

The Future of North Carolina

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NORTH CAROLINA

Goals and Recommendations for the Year 2000



Report of the Commission on the Future of North Carolina

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Foreword

The Commission on the Future of North Carolina has just concluded a memorable adventure. We have spent the past fourteen months analyzing our state, studying reports, research studies, public opinion surveys, and other documents from a multitude of sources. We have also heard the views of thousands of individual citizens. For each of us, it has been a humbling yet stimulating experience.

The pages that follow contain the message about our state and its future that we wish to send to all North Carolinians and a listing of the recommendations essential to the fulfillment of that message. The Commission hopes that citizens will take the opportunity to read the entire text.

It must be said that all the commissioners did not agree with every recommendation advocated here; such unanimity is not to be expected. The Commission nevertheless speaks with one voice in its strong belief that North Carolina enjoys a splendid future if the spirit of its people is nourished and expressed through specific legislative and executive actions and in other constructive efforts of the populace that spur needed change. The strength of the Commission's belief is based on what it has learned and especially on the participation of more than 113,000 citizens in the NC 2000 Project. The people wanted to be involved and to be heard, and they will not be content until progressive change occurs. This, then, is truly a document setting forth a series of convictions expressed by the citizenry.

Governor James B. Hunt, Jr., conceived this project and assigned us our mission. His attention and his support were constant. Much credit is also due to all the members of the Commission, who generously gave of themselves in a labor of love and devotion to their state. The involvement of thousands of citizens in the NC 2000 Project would have been impossible without the efforts of the county committees. Appreciation is extended to the county chairs, who unselfishly committed their time and energy.

The Commission divided itself into four working panels: People, Economy, Natural Resources, and Community. In their sessions, the panel chairpersons and vice-chairpersons provided vigorous leadership. The state owes special thanks to John T. Caldwell, James S.

Dockery, Jr., Charles Evans, Nathan Garrett, Elisabeth Hair, John F. McNair III, John L. Sanders, and Richard B. Wynne. The vice-chairwoman of the Commission, Elizabeth Koontz, brought her many talents to these deliberations and contributed in her characteristic way. We salute Noel Dunivant, the Commission staff director, who kept the work moving and the members informed. Appreciation is also due Secretary Jane Patterson and her associate Margaret Riddle as well as to their staff in the Department of Administration, who served the Commission so effectively.

In transmitting this report to Governor Hunt, we are fully aware that no study such as this can ever be regarded as complete and that areas of concern remain regarding our state's future that have not been addressed. Nevertheless, the Commission believes that it did capture the spirit of the citizens of the state in their aspirations for the future, and the commissioners share on these pages their convictions about a future for North Carolina that they wish to enjoy and a quality of life they fervently hope that their children and grandchildren will experience.

For the members of the Commission, I express to Governor Hunt our gratitude for the privilege he gave us to serve our state.

WILLIAM C. FRIDAY
Chairman

The Future of North Carolina

Introduction

Governor James B. Hunt, Jr., launched the NC 2000 Project on June 1, 1981, when he created the Commission on the Future of North Carolina by executive order. In doing so, he initiated a program that was to engage the minds and energies of thousands of the state's citizens for the following two years and that was to produce this comprehensive report. It is an agenda for action: a broad statement of the goals and aspirations of all North Carolinians that should serve as a guide for present and future leaders. As the twenty-first century approaches, they will bear the responsibility to focus on the goals it specifies and to advance its recommendations.

Recognizing the critical need for such planning, the governor said when he established the project:

Our task today is to anticipate and prepare for the North Carolina our children will encounter tomorrow. . . . We must take responsibility for making the world what we want it to be, for ourselves and for our children. And that requires looking into the future *now*. Looking at the future can help us anticipate changes and make decisions. It can prepare us for what lies ahead and put *us* in the driver's seat, to chart the course for North Carolina.¹

Organizing and Launching NC 2000

In response to this mandate, the Commission set about establishing the appropriate framework, plans, and organization to fulfill its mission. Recognizing that long-range planning projects like NC 2000 are not often undertaken, the commissioners realized the prime opportunity that was presented to them. Governmental and private bodies seldom enjoy the chance or take the time and effort to pause, assess where they have been, where they are, where they are headed, and where they would like to be in the future. Institutions, like people, become too involved in the day-by-day and year-by-year operation of already functioning systems and in reacting to—instead of

anticipating and preparing for—outside events. All too often public issues are studied on a sequential and piecemeal basis.

One of the first major decisions of the commissioners, therefore, was that the approach of NC 2000 would be more comprehensive and place more emphasis on the long term than most long-range planning efforts—far beyond the sort of project that could be carried out by a single state agency or private group. Virtually all aspects of public policy in North Carolina would be reviewed and the entire gamut of alternatives identified and analyzed, organized under four broad topics: People, Economy, Natural Resources, and Community. Recommendations for the future would be molded—rationally, deliberately, and purposefully.

The second major decision was that NC 2000 would be built on a solid foundation of public participation and support. From the outset, the intent was the formulation of goals and recommendations that reflected the feelings and concerns of people from all parts of the state, whose views would be coordinated with those of leaders, policymakers, and experts. In contrast to “top-down” planning efforts, NC 2000 would be an open, grass roots process involving private citizens and nonprofessionals from all 100 counties every step of the way. They and the decision makers would be brought together to increase their awareness of the prospects for the future, to help them consider the hard choices that need to be made, and to involve them in charting the course that should be taken to meet the challenges and demands of the twenty-first century.

To ensure that local as well as statewide concerns received substantial emphasis, the planning process was designed to move through two complementary channels: one state-oriented, centralized; the other local-oriented, decentralized (figure 1). The Commission was the core of the state channel. Chaired by University of North Carolina President William C. Friday, it included leaders in business, government, education, medicine, law, and other fields as well as members of the State Goals and Policy Board and the General Assembly. The Office of Policy and Planning in the N.C. Department of Administration furnished staff support.

Once this base was established, the Commission arranged for state agency officials, university faculties, business leaders, and other experts to assemble information, identify issues, and provide opinions on an array of topics concerning the state’s current and future situations. Seeking to gauge the attitudes and priorities of citizens across the state, the Commission also conducted two major public opinion surveys: one a scientific random sample; the other a mass-distributed questionnaire, returned by more than 113,000 individuals.



Governor James B. Hunt, Jr., addressing the Commission on the Future of North Carolina. (N.C. Department of Administration)

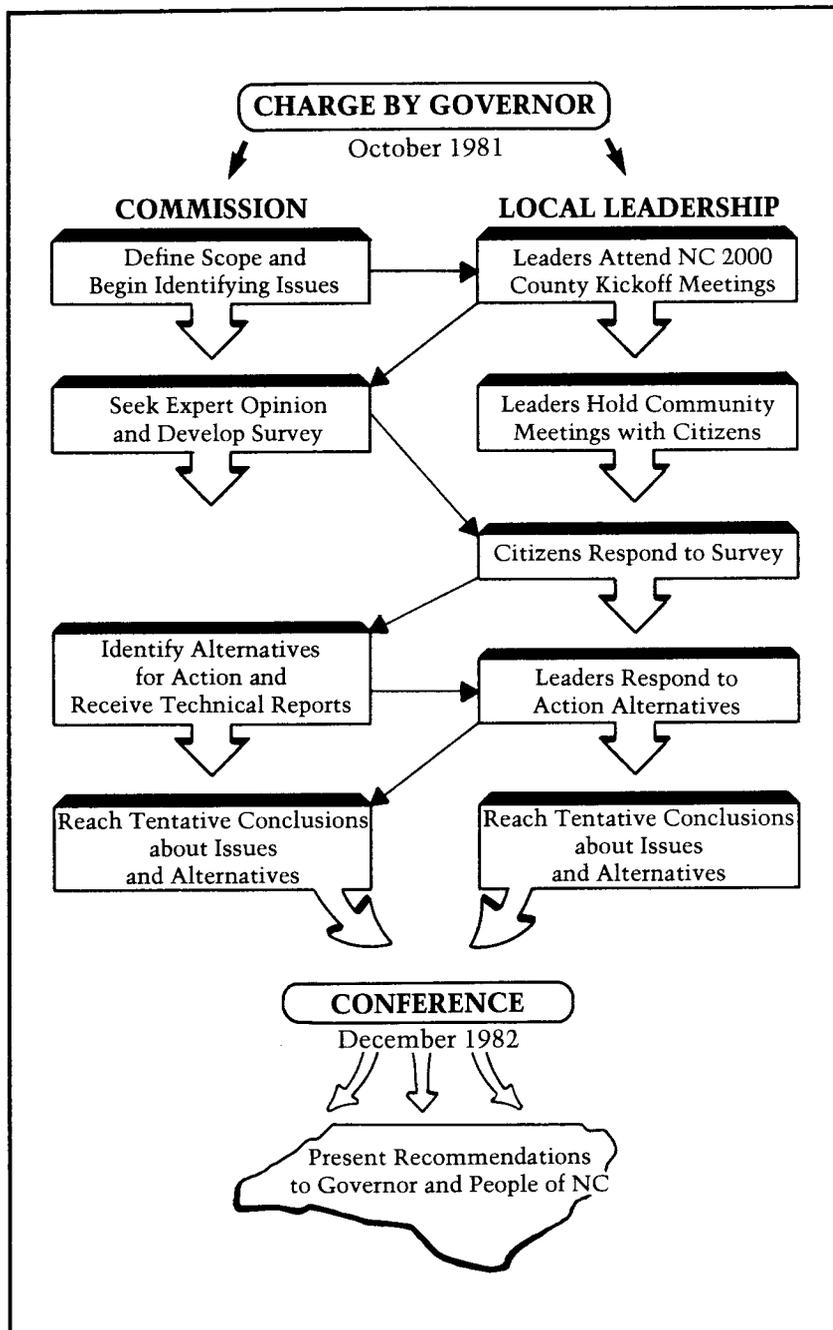


FIGURE 1. The NC 2000 Process

The surveys indicated that the primary goals of the citizenry were: a good educational system; the safeguarding of natural resources and the environment, including clean air and an adequate water supply; protection from crime; a healthy economy and plentiful jobs; proper health care; a sufficient supply of affordable housing; a fair tax system; efficient state and local governments; and an effective program to help the needy.²

The Commission organized itself into four panels: People, Economy, Natural Resources, and Community. During a series of meetings beginning in the fall of 1981, the panels further educated themselves, pinpointed issues of major concern, devised a body of general goals, and formulated about a hundred recommendations for consideration by state and local governments and private bodies.

The local channel consisted of a network of committees established in each of the 100 counties. The efforts of these committees, which met over the better part of a year, in many ways paralleled those of the Commission, except for one crucial difference. They emphasized the local perspective: the concerns, needs, and goals of communities, both large and small, throughout the state and their diverse economic, social, and environmental conditions. About three-fourths of the local committees prepared reports that included a list of goals and recommendations.

Discussion of these reports and findings took place at a statewide retreat at Chapel Hill in July 1982. The participants discussed local, regional, and statewide priorities in small groups. Representatives of the Commission who were in attendance informed the members of the local committees of overall progress, plans for future activities, and the kinds of goals and recommendations being considered. The reactions and suggestions of the retreat group were communicated back to the full Commission. Subsequently, the NC 2000 staff prepared *The Local Report*, which summarized the retreat proceedings and the reports that had been received from seventy counties.

Local and state efforts merged at the Conference on the Future, held in Raleigh on December 6–7, 1982. It brought together more than eight hundred citizens active in state and local committees and members of the Commission. After a draft report of the proposed recommendations was discussed, small groups assessed how well they reflected the needs and aspirations of the state's citizenry on particular topics. The draft report was revised on the basis of these discussions.

Thus, this final report reflects the thinking of leaders, specialists, and interested people throughout the state. Its preparation proved to be remarkably free from the pressures of special interests or the

demand to respond to short-run crises that so often characterize the public decision process.

Background: Current Social and Economic Patterns and Trends

Early in their deliberations, the commissioners realized that their efforts needed to be put in proper perspective. This required an evaluation of present social and economic patterns and trends in the state. The numerous changes that had occurred in recent years and were on the horizon made this a crucial period in its development—a time whose ramifications needed to be studied before meaningful progress could be made in defining long-term goals.

Rapid growth is the order of the day. As part of the nation's Sunbelt, North Carolina is one target of a major redistribution of people and industries from the older Northeast into the less-developed South. No one knows how long the redistribution will continue or at what rate, but during the last decade the population of the state surged at a rate of 15.7 percent, faster than during any period since the 1920s. The influx of people and industries has strained public facilities and services, housing, and the natural environment. The population is expected to continue to grow during the next two decades, though at a somewhat slower rate. Various authorities estimate that it will rise from 5.9 million in 1980 to between 6.8 and 7.7 million by the year 2000.³ (See figure 2.)

While growing, the economic structure is also shifting. Some major components, such as agriculture and textiles, appear to be on a long-term decline, and much of the current employment in traditional fields may be vulnerable to replacement by automation. The national shift from a manufacturing-based economy to one revolving around services, information processing, and communication is also underway in the state. This change is profound.

As Alvin Toffler notes: "We grope for words to describe the full power and reach of the extraordinary change. Some speak of a looming Space Age, Information Age, Electronic Era, or Global Village. Zbigniew Brzezinski has told us we face a 'technetronic age.' Sociologist Daniel Bell describes the coming of a 'post-industrial society.' Soviet futurists speak of the S.T.R.—the 'scientific-technological revolution.' I myself have written extensively about the arrival of a 'super-industrial society.'"⁴ Yet none of these terms, he goes on to

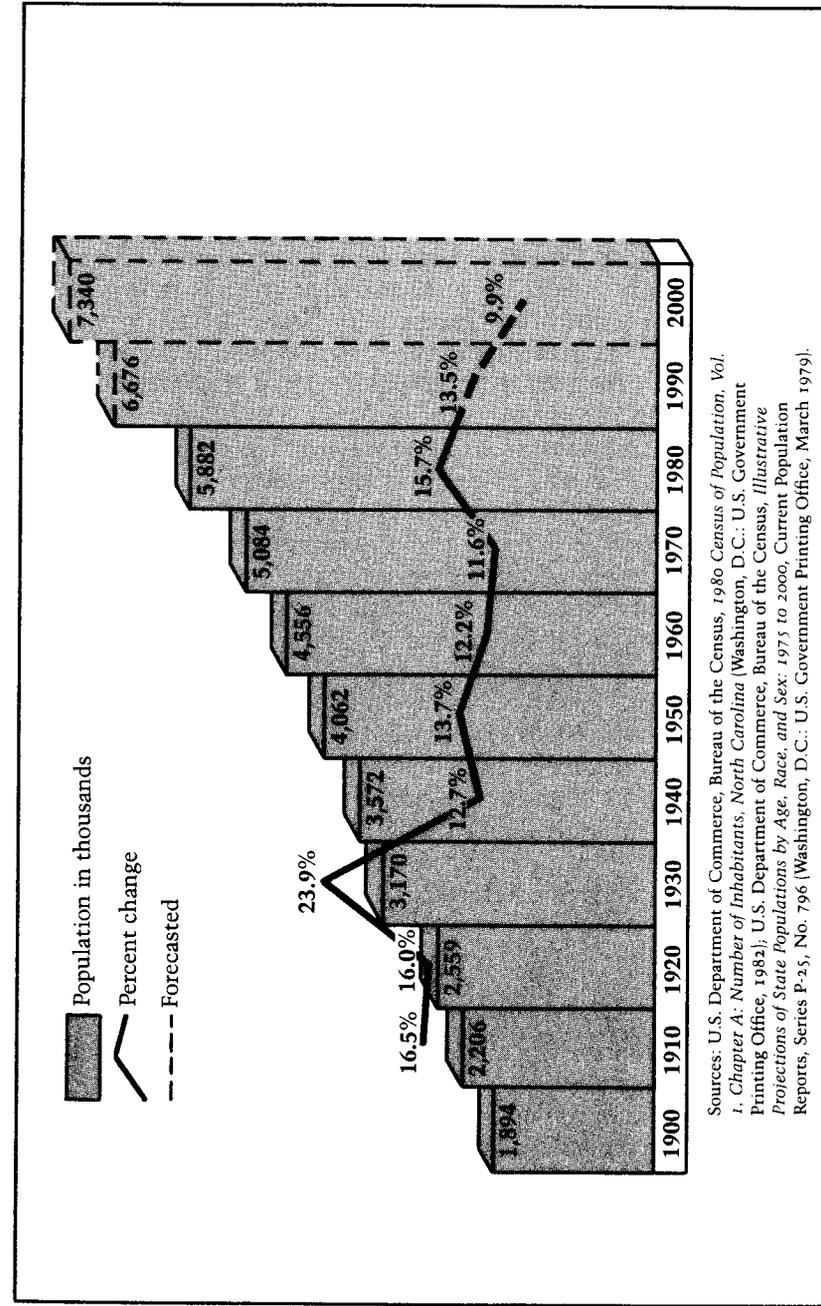


FIGURE 2. Total Population of North Carolina and Percentage Changes from Preceding Census, 1900-2000

explain, adequately conveys the full force or scope of the revolution that is now taking place.

One major change that has already occurred is the public attitude toward the use of natural resources. Not long ago, the air, water, and land resources of the state and nation seemed limitless. In the past few years, however, shortages of energy, water, minerals, and other basics have proven to be troublesome. People have realized that certain natural resources are nonrenewable: once used up, they will never again be replaced. Ways have been devised to manage the renewable resources, such as trees, in a manner that ensures their availability for the present and future generations. New emphasis is being placed on careful management and the replenishment of renewable resources as well as the conservation and recycling of nonrenewable natural ones.

The state's human resources are also evolving. The composition of the population is being altered. It is becoming older on average; in the future, it will consist of relatively more retired people and fewer school-age children. The percentage of the population sixty-five and older is projected to grow from 10 percent in 1980 to 14 percent in 2000; children and teenagers will decline from 32 to 26 percent. Only a slight increase is anticipated in the twenty to sixty-four bracket, from 58 to 60 percent (figure 3).

In addition to the population growing older, the proportions of various types of households are expected to change. The relative percentage of those headed by both husbands and wives is forecast to decline from 63 to 48 percent. The proportion of nonfamily households, consisting of individuals living alone, will probably grow substantially, rising from 23 percent in 1980 to 37 percent by the year 2000.⁵ (See figure 4.) Blacks, Indians, and other minorities as well as women are taking on new roles in society. The life-style preferences of many people are changing, as they seek a balance of career and leisure opportunities for self-fulfillment. The implications of these trends for public policy and planning with respect to public education, programs that serve the elderly, housing, and many other fields are obviously important.

Growth is producing major effects on the physical form of the communities. The tendency is for new development to sprawl across farmlands and fields, rapidly consuming nonurban lands at the edges of urban areas. Small towns and rural areas are facing the pressures of urbanization, which in many cases threatens their traditional character. Between now and the year 2000, the urbanization trend will continue. At the end of the century, the population will be more

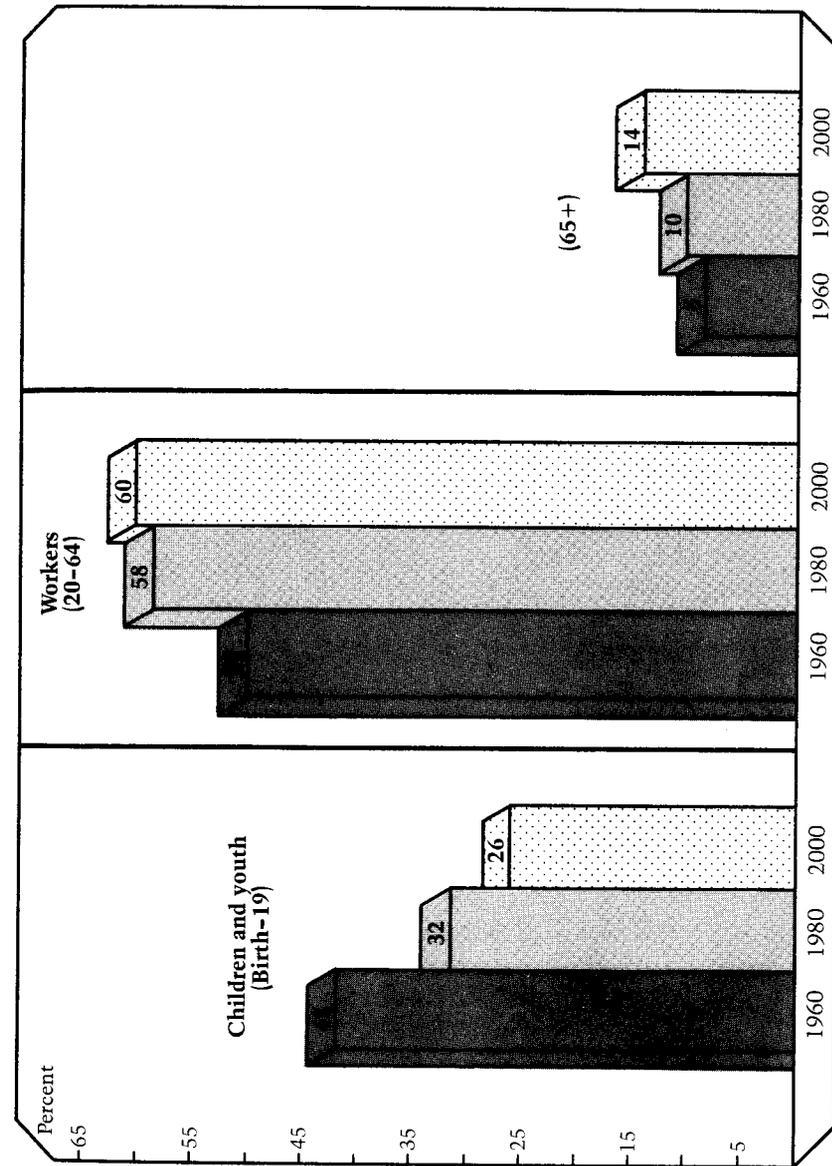


FIGURE 3. Composition of North Carolina Population by Age Group, 1960-2000
Source: N.C. Department of Administration, Office of Policy and Planning.

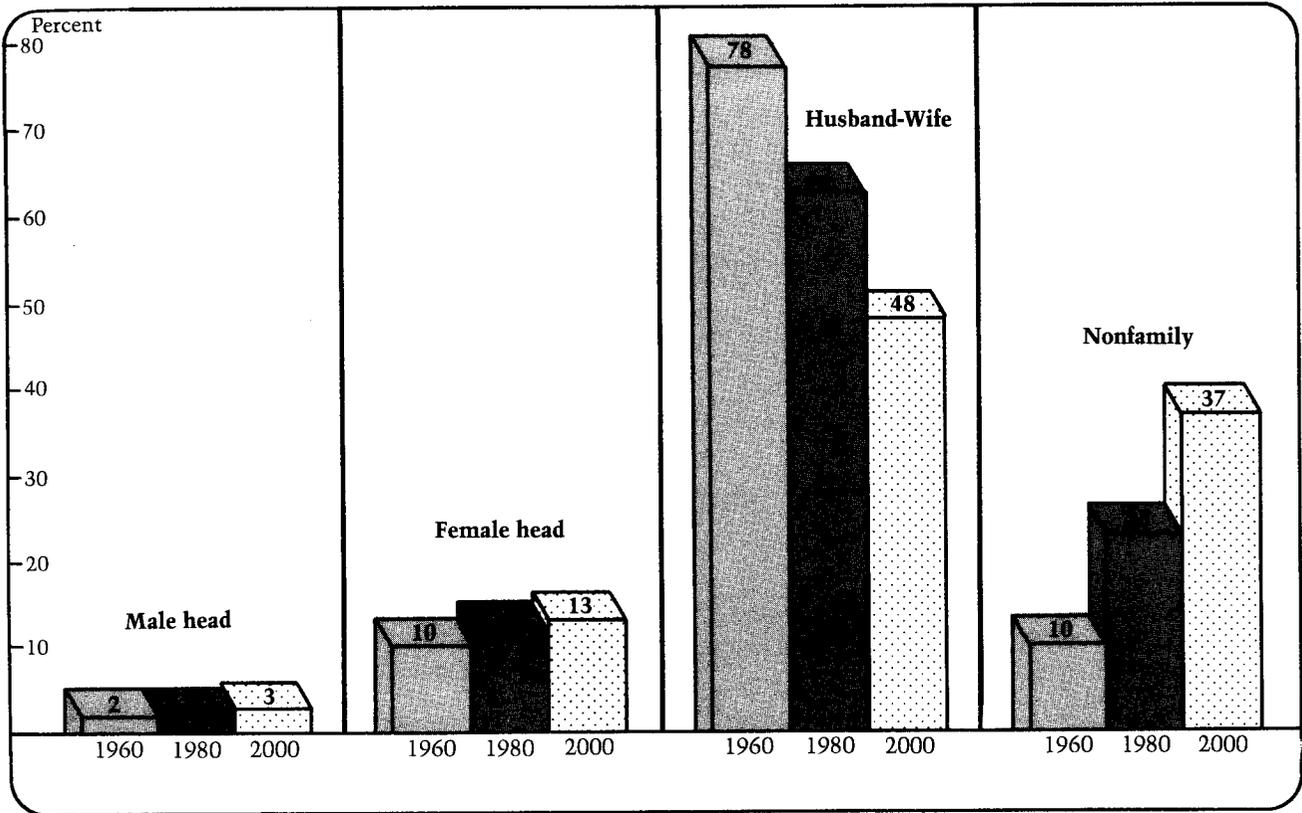


FIGURE 4. Types of Households in North Carolina, 1960–2000
 Source: N.C. Department of Administration, Office of Policy and Planning.

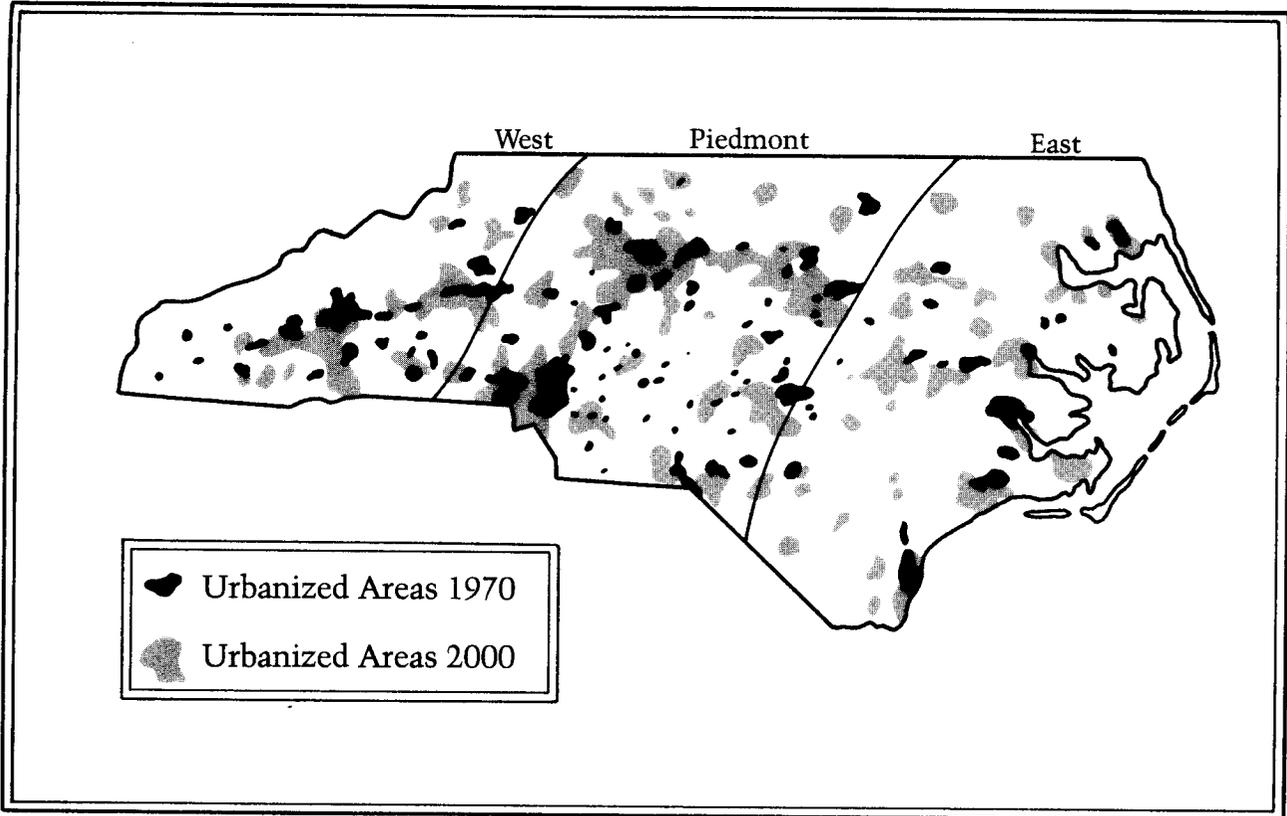


FIGURE 5. North Carolina Urbanized Areas, 1970 and 2000
 Source: N.C. Department of Administration, Office of Policy and Planning.

concentrated in urban areas; small- and medium-size towns will have recorded the most rapid growth. The Piedmont region will probably experience the greatest increase in urban population (figure 5).

Not surprisingly, in the midst of all these changes, people are asking basic questions about the role of government. What are its proper functions? What level — federal, state, regional, local — can best accomplish the tasks that are required? How can the trade-offs between public purposes and private interests be handled? Who should pay for the costs of carrying out government's functions, and what are the effects of transferring funds from other sources to the public sector? In the context of increasing technical complexity, how can government ensure the public its proper voice in decisions; how can the democratic process be fostered so that it will work in today's world?

Accelerated growth, shifting economic forces, new technologies, changing attitudes toward the natural environment, transitions in human resources, evolving physical development patterns, and critical questioning of the form and function of government are some of the factors that have combined to make this a critical juncture in the state's history. To steer a course through these strong currents of social and economic changes, some broad long-range goals are clearly needed. What do North Carolinians really want their state to be like in the year 2000? One way the Commission on the Future chose to respond to this question was to relate its institutional structure to the specific needs of the populace.

Establishing General Goals

Dr. Selz Mayo, a prominent sociologist, describes a community or a state as a "system of ecologically interlocking entities"—the institutions that make up the structure of a community.⁶ The eight basic ones are: education, religion, economy, health, recreation, family, government, and community itself. Looking toward the twenty-first century, the general goals for the state's people in relation to these might be stated as follows:

Education: To offer every person access to high-quality, lifelong learning experiences. Education at all levels should be given the priority needed to help people realize their full potential to enjoy life and participate effectively in a free society. Educational opportunity is the major equalizer in a democracy.

Religion: To ensure that all people are able to worship or not as they please, without interference from government or society. This has been a long-standing goal of the state and nation and should continue to be a guiding principle in planning for the future.

Economy: To furnish everyone an opportunity to employ his or her talents in useful work and to be rewarded accordingly. This foundation stone should always be at the forefront in setting economic policy. It ought to be noted, however, that the structure of the economy has changed markedly. No matter how hard they try, some physically and mentally handicapped people cannot meet their basic needs. Society must make sure that the economy offers opportunities to the disadvantaged.

Health: To maintain a high-quality medical-care system; ensure that it is accessible to everyone; and improve health education programs to reduce the need for care. This goal emphasizes preventive medicine but recognizes the necessity of backing and financing a modern and efficient care system that accommodates all people, including the underprivileged.

Recreation: To provide all persons the chance to engage in wholesome recreational and cultural activities during their leisure time, which is increasing because of the changing structure of the economy. People of all ages require programs and events that permit them to use their free time to renew and enhance their physical and spiritual well-being. Such social problems as juvenile delinquency and family break-ups result in part from limited opportunities to use leisure time constructively.

Family: To foster a social and economic environment that supports the integrity of the family as the basic unit of social organization. The family has always been viewed as a vitally important element in providing for the welfare of children and the overall well-being of adults. Continuing attention must be given to the forces inherent in a modern, technological society that affect the family and appropriate steps taken to relieve the pressures and preserve family units, while recognizing that many of them no longer fit the traditional model of the nuclear family (father, mother, and children). The needs of single-person households, female-headed households, and others should not be overlooked.

Government: To preserve and bolster the quality of all levels of government in the state. North Carolina has a tradition of good government, strong leadership, and active citizen participation. The increasing complexity of social and political issues is a major challenge to maintaining a high level of commitment and sense of responsibility in preserving the democratic process and the governmental tradition.

Community: To ensure that every person has an opportunity to live in a community that provides adequate physical resources, a sense of belonging, and the chance to participate in local decisions. Technological developments and specialization tend to fragment communities and to segregate various cultural groups. Steps should be taken to alleviate this problem and to aid local governments and agencies in all other respects that strengthen their functioning.

The Work of the Panels

These eight general considerations provided a basic framework around which the People, Economy, Natural Resources, and Community panels formed their specific goals and recommendations, which are presented in chapters 1–4, respectively. The number of goals, which vary between 10 and 14 among the panels, total 44. These are broad aims or highly desirable ambitions. The recommendations range between 25 and 29 and total 107, though a few of them are duplicated in different chapters.

Representing proposed general plans of action for carrying out the goals and intended to serve as guides to future policy choices rather than as blueprints for action, the recommendations are addressed to the state and local governments, private agencies and groups, and the citizenry as a whole. The financial and other resources required to carry them out are not specified nor are priorities proposed. Given the vast number of topics and issues that were studied in preparing this report and the Commission's need to focus its work, the recommendations are necessarily broad and cannot encompass all the particular suggestions that were offered by various groups and individuals. Also, because of their universality, many of the recommendations, as well as the goals, are interdependent or overlap.

