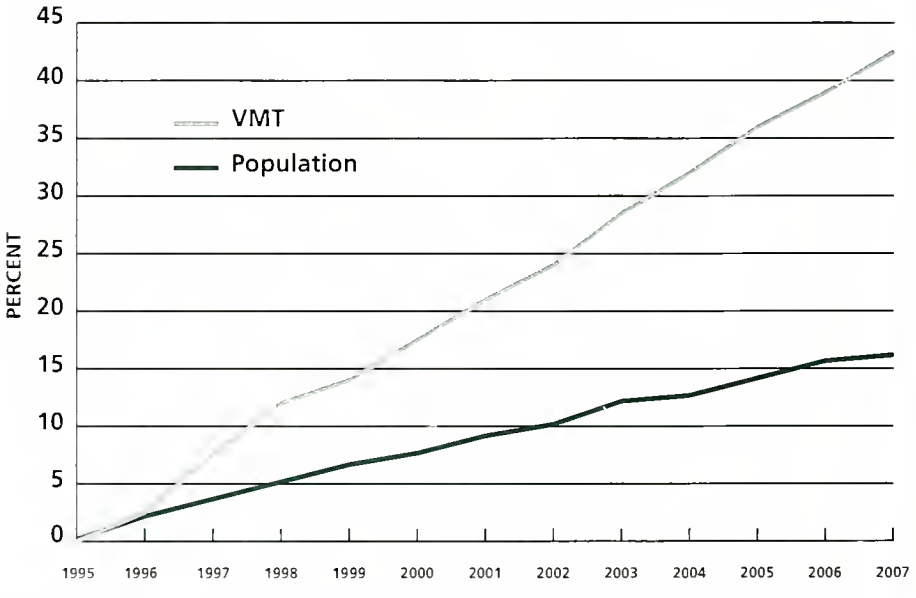
As of April 1999, twelve states had growth management legislation in place. Several others had legislation in place that requires components of growth management, such as encouraging development of local land-use plans. North Carolina has recognized that VMT must be addressed. Although the state has not passed growth management legislation, it has established a goal for reduction in growth of VMT that helps establish a rationale, or case for change, for future legislation. The goal reads as follows: "It shall be the goal of the state to reduce the growth of vehicle miles traveled in the State by at least twenty-five percent (25%) of that growth that would otherwise occur by 1 July 2009."[2]

Transportation is a component of most states' growth management legislation. (For a discussion of statewide planning efforts, see the article on page 12). Georgia's legislation is by far the strongest in terms of transportation planning because it gives the state, through the newly formed Georgia Regional Transportation Authority (GRTA), control over regional transportation and land-use decisions. Although the legislation is statewide in scope, it applies only to the Atlanta region now and for the foreseeable future. In Georgia, growth management legislation was prompted by the complete shutdown of the Atlanta region's $1 billion road construction program because of air quality problems. A recent article described the sweeping authority of the GRTA as follows:

> *GRTA can tell the state transportation department not to build a highway. It can tell a county not to allow a new shopping mall inside its borders. If it wants to, GRTA can build and operate a mass transit system in any of the jurisdictions surrounding Atlanta. It can then force those jurisdictions to pay for it by threatening to take their state funds away.*[3]

The entire board of GRTA is appointed by, and serves at the pleasure of, the governor. The direct authority this gives the state over both land-use and transportation decisions provides the strongest and most direct connection between land-use and transportation implementation. Money from federal transportation programs is again available to Atlanta, although the projects and the programs that the GRTA is implementing are substantially different from those that were in place before the air quality crisis. GRTA, the U.S. Department of Transportation, and the U.S. Environmental Protection Agency are counting

Figure 1. **Actual and Projected Growth in Vehicle Miles Traveled (VMT) and Population, North Carolina, 1995–2007**



Source: North Carolina Dep't of Env't and Natural Resources, Div. of Air Quality, Presentation to the N.C. Envtl. Management Comm'n (Feb. 9, 2000).

on this integration of land use and transportation to reduce VMT in Atlanta.

Coalition Building

Smart growth sounds so much like apple pie and motherhood that few, if any, would oppose it. Who can possibly be for dumb growth? However, many of the underlying principles and tools, such as urban growth boundaries and adequate public facilities ordinances (discussed in more detail in the article on page 29), can be highly controversial and difficult for elected officials to champion. Critical to the success of implementing a smart growth vision is coalition building.