Each of the four panels concentrated on its own set of priority issues facing the state during the coming decades. Because the People and Community panels represent broader categories than the other

two, they considered an array of concerns that are more loosely connected than are those of the other panels.

The *People Panel*, which focused on basic citizen needs, studied population shifts, changing demands for basic resources, the inequalities that systematically deprive some people of their basic requirements, and the forces that are creating new or expanded human problems. The panel evaluated these factors within the categories of education, health, housing, and poverty. The citizen surveys revealed that the quality and quantity of education was the number-one statewide concern—appropriately for NC 2000 because today's students will be the leaders of tomorrow. The panel also examined recently recognized threats to health, including environmental pollution, occupational hazards, and life-style problems, as well as ways to overcome barriers to the provision of adequate health care; means to redress the shortage of safe, decent housing for people of low and moderate income; and methods to reduce poverty and alleviate its effects.

The *Economy Panel*, whose main concern was continued and sustained economic growth coupled with preservation of the quality of life, surveyed recent economic trends, including the rapid growth of the last two decades and the growing similarity of the state and national economies. The panel paid particular attention to anticipating the coming changes, threats, and opportunities affecting traditionally strong elements of the North Carolina economy, such as agriculture and small business. Emphasis was also given to the four major factors that will affect future economic growth: private investment, which will play a central role; labor force development, or the upgrading of the quality of the work force; the public investments, or capital resources, required to attract and retain desirable industries, including such facilities as roads, airports, and water supply and sewage treatment plants; and information and technical assistance, crucial needs for economic survival and growth in the complex markets of today and tomorrow.

The basic premise of the *Natural Resources Panel* was that these resources are both a base for much of the state's economic development and a rich heritage that we should pass on to our children in better condition than we acquired it. Seeking to balance the twin goals of conservation and development, the panel determined that these can in fact be complementary rather than conflicting. Serious problems and threats face the resource base, but wise management can undergird economic progress and a higher quality of life. The panel's goals and recommendations are grouped under four major topics: environmental protection, or guarding the basic air, water,

and soil resources; resource production and conservation, or making good use of productive resources without degrading or depleting them; our natural heritage, or preserving the special qualities of the natural landscape to improve the quality of life; and resource management, which entails the application of information, tools, and methods to achieve progress in all the preceding areas.

The *Community Panel*, which considered the character and quality of community life in coming years, examined shifts in demography, the economy, and life-style preferences, as well as other basic factors under four topics. Community physical development encompasses settlement patterns, the design and condition of structures, and the effects of growth and development on natural resources. The discussion of community recreational and cultural resources proposes methods to enrich physical and mental well-being. Community security deals with the need for all citizens to be free from the injuries of crime and the problems involved in disciplining and rehabilitating offenders. Community government treats a series of issues that cut across the boundaries of all four panels: improving state and local government, shoring up its fiscal capacity, reassessing its role and services, and expanding citizen participation.

An Agenda for Action: The Beginning of a Process

The Commission on the Future of North Carolina transmits this report to the governor with the conviction that it should be considered as the beginning rather than the end of a process vitally important to the future of the state. The commissioners feel strongly that their recommendations, adopted after careful deliberation by people in all parts of North Carolina over a two-year period that involved considerable investment in money and conscientious effort, should be considered in the mainstream of the public decision-making process.

The foresight that led to the establishment of the Research Triangle Park is giving North Carolinians the edge as we enter the high-technology era leading to the twenty-first century. As the pace of change continues to quicken and we face the increasingly complex challenges of an emerging postindustrial society, we have a choice: we can take what comes, or we can consciously seek to preserve those things we value and to shape the future in the best interests of ourselves and our children. The latter course requires the courage, capability, and perseverance to formulate and follow through



Members of the Commission on the Future and the NC 2000 county chairs take their oaths of office. (N.C. Department of Administration)



Commission Chairman William C. Friday presents the NC 2000 final report to Governor Hunt as Vice-Chairwoman Dr. Elizabeth Koontz looks on. (N.C. Department of Administration)

on plans for our future. *The work of the Commission on the Future represents a potential breakthrough, but it is only an initial vision; realization of its potential will depend on the next steps that are taken.*

The first step should be to *create awareness of this report and its recommendations.* Under the leadership of the governor, legislative officials, Council of State members, the State Goals and Policy Board, and Cabinet Secretaries, it is hoped that all officers of government will explain, interpret, and advocate this document to the citizenry at every opportunity. This effort can be furthered by newspapers, radio and television stations, magazines, civic clubs, business and professional groups, libraries, and volunteer agencies. Groups and individuals working with young people are encouraged to make a special effort to sharpen their interest in the future and its effects on their generation.

The second step ought to be a *process for revising, refining, and expanding the recommendations* as the twenty-first century approaches. They need to be monitored and modified to reflect progress and change. As time passes, new issues will emerge and new information will become available. The Commission recommends that legislation be enacted that requires this report to be updated every four years and requests the governor to report on the progress that has been made toward carrying out its recommendations on a biennial basis to the legislature and to the people of the state.

This report cannot be regarded as a static document; rather, it ought to be the starting point of a dynamic process. Strategic long-range planning needs to be institutionalized as a component of state planning and, to the extent possible, incorporated into that conducted by local governments and agencies. This will assure that public decision making that involves shaping the future will belong to the people.

The third, and clearly the most important, step that should be taken is *consideration of the recommendations outlined in this report in decision making affecting the future on both the state and local levels.* Although it is not within the scope of the Commission's responsibility to consider the financial and other resources that are necessary to carry out its recommendations or to set priorities, it recognizes that these are critical steps. The governor and the legislative leadership are urged to require a critical review of this report within the executive branch of the government and by appropriate committees of the legislature to determine budgetary allocations and the need for new legislation or other actions. Close coordination will be required among departments, among agencies within depart-

ments, and among them and regional and local agencies as well as quasi-public bodies and the private sector.

The commissioners believe that another step should be *continuation of local involvement*, not only in the furtherance of the recommendations in this report but also in the overall state long-range planning effort. The NC 2000 Project was of immeasurable value in creating an awareness of major concerns at the community level and in generating citizen participation in the governmental process. It is hoped that local officials will monitor the Commission's recommendations that need to be carried out at their level; will periodically assess local conditions and attitudes; and will revise and expand original recommendations of the NC 2000 county committees accordingly. Provision should also be made for keeping county residents and officials informed about progress made on the Commission's recommendations by state agencies.

Finally, it is the people of North Carolina who ultimately will determine the impact of this report. Both in initiating actions themselves, in civic clubs and other such forums, and in evaluating those of public agencies and officials, individuals can follow through on issues of importance to them, their families, and their communities and become involved in helping ensure their attainment.

The Commission on the Future has fulfilled its mission to the best of its ability and entrusts the results of its efforts to the judgment of the elected leadership of our state—to be used in a manner that best serves the interests of all citizens.

PEOPLE

Summary of People Goals and Recommendations

GOAL I

To Ensure the Accessibility of a Basic Education to All Citizens

Recommendation 1:

Devise and apply a system of public school finance that will provide equal educational opportunity to all school children.

Recommendation 2:

Undertake the following actions to improve the quality of school instruction:

- a. Monitor, evaluate, modify if necessary, and expand the Quality Assurance Program statewide.
- b. Change teacher certification and recertification requirements to reflect more emphasis on major subject-matter content areas and reduce out-of-field teaching.
- c. Offer incentives to attract higher-quality applicants and to retain the ablest career teachers.

Recommendation 3:

Comprehensively evaluate the state's curricula for grades K-12 and make revisions that will better prepare students for the future.

Recommendation 4:

Reaffirm the commitment the state has made to provide a free and appropriate public education to all children having special needs.

Recommendation 5:

Increase support for adult basic education programs.

GOAL II

To Meet the Developmental Needs of Preschool Children through Quality Day Care

Recommendation 6:

Develop incentives to encourage private sector provision of day-care services that meet or exceed state standards for quality care.

Recommendation 7:

Provide information and training to all small-scale day-care providers and notify parents about the types of care available in their areas.

GOAL III

To Maintain a Cost-Effective System of Postsecondary Education while Ensuring Quality, Affordability, and the Ability to Serve a Diversity of Student Needs

Recommendation 8:

The Board of Governors of the University of North Carolina, the State Board of Community Colleges, and the North Carolina Association of Independent Colleges and Universities are urged to give serious and continuing study to the cost-effectiveness of higher education and to providing access to top-quality programs of higher education consistent with the increasing scientific and technological nature of society. Increasing attention should be given to improving the coordination of higher education.

GOAL IV

To Provide Job Skills to Those Entering the Work Force and Those Who Must Change Jobs

Recommendation 9:

Increase private sector participation in determining the quantity, quality, and type of training needed, and encourage more participation by this sector in the delivery of job training by advocating the shared use of facilities, equipment, and instructors.

Recommendation 10:

Improve coordination among training programs and increase the use of competency-based curricula and certification.

Recommendation 11:

Provide for all students an effective plan for career exploration, vocational guidance, and job information/counseling/training.

GOAL V

To Foster a Safe Environment and Encourage Healthy Life-styles

Recommendation 12:

Begin immediately a rigorous program to identify and regulate the hazardous substances to which workers are exposed.

Recommendation 13:

Establish and carry out a comprehensive management plan for controlling toxic substances.

Recommendation 14:

Strengthen and expand the state's health education program.

Recommendation 15:

Develop health education, health promotion, and accident prevention programs for use by private sector groups, such as employers, civic groups, and churches.

GOAL VI

To Ensure That All People Enjoy Access to Adequate Health Care

Recommendation 16:

Continue programs that are providing health care in poor and rural areas and increase assistance to those areas and populations that remain underserved.

Recommendation 17:

Study a variety of approaches for containing health-care costs and then vigorously apply the most feasible strategies.

GOAL VII

To Be Responsive to the Health-Care Needs of an Aging Population

Recommendation 18:

Increase incentives to encourage health personnel to undertake and/or update training in geriatric and gerontological specialties; and ensure the availability of adequate instruction.

Recommendation 19:

Take the following actions to ensure the provision of long-term care services to meet the social and health needs of the aging population:

- a. Examine current state and federal legislation and regulations, and seek waivers or changes appropriate to the goals of helping

the aged remain independent and encouraging and assisting families to care for their disabled elderly members.

- b. Begin now to estimate the need for institutional long-term care for the aged and to make provisions that will assure the availability and affordability of such care.

GOAL VIII

To Ensure the Provision of Appropriate Care for Dependent Persons

Recommendation 20:

Define the primary objective of the state's policy regarding the care of dependent persons as the provision of quality care in the least restrictive environment necessary for effective treatment.

GOAL IX

To Make Safe, Sanitary, and Decent Housing Accessible to All Members of Low- and Moderate-Income Groups

Recommendation 21:

Increase the rehabilitation, maintenance, and upgrading of sub-standard housing to make it safe, sanitary, and decent.

Recommendation 22:

Enhance the availability of affordable housing to all segments of the population through regulation and the use of innovative financing and construction techniques.

GOAL X

To Reduce Poverty to the Greatest Degree Possible and to Relieve the Plight of Those Who Are Unable to Escape It

Recommendation 23:

Undertake a comprehensive study of the relationship of women to the economy.

Recommendation 24:

Establish comprehensive training and job-placement programs that meet the special needs of low-income women and minorities.

Recommendation 25:

Revise aid programs to provide more adequately for meeting the essential needs of those persons who live in poverty and are unable to work (children, the aged, ill, and disabled).

Introduction

The overriding concern of the Commission on the Future of North Carolina is the well-being of the state's people. The People Panel has focused primarily on basic citizen needs: good health, decent housing, quality education, economic opportunity, justice, and self-fulfillment.

North Carolinians are changing in some important ways that will affect both the future needs and resources of the state. For example, as the population ages and as diseases influenced by life-styles become the major health problem, health-care requirements will be altered. The demand for housing will rise as the average household size becomes smaller and the population and number of households increase. As the school-age population stabilizes, the college-age population declines, and the need for skill training mounts, new demands for educational services will be forthcoming.

Some North Carolinians have particular needs. Despite improvements, basic inequalities still affect the lives of black people, Indians, migrant workers, women, the economically disadvantaged, and persons with disabilities. Special effort will be required to ensure that these groups share in the progress that is sought for all citizens.

The Commission recognizes that the costs of carrying out its recommendations must be borne by both the public and private sectors. Furthermore, the Commission understands that the funds, skills, and energies of all the state's citizens will be required. Key contributors will be the growing number of older people. Their skills, either as employees or on a voluntary basis, will be critical in furthering many of these recommendations.

Education

Education is an investment in the future. The quality of the educational opportunities available to North Carolinians will, to a large degree, determine the future quality of their life. According to the NC 2000 Questionnaire and Citizen Survey, good-quality education was the primary concern for the future.

Participants at the Conference on the Future, held in December 1982, echoed this concern and expressed a desire for the state to

increase its commitment and support for the education of children in grades K–12. The conferees acknowledged that improving the quality of education will mean both a conscientious effort to find more effective educational policies and methods as well as an unavoidable increase in funding for capital outlays and professional salaries. More purposeful community involvement will also be essential. The conferees indicated a willingness to accept these challenges. Members of the People Panel share the special concerns expressed by the citizenry.

Four aspects of education should receive particular attention: ensuring the accessibility of a basic education to all citizens; meeting the developmental needs of preschool children through specialized services and quality day care; maintaining the quality of postsecondary education; and fostering the availability and affordability of training to meet the needs of both new workers and those who must learn new skills.

Goal I To Ensure the Accessibility of a Basic Education to All Citizens

Five critical issues must receive attention if the quality of basic education is to be improved during the next two decades. First, the system of financing public education must be examined and revised to ensure equity and accountability. As demands on government budgets increase, the high priority of education must be reaffirmed. Second, the quality of the teaching force should be assessed and improved so that it is consistent with the emphasis that North Carolinians give to the education of their children. Third, school curricula must be appropriate to the individual needs of students and to the requirements of the world for which education is to prepare them. Fourth, the state should reiterate its commitment to provide educational services to children having special needs. Finally, basic education programs must be available for adults.

SCHOOL FINANCE

A fundamental problem in financing a statewide system of public schools is that, when any portion of expenditures for them is financed from local revenues, poor districts are less able to support education expenses and almost inevitably spend less per pupil from local resources than do more wealthy districts. This problem has

received serious attention in most states only since 1971, when the California Supreme Court, in the landmark *Serrano v. Priest* decision, ruled that, under the California constitution, the quality of a child's education may not depend on the wealth of the local school district but must be based on the wealth of the state as a whole.

The North Carolina constitution has required since 1868 that the General Assembly provide a "general and uniform system of public schools." During the years between 1868 and 1931, the state tried to ensure a minimum level of support in every school district by giving state aid or designating state tax revenues for schools and by requiring each local governmental unit having financial responsibility for the schools to provide the balance needed to achieve a minimal level of support. This system was destroyed by the depression. Some counties were so poor they could not finance the constitutionally mandated school term even when they levied the maximum property-tax rate allowed under the constitution. Despite increased state aid, disparities in expenditures, especially between rural and city school units, continued to increase.

In an attempt to reduce these disparities, the state increased aid to all schools. It also, very early, used equalizing grants similar to those that other states adopted only in the 1970s. In 1901 it established by appropriation an "equalization fund," which was to be distributed to the poorer local units to help them finance the constitutionally mandated school term. The equalization fund was used until 1931, when the state began financing almost all operating expenses of the minimum school term by distributing state funds through formulas based on average daily enrollment.

When all local school taxes were abolished in 1933, North Carolina achieved what no other state had accomplished: a system of complete equality among the school units in finance. This equality was short-lived, however, because counties and city school districts were authorized to reenact school taxes, and a few of them that sought better schools than the state was willing to support immediately began to supplement state funds. As the state recovered from the depression and entered the prosperous postwar era, more and more local units began to do the same.⁷ Over the years, the state's share of total operating funds has fallen to 63 percent.⁸

Marked variations now exist among the 143 local education agencies in the success of local districts in generating funds at the local level beyond those received from the state. The school district providing the highest total per-pupil expenditures spent 57 percent more per pupil than the district with the lowest total per-pupil expenditures in school year 1980–81.⁹

The ability of local districts to provide additional financial support varies widely. In school year 1980–81, for example, per-pupil expenditures from local funds ranged from \$162.70 to \$913.21. Poor counties must impose a higher property-tax rate than wealthier counties to raise the same amount of revenue. Wide variations in local expenditures per student are offset somewhat by federal expenditures for programs to aid the poorer districts or disadvantaged children. However, federal programs do not equalize expenditures, as the 57-percent difference between high and low districts in total per-pupil expenditure demonstrates.¹⁰ Impending cuts in federal support for education will increase district level inequality. North Carolina is now the only state in the nation that does not maintain either a full state funding system for public education or a fiscal equalization program to eliminate such district-level inequalities.

Recommendation 1

Devise and apply a system of public school finance that will provide equal educational opportunity to all school children.

Generally speaking, four approaches may be used for fiscal equalization.¹¹ One is for the state to provide a higher “foundation” program—a level of support guaranteed regardless of the fiscal resources of local units. North Carolina’s system is essentially a foundation program in that the state finances the nine-month term, and local units are permitted to increase expenditures above this level. Under this system, students are guaranteed equal access to a basic educational program financed by the state. Equal access to educational opportunities beyond this basic program is not realized, however, because local units supplement it by varying amounts. The equalizing effect of increasing state support for the foundation program is diminished inasmuch as all school units must receive the same program.

A second approach is to use percentage-equalizing or power-equalizing finance methods. Under percentage-equalizing, the state would set some standard or key level of expenditures and guarantee that local units, making either a minimum or an equal tax effort, would be able to achieve this level. For example, if the state sets the standard at the highest level of expenditure in the state, all school districts would be able to achieve this level with the same tax effort because the state would make up the difference between the amount of revenue raised locally and the standard. Thus, the fiscal resources available for education would be equal for all districts. By setting the

standard at some lower level, the state would guarantee that local units could achieve the standard level with a specified tax effort.

The equalizing plan adopted in North Carolina in 1927 was essentially a percentage-equalizing plan in that it guaranteed poor counties the resources to finance the six-month term as long as their tax rate was at least 40 cents per \$100 valuation. Power-equalizing is similar to percentage-equalizing except that it requires richer school districts to contribute tax revenues to poorer districts, a feature that may present serious legal problems. Equalizing approaches, both percentage and power, allow additional state expenditures to be concentrated in poorer units. This results in more equalization per dollar than does the foundation approach.

Full state funding is a third approach to equality. Under this approach, the state would finance an equal school system entirely, and districts would either be prohibited from spending additional amounts or the amount they could spend would be limited. As has been noted, North Carolina adopted full state funding in 1933 but did not limit the amount that districts could spend, which has led to the disparities described above. A major criticism of this approach is that it usually amounts to “leveling down.” That is, expenditures in units that now spend more on education are brought down to the level that the state finances.

Finally, a state can try to achieve equality through school district reorganization. District lines could be redrawn to equalize as much as possible the assessed valuation available per student. Of course, this may not be possible to do and, in any case, would be difficult for political reasons. Even if it were possible, the lines would have to be changed from time to time. Although this approach does not seem promising in North Carolina, it may be possible to achieve more equality by consolidating districts and schools. Larger districts and schools might lead to economies of scale and a more complete program of education, especially for high schools, but some recent studies conclude that large schools are less effective and face more problems than smaller ones.

A combination of the first two approaches for obtaining equality was suggested in the 1979 report of the Governor’s Commission on Public School Finance. It recommended that the state continue to provide a high level of basic support through what it called a “basic aid fund,” but that an equalization fund be established to equalize more nearly the local units’ abilities to supplement the basic aid funds. Appropriations to the equalization fund would be distributed to local units according to their fiscal capacity and their “effort” in

supplementing basic aid funds. Effort would be measured by an index of fiscal capacity, based on each unit's property-tax base, its sales-tax collections, and its contributions to the state's General Fund (use of property-tax base would require that the state equalize property-tax assessments among counties). Under this system, all units, in order to obtain equalization funds from the state, would be required to supplement state funds with local tax revenues. Through the equalization fund, the state would equalize their ability to supplement by providing more money to the poorer units.¹² Some version of this combination approach is probably the most economically and politically feasible for North Carolina.

Replacement of the current line-item allocation scheme with an allocation system based on educational programs has been recommended by the Commission on Public School Finance and by the Fiscal Research Division of the Legislative Services Commission. This would require the definition and "costing-out" of what the state considers to be a basic program of education.

TEACHER QUALITY

Certainly, the quality of elementary and secondary education in the state will depend, to a very large degree, on the quality of its teachers. When asked to speculate about education in the United States in the 1980s, a prominent educator, Dr. Stanley Elam, made the following very discouraging reply to the question "Who will teach?": "It will certainly not be the Phi Beta Kappas of the upcoming generation . . . we will continue to scrape the bottom of the talent barrel through most of the current decade. . . . By the late eighties, when enrollments will start to grow again, we will have a ramshackle teaching force and will probably reinforce it with misfits."¹³

Good education is the goal that North Carolinians think is most important for the future of the state. A large proportion are dissatisfied with its current quality; and, when asked in a survey how it might be improved, the most frequent response was improvement of the teaching force. Standardized tests indicate that students entering courses of study in education have lower ability and achievement scores than the average college student. The state's teaching force comes primarily from this group of students.¹⁴ No evidence exists that the course of study undertaken by these students somehow compensates for their initial low ability or that competition for teaching positions is such that only the "cream of the crop" actually obtain and keep them.

Until the past decade, the issue of assuring an adequate supply of teachers in the nation was so overwhelming that serious consideration of teacher quality was given secondary importance. In 1952 only twenty-one states required elementary schoolteachers to hold baccalaureate degrees and forty-two required them for secondary schoolteachers. Increasing the quality of teachers during the period 1950 to 1970 meant, primarily, increasing the quantity of college graduates ready and willing to accept teaching positions.

Yet recent studies link teacher performance to academic ability and indicate that teachers, both nationally and in North Carolina, are drawn from the least academically able college students. Furthermore, the studies show that the academic ability of education majors is declining, and that the experienced pool of teachers is even less able than is the pool of recruits because of higher attrition among more able teachers.¹⁵

Stricter certification standards could be used to reduce the number of low-ability teachers. However, some experts calculate that, by refusing certification to those college graduates who score in the bottom 20 percent on standard ability measures, the supply of career teachers would be reduced by one-half.¹⁶ However, raising standards would produce a teacher shortage only if more qualified applicants were not attracted.

More talented students could probably be drawn to teaching by higher salaries. However, sufficient funds for across-the-board increases—making salaries competitive with those of other occupations—are unlikely to be available. Instead, the pool of students from which potential teachers is drawn should be enlarged to include a larger number of more able students, and incentives must be devised to attract them to the profession.

The Quality Assurance Program, initiated in North Carolina on a pilot basis in the fall of 1982, has the improvement of teacher effectiveness as its goal. Features of the program include the following:

1. Early counseling and screening procedures for college students considering teaching as a career.
2. Procedures for evaluating students' general knowledge and achievement prior to admission to a teacher education program.
3. Close supervision and careful evaluation by the universities and the schools of student teachers.
4. Professional examination of specific teacher competencies

by criterion-referenced tests prior to admission to an initial, three-year period of full-time professional teaching (initial certification).

5. An educational support system for teachers during their initial, three-year certification period to help assure appropriate continuing education and professional development as well as to assist them in preparing for review for continuing certification.
6. Procedures for review of teachers seeking continuing certification beyond the initial three-year period of full-time teaching.¹⁷

Careful monitoring and evaluation of the Quality Assurance Program should be undertaken, necessary modifications introduced, and the program expanded statewide.

Recommendation 2

Undertake the following actions to improve the quality of school instruction:

- a. **Monitor, evaluate, modify if necessary, and expand the Quality Assurance Program statewide.**
- b. **Change teacher certification and recertification requirements to reflect more emphasis on major subject-matter content areas and reduce out-of-field teaching.**
- c. **Offer incentives to attract higher-quality applicants and to retain the ablest career teachers.**

The need to tie certification and recertification requirements more directly to subject areas and to reduce out-of-field teaching is one that is identified in many reports on improving the quality of education, both in North Carolina and in other states. Although this recommendation is not unrelated to the Quality Assurance Program, it deserves serious consideration in its own right (see discussion in the next section, "Curriculum Relevance," for an example).

Incentives to attract and retain higher-quality teachers would include the establishment of a career ladder to reward teachers with higher salaries and other benefits as their number of years of experience increases. Proponents of this measure argue that the current system, in which rewards peak early and then level off, discourages higher-ability teachers, who have more alternatives, from remaining in the profession. They also contend that the current management



To prepare children for the world of the future, schools must provide opportunities for them to acquire computer skills and competence in mathematics and science. (N.C. Department of Public Instruction)

and decision-making structures discourage the retention of high-quality teachers. Continuing efforts to improve quality assurance and teacher performance are essential to generate public support for an improved salary structure.

CURRICULUM RELEVANCE

What is taught in the schools should be determined by students' needs. Many of these needs will, of course, depend upon those of society—especially upon the kinds of knowledge and skills required by the occupations that will be available. Other needs are quite

specific to an individual—depending largely upon aptitudes, disabilities, past learning experiences, and goals. An endeavor should be made to provide learning experiences in the schools that are relevant to both types of needs.

The societal requirements for which students of the next two decades should be prepared include: proficiency in basic reading, writing, problem-solving, and math skills; greater technical literacy (i.e., enhanced capability in math and science); better awareness of what the world of work will look like when they enter it, what their occupational options are, and how to prepare for the occupation they want; and citizenship and social skills.

By the end of 1983, the state's curriculum study committees will have completed reports on each of the major curriculum areas. These reports will provide a unique opportunity for a comprehensive evaluation of the curricula for grades K–12. This opportunity should be utilized to make revisions that will better prepare children for the future.

Recommendation 3

Comprehensively evaluate the state's curricula for grades K–12 and make revisions that will better prepare students for the future.

All children need to be proficient in basic skills, such as reading, writing, problem-solving, and math. The effectiveness of the basic skills program in reading and math has been demonstrated by improved student performance in the North Carolina Annual Testing Program. Emphasis on basic skill training and remediation should be expanded in the schools, but care should be taken to ensure that this does not result in inadequate attention to other curricula.

The ability to utilize advances in science and technology to improve productivity, stimulate economic development, and enhance the quality of life for citizens will depend not just on educating and retraining the labor force, but also on ensuring scientific and technological literacy among the general population. Unfortunately, the quantity and quality of science and math instruction in the educational system is inadequate to assure these positive results. Of particular concern are the nationwide trends toward a reduction of time and courses devoted to science and mathematics in grades 10–12 as well as a critical shortage of math and science teachers.¹⁸

More math and science instruction for all students is necessary, but particularly for non-college-bound students. The quality of this instruction will be determined, in large part, by the availability of appropriately trained teachers. Currently, more than a quarter of all

math and science courses taught in the state's public schools are taught by people not certified to teach them. The North Carolina Board of Science and Technology's Committee on Science and Mathematics Education has also expressed concern that current certification procedures are not strict enough. For example, they allow teachers holding an intermediate (4–9) certificate to teach all subjects in these grades, regardless of their areas of concentration, and teachers whose primary training is in biology to teach physical sciences in high schools. The recommendations of this committee regarding the improvement of science and mathematics education should be given consideration, and a program for improving math and science education ought to begin immediately.

Among the proposals offered by the Board of Science and Technology is one that offers potential for more general application. It calls for the creation of local improvement programs that would mobilize local talent and resources to strengthen science and math education. This model might also be applied to other subjects as well as to vocational awareness, vocational skills training, and job placement.

To better prepare youths for the world of work, curricula in junior and senior high schools should include an emphasis on basic skill remediation, vocational exploration and training, and learning in community settings. Programs providing a broad base of vocational skills should be expanded because they will prepare students to adjust more easily to career changes precipitated by technological and job-market changes. Structural changes may be required to increase the degree of coordination among secondary and postsecondary programs. Work-study programs and job-placement services should be expanded.

The social sciences curriculum must give students an adequate background in government, history, and economics to prepare them to be effective citizens and consumers. An understanding of basic interpersonal and institutional dynamics will help students cope with changes in social life that may be generated by technological changes.

In addition to modifying the content of education to increase its appropriateness to students' needs, increased attention must also be given to making the *process* of education better meet them. The State Board of Education has identified some critical issues to be considered in this regard. They include the following:

- Determining if, and on what basis, students should be grouped (tracked).

- Identifying the appropriate role of the schools in steering students toward one academic path or another.
- Determining when decisions—about college, vocational training, other postgraduate paths—should be made and how the schools should respond to changes in those decisions.
- Identifying ways that schools can help equip students to make good decisions about their own schooling.
- Providing incentives to encourage students to reach for excellence, including state scholarships, awards of merit, and special learning opportunities.
- Training teachers in skills required to provide truly individualized instruction.
- Devising mechanisms by which counselors and teachers may better coordinate their efforts.¹⁹

This list of issues points to the need for a more individualized approach to instruction in grades K–12.

EDUCATION FOR CHILDREN HAVING SPECIAL NEEDS

Although individualized instruction is an ideal for all children in the state, it is especially critical for those having special needs. Much progress has been made in recent years toward addressing these needs. Two examples are federal law 94-142 and the state's "Creech Bill." The commitment to providing educational and support services that are essential to the long-term well-being of these children must be reaffirmed. This approach, by increasing their self-sufficiency, should reduce the requirement for forms of care throughout their lives that may be expensive economically, socially, and personally.

Recommendation 4

Reaffirm the commitment the state has made to provide a free and appropriate public education to all children having special needs.

BASIC EDUCATION FOR ADULTS

For those adults who do not complete a basic education in high school, alternatives, such as the General Educational Development

(GED) testing program, the Adult High School Diploma program, and the Adult Basic Education program, all of which are offered by the community colleges, should continue to be available. The availability of such programs will become more critical as workers are required to upgrade or change their job skills because retraining will require a solid foundation in basic skills. This need is especially critical in North Carolina because, compared with other states, it has a relatively high dropout rate and low average educational attainment.

Recommendation 5

Increase support for adult basic education programs.

Basic education programs for adults have been financed primarily through federal funds. As these are cut back, it is critical that the state increase support to minimize the reduction of services. Volunteers and community backing should also be mobilized to continue these programs.

Goal II

To Meet the Developmental Needs of Preschool Children through Quality Day Care

The importance of early experiences in preparing a child for subsequent learning has long been recognized. The success of programs such as Head Start has demonstrated the effectiveness of using a day-care setting to see that the developmental needs of preschool children are met. Today, 59 percent of North Carolina mothers having children under six are in the labor force.²⁰ These children spend many of their waking hours in the care of others—some in public or private day-care centers that are regulated by the state, others with family members or friends, and many in their own or a care giver's home. Most of the latter are private homes in which fewer than six children are supervised. These family-care homes are not regulated by the state. They offer, however, the only affordable, accessible child care available to many parents.

The demand for child care is likely to increase during the 1980s and 1990s as the rate of participation of women in the labor force rises. The need for assuring good quality day care for these children is obvious. Less obvious are the answers to questions about how this might be done.

DAY-CARE CENTERS

Only about 10 to 15 percent of the children in day care are served at centers that must meet state standards regarding health, safety, and staff-child ratios.²¹ One way to improve the quality of care would be to gain a better understanding of the role of such regulatory standards in improving quality and to reinforce those that do contribute and eliminate those that do not. Increased training for providers and the use of incentives are also deserving of further consideration.

Recommendation 6

Develop incentives to encourage private sector provision of day-care services that meet or exceed state standards for quality care.

Many churches and other community organizations have become involved in providing day-care services, and businesses are increasingly recognizing the benefits of furnishing them for their employees. The development of these programs by the private sector could be encouraged through the provision of information about benefits, costs, and operation by one or several existing state agencies. The cost of such an information service could be minimal. Groups interested in more detailed information on establishing programs could be referred to other employers or groups that have been successful. This would foster the sharing of cost-efficient strategies to upgrade quality of care. As a large employer, the state should set a good example by providing day-care alternatives for its own employees.

FAMILY DAY-CARE HOMES

Although family day-care homes, which supervise less than six children, must be registered with the state, they do not need a license to operate. What can be done to improve the quality of care received by children in such homes? Survey data indicated that many parents prefer this type of care for their children, even when center care is available. Only 113 of 5,900 such homes are certified, which means they voluntarily meet certain standards adopted by the North Carolina Social Services Commission.²² State regulation of the large number of these small-scale day-care homes would be impractical. For improvement in the quality of care they provide, the major recourse is to rely on the willingness of the providers to make voluntary improvements and on the education of parents in distinguishing among the kinds of care available.

Recommendation 7

Provide information and training to all small-scale day-care providers and notify parents about the types of care available in their areas.

Although few small-scale providers of day care could be expected to undertake extensive training, many would undoubtedly be receptive to information that would help them improve the quality of their services. Included might be health and safety guidelines as well as examples of activities that contribute to child development. Basic materials could be provided free of charge and more elaborate ones at minimal cost. The feasibility of at-home courses of study for the small-scale provider of child care should be explored. These might be established and administered by the adult education divisions of the universities or by the community colleges. A rating scale indicating degree of successful completion of such courses might be devised and incorporated into the information available to parents. Some educational programs for day-care personnel are currently offered by various state agencies, but they need to be more fully coordinated.

POSTSECONDARY EDUCATION

The vital role of higher education in North Carolina life has historically been emphasized. State policy has been that this phase of education is desirable for people individually and for society collectively, and that it should therefore be offered on terms that stimulate broad participation. General support of higher education has rested upon the implicit recognition that the effectiveness of the educational system directly affects the vitality of the state's economy and welfare.

Goal III

To Maintain a Cost-Effective System of Postsecondary Education while Ensuring Quality, Affordability, and the Ability to Serve a Diversity of Student Needs

Among the personal benefits to be derived from this type of education are increased income, broader opportunity, enhanced job security, self-fulfillment, and an improved quality of life. The societal advantages include a well-prepared and more highly trained work force; expanded productivity; enrichment of the culture; greater

equalization of opportunity and attainment; and a more active, better-informed, and more humanely oriented citizenry.

Three factors deserve serious attention in planning for the future of postsecondary education in North Carolina: shifting demographic patterns, the need to adapt to technological changes, and increasing pressure on limited financial resources.

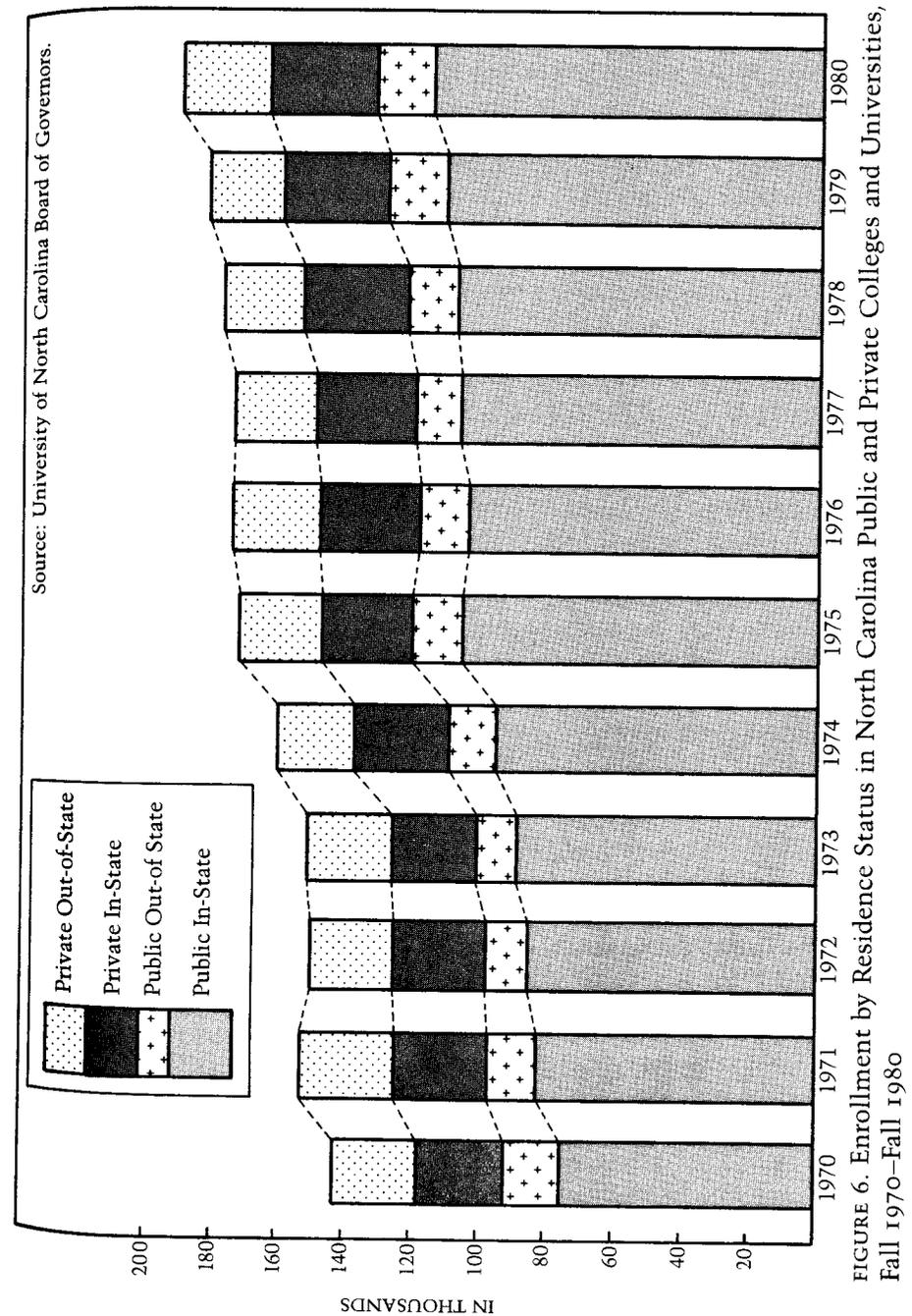
The state now has sixteen public universities, twenty-three community colleges, thirty-five technical colleges and institutes, and thirty-eight independent colleges and universities. Collectively, these institutions, whose missions, requirements, and clientele differ, provide a diversity of programs for citizens. The maintenance of a wide variety in types of institutions provides wide opportunity and access while matching the interests and serving the needs of individual students.

The existence of this substantial number of institutions is explained by the commitment of North Carolinians to higher education and by historical patterns. All the thirty-eight independent colleges and universities were originally founded by religious groups and all maintain at least nominal church affiliation, though this may or may not include financial support. A number of institutions once segregated students on the basis of sex or race, but all of them are now racially integrated and a number of formerly single-sex colleges have become coeducational.

The community college system was created to serve, primarily, different needs than those accommodated by the universities. The twenty-three community colleges offer two-year programs that transfer credits acceptable to the universities, but the primary mission of the system is to provide technical and vocational training. Only 7.3 percent of the full-time equivalent students in the community college system are enrolled in college transfer programs.

Enrollments in all sectors of higher education have increased since World War II. Beginning with the waves of veterans and continuing through the baby boom, enrollment growth became a way of life for many institutions. Since 1950 the proportion of students being served by the public institutions has been increasing—from just over 50 percent in 1950 to 80 percent in 1980. Between 1971 and 1981, enrollments in the public senior and community college transfer programs rose by 38 percent, compared with a 9 percent increase in the private junior and senior institutions.²³ (See figure 6.)

A decline in enrollment growth is expected to occur within the next few years. The number of high school graduates in the state is predicted to decrease from 72,464 in 1979 to 63,866 in 1986 and then to rise again to 68,263 in 1989. Declines of even greater magnitude



are expected in many of the states from which North Carolina institutions draw their out-of-state enrollments. Even though, according to the University of North Carolina Board of Governors, a drastic drop in postsecondary enrollments is not expected because of an anticipated improvement in the proportion of high school graduates entering college, increased competition among institutions for a smaller number of students is likely. If current trends continue, the probable losers will be some of the private institutions, especially the small liberal arts and traditionally black schools—both public and private. Enrollments at some of these have grown at a much slower rate, and in some cases have even declined, over the past five years, a period of growth for the postsecondary system as a whole.

North Carolina has traditionally assured access to public higher education through a policy of low tuition, within both the University of North Carolina and the community college system. The tuition charged by the university is among the lowest fourth in the nation. Indicating the tremendous value the state places on higher education, it ranks fifth among the fourteen states that are members of the Southern Regional Education Board in the percentage of all tax revenues spent for this purpose.

The postsecondary institutions will play a key role in preparing the state to take advantage of the opportunities spawned by scientific and technological advances. Well-equipped and well-maintained laboratory and instructional facilities as well as the ability to attract and retain quality faculty and graduate students will be essential. In addition, as the state's manpower needs change because of the introduction of new technologies and the growth of firms and industries, reliable information on future personnel needs will be required so that the postsecondary institutions are prepared to educate, train, and retrain the work force.

All these trends have significant implications for higher education. Many important questions have been raised in the discussions of these trends by the People Panel: Is the higher cost per student that declining enrollments may bring about affordable if the current number of institutions are maintained to serve a smaller number of students? If some schools are unable to survive the competition for students, how will this affect the diversity of educational opportunities now offered in the state? What kinds of diversity are we willing to sacrifice and which should we strive to preserve? If some institutions close because of declining enrollments, is it likely, at some future time, that the demand for postsecondary education cannot be met when enrollments rise again? Can reduced enrollments be countered by increasing the college-going rate? Would such an increase be desir-

able or necessary in terms of its benefits to the students and its contribution to the skills of the state's labor force? Would such an increase require a reduction in admission and/or graduation standards? If so, what would the implications be?

Do the political difficulties involved in closing or merging institutions outweigh the long-term benefits? How can the system of postsecondary education be made more cost-effective without sacrificing either quality or affordability? How might institutions be encouraged to work cooperatively to reduce costly duplication? What would be the impact of a reduction in federal aid to low-income students? How might access to higher education be ensured for low-income students if federal aid is cut? How should financial need be accounted for in student aid and tuition policies? Should increased state aid to private schools be contingent upon their greater accountability to the state? If so, what kind of accountability is desirable?

How can up-to-date equipment and facilities be financed when technological change makes frequent replacement necessary? How can high-quality faculty be attracted and retained when private industry salaries are substantially higher? How can we ensure that faculty members are kept "current" in their disciplines? What can be done to attract high-quality graduate students? How can the state's manpower forecasting capacity be improved and this knowledge used to better prepare the postsecondary institutions to educate, train, and retrain the work force?

All the above questions, plus others regarding the future of higher education in North Carolina, deserve further study so that the course of action may be taken that will best preserve the quality, diversity, and affordability of advanced education in the state.

Recommendation 8

The Board of Governors of the University of North Carolina, the State Board of Community Colleges, and the North Carolina Association of Independent Colleges and Universities are urged to give serious and continuing study to the cost-effectiveness of higher education and to providing access to top-quality programs of higher education consistent with the increasing scientific and technological nature of society. Increasing attention should be given to improving the coordination of higher education.

The problems facing postsecondary education in North Carolina are complex. Whether the solutions involve the decision to continue current policies or modify them in the face of changing trends, major value judgments will be required as well as a thorough study of the

implications of many alternatives. Because the state's system of higher education is highly regarded nationally, it deserves the best efforts required to plan and take actions that will ensure its continued success.

JOB TRAINING

The United States and North Carolina are facing a technological revolution that may rival the industrial revolution in terms of its impact on daily life. Rapid technological changes will determine both the kinds of future jobs and the types of skills they will demand.

Goal IV

To Provide Job Skills to Those Entering the Work Force and Those Who Must Change Jobs

By the year 2000, some 900,000 new jobs are expected to be available in the state. Most of these will probably be in nontraditional businesses and industries, while employment in some traditional ones will decline. New workers must be prepared for the jobs that will be available. By some estimates, more than 40 percent of the current work force will require retraining. The very rapidity with which changes in equipment and skill requirements will take place will demand closer partnerships between business and industry and those charged with responsibility for vocational and technical training; better coordination among training programs; and career information and guidance that will allow students to select appropriate training programs.

The Role of Business and Industry

Job training must be closely correlated with the actual skills needed to perform a task successfully in the workplace. As the employer, the private sector is most knowledgeable about the capabilities that occupations require. Increasingly, it will be necessary to turn to this source for accurate information about how many and what kind of workers and what skill levels will be called for in the future. In addition, the private sector should be encouraged to participate actively in formulating curricula for training programs and in monitoring them for quality and effectiveness. The state's job training institutions should begin now to develop processes whereby the expertise of those in the private sector can be more effectively

brought to bear on defining and determining the adequacy of training programs.

Recommendation 9

Increase private sector participation in determining the quantity, quality, and type of training needed; and encourage more participation by this sector in the delivery of job training by advocating the shared use of facilities, equipment, and instructors.

Skilled instructors are continually being lost to industry because teaching salaries are not competitive. This trend will likely continue. Another problem that is expected to grow worse is keeping instructors and equipment current. A number of possibilities exist for private sector participation to improve these situations. Businesses could:

- Establish special positions to encourage excellence in teaching.
- Loan top industry technicians and others on a short-term basis to the secondary vocational and community college systems.
- Contract with schools to allow students to use costly plant equipment.
- Make plant training areas available for student instruction.
- Fund internships and vacation jobs for vocational education teachers and technical instructors to keep them abreast of technological changes.
- Donate or loan usable training equipment to the community college and public school systems.
- Cooperate with training institutions in the establishment of cooperative educational arrangements.

The state currently supports many advisory councils and committees that are concerned with employment and/or training and involve some degree of private sector participation. The role of that sector in these groups should be clarified as should also the functions of each council or committee relative to the larger scheme of publicly supported employment and training services. To achieve the objectives described earlier, the council-committee system must be organized so that private sector expertise in the requisite skills for a particular job are brought more directly into play, and so that the private sector

representatives are given feedback by which to gauge the system's responsiveness to their input.

This can be effective only if the private sector involvement is organized so that it remains somewhat independent of existing bureaucratic structures. The principal role of representatives from this sector should be to provide a validity check on the content of training programs relative to workplace requirements. Their freedom to act must be protected from infringement by the self-interest of any particular program. This uninhibited involvement would stimulate greater private sector participation in the actual delivery of training.

Improving Coordination among Training Programs

Job training, which may be defined as job-related training and education involving other than baccalaureate or graduate levels of education, currently involves a wide range of combinations of a few basic kinds of training, including the development of requisite literacy and numerical competencies along with occupation-specific classroom training and/or hands-on experience in the workplace. Responsibility for job training is shared by the public schools, the community and technical colleges, and business and industry. Better coordination among them is needed to ensure that all the key elements of training are available and that the system accommodates the variety of training needs of the diverse work force.

Five key elements of occupational training should be provided by the training institutions: job awareness, employability skills, basic literacy, occupation-specific training, and work experience. These need to be provided in a systematic way so that both gaps and redundancies are minimized. At the same time, the delivery system must be flexible enough to accommodate the diverse needs of new workers, those needing retraining, and those requiring remediation and training. A variety of entry points, training schedules, and other options is needed.

The first key element influencing the effectiveness of job training is public awareness about future jobs. Both young people and adults will need better information about what these will be and what skills will be needed to obtain them. Traditional liberal arts preparation will be insufficient for many occupations. Students will need to begin preparing for their careers early to avoid costly and time-consuming reorientation. Adults who find their skills becoming obsolete will need to know which areas are promising for upgrading or retraining. It is estimated, for example, that the demand for data processing mechanics, computer systems analysts, computer opera-

tors, and computer programmers will continue to grow dramatically. Yet too few children or their parents are aware of the critical need for acquiring technical skills, as well as proficiency in mathematics and science, to prepare for such jobs.

A second major element in the effectiveness of job training is employability skills instruction, which involves the "how to's" of obtaining and keeping a job. Such instruction should be offered in the secondary schools and to adults through the community college system. Currently, some programs include employability skills training and others do not.

Third, basic competencies in mathematics, reading, writing, oral communication, and problem-solving are becoming increasingly important to training and job success as advancing technology makes the workplace more complex. Employers demand a labor force sufficiently competent in basic arithmetic to apply it in an industrial environment. Basic skills mastery appropriate for the job should be an integral part of all job training programs. Deficiencies in this field are already a major barrier to the employment of many people, especially minority and disadvantaged youth. Programs that stress the application of basic skills to work-related problems are often perceived as more relevant to their needs by students seeking job training, and such programs can include training in the kind of problem-solving that many jobs demand. The state should continue to emphasize basic skills in grades K-12 and continue to support basic education programs for adults (see Recommendations 3 and 5 earlier in this chapter).

Finally, training for specific vocational occupations involves classroom training and/or experience in the workplace. Experience suggests that the most effective training involves some combination of these two types of training. Determination of the appropriate mix of classroom and work experience, as well as the content of each, can best be made by involving the business or industry that will eventually employ the student.

The provision of these key elements of training is now largely uncoordinated among the various training sectors. Students moving from one institution or from one training sector to another—particularly from a vocational education program in the public schools to a community college program—may miss key training components or may be required to repeat certain ones unnecessarily. Improved coordination among training programs and increased use of competency-based curricula and certification could improve this situation.²⁴

Recommendation 10

Improve coordination among training programs and increase the use of competency-based curricula and certification.

Competency-based programs allow students to move through a training program at their own speed. This flexibility is necessary where students have diverse backgrounds and needs. The effectiveness of training is increased because it better fits individual needs, and its cost is decreased through the reduction of unnecessary overlaps in training.

Certification given to those who leave training programs early as well as those who complete them indicates what skills an individual has mastered. This allows reentry into training at a later date and more efficient movement among programs. Certification also enables employers to gauge more accurately an applicant's capacity to handle a particular job.

Improved coordination among programs can facilitate student progress in a training sequence by eliminating possible gaps in training and minimizing costly duplication of training components. Some evidence indicates that improved coordination, such as the use of counselors who are familiar with both vocational education and community college training curricula, can dramatically reduce dropout rates.

Career Information and Guidance

Many students, especially disadvantaged and minority youth, experience lack of success and frustration in the public schools and do not perceive school as relevant to their career and life choices. They often drop out as soon as possible, leaving school poorly prepared for the world of work. Experience has shown that, for many such students, work-related instruction is more relevant than purely academic programs and offers them a better opportunity to succeed. The high school dropout problem might be reduced by providing early help to students in selecting courses and in entering programs that can provide them with marketable skills.

Recommendation 11

Provide for all students an effective plan for career exploration, vocational guidance, and job information/counseling/training.

Most students need assistance in organizing a program of training suited to their abilities and interests and the demands of the job

market. They need to be made aware of the requirements of various occupations for training and where it is available to them. By providing such information early, school can be made a more meaningful and positive experience. Some evidence indicates that, though counselors are generally well equipped for their roles in advising college-bound students, they are often not as well prepared to serve those who plan to enter the job market upon graduation or who are uncertain about their plans.²⁵

During the past five years, about 150,000 youth have dropped out of school before graduation. Many of them lack marketable skills and are unemployed. They need help in formulating realistic career plans and entering into appropriate remediation and training programs. Existing state agencies, such as the public schools, community colleges, and Employment Security Commission offices, should cooperate in a systematic effort to reach all dropouts and provide them with appropriate job-related counseling and training.

Health

A major concern of the Commission of the Future of North Carolina is the protection and improvement of the physical and mental health of the people. Increasingly, health will be affected by environmental factors, occupational conditions, and life-styles. For many individuals, access to care may continue to be limited by distance to services or by cost. The growing population of older adults will require special services, as will those persons who traditionally have been institutionalized. Immediate action is needed to ensure the best possible future health outcomes.

Goal V

To Foster a Safe Environment and Encourage Healthy Life-styles

Major advances in health status and longevity of the population have been realized in the last hundred years. Improved nutrition and sanitary conditions have drastically reduced infant deaths caused by respiratory and gastrointestinal diseases. Immunization has virtually wiped out the major communicable diseases, such as smallpox, diphtheria, and whooping cough. Broadened medical technology has

not only exerted a major effect on the control of disease and disability but has also bettered the quality of life. These gains must continue to be assured through maintenance of basic public health services and sound primary medical-care services. However, the technology and social changes that have underlain these advances have posed a new set of issues for future improvement in the health of the population.

Many of the problems that adversely affect health today are not so simply cured with new medical technologies. Primary among the hazards now being faced are environmental, occupational, and life-style-created diseases. These maladies are expensive to treat and difficult or impossible to cure, yet most or all are preventable. Action must be taken now to ensure a safe and healthy future for the people of this state. Three areas require special attention: assuring occupational health and safety in existing and new industry, instituting an effective management plan for the handling and disposal of hazardous substances, and encouraging citizens to adopt healthy life-styles.

OCCUPATIONAL HEALTH AND SAFETY

Work conditions can cause daily exposures to dangerous machinery or equipment, toxic chemicals, asbestos, cotton fiber, and ionizing radiation. A broad range of health problems may be associated with these risks, including cancers, lung and heart diseases, and birth defects. Yet workplace exposures, which are often more easily defined and potentially more easily controlled than some other environmental exposures, are considered by some authorities to be almost totally preventable.

The precise incidence of occupation-induced illness is unknown because of uncertain cause-effect relationships, the long period of exposure before the onset of apparent illness, inadequate screening, lack of occupational histories in medical evaluation, or other reasons. However, for example, according to a University of Washington study released by the National Cancer Institute and the National Institute of Environmental Health Sciences, 20 percent of future cancers will be related to the workplace.

In 1980 some 53,875 work-injury cases were closed in the state under the Workers' Compensation Act (18,715 nondisabling cases, 35,054 disabling cases, and 106 fatalities). According to the state Department of Labor, those injuries resulted in 1,376,390 days lost as well as medical costs and disability payments exceeding \$80 million. Because all workers are not covered by the act, the above figures

undoubtedly understate the magnitude of the problem. Extrapolations from National Institute for Occupational Safety and Health (NIOSH) estimates indicate that as many as 2,300 deaths and 9,000 new cases of occupational disease occur annually in North Carolina.²⁶

Available data indicate substantial variation among industries in terms of the consequences of an injury or illness. Injuries in the construction industry create by far the most serious consequences on the average; transportation and public utilities rank second. But differences are wide among workers within industry divisions. Professional and technical personnel, managers and administrators, and salesmen and clerks usually enjoy more safety than craft workers, operatives, service personnel, laborers, and farm workers. Because black people tend to be overrepresented in the more hazardous occupations, they experience a higher rate of occupationally related illness and injury.

Compared to other states, North Carolina has the highest percentage of wage earners employed in manufacturing. Although most of the state's growth between now and the year 2000 is expected to be in the relatively safer service sector, manufacturing employment will continue to rise. The safety of the labor force should be a priority. Unlike most other states, North Carolina has a high concentration of industries employing less than a hundred people. These industries are exempt from some safety regulations and their resources are often inadequate for instituting health-hazard surveillance or for providing health education to employees. The state should provide the leadership required to ensure that the work force is as safe as possible from occupational hazards.

According to the state Department of Labor, current occupational health standards are minimal as a result of insufficient knowledge of the effects upon the human body of industrial chemicals and other substances. The real future challenge will be to protect workers from the health hazards associated with exposure to hazardous substances. One study indicates that as many as ninety new chemicals may be introduced into manufacturing processes in the United States every week. The degree to which most of them threaten the health of workers who may be exposed remains largely unexplored. Yet occupational health standards may be applied only to *proven* health hazards. Suspected hazards cannot be adequately regulated.

Efforts are clearly needed to identify the substances to which workers are exposed and to assess the degree to which their health is threatened. Only when this has been done will it be possible to determine acceptable levels of exposure and to set and enforce stan-

dards that regulate them. By identifying priorities in North Carolina and by cooperating with other states, reduction of the associated health risks can be initiated.

Recommendation 12

Begin immediately a rigorous program to identify and regulate the hazardous substances to which workers are exposed.

In addition to research and enforcement aimed at preventing the exposure of workers to health hazards in the workplace, the state should provide information about occupational health hazards and health resources to employers, health providers, and workers. Employers, particularly small businesses, might be encouraged to take safety precautions to protect their workers beyond those required by law through a program designed to help them identify hazards and to carry out the appropriate safety measures.

Information is also needed by health providers. Especially in the early stages of illness, patients suffering from work-related health problems usually seek treatment from primary-care providers rather than from the few centers specializing in occupational medicine. Thus, to meet the needs of these patients adequately, primary-care providers need certain "basic skills" in occupational medicine, such as the ability to take an effective occupational history and to diagnose early signs of common occupational diseases. They also need to know where to turn for additional information about particular occupational health questions, such as the patient's right to obtain information about lead exposure at the workplace or determining the chemical composition of a substance for which the provider has a trade name only. Existing state agencies could provide an occupational health information clearinghouse and referral service to meet this need.

The provision of information to workers could also help prevent occupational health problems. They often do not have access to information about the substances to which they are exposed. As a result, their physicians are at a disadvantage in evaluating the potential medical effects of the exposure, deciding on appropriate screening measures, and accurately diagnosing and treating associated problems. For this reason, approximately thirty states and cities have passed "right-to-know" or "labeling" legislation. North Carolina agencies should study the feasibility of legislation to require clear labeling of and worker education regarding toxic substances in the workplace.

HAZARDOUS SUBSTANCE CONTROL

One of the main problems the state will face as industrialization increases is that of hazardous waste. Studies have demonstrated that many of the by-products of modern technology are dangerous to health. Radioactivity, unsafe storage, leaching, spills, and hazardous exposures are likely to become more common as industry and technology expand. Several unsafe sites already exist in the state. The buildup of hazardous waste poses serious implications for the population's health.

Currently, North Carolina companies generate approximately 1.8 billion pounds of hazardous waste and more than 200,000 cubic feet of low-level radioactive waste each year. The state is the eleventh largest generator of hazardous waste and the fourth largest generator of low-level radioactive waste in the nation. These companies employ approximately 400,000 people and pay more than \$5 billion in wages annually.

Toxic substances include natural and synthetic chemicals, dusts, minerals, and materials that produce acute or chronic illness. They may adversely affect the reproductive and nervous systems or specific organs, particularly the liver and kidney. Included as a toxic substance for the purposes of this discussion are radiation exposures of various types. As the state becomes more industrialized, the chances of exposure of the population to toxic substances and hazardous waste will increase. Because many of them are the by-products of modern technology in industry, agriculture, research, and medicine, it is impossible to stop generating them entirely. Steps can be taken, however, to reduce the volume produced and to ensure proper handling, treatment, and disposal.

Recent laws have established regulatory mechanisms to help minimize associated environmental and health risks. The Federal Resource Conservation and Recovery Act (RCRA) contains extensive regulations that govern the handling, storage, transportation, treatment, and disposal of hazardous waste. Under RCRA, it is monitored from generation to final disposal. The Comprehensive Environmental Response, Compensation, and Liability Act of 1980 provides federal funds to respond to environmental emergencies, such as the illegal dumping of polychlorinated biphenol (PCB) along North Carolina highways. Other federal laws regulating air, soil, and water quality include the Federal Clean Air Act, Clean Water Act, and Safe Drinking Water Act. Relevant state laws include the Waste Management Act, the Toxic Substances Control Act, and the Radiation Monitoring Act. In 1981 the North Carolina Waste Management Board

was created and charged with submitting to the governor and legislature a statewide strategy for hazardous waste management.

By law, all hazardous waste generated in North Carolina must be treated, stored, and disposed of at facilities that are operated in accordance with state regulations. The past records and financial status of applicants seeking to operate waste management facilities are considered. Before a permit is granted, a company's closeout program must be approved and it must provide funds to cover closeout or perpetual care. Storage facilities must carry \$2 million liability insurance and disposal facilities \$6 million. Violators may be fined up to \$10 thousand per day and may be required to serve jail sentences.

The supply of facilities to manage hazardous waste in North Carolina is inadequate to meet expected demand. Citizen opposition to their establishment has been strong, particularly because of awareness of examples, in other parts of the country, where facilities have been mismanaged and have seriously harmed the health and property of nearby residents. The public is often unaware of, or does not trust, the ability of government to regulate and enforce safety standards properly.

Recommendation 13

Establish and carry out a comprehensive management plan for controlling toxic substances.

This plan should include mechanisms for cooperation and coordination among various public and private agencies and organizations to ensure a comprehensive approach and to utilize expert knowledge and ability. The Governor's Toxic Substance Project has made some progress in this respect. The plan ought to also contain procedures for informing citizens about toxic substances (their nature, location, and danger as well as government-industry responsibilities) and for incorporating their opinion into the planning process.

To formulate an adequate plan, it will be necessary to prepare a profile of the chemical substances produced, used, and accumulated as hazardous waste in the state. The effects of those chemicals most likely to present significant adverse health or environmental dangers must be assessed, and the sources, levels, and duration of human exposure to them must be identified. Producers, users, and handlers of hazardous substances should be required to register with a state agency and to indicate the types and amounts they deal with and the methods they use to manage them.

The state should be willing to take bold action to ensure that the health and safety of citizens are not sacrificed for economic considerations. Industries handling hazardous substances should be regulated according to the severity of the threat posed to the health of the populace. It may be necessary to impose severe restrictions on, or even to exclude, those industries dealing with the most hazardous materials until adequate management techniques are devised. The state's industrial recruitment policy should reflect the need to balance the desire for additional jobs with the responsibility for assuring a clean, healthy environment and safe working conditions.

Proper control of hazardous substances will depend to a large degree on the availability of adequate waste management facilities. When the state can guarantee, with reasonable certainty, that the location of these facilities will not threaten the safety of citizens, it should make public its guarantees regarding enforcement and liability in the case of damages. Incentives might be offered to counties willing to locate facilities within their boundaries.

LIFE-STYLES

Life-style diseases, such as heart attacks, stroke, lung cancer, and cirrhosis of the liver, are becoming increasingly important as causes of death and disability among North Carolinians. In 1980 heart disease, cancer, and cerebrovascular disease accounted for 66 percent of the deaths. More people are succumbing from these maladies because they are living longer and surviving infectious and parasitic diseases that were the primary causes of death in the earlier part of the century. However, fundamental environmental and life-style factors have also substantially contributed to the upward trend in these diseases. They are largely preventable, yet they are costly to treat and are often incurable. The major risk factors involved that are amenable to change include overeating; excessive intake of fats, sugars, and salt; lack of exercise; excessive use of tobacco and alcohol; and the mismanagement of stress.

Another major cause of injury and death in North Carolina that is affected largely by life-style is motor vehicle accidents. In 1980, for persons between the ages of one and forty-four, accidents were the leading cause of death and half of them were attributable to motor vehicles. The rate of death due to these types of accidents in the state is almost 9 percent higher than in the nation. The major role played in such accidents by driving under the influence of alcohol and drugs has recently been given much attention. According to

national statistics, alcohol is clearly the largest single contributing factor in serious and fatal motor vehicle accidents, as well as a major factor in those resulting in minor injuries. In 1980 analyses showed that in single and multiple vehicle accidents 61 and 22 percent respectively of the drivers killed were under the influence of alcohol (i.e., their blood alcohol concentrations were more than .09 percent) and another 11 percent had been drinking. In addition, 57 percent of the pedestrians killed were under the influence and another 10 percent had been drinking. Other life-style factors influencing the rate of death and disability associated with motor vehicle accidents include exceeding speed limits and failure to use seat belts.

Teenage pregnancy is a serious and growing health problem in the state. More than 16,000 babies were born to teenagers in 1980. Almost half of these were born out of wedlock. In addition, the number of teenagers having abortions increased by 63 percent between 1974 and 1980. Teenage pregnancy, which results from sexually active and noncontraceptive life-styles, has severe health implications for both mother and child. Teenage mothers often fail to seek prenatal care and are more likely to bear low birth-weight babies, who are more at risk in terms of mortality, morbidity, and birth defects, including mental retardation. Mothers aged fifteen to nineteen are twice as likely as older ones to die from hemorrhage and miscarriage and fifteen times more from toxemia.

People should not only be encouraged to adopt healthier life-styles, but should also be made aware of the adverse effects on health of smoking, misuse of alcohol and other drugs, improper diet, lack of exercise, stress, driving under the influence of alcohol and other drugs, and teenage pregnancy. Life-style changes can be fostered in a number of ways. The goal is to assist individuals, particularly those at high risk for chronic diseases, to change their behavior voluntarily. One approach might be to introduce a comprehensive school health education program in grades K-12. It should assist children and adolescents in improving decision-making skills; enhance understanding of the concepts of health and causes of disease; and foster knowledge about the effects of personal decisions related to smoking, alcohol, drug use, diet, exercise, nutrition, stress, and sexuality. Accident prevention, including special emphasis on automobile accidents and their primary causes, should be an integral part of the state's health education program.

Recommendation 14 **Strengthen and expand the state's health education program.**

In 1978 the General Assembly authorized the establishment, over a ten-year period, of a comprehensive school health education program for grades K-9. Responsibility for carrying out and administering it is shared by the state's 143 local administrative units, a local school health coordinator for each county (to date, sixteen coordinators have been funded in fifteen counties), and the State School Health Education Advisory Committee. A Health Education Study Commission, appointed by the State Board of Education in 1980, has recently made recommendations on various aspects of the program to the board. The continued growth of the program should be supported and consideration given to expanding it to grades 10 through 12.

An increased emphasis on health education in the public schools would require better training of educators. Too often, education in this field is limited to what personnel already know. Elementary teacher preparation is more limited than in almost any other curriculum area. Most students preparing for this field are estimated to take only one three-hour course either solely or partially devoted to health topics. In addition, a majority of the teachers certified to teach this subject at the secondary school level have only limited preservice or in-service preparation. This is because, until about 1977, they typically received dual certification in physical education and health even though their training most often emphasized physical education (e.g., thirty to thirty-six credit hours), only minor attention being accorded to health (e.g., six credit hours). Although dual certification is no longer allowed, all teachers who received it prior to 1977 are still certified to teach health. Few schools offer classes in the subject that are taught by health education majors.

A number of methods for improving teacher training might be instituted. Among those that should be considered are the following: strengthening restrictions on out-of-field teaching; requiring that teachers take renewal credits in health for recertification in that field; distinguishing, for teachers certified in health prior to 1977, between those who are adequately and inadequately prepared; establishing strong in-service programs for teachers who have only limited preparation in health; and encouraging the increased use of itinerant teachers in the subject at the middle and secondary school levels.²⁷

Local educators and administrators cite the preparation of a health education curriculum guide as a top priority for improving the school

health program. Although portions of a curriculum already exist and are considered to be quite good, the need for a planned, sequential, comprehensive guide remains. After carefully reviewing the draft curriculum to be presented by the Health Education Study Commission, the State Board of Education should adopt a comprehensive guide and formulate a plan for its application.

For those who have completed formal education, little attention is now paid to health promotion. Although health habits are a matter of personal choice, they can be influenced by other people. Thus, employers, civic groups, family members, and churches should assist citizens to become better educated about the overall health effects of their life-styles.