Interestingly, some members of the business community have become strong advocates of both local and state smart growth strategies. Business leaders are an important voice in any community, one to which virtually all elected officials listen. On the basis of recent events in Atlanta and Charlotte, it appears that the business community plays at least two critical roles in implementation of smart growth. First, it is an important and usually powerful constituency that can help communicate the smart growth vision and provide elected officials with critical support to implement difficult or controversial policies and legislation. Second, political boundaries are frequently irrelevant to the business community. It can push elected officials to cooperate for more effective implementation of a smart growth vision.

Charlotte–Mecklenburg County's vision and the business community's role in providing political support came together when the region's Chamber of Commerce actively participated in and strongly endorsed the adoption of a comprehensive land-use plan and a companion transportation plan. Based on the smart growth vision, these integrated plans reflect the principle of densely developed transit corridors (that is, channeling of development along transit corridors).

With strong support from the Chamber of Commerce, this vision was put to the political test with a sales tax referendum in November 1998. By a large majority, the voters approved a half-cent sales tax in the city and the county to implement the public transportation portions of the transportation plan. This tax currently raises more than $50 million a year for public transportation in Charlotte–Mecklenburg County, and the area has begun to implement the land-use changes needed to make mixed-use, more densely developed transit corridors a reality.

The most valuable contribution of the business community may lie in its recognition that the quality of life in an urban area is tied to regional success, not individual city or county success. In most urban areas, regional partnerships across local community boundaries are a critical element in smart growth's having an impact on the growing need for transportation. Neighboring communities frequently have traditional relationships based on competition rather than cooperation. This competition and need for local control generally will lead to a dysfunctional transportation system in which major regional roads will have "bottlenecks" (locations along a road corridor where the traffic regularly slows or stops because of adjacent land use or some characteristic of the road such as a reduction in the number of lanes) and local communities will push for more road widening. Likewise in public transportation, transit services are haphazardly implemented or have inconsistent service levels based on individual communities' commitment to transportation alternatives. A single community can implement all the principles of smart growth within its boundaries and see little impact on traffic congestion if all the surrounding jurisdictions follow a conventional automobile-dominated transportation strategy.

Charlotte's Smart Growth Audit Principles

Charlotte commissioned an audit of its growth management programs in light of smart growth principles. The audit team developed the following principles by combining elements from statements on smart growth by the American Planning Association (APA) and the National Association of Home Builders (NAHB), and adding two principles of its own.[1] The team's report acknowledges the differences in the APA and NAHB perspectives. The planners seek compact urban patterns, revitalization, infill, and less dependence on automobiles. The homebuilders want to avoid a shortage of developable land, unfair development costs, and limits to providing the type of housing that homebuyers desire. Nevertheless, sufficient overlap exists to make possible a merged set of principles.[2]

Planning Capacity and Quality

- Anticipation of and provision for development and growth
- A long-term comprehensive plan, with adequate land supply

Urban Form

- Compact development (that is, development that occupies a small volume by reason of efficient use of space—as opposed to sprawl)
- Protection of natural resources
- Substantial public open space
- Infill development
- Variety of housing
- Mixed-use, walkable neighborhoods

Infrastructure

- Balanced, multimodal transportation (that is, transportation balanced among several modes, instead of a single focus on highways and autos)
- Maximization of existing infrastructure
- Timely provision and fair funding of new infrastructure

Supportive Decision-Making Process for Development

- Reasonable, predictable, and efficient plan review
- Supportive fiscal policies
- Integration of land-use, transportation, and infrastructure decisions

Notes

1. Uri Avin & David Holden, *Does Your Growth Smart?* Planning, Jan. 2000, at 26.

2. The principles are adapted from LDR International, Inc., for Charlotte-Mecklenburg Planning Comm'n, A Smart Growth Audit for Charlotte–Mecklenburg County 7 (Charlotte, N.C.: the Commission, 1999).

CHRIS STEWART / THE NEWS AND OBSERVER

At a busy intersection in Raleigh, construction and rush hour traffic collide.