Recommendation 15

Develop health education, health promotion, and accident prevention programs for use by private sector groups, such as employers, civic groups, and churches.

Efforts should be made, within the existing health-care system, to provide resources that will assist individuals to adopt healthy life-styles and that will furnish preventive services to specific populations that are considered at risk. In addition, the establishment of community-sponsored health promotion programs, organized through interagency cooperation and voluntary participation of community members, should be supported. These could include health education and screening efforts that can be effectively conducted by such private sector groups as employers, civic groups, and churches. However, most of these groups lack the necessary resources to design such programs. The state could stimulate private sector involvement in health screening and health education by gathering and disseminating information about programs appropriate for small groups in this sector. Several businesses have already established successful programs.²⁸ In addition, as a large and highly visible employer, the state should take the lead in providing them for its own employees.

Goal VI

To Ensure That All People Enjoy Access to Adequate Health Care

Notwithstanding the recent progress in health-care methods and delivery, many North Carolinians do not have access to, nor can they afford, adequate health care. In June of 1982 forty-six counties and

portions of nineteen others were designated as shortage areas for primary-care manpower (having 3,000 to 3,500 residents per primary-care provider). Sixteen counties were designated as group one shortage areas (having either no physician or less than one per 5,000 residents). The projected increase in the number of elderly persons, who require the most extensive medical services, indicates a potential worsening of the consequences of this situation.

In addition to the geographic maldistribution of health-care resources, cost makes care inaccessible to many people. Approximately 14 percent of the population live in households whose incomes are below the poverty level. The state's manufacturing wages are the lowest in the nation. Current trends indicate little hope for significant improvement in these indicators of economic well-being. Yet the persons whose incomes most restrict their access to health care are also often limited to diets, housing, and working conditions that negatively affect their health.

The cost of medical care will continue to escalate. Both the fee-for-service system supported by insurance and the employer as well as personal tax deductions for health services have produced incentives that encourage expensive in-patient care, extensive diagnostic and testing programs, and the liberal use of high technology—all of which increase costs. New discoveries in genetics and technology, though improving the ability to sustain life, will likely intensify social concern about the presence of two levels of care: one for the rich and another for the poor.

Between now and the year 2000, two priority issues regarding health care for the populace will be to make it geographically accessible and to make it affordable.

GEOGRAPHIC ACCESS TO HEALTH CARE

To maintain and improve the geographic accessibility of health care, the state should increase its provision of technical and other assistance to hard-pressed communities and underserved populations. These services would include aid in formulating and conducting programs of basic primary care, subsidizing community participation in appropriate health-care plans, and increasing the use of transportation services to bring individuals to sources of care.

Recommendation 16

Continue programs that are providing health care in poor and rural areas and increase assistance to those areas and populations that remain underserved.

Much progress has been made toward meeting the needs of medically underserved areas. Rural areas have traditionally been unable to attract enough physicians to serve their populations adequately. Although this problem has not been eliminated entirely, the state's Rural Health Program and the Area Health Education Center Program have made significant strides in improving the access people have to care and that providers have to continuing education. Some rural populations, minorities, the poor and near-poor, residents of inner-city communities, and senior citizens continue to experience difficulty in receiving adequate care—even though the supply of physicians both nationally and in North Carolina is increasing.

A major challenge for the state in the next few decades will be to determine the most effective ways to maintain and improve access to health care for sparsely populated and economically deprived areas and for underserved segments of the population. Continuation of the programs that have been proven successful will be required. Support should be continued to established rural health clinics, and additional clinics should be considered in areas where the unmet needs for health-care services are the most acute. The establishment of neighborhood health centers to aid underserved target groups in high-density settings ought to be encouraged. The improvement of access to care may require innovations, such as the increased use of allied health professionals, as well as part-time or mobile health-care resources and more reliance on systems that transport patients to care.

AFFORDABILITY OF HEALTH CARE

The cost of health care has risen much faster than the overall rate of inflation. Medical-care costs in the state almost doubled between 1974 and 1980. This trend could have disastrous effects on citizens' ability to afford treatment unless corrective action is taken. According to Lawrence D. Brown of the Brookings Institution,

health care expenditures reflect five forces: 1) the nature and extent of consumer expectations; 2) the nature and extent of medical technologies; 3) the number and behavior of physicians; 4) the number and organizational character of hospitals; and,

5) the structure and scope of third-party payment mechanisms. These variables interact with one another in local delivery systems and therefore must be taken into account in formulating policies at the federal level designed to change these systems. Over time, all five variables have assumed values that call for more and better medical care. Larger numbers of consumers (some of whom find care newly accessible as a result of federal programs) bring ever-higher expectations to the system. The growth of medical knowledge and the diffusion of medical technologies generate an ever larger number of more costly procedures which become part of popular and professional definitions of good care. A growing number of doctors, facing these expanding consumer expectations and technological opportunities, have a strong professional and economic interest in giving each patient the most and the best. Hospitals in search of organizational prestige and high-caliber medical staffs have expanded their beds, facilities, equipment, and services—and herewith their costs.²⁹

Because of the number of variables and the complexity of their interactions, determination of a course of action that will lead to cost containment in the health-care system is very difficult. Yet the severity of the problem requires that the state thoroughly examine possible solutions and carry them out.

Recommendation 17

Study a variety of approaches for containing health-care costs and then vigorously apply the most feasible strategies.

In recent years, interest has been intense in "market approaches" based on "incentives" and "competition." Two of these approaches have received close attention. One would manipulate consumer cost-sharing, especially deductibles and copayments, in order to bring a larger share of the cost of health services to bear on consumers and thereby encourage them to shop around carefully for efficient providers. Consumer cost-sharing is a familiar feature of U.S. health insurance: consumers pay, directly, about 32 percent of the costs of health care. Specifically, in 1979 they directly paid for .8 percent of hospital, 37 percent of physician, 73 percent of dental, and 84 percent of drug expenditures. Recent workshops on medical-care cost containment for business leaders in North Carolina have advised them to purchase coverage that increases deductibles as well as copayments and that encourages outpatient care.

The second market approach to cost containment would design incentives for consumers to join efficient, organized health-care systems, usually health maintenance organizations (HMOs) or some other variant of prepaid group practice (PGP). The state has recently encouraged the growth of prepaid health plans (PPHPs) through creation of the North Carolina Foundation for Alternative Health Programs, Inc. The success of this program should be carefully evaluated. Some evidence indicates that such plans are most effective when they compose a significant portion of the market and when competition is adequate for consumers among the plans.

HMO proponents argue that the coordination of now fragmented units, including practitioners, hospitals, payment mechanisms, and medical centers, would make the scale of production conform to the technology of the medical industry and would better deliver care "on behalf of the whole person." The HMO combines, in one setting, doctors, clinics, hospitals, administrators, and consumers; and, under a central financial administration, assumes full responsibility for the health-care needs of members.

Proponents also assert that the more traditional fee-for-service reimbursement gives physicians an incentive to supply excessive care. Requiring doctors to provide care on a fixed budget, set in advance, and to share the risk of exceeding that budget, as does an HMO, reverses the illogical incentive system for fee-for-service. At the same time, the organization's need to compete for customers assures not only that doctors will avoid giving too little care for economic reasons but also that they will treat patients early, indeed keep them well, in order to hold down costs.

In some instances, market approaches to cost containment do not appear feasible. One such instance concerns the growth of unnecessary medical facilities and costly equipment. Currently, construction of medical facilities and purchase of medical equipment are regulated through a certificate-of-need process. Permits are based upon utilization data, such as that in the Medical Facilities Plan. Between 1975 and 1981 the Certificate of Need Program in North Carolina denied approval or discouraged the development of projects totaling approximately \$340 million.

Another cost-containment strategy, health promotion, was referred to in Recommendations 14 and 15 earlier in this chapter. This technique educates consumers in adopting more healthful life-styles and becoming wiser buyers of health-care services.

Many authorities think that the current third-party reimbursement structure encourages the use of more expensive care than is needed in some situations. Third-party payments may not now be

made directly to some of the qualified health-related personnel who can often provide preventive or primary care in an ambulatory setting. Such services may allay the costs of hospitalization or treatment by those who are more highly trained. Consideration should be given to increasing consumer access to the services of the former group by allowing third-party reimbursement for their services.

The business community, because it pays nearly half the nation's rapidly inflating health-care bill, has a major stake in controlling costs within that industry. One meaningful step toward reducing health-care costs is for business to try to improve the health of employees. The state should encourage business involvement in health-promotion activities.

CARE OF THE AGING

Because of increased longevity and changing demographics, health service demands will increase dramatically. By the year 2000, one of every eight North Carolinians will be sixty-five or older. As a group, older people require much more medical care than do younger ones, so that, as their share of the population grows, the use of medical care—total and per capita—increases from this cause alone.

Goal VII To Be Responsive to the Health-Care Needs of an Aging Population

The elderly are more likely than younger persons to be isolated and lonely. Nationally, 27 percent live by themselves. Most are over seventy-five years of age and are widows. Of those living alone, one in four is estimated to be socially isolated, having few contacts with others and being without meaningful social relations. They lack friends and usually communicate little with family members. The physical- and mental-health implications are serious. At the extreme, some isolated senior citizens are unattended when ill, are not able to take care of their basic survival needs, and die from starvation or exposure. Others become seriously incapacitated when chronic conditions are not treated.

In addition to these major problem areas, the aged are also more likely to suffer from inadequate diets. Food needs change as the body matures, and many people are not aware of the different nutrients their bodies need. Many older persons are also on special diets due to chronic disorders and need assistance in adjusting to them. Because

of the inability of many older persons to carry out the activities of daily living, they often find it difficult to prepare nutritious meals in their homes. Many are not able to move sufficiently within their environments. This limitation is caused either by their own infirmity or barriers to their use of transportation services. Mobility within the home is also a major problem for those who are confined to wheelchairs or beds.

Because many of the aged are the victims of stroke, hip fractures, and/or chronic diseases, they must receive adequate and continuing treatment. Unfortunately, 12 percent of the elderly in the United States contend that they have no regular source of medical care. They identify lack of transportation and the inability to obtain an appointment as soon as needed as the main problems in obtaining care. Those individuals reporting unmet health needs say the two main reasons are cost of the care and the difficulty involved in getting to the doctor.

Studies have indicated that the changes in life-style accompanying retirement, if not adequately planned for, can produce negative effects on the health of older persons. This indicates the need for preretirement training, beginning early in life, to prepare them for such changes.

The need for health-care providers trained to treat the special needs of the elderly must be anticipated now. Colleges and universities may need to expand instruction programs in geriatric and gerontological specialties. If it appears that an inadequate number of health professionals are being trained in them, incentives should be devised to correct this situation before it becomes critical.

Recommendation 18

Increase incentives to encourage health personnel to undertake and/or update training in geriatric and gerontological specialties; and ensure the availability of adequate instruction.

Over the past twenty-five years, between 5 and 6 percent of the aging population have been residents in institutions. Most of them are in nursing homes, homes for the aged, and mental hospitals. Although the rate of institutionalization for nursing homes has risen significantly, much of this increase can be attributed to the transfer of aged patients from mental hospitals to nursing homes after the inception of Medicaid. These massive relocations were due largely to financial-reimbursement incentives because the federal government shared the costs of nursing home care, while states bore most of the costs of mental hospital care.

A comparison of rates of institutionalization with rates of handicapping conditions reveals that most of the handicapped aged are not receiving institutional care. Twenty-one of every 1,000 adults between sixty-five and seventy-four are in institutions, and 83 per 1,000 are handicapped. Ninety-two of every 1,000 aged over seventy-four are institutionalized, but 162 per 1,000 are handicapped. These differences are significant, especially because all residents of long-term care institutions are not physically handicapped. Based on current utilization rates and the projected age structure of the older population by the year 2000, substantial increases in the demand for institutional care are anticipated.³⁰ Some experts fear that utilization rates will necessarily rise as the proportion of older adults who are childless increases and as a larger proportion of women work.

However, these numbers must be put in perspective. Over the past twenty-five years, between 94 and 95 percent of the aged have been living in noninstitutional settings. Although the percentage of senior citizens residing with their adult children has been declining (from 21 percent in 1950 to 12 percent in 1970), data indicate that this is attributable to an increase in the numbers of nondependent aged choosing independent living arrangements rather than a decline in the willingness of families to provide care for dependent older adults.

Most severely handicapped older people are cared for by their children or other relatives. Several studies have documented the pressures and strains suffered by families who accept the care of such individuals. Social services to help families bear this burden have traditionally received much lower priority than those designed to substitute for family care, and many federal and state regulations act as disincentives to the provision of care by families.

The aging population will require that the state increase its supply of both institutional and noninstitutional long-term care services. Inasmuch as in-home services for a patient are less expensive to taxpayers than nursing home care, though costs for a family are often significant, the need for more of this type of extended care is definite. It is doubtful, however, that more noninstitutional care will reduce the demand for long-term care beds in direct proportion to its provision because the characteristics and needs of institutional and noninstitutional client populations are not the same. Assuming no change in the intensity of long-term care bed use in the state, additional beds will be required to accommodate the growing aging population. The major problem is to plan appropriately for this future need.



Demand for health-care services will grow as the population becomes increasingly older. (N.C. Department of Human Resources)

Recommendation 19

Take the following actions to ensure the provision of long-term care services to meet the social and health needs of the aging population:

- a. **Examine current state and federal legislation and regulations, and seek waivers or changes appropriate to the goals of helping the aged remain independent and encouraging and assisting families to care for their disabled elderly members.**
- b. **Begin now to estimate the need for institutional long-term care for the aged and to make provisions that will assure the availability and affordability of such care.**

Although the growing number of senior citizens will undoubtedly require additional long-term care services, the state's first priority should be to keep them well and independent for as long as possible. This goal can be advanced by the provision of such services as home health and meal delivery, homemaker aid, home repair, adult day care, and escort and shopping assistance. Recent trends show increasing support for the concept of treating and caring for medically or socially dependent persons, whenever possible, in community settings rather than in institutions. The growing number of older citizens expected between now and the year 2000 will greatly expand the need for acceptable alternatives to institutional care. However, continued progress will depend on additional program development, financial resources, and community acceptance.

Noninstitutional care provides cost and social benefits for the recipient. At present, however, the benefits are few for the provider of this type of care. Possible incentives might include the provision of respite care and adult day-care services and the revision of regulations that make eligibility for aid dependent upon overall household income. Even if the state encourages the growth of noninstitutional care alternatives, some older persons will require institutional care. The state should assess the expected need for these services so that it can take action to ensure that adequate care is available and affordable.

CARE OF DEPENDENT PERSONS

The term "deinstitutionalization" has been used to refer to recent efforts to reverse the trend of providing treatment or care for certain dependent populations in environments physically separated from their home communities. Closely related to such notions as "normalization" and "mainstreaming," deinstitutionalization efforts have been pursued for a variety of target populations, including the chronically mentally ill, the mentally retarded and other developmentally disabled, the elderly, the physically handicapped, substance abusers, and juvenile and adult criminal offenders.

Goal VIII

To Ensure the Provision of Appropriate Care for Dependent Persons

Recent documentation of the neglect suffered by some deinstitutionalized persons has emphasized that this system requires more than

a shift in the locus of care. Rather, it should open up less routinized and more varied behavior for individuals, regardless of the facility they are served by or where it is. In other words, because "institutionalism" may occur in community-based settings as well as in large institutions, unless the needs of individuals are carefully assessed and met, *where* they receive care is less important than what happens to them. Thus, the concept of deinstitutionalization implies widespread adjustments in traditional patterns of care for dependent populations.³¹

In short, taking dependent persons out of institutions does not automatically better their lives; nor does returning such persons to the "community," unless adequate services exist to meet their needs. The provision of such services may not be simple. Most often, dependent persons face multiple problems, and access to a variety of services must be ensured.³² In addition, at least some degree of community acceptance is required if these people are to experience a sufficient degree of integration into the community. Yet public resistance to community-based alternatives appears to be growing—based, perhaps, on concern about the escalating costs of this care and its perceived threat to the quality of local life. Efforts should be made to achieve greater public acceptance of community-based services.

Recommendation 20

Define the primary objective of the state's policy regarding the care of dependent persons as the provision of quality care in the least restrictive environment necessary for effective treatment.

Inappropriate or inadequate community-based care must be viewed as equally unacceptable as inappropriate institutional care. North Carolina should make every effort to avoid the negative experiences that other states have experienced when the setting of care was given precedence over its quality. The state should recognize that institutionalization can be costly and often countertherapeutic for persons who, enjoying professional support and community acceptance, could function more independently in a noninstitutional setting. Therefore, North Carolina should continue to move toward the establishment of a comprehensive network of alternative community-based services to ensure that the needs of such people are met humanely. To this end, the state should carefully assess their needs; increase the availability of noninstitutional care alternatives, such as in-home services, day care, respite care, and other community-based services; and provide incentives to families who provide home

care and others who assist persons who would otherwise require institutionalization.

Priority should be given to the development of case management services for dependent persons being served in the community. Such services have been demonstrated to be of particular value in providing better care and improved, less costly management of programs for persons having multiple needs. Public education efforts to bolster local acceptance of community-based care for dependent persons are also needed. Furthermore, where institutional care is deemed to be most appropriate for a person's needs, it should be made as responsive as possible to personal requirements and abilities.

Housing

A serious shortage of safe, sanitary, and decent housing available to families of low and modest income continues to exist. Assuring the availability of adequate shelter for all citizens is a major concern of the Commission on the Future of North Carolina. To address this problem, substandard housing will need to be improved, the affordability and availability of housing increased, and the home-building industry strengthened.

Goal IX

To Make Safe, Sanitary, and Decent Housing Accessible to All Members of Low- and Moderate-Income Groups

SUBSTANDARD HOUSING

According to U.S. Census reports, North Carolinians are better housed than ever before. During the 1970s, their housing stock rose by 37 percent. At the same time, the number of substandard units (those that lacked complete plumbing or were overcrowded) decreased from 22 percent of the available housing stock in 1970 to 9 percent (193,831 units) in 1980. The most dramatic decline was in units without complete plumbing—from 252,319 to 115,928, a 54-percent drop. A reduction of 39 percent was experienced in the number of overcrowded households. Still, more than 723,408 (over 12 percent) of North Carolinians lived under substandard conditions by the usual

Census criteria. This number would be even larger if units deficient in heating equipment and insulation or that were structurally unsound were included. The consequences of bad housing are crowding; the use of hazardous heating sources; improper food storage and preparation; dangerous, faulty wiring; and overuse of unsound structures. These frequently result in increased accidents, health problems, and even fatalities.

Certain types of households enjoy a disproportionate share of the better-quality housing stock. Those that do not are diverse in composition but share one characteristic: their incomes are insufficient to pay for the housing they need. Female heads of households, minorities, elderly persons who live alone, and farm worker families are among this group that chronically suffers from poor housing. Federal programs have helped somewhat, but needy households, both owner and renter, number in the hundreds of thousands in North Carolina and appear to be increasing during the current recession.

The energy crisis brought awareness of a new high-cost item: energy used for heating and cooling thermally inefficient structures. The U.S. Farmers Home Administration (FmHA) first became aware that this was a significant expense burden as more and more loans were foreclosed because owners could not afford both house payments and higher utility costs. Instances of families having to forego heat in order to buy food due to excessive fuel costs were numerous. Housing consumers at all income levels have felt the impact of rising energy costs, but the group least able to absorb the extra expense consists of lower-income households, especially those that are renting substandard units. In this type of household, the utility expense frequently exceeds the rental charge, often tripling the tenants' outlay for shelter costs.

Currently, market sympathies are with the first-time buyer of middle-class standing (typical husband-wife unit, two wage earners), whose participation in the housing market is both necessary and desirable to keep the system of housing trade-ups operative. Therefore, most rescue efforts are directed toward helping this consumer group enter the housing market. Conversely, federal aid for poorer housing consumers is being substantially reduced.

The situation will likely worsen in the future: FmHA and the U.S. Department of Housing and Urban Development (HUD) are experiencing drastic reductions in staff and funding; condominium conversions are removing rental units from an already limited supply; and the state's present focus on attracting new industry is likely to increase the cost of housing as incoming high-wage earners create demand for the more expensive units. Current housing inadequacies

can only worsen if the economy fails to improve and the scarce resources of poorer households are overextended to meet daily necessities.

The private sector can be expected to respond promptly to the housing problems moderate-income families are experiencing. However, few plans are designed to help the long-term, chronically ill-housed, limited-income group gain access to affordable shelter. Priority should be given to this group, which has the fewest alternatives yet experiences the most severe housing difficulties.

Recommendation 21

Increase the rehabilitation, maintenance, and upgrading of substandard housing to make it safe, sanitary, and decent.

One way to reach and maintain an overall quality of shelter is to establish and enforce certain minimum-use and occupancy standards for all structures. These standards, commonly referred to as a housing code, deal with such matters as light and ventilation, room size and arrangement, installed facilities, sanitation services, and protection against fire; and are designed to guarantee a certain minimum level of fitness for existing residential dwelling units.

Although municipalities and counties are authorized to adopt housing regulations, the state has no uniform housing code. The feasibility of establishing one should be examined. This would take careful planning to ensure that the result was the improvement of the housing stock through rehabilitation, maintenance, and upgrading efforts rather than the removal of substandard units from the occupied stock. Provision for staggering the effective dates for compliance with the code according to the value of the house could give those having the lowest appraised value the most time to conform with the code.

Other efforts to improve the housing stock might include allowing an income-tax credit or offering local property-tax credit for expenses related to improving rental housing to meet minimum standards. Low- and moderate-income homeowners could be assisted through subsidized home-improvement loans such as those that have recently been made available through the North Carolina Housing Finance Agency. The state should also strengthen technical assistance for local communities in designing and carrying out housing rehabilitation programs as well as increase public awareness of the resources and progress of the Housing Finance Agency. Neighborhood associations and nonprofit corporations ought to be encouraged to buy, upgrade, and resell declining housing stock.

HOUSING AVAILABILITY AND AFFORDABILITY

If the state is to absorb the projected increase of a million households by the year 2000, the critical issues with respect to new housing are its availability and affordability. Otherwise, economic growth will be retarded, substandard housing will remain in use, dramatic price distortions will occur, and many people will be unable to achieve home ownership.

Between 1975 and 1980, the cost of a single-family home in the state increased by almost 100 percent. The average cost of a new home in urban areas at the end of 1981 was \$62,477 and for existing homes it was \$49,961; for rural areas, the figures were \$59,436 and \$50,521, respectively. At early 1982 interest levels, only 28 percent of the households could afford current interest rates for a \$50,000 home. Mortgage interest rates are expected to remain between 12 to 15 percent for the remainder of the decade. Assuming an average 13-percent interest rate for the 1980s, only 40 percent of the households could afford a \$50,000 home. The cost of safe and decent rental units has also increased sharply. The statewide average fair market rent for a two-bedroom apartment has been estimated to be \$386.60 per month.

Housing demands will increase dramatically over the next two decades as the number of households grows at a faster rate than the population (figure 7). Between 1980 and 2000, a million households are expected to be added, a 55-percent rise. Economic and population trends indicate that, in addition to a growing demand for single-family housing, the state will experience sharp growth in apartment demand during the short term. This will slow dramatically, however, in the late 1980s and a surplus of units will be available in the 1990s.

Compounding the housing problem is the fact that, because of an uncertain economy, high interest rates, and rising construction costs, new supply has become inadequate to meet the growth, development, and replacement needs of communities. Although temporary slumps in the industry can be overcome without serious dislocations inasmuch as demand for housing is deferrable, longer slumps, such as the current recession, can seriously alter the structure of the housing industry. During extended periods of deceleration, the material supply system contracts and skilled labor departs, which slows recovery and increases costs when upturns occur.

Without intervention in any facet of the housing problem between now and the year 2000, the incidence of substandard housing will likely decline more slowly than in the past; the disparities among regions, between rich and poor, and between black and white will grow and become more stark. The rate of home ownership may

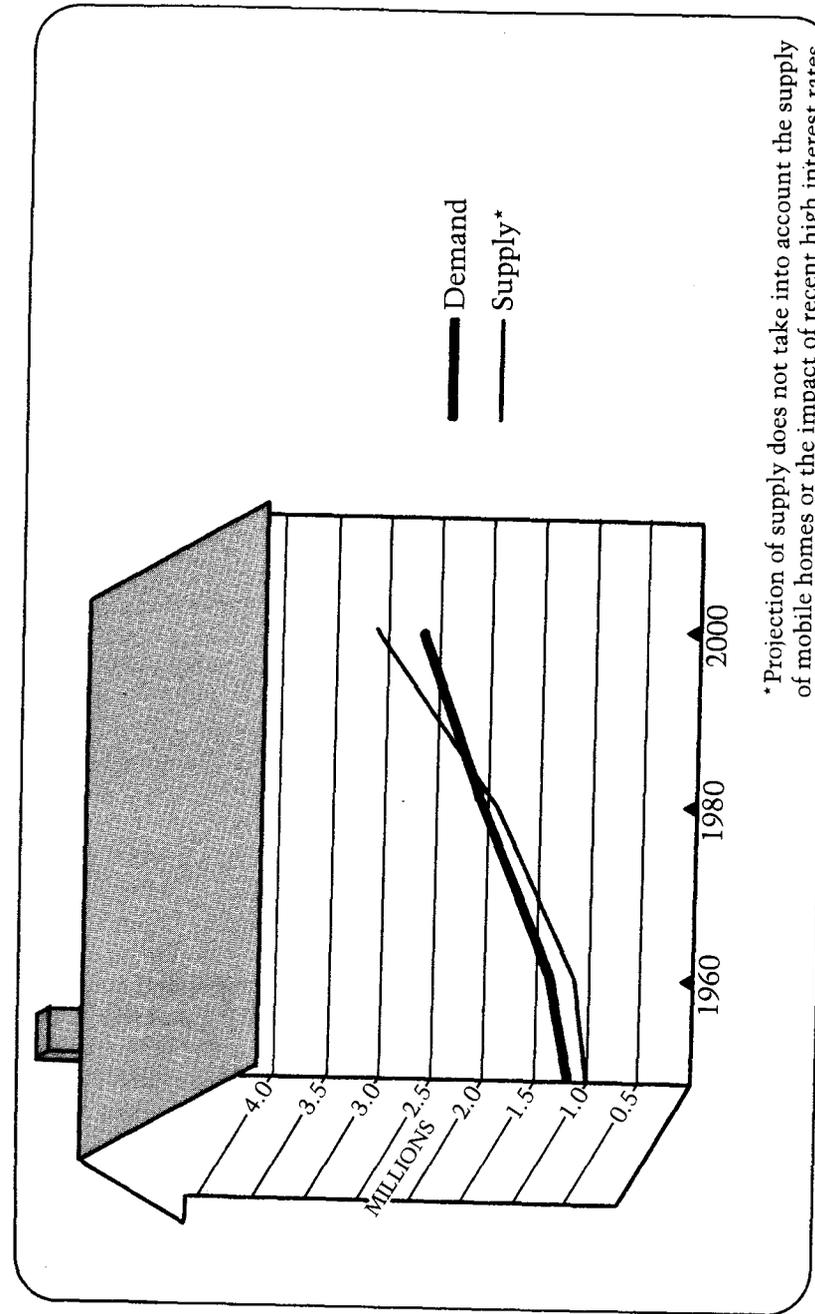


FIGURE 7. North Carolina Housing Supply and Demand, 1960-2000
Source: N.C. Department of Administration, Office of Policy and Planning.

decline if steps are not taken to help young families afford their first homes. Pressures on the housing market might significantly increase the rate of condominium conversions, which, though expanding the supply of affordable owner-occupied housing, could intensify the problems for moderate-income renters. Finally, older persons could be forced out of their homes by rising taxes and operating costs unless some form of public intervention occurs.

Although the national economy and monetary policies will have the greatest effect on the future cost of housing and the availability of mortgage capital, the state should do all it can to ensure the provision of adequate housing for its citizens.

Recommendation 22

Enhance the availability of affordable housing to all segments of the population through regulation and the use of innovative financing and construction techniques.

Financing the ownership of a single-family home has been the most significant problem for the housing industry. Builders pay about 2 percent more interest than the consumer, and conventional consumer mortgages have soared. This means that the average 1982 statewide income of \$19,648 for a family of four is far short of what is needed to finance a home using traditional private sector alternatives. In early 1982 interest rates required monthly payments in excess of \$855 for a house costing \$60,000; and, in order for a family to qualify for a loan to support this mortgage, an annual income of more than \$41,000 was needed.

Responding to the inability of families to afford traditional fixed-rate mortgages, banks are offering some financing alternatives, such as adjustable rate mortgages, graduated payment mortgages, and shared appreciation mortgages. The success of all these depends upon family income keeping pace with increasing mortgage payments. All involve some degree of risk for the homeowner and all are clearly out of the reach of lower-income citizens.

Presently, the North Carolina Housing Finance Agency's (NCHFA) Single-Family Program assists low-income persons by allowing families whose incomes do not exceed \$23,500 in urban areas and \$20,500 in rural areas to purchase homes at below-market interest rates. The agency's interest rate is tied to that of the bonds it sells to subsidize the purchase of homes by eligible families. The purchase price of homes financed by the program is limited. The federal enabling legislation under which the NCHFA operates its Single-Family Program expires after 1983. Because a continuing need will clearly exist for

aid to single-family home buyers, the state should lobby for the extension of this bonding authority and increase public awareness of the services offered by NCHFA.

Time did not permit the People Panel to examine in detail and to evaluate the feasibility of an array of other financing options. These include the increased use of public and private pension fund investments; reverse mortgages; special improvement districts; greater tax-exempt financing of construction loans for housing the needy population; use of Community Development Block Grant funds for housing; tax-increment financing; employment of eminent domain to convey abandoned land and buildings to low-income persons; down-payment assistance; monthly mortgage assistance loans under a graduated repayment schedule; use of vacant HUD properties or partial profits from the sale of unusable HUD properties to finance replacement housing for tenants; establishment of special savings accounts that would accumulate North Carolina income-tax-deferred interest, funds from which would be used exclusively for mortgage lending purposes; and a West German model using savings-contracts. Given the severity of the housing problem, all these options should be explored and their feasibility for application in the state evaluated.

In addition to innovative financing arrangements, reduced construction and operating costs can increase the future availability and affordability of housing. The state should increase its efforts to develop and encourage the use of solar and other energy-saving features in both new and existing homes. A good example is NCHFA's awarding additional points to developers who incorporate solar features into their multifamily projects. The points are part of a ranking system used to determine those that will be selected for funding.

Zoning ordinances are often unnecessarily restrictive and thus raise the cost of housing. One example in North Carolina is zoning that restricts manufactured homes from particular areas. These may be mobile or modular (multisection). The latter are manufactured in sections and transported to the construction site. Built to the same specifications as conventional site-built homes, they offer equal security and comfort. The cost of a modular home is approximately \$20,000, plus land and site development costs, compared to \$59,436 for a conventionally built new home in rural areas. Because modular homes have appreciated as much as 30 percent in a five-year period, they have been a much more affordable investment for new home buyers. The restriction of these homes through zoning, based solely on their origin (manufactured versus site-built), unnecessarily increases housing costs for consumers. The Michigan Supreme Court has ruled that such zoning is illegal. North Carolina should move

promptly to see that this and other zoning ordinances serving to increase housing cost without contributing to safety or quality are banned.

On the other hand, zoning can be used to control possible negative effects of practices that may lower housing costs. For example, zoning for lower-cost alternatives, such as mobile manufactured and multi-family complexes, can ensure that the negative aspects of large population concentrations are minimized. There is evidence that dispersion of such units throughout a community, ensuring access to adequate services, is beneficial. Too often, zoning is used to exclude such housing from communities and to concentrate it on their edge, maximizing negative effects.

North Carolina has a statewide Minimum Building Code, applicable to all construction. Building codes are designed to protect the public against faulty design or construction in buildings by regulating materials, quantities, weights, construction techniques, and similar matters. On the other hand, improperly drafted codes that have not kept up with recent technological advances may interfere with otherwise normal acceptance of new materials and construction techniques. While protecting quality and safety, building codes should allow for incentives to use new materials and construction methods, which result in lower housing costs.

Further study ought to be made of innovative materials, techniques, and housing options that meet consumer needs. For example, to lessen the shortage of apartment units in the short run and to avoid excess capacity later in the decade, rental units designed with plans for conversion to condominiums should be encouraged. Design features allowing later combination of apartments into larger units could be employed. Creative financing mechanisms, including partial credit of rental payments toward purchase, might be explored as a method of aiding young households to enter the ownership market. Elderly persons who own large units and who no longer require so much living space might be encouraged to subdivide or to otherwise rehabilitate them to expand the housing supply and, at the same time, gain a more appropriate and affordable living arrangement.

Housing unit design should accommodate expansion to meet the needs of a growing family. A decrease in demand for small single-family units is forecast nationwide, yet a temporary shortage of this type now exists. Construction of small units that could later be expanded would allow an increase in housing consumption and minimize costs.

Poverty

The incidence of poverty declined between 1970 and 1980 in both the United States and North Carolina according to recently released provisional Census statistics. The United States experienced a 9-percent drop in the number of persons below poverty; North Carolina, 28 percent. Although these figures indicate that the percentage of poor persons declined faster in the state than in the nation, this decrease must be judged in light of North Carolina's substantially higher rate of poverty in 1969, some 20 percent versus 14 percent for the United States. In fact, the state's rate was still above the national level in 1979, the United States and North Carolina rates being 13 and 15 percent, respectively (figure 8). During the ten-year period, North Carolina experienced a 17-percent reduction in the number of persons below poverty, compared with an 8-percent increase for the United States. Poor persons in the state still numbered more than 827,000 in 1979.³³

Shorter-term trends indicate that poverty was at its lowest point in 1973. Since then, both the number of persons in poverty and poverty rates have been increasing. Nationally, rates are expected to surpass the 1969 levels in 1982. Those in North Carolina are also rising and have consistently remained higher than those in the nation, though they are not approaching the state's 1969 level. These trends indicate that, though North Carolina's rate was reduced substantially during the past decade, future changes are likely to parallel the less dramatic changes in the nation as a whole. Yet the potential for North Carolina to experience a relatively large increase in poverty may be indicated by its larger proportion of "near poor"—persons below 125 percent of the poverty level. In 1979 comparable figures for the United States and the state were 17 and 20 percent, respectively.³⁴

Whatever their causes, changes in the number and characteristics of poor persons can provide much information about the number and kinds of people who are likely to be poor in the future. Increases in poverty since the mid-1970s reveal that the problem has not been solved. A closer look at who the poor are in terms of age, race, gender, and household type in North Carolina may identify possible approaches for helping the future poor.

North Carolina

United States

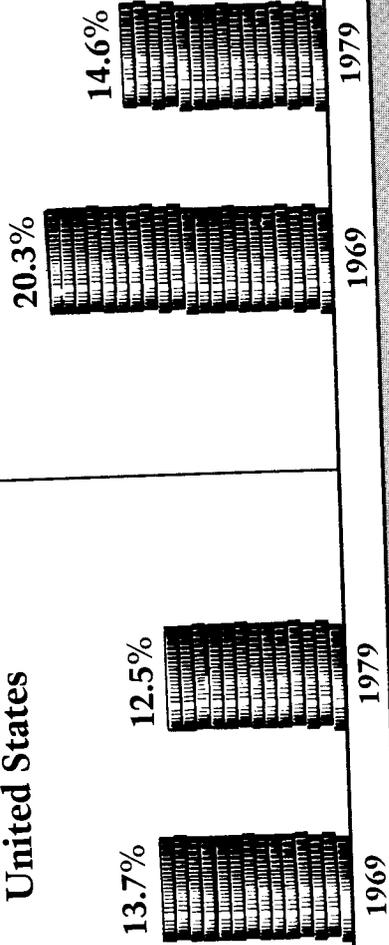


FIGURE 8. Percentage of Persons in Poverty, United States and North Carolina, 1969 and 1979

Source: N.C. Office of State Budget and Management, Research and Planning Services, "Provisional Estimates of Social, Economic, and Housing Characteristics: North Carolina and the United States," N.C. State Data Center Technical Report No. 1 (Raleigh, June 1982).

AGE

The aged are often thought to be the "success story" of the War on Poverty. Their U.S. poverty rate in 1981 was still above that of the population as a whole but substantially lower than half of what it had been a decade earlier. Clearly, the elderly benefited from the expansion of services, notably Social Security Insurance, during the 1970s. Indeed, they account for much of the decrease in official poverty rates during that decade. Recent trends indicate that poverty rates for the aged have increased less than those for the population as a whole since 1979, probably because the most important programs benefiting the elderly, including Social Security and Supplemental Security Income, are indexed to reflect changes in the inflation level.

Still, the overall reduction in official poverty has been very uneven among different groups of the aged, just as it has for the population as a whole. Older women face much higher risks of poverty than do older men, and both are much more likely to be poor if living alone. When the disadvantages of race, gender, and family status are combined, the poverty rates of the aged rise to appalling levels. In addition, it should be noted that many of the elderly have, in fact, moved from a few hundred dollars below the poverty line to only a few hundred dollars above it. In 1981 some 25 percent of the aged in the United States had incomes of less than 125 percent of the poverty level, compared with 15 percent whose incomes were less than that level.³⁵

Nationally, as the number of aged who are officially defined as poor has dropped, the number of poor children (under eighteen) rose. Almost two million more children were in this category in 1981 than in 1971. Their rate of poverty rose from 15 to 19 percent during that decade. Predictably, minority children face the largest risks of poverty. In 1981 some 45 percent of black children lived in families below poverty, compared with 15 percent of white children.³⁶

In North Carolina, the poverty rate for persons sixty-five and older is substantially higher than that of the United States: 24 versus 15 percent. A comparison of 1970 and 1980 Census data indicates that the number of poor children in the state declined from just over 400,000 to just under 300,000. The 1979 poverty rate for children (under eighteen) in North Carolina was 18 percent while the United States rate was 16 percent.³⁷

RACE

In the United States, the poverty rate for black people has not fallen below 30 percent since 1959. The rate for whites was as low as 8 percent in 1973. In 1981 the black and white rates were 34 and 11 percent, respectively. Despite the higher risk of blacks being poor, 68 percent of the poverty population was white.³⁸ The most current data available for North Carolina, from the 1980 U.S. Census, indicate that 52 percent of the poverty population was white. The 1979 rates for blacks and whites were 31 and 10, respectively. The 1982 Current Population Survey (CPS) data will likely show that both these rates have increased.

A comparison of poverty rates, by race and over time, shows that blacks, in both the United States and North Carolina, have consistently been more than three times more likely to be poor than whites. An analysis of 1970 and 1980 Census data reveals a slight decrease in racial disparity for North Carolina and none for the United States. More recent CPS data, not yet publicly released for North Carolina, show some improvement in the disparity for the United States. Still, the black rate is more than three times the white rate of poverty.

GENDER

U.S. Census data indicate that, at every age and for both blacks and whites, females are more likely to be poor than are males in the United States. The difference in poverty rates between genders is quite small for children under age sixteen and rises with age. Among those sixty-five and over, females are almost twice as likely to be poor. These differences are significant but do not approach the magnitude of the racial differences discussed above. The importance of gender in predicting poverty status is magnified, however, when used to define household type.

HOUSEHOLD TYPE

In the United States, of all household types, married-couple families have the lowest poverty rates. Rates among male-households, with no wife present, are higher and those among unrelated individuals are higher still. Families with female-householders, no husband present, have the highest rates: more than three times the rate for all families and four times that for married couples.

North Carolina poverty rates for household types conform to the national pattern. In 1979 some 32 percent of female-householder

families were poor, compared with 8 percent of male-householder families (male-householder families include husband-wife and male householders with no wife present). Female-householder families (no husband present) comprised 15 percent of all families and 41 percent of all families below the poverty level.

Comparison of the 1970 and 1980 Census data for North Carolina reveals some significant trends. First, the percentage of female-householder families in poverty has declined, from 41 to 32 percent. Yet the percentage of families in poverty that are female-householder families has increased, from 30 to 41 percent. The first trend indicates an improvement in the poverty status of female-householder families. The second indicates a decline in their relative well-being. In other words, though female-householder families were better off in 1979 than in 1969, male-householder families fared even better. In 1969 female-householder families were just over three times more likely to be poor than were male-householder families. In 1979 they were four times more likely to be poor.

Persons living alone or with unrelated individuals are much more likely to be poor, in both the United States and North Carolina, than are families. The United States and North Carolina poverty rates for families in 1979 were 10 and 11 percent, respectively; for unrelated individuals, 25 and 31 percent, respectively. Data are not yet available on the gender of the householders in the nonfamily households. It is possible that when female-householder nonfamily households in poverty are added to those families with female-householders in poverty, it will be found that a majority of poverty households are headed by females and it will undoubtedly be ascertained that female-householder households of both types, family and nonfamily, are disproportionately represented among poverty households.

Goal X

**To Reduce Poverty to the Greatest Degree Possible
and to Relieve the Plight of Those
Who Are Unable to Escape It**

North Carolina's poor are disproportionately black, children or aged, and members of nonfamily households or of female-householder families. When any of these factors are combined, the risk of poverty increases dramatically. Approaches toward reducing poverty among these groups must be designed with their particular characteristics in mind. Most strategies fall into one of two categories: economic solutions for those able to work and aid to those who are not.

THE ABLE POOR

Among the most significant trends described above are those indicating that persons in male-householder families are escaping poverty much more successfully than are those in female-householder families. By the year 2000, if current trends continue, the state will have 150,000 more female-householder families than it did in 1980. If poverty rates for this group do not improve, almost a third of those new households will be below the poverty level. Some means must be found to give persons in these families equal access to the kinds of productive employment opportunities that have helped bring male-householder families out of poverty. Since 1930 the median salary of full-time, full-year women workers has been about 60 percent of the median salary of men who work full time, full year. Two general and somewhat overlapping explanations have been offered for this discrepancy.

The first has to do with the family roles of women. Because of these roles, women's values, behavior, aspirations, attitudes, sex-role expectations, educational credentials, interrupted work histories, and lack of mobility segregate them into occupations where status and pay are low. The second explanation points to discrimination as the source of inequality in earnings. The explanations overlap because particular attributes of women workers may possibly contribute to the formation of discriminatory attitudes and behaviors on the part of employers. Programs aimed at making women's salaries more comparable with those of males will need to take into account all these factors.

To devise strategies for dealing with the structural factors that work against women's equal participation in the economy, the state first must immediately establish procedures for identifying those factors and for analyzing alternative solutions.

Recommendation 23**Undertake a comprehensive study of the relationship of women to the economy.**

Recognizing that minorities, female-householders, and their children represent a disproportionate share of the poverty population and that these groups face special barriers that can prevent their escaping poverty through the economic means available to white males, the People Panel makes the following recommendation:

Recommendation 24**Establish comprehensive training and job-placement programs that meet the special needs of low-income women and minorities.**

These programs should include arrangements for quality day care and transportation where necessary to allow the participation of low-income women. Training for and placement of women and minorities in nontraditional (higher paying) jobs should be emphasized. Training should encompass improvement of employability and job-finding skills and remediation in basic skills, where needed. Useful models might include successful elements of Work Incentives (WIN) programs, programs sponsored by the North Carolina Council on the Status of Women for displaced homemakers and for increasing women's participation in nontraditional jobs, the Human Resources Development Program in the community colleges, and the recently begun Community Work Experience Program (CWEP).

THE DEPENDENT POOR

Although every effort should be made to help those who are able to work (and their families) avoid or escape poverty through the kind of "economic mainstreaming" suggested above, it must also be recognized that the majority of the poverty population consists of persons unable to work. In 1979 some 36 percent of the state's poor were children (under eighteen); 16 percent were persons sixty-five and older.³⁹ Data are not available on the number of disabled among the working-age poor population, but many of them would also fail to benefit from job solutions.

For those persons who are unable to provide for themselves, the state should make every effort to ensure an adequate standard of living. Current benefits for the poor are inadequate. For example, in 1982 a mother in North Carolina who has two young children and no other income received \$192 (maximum payment) under the Aid to Families with Dependent Children (AFDC) program and \$151 in food stamps, for a monthly income of \$343. Her annual income was \$4,116, or 57 percent of the 1981 poverty guidelines. The evidence is substantial that such subsistence levels are woefully inadequate. A recent study in Maine shows, for example, that children in the AFDC and food stamp population are seven times more likely to die in childhood than are other children.

Recommendation 25

Revise aid programs to provide more adequately for meeting the essential needs of those persons who live in poverty and are unable to work (children, the aged, ill, and disabled).

The indexing of benefits to inflation for senior citizens is often credited with dramatically reducing that population's poverty rate. Similar automatic indexing for other poverty populations (specifically, those served by AFDC) should be considered. Currently, special legislative action is required to increase these payments.

The introduction of the Social Services Block Grant program will present North Carolina with a unique opportunity and the challenge to ensure that the needs of the people—especially the poor—are met. A thorough study should be made to determine the best way to allocate and administer this grant. Special attention also ought to be given to the provision of services on a temporary basis to meet needs that accompany crises. Such services, administered in a timely fashion, may enable families and individuals to avoid the need for more long-term assistance.

T · W · O

ECONOMY

Summary of Economy Goals and Recommendations

GOAL I

To Maintain a Favorable Economic Climate

Recommendation 1:

Modify tax policies where appropriate to maintain an economic climate that is competitive with other states, while giving due consideration to questions of tax equity and to the need to maintain adequate revenues for state and local government.

Recommendation 2:

Urge the state government to make a special effort to identify and modify rules and regulations that unnecessarily increase the cost of doing business, so long as these modifications do not undermine the original intent of the rules and regulations.

Recommendation 3:

Encourage the establishment of regional citizen organizations across the state that will take an active role in examining major economic issues facing their region and educating the public on alternatives for action.

Recommendation 4:

Stimulate regional and statewide marketing efforts that advertise an entire region as a destination for national and international travel and tourism; and provide adequate public funding for these efforts.

GOAL II

To Improve Access to Capital for Small Business, Industry, Agriculture, and Fisheries

Recommendation 5:

Explore the feasibility of establishing a public and/or private economic development corporation to provide small business owners in all areas of the state better access to capital; and evaluate the need for special outreach efforts to identify and support minority entrepreneurs.

Recommendation 6:

- a. Study the feasibility of assisting young farmers and other potential entrepreneurs by utilizing state funds to guarantee loans.
- b. Investigate the elimination of state inheritance taxes up to an appropriate maximum on intergenerational transfer of farm property and other family-owned small businesses to encourage retention of family ownership.

GOAL III

To Encourage and Support the Development of New Technology and Its Utilization to Increase Productivity and Stimulate the Economy

Recommendation 7:

- a. Direct the Task Force on Science and Technology to give special attention to the policies, procedures, organizational structures, information and communication arrangements, educational programs, and financial requirements necessary to facilitate the creation and use of new technology.
- b. Urge the legislature to appropriate additional funds for research and development in the textile industry.

GOAL IV

To Improve the Capacity of Training Institutions to Retrain and Upgrade the Existing Work Force

Recommendation 8:

- a. Urge future legislatures to place a high priority on job training and retraining as a means of dealing with anticipated changes in the industrial base and the demands for specialized skills.
- b. Expand the community college system's "customized" job program to meet the needs of existing industry for retraining and upgrading worker skills; the cost of specialized retraining and equipment should be shared by industry. A program to further these cooperative arrangements should be established as soon as possible.

GOAL V

To Minimize the Economic Dislocations Resulting from Changing Technology and from Shifts in Demand in National and International Markets

Recommendation 9:

Formulate and refine a continuing education and training curriculum that focuses on high-demand occupations.

Recommendation 10:

As a basic aid to enable parents to enroll in training, encourage the universities, community colleges, and technical schools to provide child care where needed (especially during evening hours); and devise mechanisms to minimize and share costs.

Recommendation 11:

- a. Provide grants and low-interest loans to low-income persons who are enrolled in the community college system for the purpose of upgrading their skills and increasing their earning power. Continuation of support ought to depend on acceptable academic performance.
- b. Expand the chances for adults to combine work and study.
- c. Encourage employers to provide adult basic education on the job.

GOAL VI

To Increase Opportunities for Women to Maintain Continuity in the Labor Force

Recommendation 12:

- a. Direct the Office of Child Day Care Licensing to expand its efforts to compile and make available to businesses a listing of agencies and individuals who can provide advice and consultation in determining which day-care options best suit the needs of individual firms.
- b. Encourage the Legislative Study Commission on Day Care to explore the need for additional tax incentives (such as a tax credit, as opposed to the current deduction) to reimburse businesses for a larger share of their costs in providing day-care benefits.
- c. Direct the State Personnel Commission to evaluate the need for day-care benefits among teachers and state employees.

GOAL VII

*To Encourage More Men and Women
to Enter Nontraditional Occupations*

Recommendation 13:

Direct the State Board of Education to monitor carefully the guidance counseling and career information programs in the public schools so as to provide young women and men with the same range of career alternatives, and encourage and support their entry into nontraditional employment by offering the appropriate instruction.

GOAL VIII

*To Create More Effective Community Support Systems
to Assist Young People in Making the Transition from School
to Work*

Recommendation 14:

Expand job-readiness training to make it available to students in high schools, community colleges, and technical schools.

Recommendation 15:

Develop coordinated, community-based, follow-up support programs for young workers to assist them in formulating job-development plans, gaining access to labor market information, and evaluating their needs for further training.

Recommendation 16:

Increase the number of formalized training alternatives for young people:

- a. Continue and expand as needed the "cooperative" program, which combines education and work, in the high schools and community colleges.
- b. Modify interdepartmental policies to allow young people below the age of eighteen to utilize the resources of the community college system so long as they meet established minimum proficiency standards in basic skills.
- c. Systematically expand the number and variety of apprenticeships and other trainee positions for a wide range of skills and occupations, including jobs in the public sector.

GOAL IX

*To Ensure the Availability of Adequate Transportation Facilities
to Support Economic Growth*

Recommendation 17:

Continue giving overall funding priority to maintenance rather than expansion of the highway system, while recognizing that expansion will be necessary in underdeveloped areas.

Recommendation 18:

Investigate alternative highway funding mechanisms, while seeking to assure that all highway users pay a fair share of the costs.

Recommendation 19:

Continue state financial support of airport facility development and consider providing financial aid for commuter operations serving small towns.

Recommendation 20:

Consider providing additional state financial support for public transportation services.

GOAL X

*To Ensure a Sufficient Supply of Energy,
Especially Electric-Generating Capacity*

Recommendation 21:

- a. Urge the legislature to formulate policies that will permit public utilities to provide sufficient energy capacity to sustain industrial growth.
- b. Encourage the appropriate agencies to recognize that public awareness of the financial problems facing public utilities is critical to the future growth of the economy.
- c. "Beginning immediately, the General Assembly should identify and initiate changes in state laws and regulations, including those regulating public utilities and the transportation industry, that would encourage conservation and renewable energy use." (Natural Resources Recommendation 14)

GOAL XI

*To Provide Adequate Supplies of Clean Water to Meet
Anticipated Demands Generated by Residential, Commercial,
Agricultural, and Industrial Growth*

Recommendation 22:

- a. "The General Assembly should establish a fair and effective basinwide system for water management, including countywide water supply plans, efficient direction of surface and groundwater service systems, regional coordination and allo-

cation of water supplies, and a statewide framework for conflict resolution, conservation incentives, and technical assistance." (Natural Resources Recommendation 6)

- b. "The General Assembly should provide for a program of systematic monitoring to document and protect major groundwater supplies." (Natural Resources Recommendation 7)

GOAL XII

To Maintain Sufficient Wastewater Treatment Capacity to Support Anticipated Residential, Commercial, and Industrial Growth

Recommendation 23:

- a. "By the year 2000, all sources of air and water pollution should be in compliance with applicable standards, and the state should have an effective environmental management system to prevent new pollution problems from arising." (Natural Resources Recommendation 1)
- b. "State and local governments should provide sufficient funds to enable all public water and wastewater systems to meet applicable water quality standards by the year 2000." (Natural Resources Recommendation 2)

GOAL XIII

To Provide for the Safe Treatment and Disposal of Hazardous Industrial Waste

Recommendation 24:

"All hazardous waste generated in the state should be safely recycled, neutralized, or destroyed, at the source where possible. The General Assembly should act promptly to provide adequate staff and authority to reach this goal and consider financing a substantial portion of the costs by levying fees on hazardous waste generators." (Natural Resources Recommendation 3)

GOAL XIV

To Create a Network of Information, Communication, and Technical Advice to Encourage and Aid the Growth of Small- and Medium-Size Businesses (Including Farms and Fisheries)

Recommendation 25:

- a. Direct the Office of Policy and Planning (DOA), working with the Business Assistance Division (DOC), to take the lead in identifying existing public and private agencies that provide

information and technical assistance to business, industry, and agriculture.

- b. Request the Office of Policy and Planning to cooperate with the Small Business Advisory Council and other appropriate agencies in enlisting a representative sample of business people (including farm operators and fishermen) to engage in an exhaustive review of existing services, to evaluate them for their accessibility to small- and medium-size businesses, and to identify any gaps that ought to be filled in the present mix of information and technical assistance services to business.
- c. Direct the Office of Policy and Planning, together with the Business Assistance Division, the Small Business Advisory Council, the Minority Business Agency, the Office of Telecommunications, and other relevant public and private agencies, to formulate a long-term comprehensive strategy to facilitate the emergence of a highly responsive network of information and technical assistance services to business, industry, and agriculture.

Recommendation 26:

Expand technical assistance to small- and medium-size businesses:

- a. Broaden the state Department of Commerce's role as a clearinghouse for technical, financial, and managerial information/advice for small and minority businesses.
- b. Provide through the university and community college systems specific courses in starting, financing, and operating new ventures.
- c. Furnish training in marketing, management, and financial planning for established small- and medium-size businesses, while paying special attention to the needs of minority businesses.
- d. Provide follow-up consulting services.

Recommendation 27:

- a. Improve support of business and agricultural firms seeking to export their products to international markets, especially those moving through North Carolina's deep-water ports.
- b. Expand the state Department of Commerce's role:
 - 1. As a clearinghouse for information on such topics as potential markets, trade policies, and export promotion programs.
 - 2. In providing a single point for coordination of services.

3. In furnishing consulting services to businesses participating in international trade.
4. In engaging businesses in a dialogue with state agencies, university researchers, and private investors to identify and capitalize on international trade opportunities.

Recommendation 28:

Stimulate technology transfer to business and industry:

- a. Expand technical assistance and consulting services to provide firms access to a wide range of new technology.
- b. Assist businesses in analyzing the costs and benefits of adopting various technologies.
- c. Focus industrial fairs on the most advanced and productivity-increasing technology.

Recommendation 29:

Expand information and technical assistance to all segments of agriculture:

- a. Make funds available to state agencies and educational institutions to update and broaden their capabilities to adapt services available to farmers to the trend toward greater computerization.
- b. Because of the increasing complexity of markets for agricultural products, expand market opportunities by increasing state funds for market development and export expansion activities related to agricultural commodities.
- c. Increase funding levels for agricultural research and development efforts to provide wider opportunities for modernization and adjustments in agriculture that lead to increased farm income.

Introduction

Achieving sustained economic growth while preserving the quality of life enjoyed by the citizens of the state is the ultimate purpose of the recommendations of the Commission on the Future of North Carolina concerning the economy. Economic growth can generate higher employment, larger per capita income, and more economic stability as well as individual economic security. At the same time, it affords the chance to achieve greater equality of employment oppor-

tunities and wages. The attainment of these goals requires actions that will:

- Provide a favorable climate for private investment in agriculture and industry.
- Raise the level of education and enhance the skills of workers needed to take advantage of new employment opportunities.
- Provide the public investment necessary to support economic growth.
- Facilitate the exchange of information and technical advice needed by businesses and individuals to make rational economic choices.

The following discussion focuses on the issues that the state must address in order to achieve these goals.

RECENT TRENDS IN THE ECONOMY

Over the past two decades, North Carolina has experienced rapid economic growth. Personal income, even after accounting for inflation, has increased by 140 percent. The state edged closer to U.S. per capita income, up from 71 percent in 1960 to 80 percent in 1980. The rapidly burgeoning industry has been a major factor contributing to overall growth. Since 1960 more than \$18 billion has been invested in new and expanding industries, and total employment has increased by 1.2 million jobs. This growth has been accompanied by rapid changes in the composition of industrial employment and the mix of occupations. The past is suggestive of possible future changes in the state's economic structure, in the following three areas: type of industry, wages, and occupational trends.

Changes in Employment by Industry

The economy has been growing more rapidly than that of the nation. From 1960 to 1980 total employment in the state increased 70 percent, as compared to the national figure of 45 percent. National and state employment are rising most rapidly in the service industries. From 1960 to 1980 state employment increased 84 percent in private and public services; wholesale and retail trade; and finance, insurance, and real estate. Manufacturing employment climbed 61 percent, and that in agriculture declined 58 percent.

The proportion of total employment in the service industries

increased from 43 percent in 1960 to 54 percent in 1980. Yet the state proportion of total employment in these industries in 1980 lagged behind the national proportion of almost 64 percent. Manufacturing in the state maintained its share of total employment from 1960 to 1980 at about one-third, and the share of agriculture declined from 13 to 4 percent.

Changes in Manufacturing and Wage Levels

Manufacturing employment rose by 61 percent from 1960 to 1980. This was almost four times that in the nation. Employment in the highest U.S. wage manufacturing sectors more than tripled from 1960 to 1980 and increased the proportion of high-wage jobs in North Carolina from 7 to 14 percent of total manufacturing in the state. The state's employment in the moderate U.S. wage manufacturing sectors climbed 47 percent; in the lowest, 39 percent. Thus, the highest-wage manufacturing sectors became relatively more important and the lowest slightly less so.

Employment in nonelectrical machinery and fabricated metals more than tripled from 1960 to 1980; in chemicals, transportation equipment, apparel, primary metals, and electrical machinery, it more than doubled. In tobacco and lumber and wood products, it increased less than 15 percent. In textiles, the single largest manufacturing sector, it declined. Despite some rather dramatic changes in some of the rapidly growing, high-technology manufacturing sectors, 55 percent of the state's total manufacturing employment remains in the four sectors where wages are the lowest: apparel, lumber and wood products, furniture, and textiles. The comparable figure for the nation is only 16 percent.

The level of manufacturing wages is often used to compare individual earnings and general economic well-being among the states. The average manufacturing wage rate in North Carolina increased from \$1.54 to \$5.37 from 1960 to 1980. Wages remained the same or rose relative to U.S. wages in thirteen of the sixteen manufacturing sectors. Average manufacturing wages in the state climbed from 68 percent of the national average in 1960 to 74 percent in 1980. However, average manufacturing wages still rank the lowest of any state in the nation.

Changes in Employment by Occupation

Changes in occupational employment are closely related to employee earnings as well as professional and technical skills. State employ-

ment in occupations having relatively high and moderately high earnings is rising most rapidly. In professional, managerial, and sales and clerical occupations—the three occupational groups where the earnings are highest—it more than doubled from 1960 to 1978.

The rate of increase in the employment of craftsmen, a skilled worker category, and operatives, a semiskilled category, between 1960 and 1978 was more than twice as large as that in the nation. The state's share of employment for low-skill, low-wage nonfarm laborers and service workers remained about the same from 1960 to 1978, while farm workers declined from 13 to 4 percent.

The widest differences in the state and national occupational employment distributions are: the national proportion of professional, technical, and service workers is more than a third greater than in the state; and the state proportion of operatives (truck drivers, machine operators, etc.) is more than 60 percent larger than in the nation. Professional, managerial, and skilled technical workers are expected to constitute an increasing share of future employment in the nation and in North Carolina.

STRUCTURAL CHANGES IN THE ECONOMY BY THE YEAR 2000

The state and national economies are likely to experience substantial and somewhat dramatic structural changes by the year 2000. The structure of the North Carolina economy is expected to continue to become more nearly like that of the nation. Employment in primary industries like agriculture, forestry, fishing, and mining and in traditional manufacturing is expected to continue to decline in relative importance if not in absolute terms (figure 9). The two major forces will be new capital investment and the adoption of new labor-saving technology to increase labor productivity and production efficiency. The major growth will likely be in business and financial services (especially information processing), recreation services, electronics, chemical and medical technology, and local and state public services. In terms of occupational mix, the rapid expansion areas will likely be in professional and technical services, such as information processing, repair of data processing equipment, office equipment, autos and household appliances, medical services, chemical and engineering technology, and skilled craftsmen. Opportunities for nonfarm laborers, domestic and other unskilled service workers, and farm workers are expected to decline.

The next two decades may prove to be an "Information Era"—in which substantial rises in employment will be related to the development, processing, distribution, and interpretation of information.

Innovations in electronics and telecommunications may affect the entire structure of society. Some analysts suggest that the advances may be so profound as to approximate a second industrial revolution. Some of the changes already underway affect research methodology and analytical procedures; communication and information systems; business organization; management and inventory control; financial arrangements among businesses and between consumers and commercial firms; office equipment and operating procedures; and information storage, processing, and retrieval systems.

Anticipated growth patterns in the state's major industrial groups are outlined below:

Agriculture

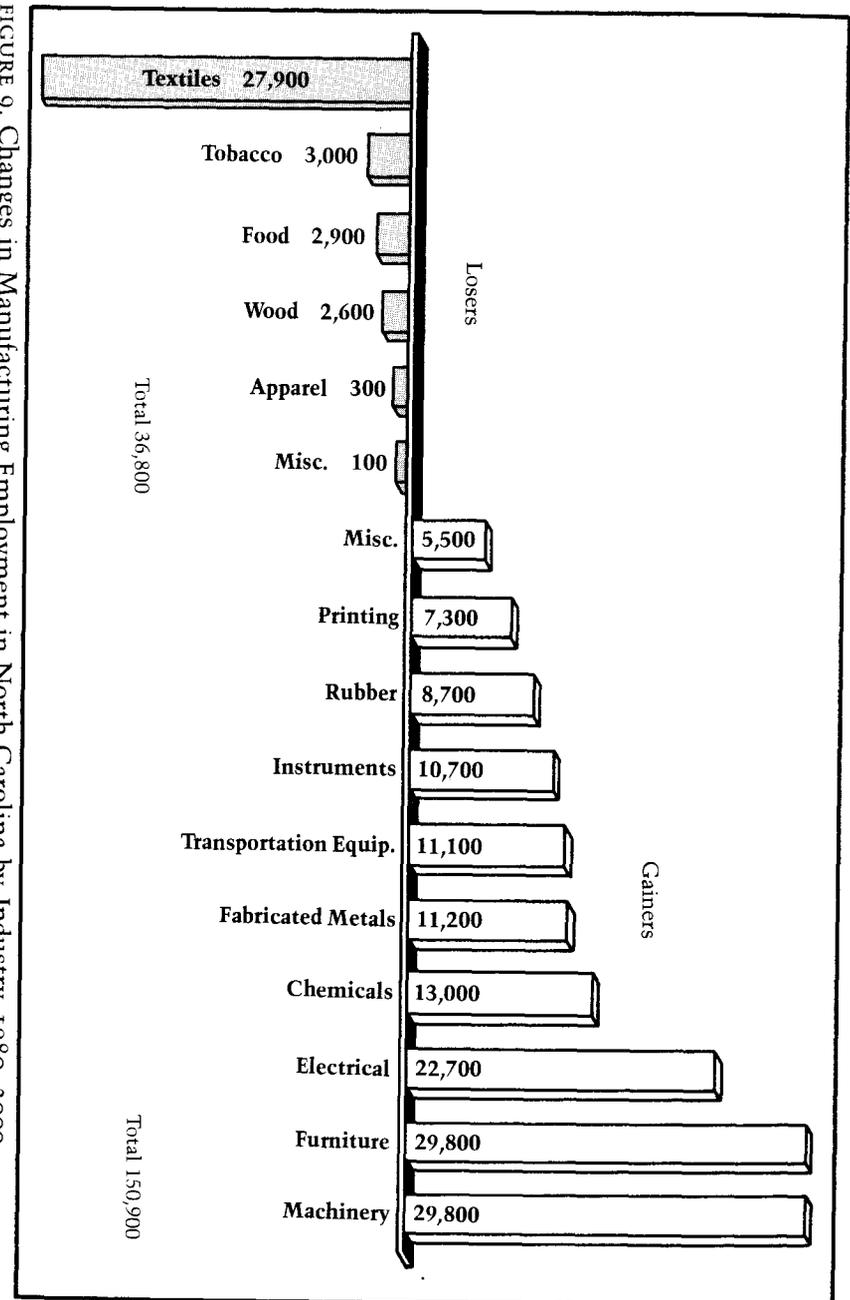
Tobacco, corn, soybeans, and peanuts are expected to continue to be major contributors to agricultural income, though major expansion of production of these crops is not likely. Others, such as vegetables, fruits, and ornamentals, may experience more rapid growth in sales than traditional row crops, which currently contribute the most to crop incomes. Large increments to agricultural income will continue to come from the livestock and poultry segments. Swine and poultry production will likely show the most expansion in the immediate future. Beef cattle and dairy production are less likely to rise at a similar rate. North Carolina agriculture may gradually expand to rank among the top ten states in farm sales value.

Manufacturing

Manufacturing in the nation and state seems likely to undergo substantial, and perhaps even dramatic, changes during the next few decades. Two major potential developments may be anticipated. The first is more rapid capital investment in high-technology machinery and equipment in labor-intensive industries like textiles, furniture, and, to a lesser extent, apparel. The new technology may include the use of robots performing routine on-line operations like welding, boring holes, inserting and tightening screws, and similar labor-saving technology; and the use of complex, electronic computers on mass-production lines to control and synchronize machine operations. These likely trends, along with increasing foreign competition, suggest that employment in textiles, food, lumber and forest products, tobacco, and possibly apparel is likely to decline during the next two decades.

The second likely development in the state is major growth in the

FIGURE 9. Changes in Manufacturing Employment in North Carolina by Industry, 1980-2000
Source: N.C. Department of Administration, Office of Policy and Planning.



high-technology, high-skill durable goods industries like fabricated metals, electrical and nonelectrical machinery, tools and scientific instruments, and high-technology military products. Chemicals, drugs, and plastics seem to offer the best potential for nondurable goods manufacturing.

Tourism

The state's diverse climate, natural resources, and accessibility to large numbers of people, coupled with increasing total and per capita demand for recreation and leisure activities, suggest considerable growth potential for travel and tourism. Unique features supporting them are: water resources, beaches, and climatic resources in the Coast region; natural beauty, terrain, and climatic conditions in the Mountain region; and climatic factors and recreational complexes in the southern Piedmont region. In addition, state parks, lakes, wildlife, nature trails, open space, and pastoral beauty found throughout North Carolina serve to supplement and complement the more unique regional resources in attracting tourists from within and outside the state.