In both Atlanta and Charlotte, the business communities have been among the first to recognize that successful implementation of smart growth requires a regional perspective. In Atlanta the business community, not the local communities that make up the Atlanta region, became the key political constituency for the regional perspective needed to implement GRTA. The Metro Atlanta Chamber of Commerce helped lobby for the legislation when it was introduced. The president of the Chamber of Commerce, Sam Williams, stated, "We've been over there lobbying like hell. . . . We've called in every favor there was to call in. It's the most critical issue for the survival of metropolitan Atlanta. We can slip off to sprawl and mall and L.A., or we can move up to a higher level."[4]

One of the major reasons for Atlanta's air quality crisis was a lack of consensus on a mulrimodal regional transportation system. Attempts to develop a consensus failed as critical counties and communities refused to implement any type of transit strategy. Without a consensus, Atlanta and the Georgia Department of Transportation were trying to build roads to handle the exploding growth. Eventually the air quality problems associated with this single solurion led to the shutdown of the road-building program.

With its integrated land-use and transportation plan and the associated transit tax to support implementation, Charlotte–Mecklenburg County is trying to avoid a shutdown like Atlanta's. Inside its own borders, Charlotte can implement transportation and land-use decisions that reflect smart growth principles, but the communities surrounding Charlotte all are experiencing explosive growth, with much of the traffic focused on Charlotte's major employment areas. Transportation decisions in the region must be made on the basis of regional traffic patterns and needs if the area is to avoid the experience of Atlanta.

In Greater Charlotte, political leaders are keenly aware of the Atlanta experience but still are struggling with regional planning and implementation. There are currently three "regional" transportation planning agencies in the area. Local elected officials make up their policy boards. All three, to varying degrees, opposed recently proposed legislation that would have required their consolidation into a single regional transportation planning organization. In part their opposition was based on fear that their communities would lose local control over transportation decisions. Acknowledging that they need to coordinate their plans, they have formed an organization to discuss regional transportation issues, but it does not have the authority to issue binding decisions.

On the other hand, the Chambers of Commerce for ten counties in the region, including two in South Carolina, have developed a strong business-based coalition. The coalition recognizes that bright prospects for the area lie in planning and implementing its future as a single region. These business leaders supported the consolidation legislation and lobbied strongly for substitute legislation that passed in June 2000. This legislation, which applies across North Carolina, mandates the development of regional transportation strategies, although it does not require actual consolidation of the current metropolitan planning organizations.[5]

Conclusion

Smart growth is a long-term strategy to help communities balance their desire for economic growth with their desire to maintain quality of life. Smart growth can help with the exploding growth in VMT. Simply building more roads will not eliminate, or even reduce, traffic congestion. Rather, transportation planning today is a complex set of interactions and partnerships having as one of its principal aims the integration of land-use and transportation decisions. This complex planning process depends on local vision, regional coordination, and state responsibility, and it can be managed over the long term only if there is consensus and public support, including support and leadership from the business community. All this sounds tough, but managing it is transportation planners' best hope for peaceful sleep.

Notes

1. Holiday Collins & Laurence Lewis, The Land Use and Transit Connection: Building Livable and Sustainable Communities in North Carolina, Report 2—Tools and Experiences from Other Communities (Raleigh: N.C. Dep't of Transp., 1999).

2. The Ambient Air Quality Improvement Act of 1999, S.L. 1999-328.

3. Alan Ehrenhalt, *The Czar of Gridlock*, Governing, May 1999, at 20.

4. Ehrenhalt, *Czar of Gridlock*, at 24.

5. House Bill 1288 (S.L. 2000-80), passed by the 1999 General Assembly in its 2000 regular session.

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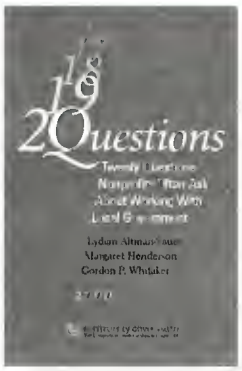

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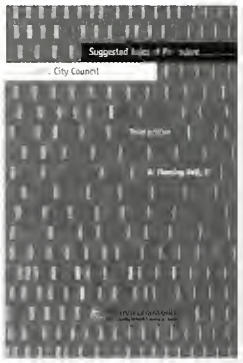

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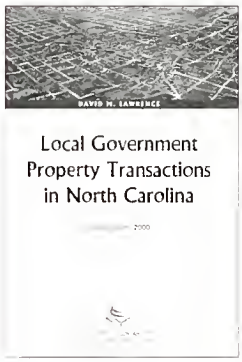

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