Service Industries

Because growth in service industries offers the best potential for additional employment opportunities in the foreseeable future, it is not unrealistic to expect that by the year 2000 this type of employment will constitute two-thirds or more of the total. This includes business and financial services, recreational services, professional and technical services, personal services, wholesale and retail trade, public services, active and reserve military bases, and services to a growing retired population. State and local government employment will likely decline during a brief interim while adjusting to anticipated reductions in federal funding, but can be expected to continue its upward trend after a period of adjustment.

FACTORS AFFECTING FUTURE ECONOMIC GROWTH

National and international economic trade have played an increasing role during recent years in shaping the growth and direction of the state's economy. This will continue to be the case in the future. Sharing in many of the benefits of national economic growth will incur some of its liabilities. For this reason, the voice of North Carolina must be heard in shaping sound economic policies at the

national level. But the state should also take steps to solve its own problems and to take advantage of opportunities as they present themselves. The Economy Panel identified the following four areas on which attention ought to focus:

Private Investment. North Carolina and the South as a whole will continue to be net importers of capital well into the twenty-first century. Everything possible must continue to be done to attract private investment to the state.

Labor Force Development. The labor force will be growing only half as fast in the future. Two-thirds of the new entrants will be women. Much more attention must be paid to improving the skills of people already in the work force; special attention ought to focus on increasing the productivity and earnings of women workers.

Public Investment. Seventy percent of the projected growth in population is expected as a result of immigration. The growing demands for public services will place a special burden on local governments.

Information and Technical Assistance. The revolution in information and telecommunications technology presents the state with some special opportunities to promote growth while preserving its essential rural character.

Throughout the discussion that follows, it should be borne in mind that *the foremost objective for the economy over the coming years ought to be the aggressive enhancement of productivity.* If this is done, a major stride will have been taken toward improving business profits, raising personal income, decreasing dependence on public subsidies, and bettering the quality of life.

Private Investment

Private investment will play a central role—probably *the* central role—in shaping the future of the economy. But simply increasing the volume of investment to create more jobs will not be enough. The timing of new investments in existing industry will be critical in determining whether or not the state maintains its competitive edge in certain markets. The ability of small businesses to obtain

capital may well determine how fast new jobs are created. The technology on which new investment is focused will determine in large part how much improvement in real wages can be realized. And, finally, the caliber of management of new and old investment will determine how stable the economy is over the long run.

Private investment decisions are influenced by a wide range of considerations. In designing a strategy to stimulate private investment, the Economy Panel identified three major areas of concern: economic climate, capital formation, and research and development. Presented below are goals and recommendations addressing these three areas. Related concerns about the availability of information and technical advice are addressed under the section entitled "Information and Technical Assistance," which appears later in this chapter.

ECONOMIC CLIMATE

North Carolina currently enjoys a highly favorable economic climate. Rapid growth in population and personal income have created favorable market conditions. Good transportation links to the rest of the South enhance the state's strategic location with reference to the fast-growing markets of the region. Low state and local taxes as well as relatively low labor costs reduce the cost of doing business in North Carolina.

Goal I To Maintain a Favorable Economic Climate

North Carolina's competitive advantage in wages is expected to continue well into the 1990s. The wage gap separating it from the nation will close somewhat during this period, as the dominance of low-wage, labor-intensive industry is slowly eroded. Despite the narrowing of the gap, comparatively lower wages will continue to make the state an attractive location for new branch plants of national and multinational firms, as well as for foreign-owned manufacturing facilities.

The comparative advantage in state and local taxes may decline somewhat. Many states in the Northeast and Midwest have already moved to lower their taxes as a way of enhancing their attractiveness to new and existing industry. On the other hand, North Carolina, like many other states in the South, will be called on to make substantial investments in public facilities to support growth. A recent report of the Task Force on the Southern Economy points out the

dangers of being overly concerned about keeping tax rates low: "It is understandable that Southern politicians and businessmen want to keep state-local tax burdens low relative to other regions. But excessively tight controls on state/local spending and taxation could actually constrain economic development if these controls inhibit the ability of government to provide critical public and social services to new people and industry."⁴⁰

Another vital consideration is that taxes generally are not a major consideration in business decisions to locate or to expand. As Barry Moriarty has pointed out:

The widely held belief that tax differences among states and localities are an important factor in industrial location decisions . . . is not supported by the considerable study devoted to assessing its validity. Research on the effect of state and local taxes on location decisions reveals that although tax differences may play a role in certain decisions and may sometimes be influential in the final stages of the decision process when the choice has been narrowed to a few locations that meet more basic criteria, their effect is not a significant factor in most industrial location decisions.⁴¹

Two taxes on which attention ought to be focused are the application of the property tax to manufacturers' inventories and the intangibles tax, both of which may put North Carolina at a disadvantage in competing with neighboring states. For example, during the period 1971 to 1977, the state Department of Commerce documented 38 cases, involving an estimated 13,000 jobs, where the property tax on inventories resulted in manufacturing firms deciding against locating in North Carolina.

Recommendation 1
Modify tax policies where appropriate to maintain an economic climate that is competitive with other states, while giving due consideration to questions of tax equity and to the need to maintain adequate revenues for state and local government.

The regulatory environment is also a major factor in determining the overall economic climate. Regulations may contribute unnecessarily to the cost of doing business; when this is the case, new firms may be discouraged from locating in the state, and existing firms may choose not to expand.

A wide range of state agencies bear responsibility for reviewing

regulations. These include state departments responsible for internal review; state commissions that have rule-making authority; the State Budget Office, which reviews rules affecting the expenditure of state money; the legislature's Administrative Rules Committee, which determines whether or not a department has violated any statutes; and the Administrative Procedures Act section in the Department of Justice, which checks rules and regulations for format.

But no one agency has responsibility for reviewing and evaluating the substantive content of all rules and regulations to determine where they make sense and conform to legislative intent. Two conferences on rules and regulations have been held, but they have produced little positive effect.

Recommendation 2

Urge the state government to make a special effort to identify and modify rules and regulations that unnecessarily increase the cost of doing business, so long as these modifications do not undermine the original intent of the rules and regulations.

A third factor contributing to the overall business climate is the role of citizens in shaping development goals and policies. North Carolina is a large and diverse state whose three distinct regions—Mountains, Piedmont, and Coastal Plain—may call for very different economic development strategies. Awareness has been growing in some parts of the state of the need for more regionwide action on common problems. Western North Carolina Tomorrow and North-eastern North Carolina Tomorrow were organized to address such problems. Their basic objectives are research and public education. They are in a position to provide citizen support to a mutual state-local effort to coordinate industrial recruitment. They are clearly not intended to be Chamber-of-Commerce-type promotional organizations, but provide instead a forum for looking at a wide range of issues with a longer-term focus than local governments are usually able to do. In both cases, these organizations have established working ties with regional universities that provide them access to computerized data bases and the technical expertise of faculty members.

Recommendation 3

Encourage the establishment of regional citizen organizations across the state that will take an active role in examining major economic issues facing their region and educating the public on alternatives for action.

Tourism is North Carolina's third largest industry in terms of the impact of the some \$3 billion that travelers spend each year in the state. The Department of Commerce has waged an aggressive campaign to attract more of them. This effort needs to be augmented by regional promotions that lure visitors and conventioners to particular areas. Each of the three regions possesses vastly different resources and attractions that present a unique opportunity for regional promotion campaigns. Increased advertising and other efforts by the regions would strengthen the state's image as a travel destination.

Recommendation 4

Stimulate regional and statewide marketing efforts that advertise an entire region as a destination for national and international travel and tourism; and provide adequate public funding for these efforts.

CAPITAL FORMATION

Capital formation per se is theoretically never a problem. If an investment looks good, the money will be there to make it—all other things being equal. But, in the real world, all other things are rarely, if ever, equal. For example, North Carolina, along with the rest of the South, will continue to be a net importer of capital over the next twenty years. This means that, to attract capital into the state, investment opportunities must offer a higher rate of return and/or less risk than alternatives elsewhere. It also means that the market for capital within the state must be well developed to avoid shutting out a number of good opportunities, especially among small businesses.

A recent study by David Birch at the Massachusetts Institute of Technology indicates that new jobs are generated in a region as a result of the birth of new firms and the expansion of existing ones that may or may not have been located in the region prior to expansion. He stated, "Virtually no firms migrate from one area to another in the sense of hiring a moving van and relocating their operations."⁴² In North Carolina, industrial recruitment efforts are aimed at attracting expansion plants of national and international corporations. This endeavor has been and will undoubtedly continue to be very successful. Availability of capital within the state is not a contributing factor because most large corporations enjoy easy access to national and international capital markets.

But these corporations are also more vulnerable to downward shifts in the national economy. Layoffs in their branch plants have meant that recent national recessions hit North Carolina much harder than

in earlier years, when the economy was not so closely tied to that of the nation. To counterbalance this growing vulnerability to national economic trends, a strong base of small business will be needed, especially in the service sector, which is more resistant to recession.

Birch's data suggest that roughly half of all new jobs are generated by expansions. The other half are the result of the birth of new firms. This surprisingly large role played by relatively new businesses was reflected in a recent study of the electronics industry. The American Electronics Association surveyed its membership to measure the growth rate of firms in different age categories. It found that the growth rate for start-ups in 1976 was 115 times that of the mature companies. The growth rate for "teenage" companies ranged from twenty to forty times that of mature companies (those more than twenty years old).⁴³

Recognizing the role of new businesses in generating jobs, state policymakers are already broadening the focus of the development strategy to include the recruitment of entrepreneurs. It is they who migrate; they identify favorable locations and start up new ventures. The task facing the state is how to gain a comparative advantage in attracting entrepreneurs. Of significance in shaping this aspect of development strategy is Birch's finding that small firms (those having twenty or fewer employees) generate the largest proportion (66 percent) of all new jobs.⁴⁴ It is the small firm on which attention ought to focus. Unfortunately, that type is the hardest to reach with a wide range of services.

Several factors contribute to the successful start-up of a new venture. First is the research and development needed to move from a good idea to production of a good product. Second is the managerial know-how to organize an efficient production and marketing operation that yields a profit. How North Carolina can leverage both these factors to gain a comparative advantage will be discussed later in this chapter. The third factor essential to a new venture's success is the availability of investment capital at a reasonable cost. To the entrepreneur looking for a place to start a new business, ready access to long-term capital at comparatively low cost may be the decisive factor, especially when most other location variables are also positive, as they generally are in North Carolina.

Channeling capital to small businesses is also an efficient way to generate jobs and income. Federal Trade Commission data show that manufacturing firms whose assets are less than \$5 million have, as a class, been consistently more profitable than any other category of manufacturing firms. Between 1977 and 1980 (third quarter) the return on equity after taxes to the smallest firms was 18 percent,

compared to an average of 15 percent for firms of all sizes. The profit margin separating small and large firms was even greater before taxes. The before-taxes rate of return for small firms was 29 percent, contrasted with an average return of 24 percent to businesses of all sizes. Small firms pay out roughly 2 percent more in taxes than the average for firms of all sizes.⁴⁵ Finally, small firms provide more jobs per million dollars of investment than do large firms. In this context, meeting the capital needs of new ventures, and of small business in general, may be the single most effective step the state can take to assure healthy economic growth in the future.

Goal II

To Improve Access to Capital for Small Business, Industry, Agriculture, and Fisheries

Agricultural production represents a phase of economic activity that is of major significance to the economy. Farmers share with small businessmen the problems posed by high interest rates and the scarcity of long-term capital. However, they also encounter special problems in the capital markets that are peculiar to agriculture. These will be addressed later in this section.

The harvesting and processing of seafood accounts for a substantial segment of the coastal economy. The demands of this industry for capital have grown in recent years because of the need to modernize the fleet, to introduce new electronic navigation and fish-finding equipment, and to expand processing capacity.

The textile industry faces the threat of damaging international competition unless it can modernize its plant and equipment to increase productivity. But the new technology is expensive. As a result, capital requirements are enormous. As in most industries, the smaller textile firms will have the hardest time raising the necessary long-term capital to finance modernization.

Women and minorities face special obstacles in gaining access to business capital. As a group, they have less experience and familiarity with established practices in the business and banking community. They stand to benefit most from preloan technical assistance designed to seek out and develop good investment opportunities.

In North Carolina, the goal of improving access to capital means finding ways to lower its effective cost. A comparatively long history of branch banking has resulted in a broad-based financial market that provides business people in virtually all parts of the state with access to lending institutions capable of meeting their needs. How-

ever, from a practical standpoint, banks making loans to small businesses face one major obstacle: it costs about as much to package a \$20,000 loan as it does one for \$1,000,000. The return to the bank is fifty times as large on the latter.

Recommendation 5

Explore the feasibility of establishing a public and/or private economic development corporation to provide small business owners in all areas of the state better access to capital; and evaluate the need for special outreach efforts to identify and support minority entrepreneurs.

The concept of the development corporation has gained wide support in the last few years as a mechanism for encouraging capital formation; directing investment to fast-growing, highly productive, young firms; and reducing the risk usually associated with such investments. Such a corporation reduces the cost to the investor of making such investments by taking responsibility for identifying profitable opportunities, evaluating the risks, and enlisting the participation of banks and other private investors. The corporation may provide technical assistance to businesses receiving loans to increase the chances of success. It offers an opportunity to utilize resources such as the Retired Senior Executives Program.

The risk to investors and, therefore, the interest rates charged to businesses can be reduced through the use of federal guarantees. The Small Business Administration (SBA) recognizes development corporations organized along certain guidelines by certifying them as eligible for participation in its 503 loan guarantee program. The Neuse River Council of Governments, in New Bern, has already begun participating in this program; Region E, Asheville, and Wilmington are seeking certification. The existence of local and regional development corporations does not preclude the establishment of a statewide corporation.

Under the terms of the 503 program, a development corporation is authorized to sell debentures pertaining to an identifiable small business with SBA's 100-percent guarantee. The SBA debenture may not exceed \$500,000 nor comprise more than 50 percent of the total. The development corporation or the business receiving the loan must supply 10 percent of the total capital needed; the remaining 40 percent must come from private sources, such as banks and other investors.

The Governor's Blue Ribbon Commission on Rural Development recommended in its final report, issued in December 1980, that a

rural ventures corporation be established to stimulate development in rural North Carolina. Foundation support for a revolving fund is currently being sought. The rural ventures corporation is very compatible with the proposed statewide development corporation. Together, they would assure that North Carolina is in the position to offer a wide range of attractive financing arrangements to new and expanding businesses.

Farmers have been faced with increasingly large needs for borrowed funds. Because of rising land and equipment costs and fewer inputs coming from the farm, their debt service loads are increasing. As competition increases for loanable funds and greater access to major money markets by all sectors of the economy, they will no longer enjoy localized credit markets whose banks service predominantly farm-oriented clientele. The availability of funds at rural banks could become a problem as more local funds are drawn to investments outside of those areas. Farmers will be paying interest rates comparable to those of other major business operations. During periods of inflation, costs of funds escalate more rapidly than prices of farm products.

Historically, the annual rates of return on investments in farming have been low relative to alternative investments. Whether or not the current generation of farmers will be able to operate in the increasingly competitive capital market is critical. The problems at the entry level are especially serious. Larger capital investments needed each year to enter farming, coupled with low rates of return on farm assets, make it extremely difficult for farmers to finance their operations and survive long enough to build up sufficient equity to remain in farming. Because of the aging of farm proprietors, additional young farmers are needed, even though the number of farms may continue to decline in the future through consolidation of existing ones into larger and more efficient proprietary units.

Recommendation 6

a. Study the feasibility of assisting young farmers and other potential entrepreneurs by utilizing state funds to guarantee loans.

b. Investigate the elimination of state inheritance taxes up to an appropriate maximum on intergenerational transfer of farm property and other family-owned small businesses to encourage retention of family ownership.

RESEARCH AND DEVELOPMENT

The ability to transform fundamental advances in scientific knowledge into new or improved products and services underlies virtually every advance in economic productivity and human well-being. For years following World War II, the United States led the world in utilizing scientific knowledge. Now it is falling behind. The key issue is: how can scientific resources be utilized more effectively to improve economic productivity and stimulate economic growth?

Fostering a new approach to technological innovation is the combined responsibility of state government, public and private research institutions, local governments, business and industry, the federal government, and the general public. The principal new role for state government is to identify key policy decisions involved, to act as a catalyst in bringing together all the relevant participants, and to ensure that the decisions reached are in the public interest.

North Carolina has already moved into the forefront of scientific and technological growth in this country. Capitalizing on the outstanding resources within its public and private institutions of higher education and establishing the Research Triangle Park as an international center of scientific advancement, the state has pursued an aggressive policy of improving its scientific and technological base.

A variety of institutions and organizations have, over the years, taken steps to enhance research capacity. Individual entrepreneurs, private businesses, and other independent entities have invested in basic and applied research and development. The colleges and universities have upgraded their status as leading research institutions. State and federal funds have supported research and development; scientific equipment and facilities; student support; faculty salaries; and special institutes and educational programs, such as the Microelectronics Center of North Carolina and the Biotechnology Center of North Carolina. In short, many investments have been made to enrich the state's scientific knowledge bank.

New and substantial needs have arisen in recent years for research and development in industrial production techniques and processes. The new electronically controlled textile equipment currently being brought on line in the state was for the most part developed abroad. If North Carolina is to maintain its competitive advantage in the production of textiles, major research will be needed to make best use of the new technology now available and to take the lead in developing the next generation of equipment.

Apart from problems such as those facing the textile industry, the principal deficiency at this time is not the quality or quantity of

basic research that is being carried out. Although more resources devoted to this type of research would be welcomed, the principal deficiency lies in the organization of those research and communication capabilities that bring about technological change. Basic research accomplishments are not percolating through the economy fast enough nor are they producing sufficient impact.

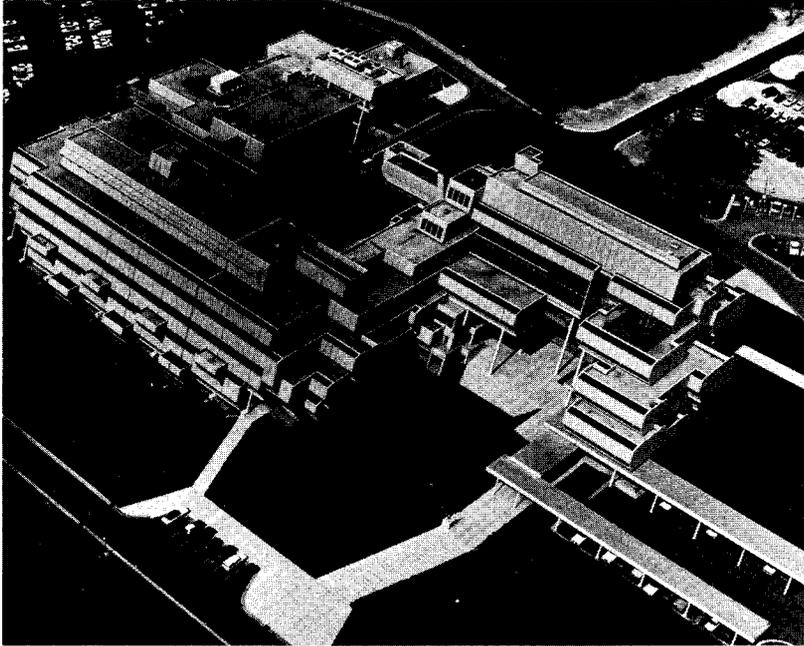
Ironically, the problem is most evident in those fields—such as microelectronics and biotechnology—where the pace of scientific advancement has accelerated to the point where the distinction between “basic” and “applied” research, as well as the relationships among the university community, government, and business and industry, have become blurred. The far-reaching economic consequences of recent advances in basic research lend significance to the question of how these relationships are redefined. Ways must be found to preserve the fundamental integrity and purpose of the university as well as of government and of industry and at the same time to realize the full economic potential inherent in basic and applied research.

The first step is to sort out the legal and financial rights, obligations, and responsibilities of the various public and private institutions involved. But the larger and more significant issue is how to modify relationships both within and among the university system, business, and government to increase the likelihood that new ideas will be translated into routine and reliable means of production.

Goal III To Encourage and Support the Development of New Technology and Its Utilization to Increase Productivity and Stimulate the Economy

Several major steps can be taken to improve the rate of technological innovations: provide top-quality training at all levels of science, mathematics, and engineering; offer ample opportunities for continuing education for technical and professional personnel; introduce management practices that give workers a personal stake in innovation and productivity; ensure the availability of venture capital to finance promising innovations; cultivate vigorous entrepreneurial leadership and enlightened resource management; and furnish major incentives to increase productivity, giving particular attention to long-run innovative breakthroughs.

The Governor's Task Force on Science and Technology has been convened to examine what the state's role ought to be in formulating



The Research Triangle Park epitomizes North Carolina's ascendancy in advanced technology. The corporate offices of the Burroughs Wellcome Company. (N.C. Department of Commerce; photo by Clay Nolen)

and carrying out a strategy to increase the rate of technological innovation. The governor is urged to broaden the mission of the task force, as indicated in the recommendation that follows.

Recommendation 7

- a. Direct the Task Force on Science and Technology to give special attention to the policies, procedures, organizational structures, information and communication arrangements, educational programs, and financial requirements necessary to facilitate the creation and use of new technology.**
- b. Urge the legislature to appropriate additional funds for research and development in the textile industry.**

Labor Force Development

Investment in human capital—to upgrade the quality of the work force—may be the second key to the future of North Carolina's economy. The skill requirements of business and industry are changing rapidly because of changes in technology and market orientation. Some forecasters estimate that the skills of 40 percent or more of the current work force will become obsolete over the next two decades.

At the same time that the needs of business are changing, the work force will be growing more slowly. Fewer young people will be entering the labor market; the labor force will on the average be older. This means that a new generation of workers cannot be awaited to meet the changing needs of industry. The current supply will constitute more than 80 percent of the work force in 1990 and more than 70 percent in the year 2000. The investments made during this decade in training, retraining, and upgrading it will in some major respects determine the quality of growth that the economy is able to realize as it approaches the twenty-first century.⁴⁶

Requiring special attention will be the needs of four groups: business, for critical new skills required by changing technology; individuals displaced by technology; women workers; and teenagers, especially blacks, who in recent years have experienced the highest unemployment rates of any group in the state.

CRITICAL SKILLS

The mismatch between the needs of employers and available workers is growing. In a number of professions and skill areas—such as machine tool workers, electronics technicians, tool and die makers, test technicians, optical personnel, and many types of engineers—shortages of trained workers are becoming barriers to industrial growth. Rapid growth in the demand for services, entertainment, and tourism has created shortages in a wide range of occupations, such as chefs, bartenders, and personnel in building maintenance and hotel management. In some cases, even the definition of the relevant skills is changing. For example, tool and die makers need far different skills than they did five years ago because the equipment is now computer controlled.

Primary responsibility for the formal training that prepares new entrants for the labor market will continue to rest with the system of

public and private training institutions: the public schools, community and technical colleges, and four-year private and public colleges and universities. However, the rapid pace of technological change will increase the need for actively involving business and industry in the design of training curricula to assure that what is being taught is relevant to the needs of industry.

Responsibility for bridging the gap between the classroom and the workplace must be shared by employers and the training system. The state is already doing well in this area from the standpoint of new and expanding businesses. Community colleges and technical schools are in the position to offer programs that meet the unique needs of specific firms for particular jobs. Recently the legislature allocated funds allowing community colleges to offer specialized training to small groups of students, thus increasing their flexibility in aiding small businesses.

The community college system has also recently begun formulating specialized programs that will enable it to offer in-depth training in a broad range of technical fields. The involvement of business and industry in designing and carrying out these specialized skill development programs will be highly desirable because they will enjoy the opportunity to shape training to meet their needs. At the same time, the community college system would have the opportunity to furnish leadership in the application of new technology.

UPGRADING AND RETRAINING

Rapidly changing technology and stiff market competition at home and abroad will increase the need to upgrade and retrain the existing work force. For example, new electronically controlled spinning and weaving machines have radically altered the skill requirements of the textile industry. The basic responsibility for the design and provision of employee upgrading and retraining must reside with employers, who know their own training needs best. Any program designed to facilitate and encourage upgrading and retraining must give employers total flexibility in meeting their employment needs.

Goal IV

To Improve the Capacity of Training Institutions to Retrain and Upgrade the Existing Work Force

Rapid changes in technology mandate a carefully planned and adequately funded program to update equipment in the state's commu-

nity colleges and technical institutes. Incentives to attract, retain, and update instructors are also of critical import.

As noted earlier, the community college system is already providing "customized" job training for many new industries and, in some cases, for the expansion of existing ones. For the most part, these programs focus on entry-level skills. In light of the growing need to upgrade worker skills, they should be broadened explicitly to include retraining for existing industry, and industry should share some of the costs. In exchange for tailoring a program to the specific needs of the individual firm, the employer should be asked to establish a regular upgrade plan that will provide workers with an opportunity to increase their productivity, assume additional responsibility, and earn higher wages.⁴⁷

Recommendation 8

- a. Urge future legislatures to place a high priority on job training and retraining as a means of dealing with anticipated changes in the industrial base and the demands for specialized skills.
 - b. Expand the community college system's "customized" job program to meet the needs of existing industry for retraining and upgrading worker skills; the cost of specialized retraining and equipment should be shared by industry.
- A program to further these cooperative arrangements should be established as soon as possible.

In addition to stimulating growth in productivity and wages, customized retraining programs offer the community colleges and technical schools a way of keeping up with the changing needs of industry. The experience gained in designing and operating retraining programs can provide valuable information to aid in updating basic training curricula.

DISPLACED WORKERS

For the foreseeable future, hundreds of thousands of workers in the United States will be displaced each year as a result of domestic and international economic competition and the application of new, labor-saving technology.⁴⁸ In North Carolina, the effects have already been felt in the textile industry, where 49,000 jobs have been lost since 1973. If during the 1990s the industry loses out in the competition for international markets, another 75,000 jobs in state textile firms could be eliminated, plus an additional 75,000 in related

industries.⁴⁹ On the other hand, as the textile industry retools, using much of the labor-saving, electronically controlled technology currently available, a sizable number of jobs may be lost; and the skills required of the workers who remain will change substantially. Unless major steps are taken to avoid economic dislocation, North Carolina in the 1990s could look like Michigan in the 1980s.

Goal V

To Minimize the Economic Dislocations Resulting from Changing Technology and from Shifts in Demand in National and International Markets

Most displaced workers will possess work experience, work habits, and even some skills that can be redeployed in other industries. In some cases, adjustment can be accomplished simply by providing information that matches available workers to available positions. This requires the provision of adequate information to the public on where as well as what kinds of openings exist. However, for many workers, knowing where the jobs are will not be sufficient; they will require retraining to upgrade their skills so that they may qualify for employment in other industries. Special efforts ought to be made to formulate an education and training curriculum in the university and community college systems that focuses on those occupations for which a high or growing demand already exists.

Recommendation 9

Formulate and refine a continuing education and training curriculum that focuses on high-demand occupations.

Recent experience indicates that women and minority workers are the most vulnerable to displacement. Efforts to assist displaced workers ought to be designed that consider the special needs of these groups. Among adults who must return to school for additional training, two obstacles pose practical problems: the lack of appropriate child care for single parents who have small children and the limited availability of financial assistance for low-income students.

Child-care services provided in the private sector are frequently not available, especially during the evening hours, or are too expensive for low-income parents. North Carolina State University (NCSU) and Meredith College provide two examples in the Raleigh area of how education and training institutions might respond to this need.

NCSU provides child care at a nominal fee, 50 cents per child per night, for children of parents enrolled in evening classes. Meredith College furnishes it both for regular day students and for evening and weekend continuing education students.

Recommendation 10

As a basic aid to enable parents to enroll in training, encourage the universities, community colleges, and technical schools to provide child care where needed (especially during evening hours); and devise mechanisms to minimize and share costs.

A student can attend one of the institutions in the community college system more economically than any other postsecondary institution in the state. However, without continued federal backing of financial aid programs, training offered at these institutions will become virtually inaccessible to many economically disadvantaged students. Budget cuts and policy changes at the federal level threaten these programs.

Currently, 47 percent of all students enrolled in degree programs in the community college system live in households where incomes are less than \$8,000. A 1982 survey by the Department of Community Colleges revealed that financial difficulty was the second most frequently cited reason for students dropping out; conflicting job hours ranked first. Lack of sufficient economic resources clearly exerts a negative impact on student enrollment and retention.

Even at low interest rates, loans are often not a viable alternative for many poor students. Currently, nearly 22,000 people attending community colleges are supported by Pell Grants. Yet only 250 receive National Direct Student Loans and fewer than 800 take advantage of Guaranteed Student Loans. Grants, or a combination of grants and loans, are more realistic for technical students from low-income families.

About 77 percent of community college students enrolled in degree programs work part or full time. Various arrangements should be made to facilitate work-study, including scheduling classes during off-work hours and providing cooperative programs for on-the-job training or upgrading related to the job.

Recommendation 11

- a. **Provide grants and low-interest loans to low-income persons who are enrolled in the community college system for the purpose of upgrading their skills and increasing their earning power. Continuation of support ought to depend on acceptable academic performance.**
- b. **Expand the chances for adults to combine work and study.**
- c. **Encourage employers to provide adult basic education on the job.**

WOMEN WORKERS

Because of slower overall population growth in the 1980s and 1990s, women will provide the major source of potential new workers. They have already increased their rate of participation in the labor force from 37 percent in 1960 to 55 percent today. During the next decade, they will represent two-thirds of all new workers.⁵⁰

Although women have made much progress in what were previously male-dominated industries and jobs, most of them continue to find their opportunities concentrated in areas such as clerical or secretarial work, retail and service trades, and other work in which productivity as well as pay are low and advancement opportunities are limited. As a recent report of the National Advisory Council on Economic Opportunity noted, "women who are year-round, full-time workers account for approximately one-third of the paid labor force, but they account for 53 percent of those who earn less than \$5000 per year. (Figures are for 1977, at which time an annual salary at the minimum wage was about \$4800.) In contrast, among full-time, year-round workers who earn \$15,000 or more, only nine percent are women."⁵¹

Women workers are paid less because on the average they have fewer skills, are concentrated in labor-intensive industries, and produce less value-added per hour of labor. They cannot continue to be utilized so poorly; the social and economic costs are too high.⁵² Already some sectors of the economy have begun coming to grips with the problem—for economic reasons. For example, the "office of the future," equipped with computer-based information systems, will substantially increase productivity, opening the way for higher wages for some women. At the same time, it may reduce—by as much as 30 to 40 percent—the number of secretarial and clerical job openings.

Likewise, computers programmed as teaching machines may reduce the demand for teachers, most of whom are women, and

electronic monitoring equipment and robots may lower the need for nurses, again most of whom are women. Unless positive steps are taken to ensure that women are utilized more efficiently and are rewarded appropriately by the economy, the only alternative to a low-wage job for many of them in the future may be unemployment and welfare support.

Two objective factors stand out in explaining the income disparity between men and women. The first is lack of continuity of the latter in the labor force; the second is their heavy concentration in labor-intensive, low-productivity jobs. Something can be done about both these factors.

A comparison of income and marital status shows little difference in income between men in general and never-married women, who presumably participate continuously in the labor force to the same extent as men.⁵³ On the other hand, the disparity is widest between men in general and married women. The latter drop out of the labor force in large numbers when they bear children. They stay out for considerable periods of time (two to ten years or longer). Moreover, they leave at a critical time, when many men are settling down in a chosen occupation and beginning to look for ways to advance. Young women who plan to marry and have children often choose jobs that permit them to move easily into and out of the labor force and that are less demanding, involve fewer pressures, and, consequently, offer smaller opportunity for advancement.

Goal VI

To Increase Opportunities for Women to Maintain Continuity in the Labor Force

In the future, fewer women will be able to afford the choice of dropping out of the labor force. Because of the rising divorce rate, many will be the sole earners in their households. Ways must be found to make it easier for women to combine work and family responsibilities. The obvious, and probably the most important, is day care for children. As the National Advisory Council on Economic Opportunity points out, "High quality child care is essential. Without the knowledge that one's children are being taken care of by responsible and loving people, it is impossible, logistically and psychologically, to work at a level that will result in economic self-sufficiency."⁵⁴

By 1990, nearly half of the total female labor force will have pre-school children. Many of these will be single parents. Corporate management is becoming increasingly aware of these statistics and

also of the benefits that accrue from assisting employees with their day-care needs—benefits such as lower job turnover, reduced absenteeism, and improved work attitudes. The U.S. Tax Code and the state's Revenue Laws permit businesses to deduct 100 percent of the cost of care for employees' children during working hours as an "ordinary and necessary business expense." Given the benefits of a tax write-off and improved worker productivity, many business people have concluded that providing day-care benefits to their employees makes good sense from the standpoint of the balance sheet.

In the past, most employer assistance for day care has been in the form of company owned and operated centers located at or near the work site. However, many parents would prefer home-based day center care in their own neighborhoods or a number of other possibilities. Several options exist, such as vouchers to assist employees in purchasing the type of care they choose, creation of family day-care networks, and establishment of information and referral services to help parents find sources of day care. These other options mean less cost and risk for businesses, but provide benefits similar to the on-site center. The benefits and disadvantages of a variety of options should be considered before the decision is made as to which one will provide the best return on the investment.

The following steps are recommended to broaden business involvement in meeting the day-care needs of employees:

Recommendation 12

- a. Direct the Office of Child Day Care Licensing to expand its efforts to compile and make available to businesses a listing of agencies and individuals who can provide advice and consultation in determining which day-care options best suit the needs of individual firms.**
- b. Encourage the Legislative Study Commission on Day Care to explore the need for additional tax incentives (such as a tax credit, as opposed to the current deduction) to reimburse businesses for a larger share of their costs in providing day-care benefits.**
- c. Direct the State Personnel Commission to evaluate the need for day-care benefits among teachers and state employees.**

It is not important to address here the question of whether or not the wage disparity between men and women is a product of discrimination. The point is that intervention is needed. The place to begin

is in the public schools: primary and secondary schools, community colleges and technical schools, and the university system.

Goal VII To Encourage More Men and Women to Enter Nontraditional Occupations

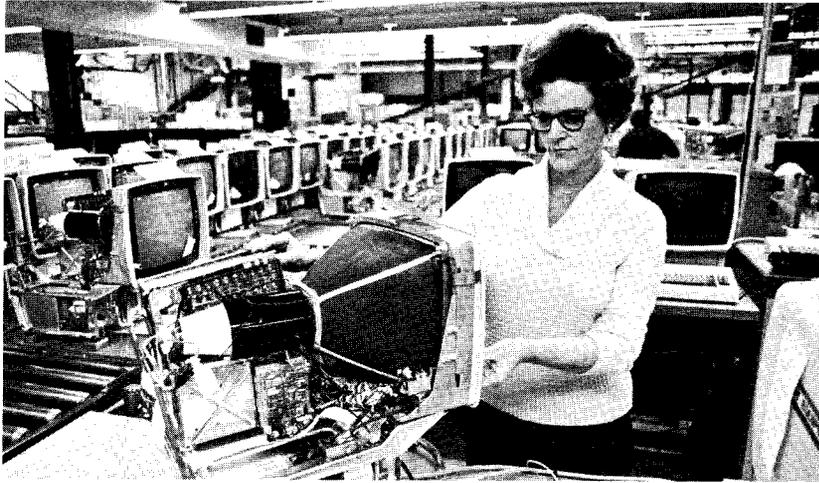
Significant gains have already been made in this area. A sizable portion of women now entering the work force are prepared for more than traditional "women's work." Specifically, in 1978, for the first time, more women enrolled in college than men. Equally important, their proportion of advanced and doctoral degrees is growing. A number of men, on the other hand, are going into traditional women's occupations. But, the fact remains, the vast majority of women are being trained for and steered toward jobs they have traditionally held.

A concentrated effort to modify this pattern would focus attention on the secondary schools, specifically on the guidance counseling and course selection process. For example, girls—like boys—ought to be urged to take math and science courses in every year of secondary school regardless of whether or not they plan to attend college. Career information provided by guidance counselors should present them with nontraditional alternatives along with the more familiar options; the long-term advantages and disadvantages of each ought to be explained, including its relative wages and career development opportunities. And, finally, positive steps must be taken, working with the business community, to ensure that young women as well as young men are considered for and hired in jobs for which they are qualified.

Recommendation 13

- Direct the State Board of Education to monitor carefully the guidance counseling and career information programs in the public schools so as to provide young women and men with the same range of career alternatives; and encourage and support their entry into nontraditional employment by offering the appropriate instruction.**

In the past, when the number of openings in skilled craft classes was limited, young men were favored over young women in the allocation of slots. Where this practice still exists, it should be replaced



*Nontraditional occupations offer women the best career opportunities.
(N.C. Department of Administration; photo by Warren Uzzle)*

with objective criteria for selection that do not discriminate on the basis of sex.

TEENAGE UNEMPLOYMENT

Teenagers entering the labor market in the 1980s ought to constitute the most productive core of the labor force in the year 2000. However, the extraordinarily high unemployment rate among this group today does not bode well for future gains in productivity. Too many young people approach working age lacking the background, self-discipline, and skills needed to succeed. Employers, on the other hand, are wary of hiring young people below the age of twenty-three or twenty-four. Teenagers are frequently seen as undependable and unproductive. In a period when the unemployment rate for the entire work force is running at 10 percent, employers may not be expected to assume by themselves the added risk of hiring teenagers. Yet the problem is too significant to be delegated to a public agency and anticipate that a solution will automatically be forthcoming.

Goal VIII

**To Create More Effective Community Support Systems
to Assist Young People in Making the Transition
from School to Work**

The problem facing the community is how to provide young people who are not in college with life experience that is not only constructive and personally rewarding, but also keeps them out of trouble and lays the basis for productive participation in the labor force. The group on which attention ought to focus is not limited to high school dropouts; it includes high school graduates, college dropouts, and new college graduates. Young people in general are experiencing difficulty in the labor market.

Responsibility for finding new means to address the problem must be shared by the public schools, employers in the community, and young people themselves. The public schools should begin preparing youth much earlier—seventh and eighth grade, perhaps—for the transition to the workplace. Local employers ought to be much more involved during the high school years in shaping the expectations of young people as to what they will encounter once they are in the job market. Employers might also be expected to make commitments to hire young people who meet their standards. Finally, youth themselves must be more actively involved in evaluating and improving their own employability.

From a practical standpoint, the major obstacle facing young entrants to the labor market is simply finding a job. Short of actually locating one for them, the most effective way of assisting them is to improve their knowledge of the labor market and their skills in dealing with employers. Job-readiness training is now being provided in several public school systems and community colleges. In some cases, “transitional services” are sponsored jointly by the school system, the technical college, and the local economic development corporation. Based on actual employer needs and expectations, the programs provide local business people with an opportunity to come into the classroom to talk about their companies and the job opportunities they offer.

Job-readiness training provides young people with an opportunity to learn about the world of work, to comprehend employer requirements, to understand why some people are promoted and others are not, to refine their career goals, and to identify and pursue jobs that move them toward these goals. In short, this sort of training provides young persons entering the labor force for the first time with the information and the contacts needed to obtain their first job.

Recommendation 14

**Expand job-readiness training to make it available to students
in high schools, community colleges, and technical schools.**

The first job assignment does not complete the transition from school to work. It is only a first, albeit a major step. Young people between the ages of sixteen and twenty-four tend to change jobs frequently. They do so for many reasons—some good, some not so good. Any effort to address the problem of unemployment among youth must recognize their high mobility. They can be expected to succeed at some things and fail at others. What they need is some help in making their experience meaningful. They need a realistic structure within which to evaluate their successes and failures. And they need a clear sense of where they want to go, where all their efforts are taking them, and what their responsibilities are when they reach there. A number of effective programs have been established by public agencies to assist young people in these endeavors. But paying public employees to provide all the encouragement and support young people need is too expensive. Commitment from families, friends, neighbors, business people, and community leaders is also required.

In most communities, a number of resources already exist to assist young people in solving various labor market problems. These resources are found in the public schools, the community college system, the local Employment Security Commission offices, and a variety of voluntary agencies. An aggressive effort needs to be made to expand these community resources so that they will reach a much larger number of young people. Activities might include:

1. Providing opportunities to work out job-development plans that are realistic, flexible, and open-ended—but goal-oriented. These plans ought to take into account the possibility that young people may change occupations several times.
2. Ensuring access to labor market information, such as that available through the Employment Security Commission's Job Service.
3. Furnishing information and advice on various options for training and for remedial and continuing education.

Statistics show that minority youth face a special employment problem. In 1981 the unemployment rate for young people as a whole between the ages of sixteen and nineteen was 17.2 percent. In contrast, the unemployment rate for those in minority groups was 30 percent. The problems these individuals face in moving from adolescence to the world-of-work are often aggravated by a lack of successful examples. The public school system and community colleges—predominantly white, middle-class institutions—frequently ap-

pear threatening to insecure youths who lack a clear understanding of their possibilities. Local social, civic, and fraternal organizations can provide specially tailored opportunities for minority youth to prepare them for the workplace under the direction and influence of positive role models.

Recommendation 15

Develop coordinated, community-based, follow-up support programs for young workers to assist them in formulating job-development plans, gaining access to labor market information, and evaluating their needs for further training.

In addition to information and advice, a need exists to expand the range of more formal, clearly structured training alternatives that combine education and work experience.

Recommendation 16

Increase the number of formalized training alternatives for young people:

- a. **Continue and expand as needed the "cooperative" program, which combines education and work, in the high schools and community colleges.**
- b. **Modify interdepartmental policies to allow young people below the age of eighteen to utilize the resources of the community college system so long as they meet established minimum proficiency standards in basic skills.**
- c. **Systematically expand the number and variety of apprenticeships and other trainee positions for a wide range of skills and occupations, including jobs in the public sector.**

The overriding concern in designing options that combine work and education ought to be that they are carefully structured to provide usable skills, that they clearly explain to young workers what is expected of them, and that they provide small but immediate rewards for improved performance. Finally, serious consideration should be given to increasing opportunities for informal, unpaid work/learning experiences for children as early as age seven or eight to provide them with positive experiences in the workplace and positive role models.

Public Investment

It has long been recognized that sound economic development strategies must take into account the availability of basic public services. On the other hand, painful experience has proved that public investments in infrastructure, such as roads, water supply systems, and sewage treatment facilities, rarely spur economic development. The lack of public investment may be an obstacle to growth, but making this investment will not necessarily create it. In general, the Commission on the Future of North Carolina feels that public investment to sustain growth should be directed to those areas having the latent ability to sustain it over time.

Goal IX

To Ensure the Availability of Adequate Transportation Facilities to Support Economic Growth

North Carolina's transportation system—cars, buses, and trucks on highways, as well as railroads, airways, and waterways—has been and will continue to be the backbone of the economy and a vital ingredient of continued growth. It offers people mobility, movement for the goods that are used and produced, and access to the land. Since the highway system was unified under state control in 1931, North Carolina has been building a network as good as any in the country. Consisting of more than 76,000 miles of highways, the state-maintained system is the largest in the nation. Some 4.1 million autos, motorcycles, and trucks are registered, a total of about 5.1 million vehicles, including trailers and mobile homes; and 3.8 million drivers are licensed.

The state also has nearly 4,000 miles of railroad lines, over which about half of the freight tonnage is shipped. In addition, Amtrak moved some 226,600 passengers over the rail system in 1981. Almost 750 truck companies haul freight and serve virtually every community. Fourteen airports provide scheduled service for more than 8 million passengers per year, and an additional 56 public general aviation airports house more than 5,200 based aircraft, used primarily by business and industry.

HIGHWAYS

The highway system is the key element of the transportation network. The state is basically rural; approximately half of the people live in rural areas, compared with a fourth nationwide. The three million residents of these areas and small communities make up the second largest rural population of all the states. They are heavily dependent on highway travel by privately owned vehicles. This will continue to be the case well beyond the year 2000.

Demand for transportation service will continue to increase as the growing population must move about to work, play, shop, and attend school. Personal travel will climb at a rate greater than population growth during the next two decades; increases in both urban and rural areas will be fostered by economic improvements. Travel demands will remain dispersed because both population settlement and economic development will continue to be spread throughout the state. More personal travel will be for leisure, and the share of business travel will decline. As transportation costs increase, much business travel will be replaced by audio and visual communications: telecommunications.

Movement of freight is also expected to increase considerably. Some estimates project rises as high as 200 percent. The growing population will demand more goods and services. The growth in business and industry will create more requirements for raw goods and for shipping finished products. North Carolina ports may become major activity centers for coal exporting. Trucks and railroads will continue to carry most of the freight, while aviation and intercity bus will play smaller roles. The highway network, though remaining essentially the same, will carry heavier volumes of traffic by the year 2000. Improvements will be made to the existing system to increase its capacity, but they will not totally forestall congestion. As a result, the public may have to accept gradual worsening of traffic conditions because of the high cost of adding more highway capacity.

Recommendation 17

Continue giving overall funding priority to maintenance rather than expansion of the highway system, while recognizing that expansion will be necessary in underdeveloped areas.

To protect the large investment already made in the highway system, overall funding priority should be given to maintenance. Deferring it on account of a lack of funds would cost more in the long run. The General Assembly has already provided additional funding for

maintenance and has designated it as a first priority; this priority ought to be maintained for the foreseeable future. Future plans should emphasize management as an integral part of construction.

State policy ought to acknowledge that today's highway system falls short of meeting the state's basic needs in two respects. First, it does not provide adequate access to some key points in the Mountain and Coast regions. Selective expansion will be necessary there to support growth. In addition, the state should press for a federal commitment to complete the interstate system—specifically I-40 to Wilmington. Second, the system does not adequately provide the capacity and safety that the state's economic growth requires. All regions require widenings, safety improvements, bridge replacements and rehabilitations, bypasses, and completion of missing links. The urban areas, especially, suffer from major transportation deficiencies.

Highways, including industrial access roads, will continue to be a major element of the state's economic development program. Continued economic growth will be tied to a well-maintained highway system, which will also need to be expanded in underdeveloped areas. People and goods must be able to move around with relative ease in order to attract new industry. However, the main revenue source for supporting this system, the motor fuel tax, has been declining and is expected to continue to do so, or at best remain constant. Citizens have responded to higher motor fuel costs by switching to more fuel-efficient vehicles. The state will need to devise alternative highway funding mechanisms or face the almost certain decline in the purchasing power of the Highway Fund; and it should also press for greater use of federal highway funds for repair and maintenance of the road system.

Recommendation 18

Investigate alternative highway funding mechanisms, while seeking to assure that all highway users pay a fair share of the costs.

The state Department of Transportation should continue to seek ways to provide highway services for the least cost and to use existing resources to the fullest extent possible. State government should also convey to the public the need to reduce expectations of the system and at the same time to anticipate increased costs. The Department of Transportation should continue to seek methods for accommodating greater traffic volume on the present network. For example, the department should continue to encourage alternatives to the single-occupant automobile as a means to relieve highway demand.

AVIATION

Air travel is the principal form of long-distance public transportation. Its use as an alternative to the automobile for trips under five hundred miles is increasing, largely due to the growth of regional airlines. Aviation, a leading transportation growth industry in the country, is important in North Carolina because it stimulates balanced economic growth and provides access and mobility for existing development. The state already has a high level of aviation activity, combining the fields of military training and readiness, air carrier flights, regional and air charters, and general aviation.

Four years of positive results have followed the Airlines Deregulation Act of 1978. Meantime, improvements have continued to be made in airline aircraft, especially in fuel efficiency. Air carrier operations will gradually increase, and passenger enplanements are expected to show a sharp rise. Airline service involving larger aircraft will be concentrated in the major market areas, primarily large cities. The growth of hub-spoke systems in the airlines' primary routes rather than the historic linear routes will continue. Over the long run, direct, medium-long haul service will decline. However, the use of smaller, sixty-seat aircraft will increase to provide additional service and capacity in the short run to medium-haul markets.

Regional airline service will more than double, and passenger enplanements will triple by the year 2000. Because of service reductions by the major airlines, commuter companies will replace some of the current airline service and expand to new service points to meet the needs of the traveling public. This will create fresh requirements in airport and terminal facilities, en route and terminal navigational aids, ground transportation to and from terminals, and financing. General aviation aircraft and operations will increase gradually until the year 2000, and the greatest rise will be in the area of corporate/business flying. Because of improved technology and the enhanced availability of electronic radio equipment, Instrument Flight Rules (IFR) operation will increase by approximately 60 percent by the year 2000.

Several general aviation airports will be required to meet the projected service needs of the state. During the next ten years, dual or parallel runway systems will also be necessary to meet capacity problems in several high-demand areas. General aviation reliever facilities will be a necessity in the major growth areas. Current aviation trends in the federal government point toward a long-term reduction in personnel; consolidation of field offices; and elimination of various programs, coupled with a continuing effort to transfer responsi-

bilities to the states, especially in airport development. Federal Aviation Agency (FAA) airport program reductions will necessitate broadened state efforts to meet its needs, even to the point of eventually replacing the federal program with state and local funding.

North Carolina's economic growth through the year 2000, especially in manufacturing, business, and tourism, will outpace the national average. Aviation will play a vital role in the movement of personnel, goods, and services. To meet the projected demands and to ensure that aviation and the orderly evolution of the airport system assume their proper role in the total transportation picture, the following recommendation is made:

Recommendation 19

Continue state financial support of airport facility development and consider providing financial aid for commuter operations serving small towns.

A more aggressive role will need to be assumed by the state government to meet forecasted aviation demand and service needs. Its financial role may also require an increased funding commitment to protect and maintain the current system. However, the state should also ensure that individuals and businesses using airport facilities are charged rates that cover their fair share of operating costs. A determination needs to be made as to whether the smaller base of operations available to regional airlines and the sometimes unprofitable routes they would be required to fly in providing essential air service to many communities warrant state subsidy to encourage dispersed growth.

PUBLIC TRANSPORTATION

Interurban public transportation is provided to most parts of the state by rail and bus lines. However, in rural areas demand is often insufficient to make frequent, regularly scheduled service economical. Most daily home-to-work transportation is provided by the private automobile. The area of greatest unmet transportation need in rural areas is among older adults and others who are not in the work force and who need transportation for such activities as shopping and doctors' appointments.

The Governor's Committee on Rural Public Transportation has recommended ways to utilize the resources of various public agencies in providing a comprehensive system of rural public transportation. The recommendations for providing coordinated transportation

services by all appropriate human service agencies are being put into effect for both agency clients and the general public. However, these coordinated and cooperative efforts may unwind in the face of cut-backs in federal funds. The state should consider the provision of further transportation assistance in rural areas.

In urban areas, public transportation has two principal functions: service for the many people who do not have access to the private automobile and service for the commuter. Both functions are imperative for the well-being of the cities. If the private automobile is not to strangle their growth and if workers of all economic levels are to continue to have access to urban jobs, public transportation in urban areas must be strengthened, not cut back.

Recommendation 20

Consider providing additional state financial support for public transportation services.

ENERGY

The availability of electric power will be essential to undergird future economic growth in the state. The question on which concern and debate focuses is *how much* capacity will be needed. The long lead time required, especially for construction of nuclear plants, puts a premium on accurate forecasting of demand. If it is underestimated and sufficient capacity is not constructed, the lack of sufficient reserves may constrain economic development. On the other hand, if demand is overestimated, the burden on consumers will be increased unnecessarily and thus overinvestment in utilities may limit growth in other fields.

Goal X

To Ensure a Sufficient Supply of Energy, Especially Electric-Generating Capacity

Uncertainty surrounds current demand projections. Until recently, the state's consumption of electric power had grown steadily, frequently outpacing that of the nation. But projection of long-term trends is clouded by the sharp rise in oil prices in the mid-1970s and the subsequent ripple effect in energy prices as a whole, as well as possible future increases. High and rapidly rising prices increased incentives to conserve; at the same time, changing technology fostered opportunities for conservation and in some cases lowered the

costs involved. As a result, demand forecasts are clouded by the question of how much energy can be saved through conservation and load management.

Electric utilities are required by law to provide sufficient power to meet anticipated demand. High interest rates have substantially increased the cost of investing in new generating capacity. In the past, nuclear power was attractive because overall expenditures appeared to be lower, even though those for construction were somewhat higher. Recent modifications in federal safety requirements for nuclear plants have expanded construction costs. This factor, together with public concern about safety, have rendered nuclear power less desirable as an option to meet future demand.

The state Utilities Commission has permitted rate increases about as large, if not larger than the public is willing to accept. The electric utilities, on the other hand, find themselves unable to raise capital for new construction because their rate of return on current investment is too low to make them competitive in today's tight money market. The Utilities Commission ought to monitor closely the projected demand for electric-generating capacity; encourage conservation and load management; and explore alternative methods of financing additional capacity, if needed, that would lower the cost to the consumer.

Recommendation 21

- a. **Urge the legislature to formulate policies that will permit public utilities to provide sufficient energy capacity to sustain industrial growth.**
- b. **Encourage the appropriate agencies to recognize that public awareness of the financial problems facing public utilities is critical to the future growth of the economy.**
- c. **"Beginning immediately, the General Assembly should identify and initiate changes in state laws and regulations, including those regulating public utilities and the transportation industry, that would encourage conservation and renewable energy use."
(Natural Resources Recommendation 14)**

WATER SUPPLY

The state is in an enviable position because it possesses abundant supplies of both surface and ground water. But water demands are already heavy. The 6 million inhabitants use an average of 75 gallons per day per person for residential purposes: cooking, drinking,

bathing, cleaning, lawn care, and waste disposal. Residential demand now amounts to 450 million gallons per day. If the projected population growth occurs, residential demand may rise to 600 million gallons per day by the year 2000.

Goal XI

To Provide Adequate Supplies of Clean Water to Meet Anticipated Demands Generated by Residential, Commercial, Agricultural, and Industrial Growth

In the future, abundant water supplies may give the state a significant comparative advantage in supporting economic growth. But, to realize the full economic potential of this resource, wise and careful management will be needed. Long-range plans for the major aquifers and river basins must anticipate demand and lay the basis for resolving conflicts among competing water users. Issues such as interbasin transfer and interstate management of aquifers ought to be addressed immediately in the context of long-range plans in order to minimize political conflict. Public investments in storage and treatment capacity should be staged to assure water availability where and when it will be needed. Cooperative state-local financing needs to be continued to ensure that communities across the state are able to realize their full economic potential.

Recommendation 22

- a. **"The General Assembly should establish a fair and effective basinwide system for water management, including countywide water supply plans, efficient direction of surface and groundwater service systems, regional coordination and allocation of water supplies, and a statewide framework for conflict resolution, conservation incentives, and technical assistance." (Natural Resources Recommendation 6)**
- b. **"The General Assembly should provide for a program of systematic monitoring to document and protect major groundwater supplies." (Natural Resources Recommendation 7)**

WASTEWATER TREATMENT

The availability of wastewater treatment capacity is a powerful factor in shaping growth—residential, commercial, and industrial. Even in those cases where manufacturing firms provide their own treatment

capacities, as many larger ones do, the demands placed on public systems increase because the new jobs attract more people into the area. On the other hand, the availability of some excess capacity in the public treatment system offers an inducement to small- and medium-size firms and supports the expansion of existing firms, where it is not cost-efficient for them to establish or improve their own treatment capacities.

Goal XII

To Maintain Sufficient Wastewater Treatment Capacity to Support Anticipated Residential, Commercial, and Industrial Growth

The Division of Environmental Management's (Department of Natural Resources and Community Development) 1980 Needs Survey of the 100 counties documented \$1.7 billion in wastewater treatment needs. In that same year, the state allocated \$69.7 million in federal funds, enough to address 4.1 percent of the identified requirements. In the face of growing needs and the prospect of declining federal backing, the state must expand cooperative state-local financing to ensure that communities across the state are able to respond effectively to the pressures of growth.

State leadership in water quality planning ought to be continued. Special attention may need to be given to the pollution of groundwater in some areas caused by unregulated building. State regulations controlling septic tanks need to be reviewed to determine whether they are adequate or whether the problem results from inadequate capacity at the local level to plan for and manage growth.

Recommendation 23

a. "By the year 2000, all sources of air and water pollution should be in compliance with applicable standards, and the state should have an effective environmental management system to prevent new pollution problems from arising."

(Natural Resources Recommendation 1)

b. "State and local governments should provide sufficient funds to enable all public water and wastewater systems to meet applicable water quality standards by the year 2000."

(Natural Resources Recommendation 2)

HAZARDOUS WASTE

The implications of hazardous waste are far-reaching for the North Carolina economy. The availability of appropriate treatment, storage, and disposal facilities may directly affect the future growth of the largest, fastest-growing, and highest-wage industries.

Goal XIII

To Provide for the Safe Treatment and Disposal of Hazardous Industrial Waste

In a study prepared for the Governor's Task Force on Hazardous Waste, it was estimated that, as of 1979, some 362,000 jobs—15 percent of all state employment—were provided by firms that produced substantial amounts of hazardous waste. In the manufacturing sector, 37 percent of all jobs were in waste-producing firms. In specific manufacturing industries, the proportion ran as high as 90 percent (chemicals). The largest number of jobs in waste-producing firms were in textiles, accounting for 26 percent of the industry. Furniture had the second highest number; they represented 58 percent of the industry.

The third highest number was in electrical machinery, which accounted for 74 percent of the industry. Moreover, because it has been one of the fastest growing industries in the state, it can safely be assumed that the number of jobs in waste-producing firms will continue to increase. The same holds true for transportation equipment. It has been the single fastest-growing industry, burgeoning 64 percent during the period 1976–79; 71 percent of the jobs in this industry in 1979 were in waste-producing firms. Tobacco and paper are two of the highest-wage industries in North Carolina. In both cases, a substantial proportion of the jobs were in waste-producing firms, 68 percent in tobacco and 51 percent in paper.

Recommendation 24

"All hazardous waste generated in the state should be safely recycled, neutralized, or destroyed, at the source where possible. The General Assembly should act promptly to provide adequate staff and authority to reach this goal and consider financing a substantial portion of the costs by levying fees on hazardous waste generators."

(Natural Resources Recommendation 3)

The Economy Panel feels strongly that firms generating hazardous waste ought to bear the cost of its disposal. The public role is to provide a safe facility.

Information and Technical Assistance

In economic theory, "perfect information" is one of the prerequisites of free enterprise. In the hard light of economic reality, effective information is money: together with good management, it makes the difference between profit and loss, success and failure. Economists predict that information itself will be the major growth industry of the next two decades. The ability to gain access to and analyze it will also determine the shape and direction of many other industries.

Historically, major metropolitan and urban areas have enjoyed an economic edge over less densely settled regions in that information essential to business decisions was usually easier to acquire and less costly in those places. The revolution currently underway in telecommunications may virtually wipe out this advantage and shift it to national and international corporations, which lack strong ties to specific locations. They can afford the sizable investments required for private information and communication systems; these allow them to maximize profit and market control. But, as noted earlier, large corporations generate comparatively few jobs.

By national standards, North Carolina is a rural state that has many small cities and towns. Its economy is characterized by a mix of small- and medium-size indigenous businesses; a few large corporations; and many branch plants of national corporations, which are headquartered elsewhere. More than half of the net increase in jobs during recent years has come from single-establishment firms employing twenty or fewer people. In contrast, large firms (more than five hundred employees) contributed only 13 percent of the net increase. The prospect of the information revolution poses a remarkable challenge to the state: to build on its broad base of indigenous businesses. It may be possible to alter radically and enhance substantially the structure of the economy by setting out aggressively to establish a network of information, communication, and technical advice that would make available at reasonable cost to small- and medium-size indigenous businesses the same sort of data that is now available to most large corporations.

Goal XIV To Create a Network of Information, Communication, and Technical Advice to Encourage and Aid the Growth of Small- and Medium-Size Businesses (Including Farms and Fisheries)

Three basic categories of information ought to be made available: new technology, marketing, and management. Technology transfer is a key step in improving productivity, expanding production, and generating new higher-wage jobs. Market information and analysis are essential to successful distribution and sales. And proper management practices contribute much to profit margins.

Within the category of small- and medium-size firms are several distinct groupings that help to identify the wide range of information needs of these types of businesses. Included are new ventures, existing businesses, firms engaging in international trade, agricultural producers, high-technology firms, and traditional businesses facing radical technological change. These groups are not necessarily mutually exclusive; a firm may fall into more than one classification. This argues over the long term for a fully integrated network of information and technical assistance. However, it must be recognized that the various categories of small- and medium-size businesses have particular needs that ought to be kept in the forefront in designing information services to support them.

Many key elements of this network of information, communication, and technical advice are already operating in various public agencies and in the private sector. These activities need not be brought together in one place or under one administrative roof. What is essential is that they all be linked to a common network that provides ready access to three basic kinds of services: a clearinghouse for technical information, training and continuing education, and follow-up consulting services.

As the volume of information relevant to business operations has grown, the need for one or more agencies to act as a clearinghouse has become increasingly evident in order to provide businesses with an efficient, low-cost means of providing access to the latest technical and managerial information. But a clearinghouse by itself is a fairly passive support service. It leaves to the individual business person the responsibility of figuring out how the information might best be utilized. A more rapid transfer of new information can be accomplished through training and follow-up consulting on a one-to-one basis with the individual firm.

The agricultural extension network is perhaps the best example of how an active system of technology transfer can improve productivity. The Agricultural Extension Service involves cooperative efforts by state and federal departments of agriculture, university research and instruction, a network of research and demonstration farms across the state, and county extension agents who serve as consultants on a one-to-one basis. Substantial use has been made of both public and commercial television in the early morning hours to provide current market information and advice on new technology. The extension service is already utilizing computer terminals across the state to provide broader access to technical information and advice. This capacity will likely be expanded in the future.

A clearinghouse providing a wide range of technical information is already maintained by the National Aeronautics and Space Administration (NASA) in the Research Triangle Park. State businessmen can avail themselves of it through the Science and Technology Research Center in the state Department of Commerce. Currently, the only service provided by the center is bibliographical search. On the other hand, the Industrial Extension Service at North Carolina State University provides training and consulting services, primarily to manufacturing firms. The need for a more active and widespread capacity to transfer new technology ought to be assessed.

The Business Assistance Division provides information and technical assistance services through the state Department of Commerce regional offices across the state. These services may need to be expanded to include a formal clearinghouse for technical, financial, and managerial information for businesses; and working ties with the university and community college systems to establish extension-type courses for owner-managers. Special attention ought to be given to meeting the needs of new businesses for information and technical assistance.

The International Division of the state Department of Commerce provides information and technical assistance to businesses seeking international markets for their products. The Marketing Division of the state Department of Agriculture provides specialized information on such markets for agricultural products. A number of other groups also offer information and education services, such as seminars and workshops, in the field of international trade. Designating a single agency to act as a clearinghouse for information would improve access to all these services. Follow-up consulting services would help to minimize the risk incurred by businesses venturing into international markets for the first time.

Information and technical assistance efforts are currently underway in at least four areas: small business, international trade, technology transfer, and agriculture. Without interfering with the objective of meeting the specific needs in each area, it is essential that all these activities be expanded in the context of the long-term goal of providing a comprehensive network of information, communication, and technical advice to support and encourage the growth of small- and medium-size businesses. As a final note, full use ought to be made of the substantial resources that are already available in the private sector, especially in providing consulting services.

Recommendation 25

- a. **Direct the Office of Policy and Planning (DOA), working with the Business Assistance Division (DOC), to take the lead in identifying existing public and private agencies that provide information and technical assistance to business, industry, and agriculture.**
- b. **Request the Office of Policy and Planning to cooperate with the Small Business Advisory Council and other appropriate agencies in enlisting a representative sample of business people (including farm operators and fishermen) to engage in an exhaustive review of existing services, to evaluate them for their accessibility to small- and medium-size businesses, and to identify any gaps that ought to be filled in the present mix of information and technical assistance services to business.**
- c. **Direct the Office of Policy and Planning, together with the Business Assistance Division, the Small Business Advisory Council, the Minority Business Agency, the Office of Telecommunications, and other relevant public and private agencies, to formulate a long-term comprehensive strategy to facilitate the emergence of a highly responsive network of information and technical assistance services to business, industry, and agriculture.**

SMALL- AND MEDIUM-SIZE BUSINESSES

Small- and medium-size businesses in North Carolina, particularly those involved in new ventures (products and services), offer the state a significant incremental employment opportunity and higher productivity of labor than is available in larger, more traditional businesses. Many of the smaller businesses tend to be started largely by entrepreneurially oriented persons who lack sufficient business training and have available only limited and qualified business man-

agement advice from outside vendors. As a consequence, the rate of development of new small businesses is less than what it could be, and their failure rate is higher than necessary.

Recommendation 26

Expand technical assistance to small- and medium-size businesses:

- a. Broaden the state Department of Commerce's role as a clearinghouse for technical, financial, and managerial information/advice for small and minority businesses.**
- b. Provide through the university and community college systems specific courses in starting, financing, and operating new ventures.**
- c. Furnish training in marketing, management, and financial planning for established small- and medium-size businesses, while paying special attention to the needs of minority businesses.**
- d. Provide follow-up consulting services.**

INTERNATIONAL TRADE

During the last decade, the national economy entered an era in which foreign trade assumed enormous importance. Ten years ago, U.S. exports accounted for 6.4 percent of the total Gross National Product (GNP). This has now risen to 12 percent; exports of manufactured goods alone during this period burgeoned by 235 percent. The U.S. Department of Commerce estimates that North Carolina's exports in 1980 approached \$9 billion, of which \$4.6 billion were accounted for by direct exports of industrial products and another \$3.2 billion in indirect exports (intermediate products used by firms in other states of final export). The commodity breakdown of manufactured exports was as follows:

Tobacco	\$1,000 million
Textiles	780 million
Chemicals	630 million
Machinery (non-elec.)	440 million
Electronics	310 million
Food products	175 million
Lumber and wood	110 million
Apparel	60 million
Other	1,100 million
	<hr/>
	\$4,605 million

Agricultural commodities accounted for another \$1.2 billion, and \$3.2 billion in indirect exports brought the total to \$9 billion.

A study by Chase Manhattan National Bank in 1980 estimated that a million dollars in new exports create forty new jobs. In addition to augmenting employment, the expansion of exports also lessens North Carolina's dependence on the national economy. Increasing the state's exports tends to reduce unemployment during periods of national economic recession. A number of groups are already involved in trying to increase international trade, but they are widely dispersed and do not communicate well with one another.

Recommendation 27

- a. Improve support of business and agricultural firms seeking to export their products to international markets, especially those moving through North Carolina's deep-water ports.**
- b. Expand the state Department of Commerce's role:**
 - 1. As a clearinghouse for information on such topics as potential markets, trade policies, and export promotion programs.**
 - 2. In providing a single point for coordination of services.**
 - 3. In furnishing consulting services to businesses participating in international trade.**
 - 4. In engaging businesses in a dialogue with state agencies, university researchers, and private investors to identify and capitalize on international trade opportunities.**

TECHNOLOGY TRANSFER

The rate and ease with which new technology is developed and applied routinely by business, agriculture, and industry determines to a large extent achievable gains in productivity. Studies indicate that as much as 72 percent of the recent growth in productivity can be accounted for by technological innovations. Small firms especially benefit from better access to new scientific information. Numerous studies have concluded that these firms are the leading sources of innovation; their propensity for risk-taking is greater and they are more ready to adopt fresh ideas. A National Science Foundation study found that nearly half of all major innovations since World War II were introduced by small firms. On the other hand, the future of some traditional industries may depend on their ability to acquire new, more productive technology. A vice-president of Burlington Industries remarked recently that the ability to make this shift to

new technology will spell the difference between competing in world markets, getting left behind, or not even surviving.

Recommendation 28

Stimulate technology transfer to business and industry:

- a. Expand technical assistance and consulting services to provide firms access to a wide range of new technology.**
- b. Assist businesses in analyzing the costs and benefits of adopting various technologies.**
- c. Focus industrial fairs on the most advanced and productivity-increasing technology.**

AGRICULTURE

Current market news information is provided to agricultural producers, processors, and manufacturers by the state Department of Agriculture. Dissemination through printed reports, radio and TV reports, and telephone market reports provides timely information to all segments of agriculture. This function is enhanced by cooperative information-gathering activities with the U.S. Department of Agriculture.

Various agencies in state government and the university system currently deal extensively with information and technology transfer among various fields of agricultural production and economic development. Reduced funding at the federal level could shift even more responsibility to the state level to foster continued productivity increases in agricultural production, processing, distribution, and marketing. The productivity increases in this sector of the economy have been unparalleled and will require continued investment to maintain the momentum. More and more, responsibility for transferring the benefits of basic research to farms and agricultural businesses in the form of new technology will be a function of state agencies. Adequate funding to carry out this necessary link in the process of improving productivity must be made available in order to ensure that farms and agriculturally related businesses remain competitive with similar firms in other regions of the United States and foreign nations.

As indicated earlier, the International Division of the state Department of Commerce furnishes information and technical assistance to businesses, including those which are agriculturally oriented, that seek international markets for their products. The Marketing Division of the state Department of Agriculture, through the Interna-

tional Trade Section, provides information and assistance to individuals and businesses desiring to market raw agricultural products, processed agricultural products, and related items in international markets. The division also coordinates development of and participation in international trade shows to expand international marketing opportunities for agricultural products. Increasing dependence on agricultural export markets makes continuation and acceleration of this function even more important.

Recommendation 29

Expand information and technical assistance to all segments of agriculture:

- a. Make funds available to state agencies and educational institutions to update and broaden their capabilities to adapt services available to farmers to the trend toward greater computerization.**
 - b. Because of the increasing complexity of markets for agricultural products, expand market opportunities by increasing state funds for market development and export expansion activities related to agricultural commodities.**
- c. Increase funding levels for agricultural research and development efforts to provide wider opportunities for modernization and adjustments in agriculture that lead to increased farm income.**

T · H · R · E · E

NATURAL RESOURCES

Summary of Natural Resource Goals and Recommendations

GOAL I

To Clean Up Air and Water Pollution Hazards and Prevent New Ones from Occurring

Recommendation 1:

By the year 2000, all sources of air and water pollution should be in compliance with applicable standards, and the state should have an effective environmental management system to prevent new pollution problems from arising. The Environmental Management Commission should promptly direct a thorough review of existing pollution control programs and recommend to the General Assembly appropriate changes to achieve these goals.

Recommendation 2:

State and local governments should provide sufficient funds to enable all public water and wastewater systems to meet applicable water quality standards by the year 2000.

Recommendation 3:

All hazardous waste generated in the state should be safely recycled, neutralized, or destroyed, at the source where possible. The General Assembly should act promptly to provide adequate staff and authority to reach this goal and consider financing a substantial portion of the costs by levying fees on hazardous waste generators.

Recommendation 4:

State and county governments should enact strong statutory incentives to further recycling and reduction in the generation of solid wastes, and they ought to plan now for facilities that will be needed to handle future wastes.

Recommendation 5:

The governor and the congressional delegation should press strongly for action by and with other states and the federal government to prevent the pollution of North Carolina by actions elsewhere.

GOAL II

To Ensure an Adequate Supply and Equitable Allocation of Water Resources

Recommendation 6:

The General Assembly should establish a fair and effective basinwide system for water management, including countywide water supply plans, efficient direction of surface and groundwater service systems, regional coordination and allocation of water supplies, and a statewide framework for conflict resolution, conservation incentives, and technical assistance.

Recommendation 7:

The General Assembly should provide for a program of systematic monitoring to document and protect major groundwater supplies.

GOAL III

To Stop Erosion and Fertility Loss of Productive Soil and Reduce Water Pollution from Sedimentation

Recommendation 8:

The General Assembly should promptly establish a state cost-share program for soil and water conservation so that by the year 2000 all farms will have adopted the recognized Best Management Practices for soil-erosion control and water quality management.

Recommendation 9:

The state should continue and strengthen its efforts to further modernization of the management of family farms.

GOAL IV

To Increase the Productivity of Economically Valuable Resources up to Their Sustainable Potential

Recommendation 10:

The departments of Natural Resources and Community Development, Agriculture, and Commerce should work jointly to

promote intensive forest management, reforestation, and marketing on private lands in pursuit of the goal of doubling wood production on a sustainable basis by the year 2000.

Recommendation 11:

The General Assembly should take actions to ensure a viable fishery resource and industry in the twenty-first century, including increased technical assistance in seafood marketing, fishery research and monitoring, and coastal water quality protection.

Recommendation 12:

The state should require that all proposals for mines, quarries, and oil and gas wells be carefully coordinated with local land-use plans.

GOAL V

To Foster Energy Conservation and Encourage the Transition to Renewable Sources of Energy

Recommendation 13:

Beginning immediately, North Carolina should adopt as goals that its energy demand increase at the lowest possible rate consistent with the needs of a growing population and economy and that by the year 2000 at least 20 percent of total demand be met by solar and renewable energy sources; and it should establish an explicit plan and a vigorous program to achieve these results.

Recommendation 14:

Beginning immediately, the General Assembly should identify and initiate changes in state laws and regulations, including those regulating public utilities and the transportation industry, that would encourage conservation and renewable energy use.

GOAL VI

To Preserve the Special Qualities of the Natural Landscape

Recommendation 15:

The Department of Natural Resources and Community Development should increase its support for statewide and county mapped inventories of major natural areas and resources, and these inventories should be a part of the basis for all governmental decisions affecting them.

Recommendation 16:

The General Assembly should provide incentives to private owners for the protection of natural areas.

Recommendation 17:

Beginning immediately, state and local governments should direct public investments that encourage urbanization—such as highways and sewers—away from valuable natural areas and productive farm and forest lands, except where no feasible and prudent alternatives exist.

Recommendation 18:

The state should formulate explicit policies concerning the primary values that ought to be protected for each of the major state and federal land units, and it should request federal agencies to adopt management plans that will foster these values.

GOAL VII

To Increase Public Access to Outdoor Recreational Opportunities

Recommendation 19:

The General Assembly should support more vigorous acquisition and management of natural areas and recreational lands for the growing population, as well as provide for county and regional land trusts to identify and conserve priority lands.

GOAL VIII

To Improve Understanding of Natural Resources

Recommendation 20:

North Carolina should increase its support of natural resource and environmental management research, as well as strengthen cooperation among the university system, state government, and resource users in setting research priorities.

Recommendation 21:

Beginning immediately, the state should establish an environmental indicators program that provides regular and systematic monitoring information on changes in the quantities and qualities of environmental conditions.

Recommendation 22:

The governor should establish an Environmental Education Task Force to stimulate environmental awareness on the part of both adults and children, including the formulation of environmental curricula for elementary and secondary schools.

GOAL IX

To Protect Legitimate Public Interests in Land-Use Decisions

Recommendation 23:

Beginning immediately, each county should establish and carry out a land-use plan expressing citizen preferences concerning growth patterns, public service extensions, economic development, and natural resource areas to be protected. The state should provide technical assistance and incentives for the development of such plans in a uniform framework and require appropriate minimum standards for them.

GOAL X

To Simplify, Improve, and Adequately Fund the Management of Natural Resources

Recommendation 24:

The General Assembly should act immediately to create sound and appropriate sources of revenue for the support of natural resource and environmental management programs, including creation of a North Carolina Land and Water Conservation Fund to further the acquisition and management of natural areas and recreational lands.

Recommendation 25:

By the year 2000, each county should have an effective professional capacity for natural resource and environmental management.

Introduction

It shall be the policy of this State to conserve and protect all lands and waters for the benefit of all its citizenry, and to this end it should be a proper function of the State of North Carolina and its political subdivisions to acquire and preserve parks, recreational, and scenic areas, to control and limit the pollution of our air and water, to control excessive noise, and in every other appropriate way to preserve as a part of the common heritage of this state its forests, wetlands, estuaries, beaches, historical sites, open lands, and places of beauty.

—North Carolina Constitution, Article XIV, Section 5

It shall be the continuing policy of the State of North Carolina to conserve and protect its natural resources and to create and maintain conditions under which man and nature can exist in productive harmony. Further, it shall be the policy of the State to seek, for all its citizens, safe, healthful, productive, and aesthetically pleasing surroundings; to attain the widest range of beneficial uses of the environment without degradation, or risk to health and safety; and to preserve the important historic and cultural elements of our common heritage.

—North Carolina Environmental Policy Act

North Carolina's natural resources are both a primary foundation for our economy and a rich natural heritage, which we inherited from earlier generations and bequeath to our children. Each new generation bears an obligation of stewardship toward this legacy. We must protect the air, water, and soil that sustain it; we should use it productively for human benefit within its sustainable potential; and we should preserve its areas of special beauty and ecological or recreational value so that we may pass it on to others in better condition than we receive it.

We are also obligated to each other as citizens to manage public programs and financial resources responsibly in our attempts to fulfill this stewardship. We should make our laws, regulations, and management programs as uncomplicated and effective as possible; we must invest in the research, monitoring, and education needed for wise management; we must ensure a sense of fairness in decisions about who will receive the benefits of our natural resource legacy; and we must make sure that necessary regulations are fully and fairly enforced.

Basic goals for natural resources are clearly stated in the state constitution and in the Environmental Policy Act. The Commission on the Future of North Carolina reaffirms those mandates. They do not conflict with the desire for economic progress, for conserving natural resources and protecting the environment are essential elements of any responsible economic development program. At the most basic level, natural resources are a fundamental part of the standard of living and the source of many existing jobs—in agriculture, forest products, tourism and recreation, mining, seafood, and all the businesses that use these industries' products and serve their needs. The state's beauty is one of its major assets and is a powerful magnet for recruiting businesses and industries to augment economic progress and job opportunities.

The people of North Carolina have repeatedly reaffirmed their

support for natural resource goals, both in public opinion polls and in backing such measures as Clean Water Bond issues. In a scientific survey conducted for the NC 2000 effort, fully a third of the fifteen most frequently mentioned goals for the future concerned preservation of natural resources: air, water, farmland, energy, and overall environmental quality. More than 80 percent of the respondents rated each of these as "very important" or "extremely important." Three of the ten problems rated to need the most improvement were also related to natural resources—water supply, farmland and agriculture, and overall environmental quality—and these three were also identified as three of the top four qualities that should be kept as good as they are at present (the top one was quality of education). Above all, more than 80 percent of the respondents said they would be willing to pay more, if necessary, to safeguard the environment; and 89 percent felt that government should continue to exercise primary responsibility for its protection.⁵⁵

This support was further confirmed by the recommendations made to the Commission by citizen task forces in more than 50 counties. County after county consistently urged a strengthening of environmental protection efforts, not simply maintenance of the status quo or cutbacks to reduce taxes. Fully forty of them recommended action for land-use protection and conservation: twenty-eight explicitly favored land-use planning or zoning in some form, and twenty-five urged action to preserve farmlands. Thirty-nine advocated steps to ensure an adequate, clean water supply, and thirty-two the protection or improvement of water quality; eleven recommended the creation of countywide water systems. Twenty-seven urged action to maintain clean air. Twenty-four proposed the addressing of future energy needs, nineteen through the development of indigenous energy sources, such as solar energy, wood, and peat, and twelve through more energy conservation. Twenty urged better forest management; fourteen, improved waste management.⁵⁶

Finally, in December 1982, the Commission sponsored a Citizens' Conference, attended by more than 800 people from every part of the state, to ensure the thorough review and discussion of tentative goals and recommendations before they were finalized. The conferees were not only strongly supportive of those the Natural Resources Panel had drafted, but also recommended that several be strengthened. The most frequently repeated comments expressed the need for more effective land-use planning, for reconsideration of the state policy that its environmental regulations not be any more strict or comprehensive than those of the federal government, and for immediate action on all recommendations rather than just by the year 2000.

The conferees also urged the addition of recommendations not mentioned in the panel's draft: a good example concerns reducing interstate pollution affecting North Carolina, such as acid rain (see Recommendation 5). The conference provided many specific improvements in the recommendations and text that follow. Above all, it provided yet one more indication of the strength and consensus of support for sound management and protection of the state's environmental resource heritage.

The recommendations that follow express the Commission's effort to articulate and respond to the wishes of its fellow citizens. Money will be required to carry out many of them. Cost alone, however, should not deter action. In some cases, a high price is already being paid: energy costs to out-of-state suppliers drain the economy, when investment could be made instead in indigenous sources and local jobs. In other cases, it will cost far less to prevent problems than it will to cure them. Stopping the unsafe disposal of hazardous waste is much cheaper than constructing new water supply plants for towns whose groundwater becomes contaminated. Finally, many costs incurred today are excellent investments in future benefits. The economic growth sought for tomorrow requires investments today in water supply, wastewater systems, and solid waste management services; in public protection of natural areas and recreational lands; in the modernization of family farms; and in the marketing of agricultural, forest, and seafood products.

These costs need not all come out of general tax revenues. Those that benefit identifiable groups today could be financed in part by user charges or by taxes on goods and services sold primarily to users. Those that will benefit future users could properly be financed by bonds, whose costs will also be paid by future beneficiaries, or by other creative methods of financing. The point is that, if the future of the state is to be bright, essential public investments must not be sidetracked by shortsighted fear of costs alone.

North Carolina's natural resources today present serious unresolved problems, real and growing needs and threats, and significant opportunities. Achievement of common goals for them will require education about the issues and their importance; planning must be undertaken to meet needs before they become crises and to prevent problems before they need to be cured; and action is necessary. The following goals and recommendations are offered as an agenda for action to ensure that our natural resource heritage will be one we are proud to bequeath to our children as the legacy of the twentieth century.

Environmental Protection

Air, water, and soil are the physical elements that nourish all biological life. If properly managed, these basic resources can sustain many kinds of economic development and human enjoyment and use. However, some human activities, such as contamination of groundwater by toxic chemicals or the dredging or filling of fish nurseries, can damage them seriously or even irreversibly; and, even without human contamination, the supply of water is not always plentiful in areas where it is most wanted. A fundamental natural resource goal, therefore, is to protect the quality and supply of these three elements to meet the needs of present and future citizens of the state.

Between now and the year 2000, three challenges require particular attention. *Pollution control* programs and regulations have achieved considerable progress, but would now benefit from careful reassessment and adjustment to address future needs. *Water supply* is an essential requirement, for both agriculture and industry as well as the growing population; yet it is scarce in many of the areas where it is most expected to be needed, and adequate arrangements do not now exist to ensure that it is well managed. Finally, *soil erosion and fertility loss* are serious, continuing detriments to agricultural productivity, and especially for water quality.⁵⁷ These problems may only worsen unless a serious commitment of effort and resources is made to reduce them.

Goal I To Clean Up Air and Water Pollution Hazards and Prevent New Ones From Occurring

Despite some successes in cleaning up pollution, North Carolina today is saddled with a backlog of serious air and water quality problems that threaten health, the economy, and the ability to use natural resources as desired. Air pollution by ozone, for example, is estimated to cause losses of \$90 million annually in the U.S. tobacco crop, and acid rain may also be reducing agricultural and forest productivity in the state. Water pollution from coastal septic tanks contaminates shellfish beds, causing major losses to the commercial fishing industry. Contamination of groundwater by toxic chemicals

can permanently destroy public water supplies, requiring major new investments for further economic development. Controlling air and water pollution is not, therefore, just a luxury or a wasteful government regulatory burden on the public. It is an essential safeguard of health and economic security as well as a protection for responsible businesses against unfair competition by those that are more careless of their effects on others.

AIR QUALITY

For the few air pollutants that are now monitored and regulated, most of North Carolina's air is still relatively clean, though state air-quality standards are sometimes exceeded in urban areas and by some individual sources of particulates elsewhere. Many potentially serious pollutants, however, are not now regulated or even monitored and by the year 2000 may well be serious sources of damage to health and economic production. Examples include many toxic metals and organic chemicals, such as arsenic and benzene. Other pollutants are monitored only in urban areas, though their effects may be equally serious or more so in rural areas farther downwind. The Department of Natural Resources and Community Development, for instance, has found damage to vegetation from air pollution in thirty-four counties. This may suggest significant—and presently unregulated—effects of air pollution on agricultural and forest productivity.⁵⁸

A growing concern about the state's air quality is the effect of acid rain on crops, lakes, and other resources. Acid rain was once thought to be a problem only in the Northeast United States, but has now been identified in North Carolina as well. Rain as acidic as vinegar has been measured in Raleigh. And measurements in Rowan County during the summer of 1980 identified only two rainfalls that were of normal or less than normal acidity; fifteen were more acid than normal, and twelve of these exceeded the norm by more than two times.⁵⁹ Much of this acid may be caused by out-of-state sources, but it can inflict severe damage on fish and possibly on sensitive crops such as tobacco.

As population centers increase in density, air pollution emissions may be expected to grow. Even when the best new control technologies are employed, additional industries and vehicles will generate greater quantities of emissions. This will be especially true of those from inadequately maintained control equipment in plants and cars and of those from unregulated pollutants (for instance, fine particulates from diesel exhaust). Wood stoves will also be a growing source

of pollution; their use has increased rapidly and will likely continue. Recent studies have shown that residential wood stoves (unlike industrial wood-fired boilers that burn more efficiently and at higher temperatures) produce relatively high emissions of many air pollutants, including some that are known to be hazardous to health.⁶⁰

WATER QUALITY

As in the case of air quality, serious and growing problems of water quality are not adequately addressed by current regulatory approaches and management programs. Toxic and other hazardous chemicals used in industry are a threat to rivers and streams as well as to groundwater, which is the primary source of water supply for 60 percent of the state's population. Only half of the municipal waste treatment plants are now in compliance with water quality standards, yet anticipated reductions in federal funds will make it difficult for communities to meet their timetables for upgrading these plants.⁶¹ (See figure 10.) Other major water quality problems are caused by pollutants that are not dealt with by normal wastewater treatment plants, such as sediment. Nutrients washing into streams from both urban areas and agricultural lands are causing serious water quality problems in coastal waters and in inland impoundments. Bacterial pollution of shellfish beds is also an increasing hazard because of faulty septic systems, inadequate waste treatment plants, and agricultural runoff.

The state does not now have an adequate system for controlling—or even for identifying and monitoring—many of these potential hazards. It tests its rivers for only 10 chemicals out of an estimated 55,000 in use in the state,⁶² and many groundwater supplies are monitored even more cursorily, if at all.

By the year 2000, additional economic development will cause further deterioration of water quality if regulatory and management programs are not made more effective. New development will create added wastewater loads, both on treatment plants and on septic fields, yet the federal funds that have made possible much recent construction of treatment facilities are now being cut back. Some existing systems are already deteriorating and will contribute to leakage if they are not maintained and repaired. Hazardous waste storage in pits, lagoons, old landfills, and other unprotected sites poses a continuing danger of groundwater contamination; many local water systems continue to pollute waters under waivers of regulation; and serious water pollution continues from nonpoint sources, such

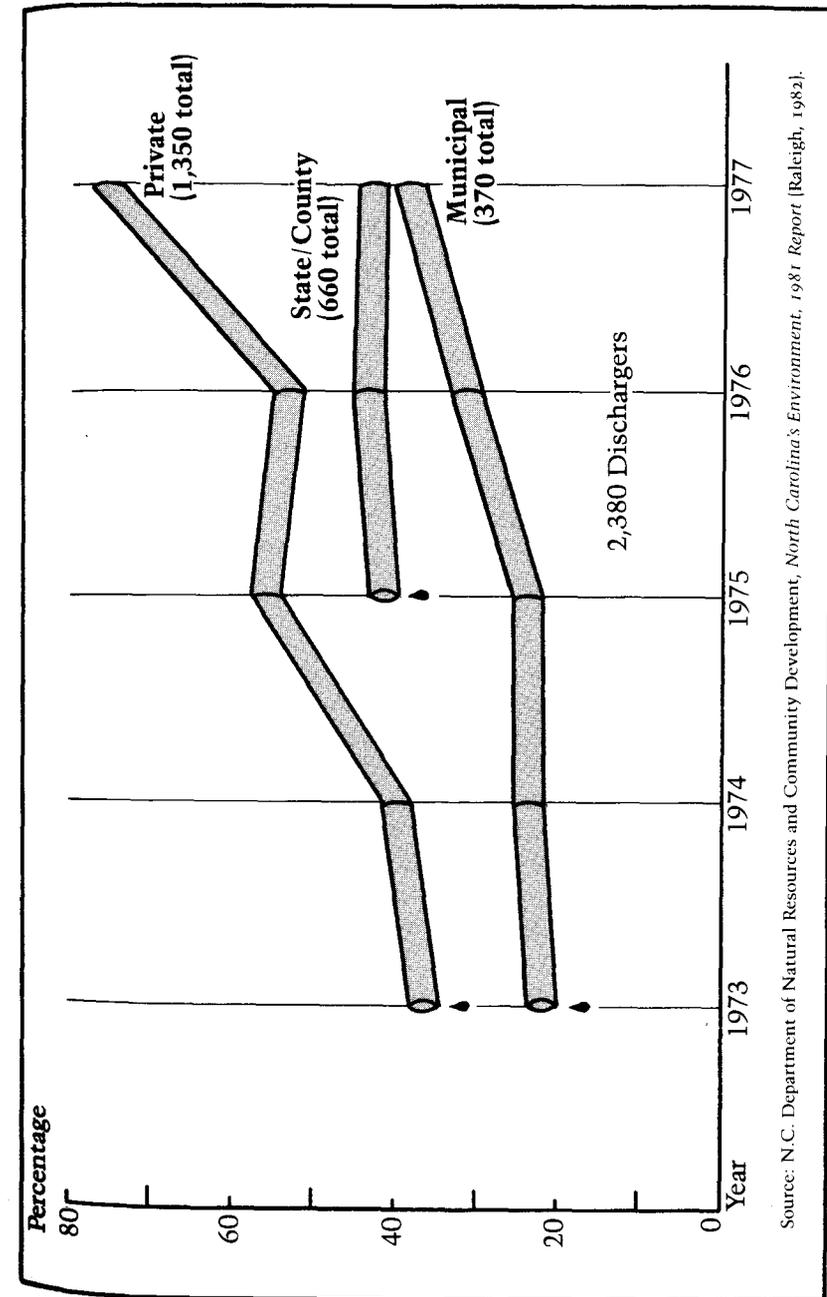


FIGURE 10. Percentage of North Carolina Wastewater Dischargers in Compliance with Effluent Limits, 1973-77

as agriculture, construction, and mining, that in some cases are not covered by state water quality regulations.

The Federal Water Pollution Control Act Amendments of 1972 stated as an interim goal that all American waters should be fishable and swimmable by 1983.⁶³ The state will not achieve this goal. However, North Carolinians should now rededicate themselves to attaining it before the year 2000, for all waters that are designated for those uses, and provide a clear mandate and financial support to the appropriate state and local agencies to reach it.

Recommendation 1

By the year 2000, all sources of air and water pollution should be in compliance with applicable standards, and the state should have an effective environmental management system to prevent new pollution problems from arising. The Environmental Management Commission should promptly direct a thorough review of existing pollution control programs and recommend to the General Assembly appropriate changes to achieve these goals.

The present system of pollution control laws, regulations, and programs has evolved piecemeal. It has relied heavily on uniform nationwide, technology-based effluent standards initiated by the federal government that emphasized a small number of "conventional" or "criteria" pollutants generated primarily by "point sources": individual stacks or outfalls. This system has achieved some progress in maintaining and improving the quality of the state's air and water. It is now, however, being left more and more to the states by the federal government, and it would benefit from careful reassessment and adjustments to enable it to address North Carolina's priority problems more effectively.

During the 1970s, when federal environmental regulation was expanding and the federal government developed substantial expertise on which to base such regulations, the state chose to link its own regulations directly to those of the federal government by enacting laws providing that they could be neither more restrictive nor more comprehensive than those of the federal government. As the federal government now reduces its role, and deliberately leaves more and more of these responsibilities to the states, it is increasingly evident that North Carolina must reassess its own policies and priorities, including in some cases the possibility of formulating regulations that are tougher or broader than Washington's. It is also likely that, in addressing this issue, the state will identify approaches

that are more innovative, more cost-effective, and better suited to its own environmental protection needs and its own businesses than those promulgated on a uniform nationwide basis.

It is therefore recommended that the Environmental Management Commission undertake a thorough review of state pollution control programs, and that the General Assembly provide appropriate funds, and authority if necessary, to do so. That commission would be the appropriate body to oversee such a review, but it would require the resources and authority to employ knowledgeable staff and consultants.

A number of questions might receive particular attention in such a review, both individually and in relation to one another. For instance, are there problems about which the state should be doing more, or setting stricter standards, than the federal government? Should more effort be put into reducing the impact of nonpoint sources, groundwater contamination, crop damage from air pollution, or other emerging priorities? Are statutory authority and financial resources adequate to address the most serious pollution problems? Do existing laws and regulations create barriers to approaches such as economic incentives that would prevent pollution rather than just clean it up after it is generated? And should some environmental management programs appropriately be financed from sources other than general tax revenues such as application fees, privilege license taxes, and charges on the generators of pollution?

In short, such a review should recommend actions to target the state's environmental management system on top-priority pollution problems; to solve them by whatever means are fairest and most effective for North Carolina's citizens and businesses, not necessarily being limited to the federal government's standards and approaches; and where possible, to streamline and simplify the existing structure of laws and regulations.

Recommendation 2

State and local governments should provide sufficient funds to enable all public water and wastewater systems to meet applicable water quality standards by the year 2000.

Nearly half of the state's municipal waste treatment plants are not in compliance with current water quality standards, and additional pollution from public sources results from urban stormwater runoff, from past disposal of hazardous chemicals in public landfills, and (especially in small communities) from the lack of treatment plants to replace faulty or inadequate septic systems. Public sources of pollution are not only an environmental problem but are also a

serious obstacle to economic development: more than 100 communities are presently under building moratoria because of inadequate wastewater treatment.⁶⁴

Much of the recent progress in cleaning up public sources of pollution has been made possible by the availability of two sources of financial support: federal funds, in the form of wastewater treatment grants; and state Clean Water Bonds, approved by the voters. Recent cuts in federal funds will significantly reduce the number of communities that will be able to receive grants, and additional cuts are anticipated in the future. In addition, the state's second five-year Clean Water Bond period is now coming to an end. If progress is to continue in reducing pollution from public sources as well as in making possible economic development that requires new facilities, it is essential that the state both continue its existing sources of public financing for these purposes and identify sources of additional support to replace the current reduction in federal assistance.

In the short term, statewide sources of funding assistance will be necessary. After the year 2000, however, all water service systems should have incorporated a significant portion of the cost of adequate wastewater treatment as a normal cost of business paid for by the users. The Commission on the Future of North Carolina therefore recommends prompt action to provide additional financing for public wastewater management as well as a gradual increase in the local share of payment for additional wastewater treatment needs by the year 2000.

HAZARDOUS WASTES

In 1981 some 806 firms in North Carolina each generated more than 2,200 pounds per month of hazardous wastes; an unknown number, smaller amounts; and 323 firms treated, stored, or disposed of these wastes. The 806 "large" sources generated an estimated total of 1.8 billion pounds of waste in 1981, of which 96 percent was treated to one degree or another within the state, and 74 percent was treated on the site where it was generated. More than 79 million pounds were in storage at the end of 1981, two-thirds of it in surface impoundments, such as pits and lagoons, and 29 percent in barrels.⁶⁵ No systematic information is yet available on the amounts of hazardous wastes generated by "small" sources, though these can be just as damaging as those from major generators if they are not properly managed.

When these wastes are transported, they often travel long distances over roads and railroads, passing through communities that may have little or no awareness of their presence and no facilities or

training to respond to an accident. When these wastes are stored in pits or lagoons on site, engineering precautions and monitoring are often not undertaken to prevent contamination of groundwater. When they are spilled or unsafely dumped, they can cause dangerous and costly hazards to human health and environmental resources; and, though North Carolina now has a contingency fund for responding to such emergencies, the current balance is far less than would be required for even a single serious emergency.

The most publicized dangers of these materials are spills and illegal dumping, such as the dumping of PCB along roadsides and the contamination of the Kernersville reservoir. More significant and widespread dangers, however, include direct discharge to air and water; biological concentration in animals that are used for human food; and the potentially irreversible contamination of groundwater by materials leaking from lagoons, landfills, and other improper disposal sites.

The safest solution is to change industrial processes so as to generate less hazardous wastes at the source, such as by using less of them and recycling them within the plant.⁶⁶ The next best approach is to reprocess them so as to neutralize or destroy their hazards, such as by chemical breakdown or high-temperature incineration. The last resort is to concentrate what is left in the smallest possible volume and store it in a facility—either above or under the ground—where it will be as isolated as possible from humans and the environment.

Many changes in industrial processes can be made to reduce hazardous wastes at the source, and many technologies exist that can effectively recycle, neutralize, or destroy them. However, these approaches are sometimes resisted by communities that fear they may be part of the problem rather than part of the solution. State leadership is essential, therefore, to ensure effective monitoring and enforcement against unsafe disposal; to further public understanding of the hazardous waste problem as well as joint efforts by citizens and business leaders to solve it; and to develop a reasoned and fair process for reaching public decisions about the siting of new facilities that handle hazardous materials.

Recommendation 3

All hazardous waste generated in the state should be safely recycled, neutralized, or destroyed, at the source where possible. The General Assembly should act promptly to provide adequate staff and authority to reach this goal and consider financing a substantial portion of the costs by levying fees on hazardous waste generators. (See also People Recommendations 12 and 13.)

Beyond the recycling, neutralization, and destruction of hazardous materials, another high-priority goal for the year 2000 is that all sites where they are used, treated, stored, or disposed of should be made secure against risks to human health or environmental contamination.

The North Carolina Waste Management Board was created in 1981 and charged with submitting recommendations on a statewide strategy for hazardous waste management to the governor and the General Assembly. When these recommendations are made, they should receive prompt and favorable attention.

Meanwhile, however, the General Assembly should promptly provide adequate authority, staff, and funds to ensure an effective monitoring and enforcement program, including on-site as well as off-site processing and storage facilities; to identify and secure all sites of past hazardous waste dumping; and to establish a fair and workable procedure for siting new waste processing and disposal facilities that may be needed and can be safely operated.

The General Assembly should also authorize the state to require annual reports from all generators, treaters, storers, and disposers of hazardous wastes; and establish other regulations more stringent than those of the federal government as necessary to protect the health and safety of the citizenry. A substantial portion of the necessary funds ought to be derived from a privilege license tax or permit fee imposed on all generators of hazardous wastes in proportion to the quantity produced. In the future, the state should also consider requiring evidence of maximum possible reduction and recycling of hazardous materials at the source as a condition for granting pollution discharge permits.

A final recommendation is that county governments and regional councils of governments act promptly to inventory hazardous wastes generated within their jurisdictions, to identify treatment and disposal needs, and to work jointly with businesses and citizens in providing safe and acceptable solutions.

SOLID WASTES

In 1979 North Carolinians generated an estimated 5.7 million tons of solid wastes, in volumes ranging as high as 200-800 acre-feet per year in the nine urban counties. By the year 2000, the amount per person may increase by as much as 40 percent. Since 1971 the state has made significant progress in solid waste management practices by shifting from 479 open-burning dumps to 170 approved sanitary disposal sites. However, they are gradually filling up, and an estimated 80 percent of them may require replacement within the next decade. The outlook is for a substantially increased volume of waste that will require either substantial investments in additional sites, alternative facilities for recycling and disposal, or effective incentives to reduce the amounts generated.⁶⁷

Recommendation 4

State and county governments should enact strong statutory incentives to further recycling and reduction in the generation of solid wastes, and they ought to plan now for facilities that will be needed to handle future wastes.

Increasing numbers of communities and states have now recognized that landfill capacity is a scarce resource, that new landfill sites are expensive and unwelcome, and that solid waste disposal and roadside litter cleanup are costly uses of public tax dollars. One major example is bottles and cans, whose weight and bulkiness cause heavy labor, transportation, and handling costs. The several states that have adopted legislation requiring deposits on containers to encourage their recycling have not only beautified their environment by the reduction of litter, but have also saved much of the expense of trash disposal and roadside cleanup. Farmers have benefited from the decrease in damage to their equipment caused by cans and bottles near roads. And voluntary organizations, such as church groups and the Scouts, have sponsored projects to raise money by collecting discarded containers for return.

According to a recent survey, at least seventy-five recycling programs are operating in the state: ten by municipalities (often in conjunction with voluntary organizations), fifteen by private organizations at permanent sites, forty-nine as periodic collection drives by private organizations, and one (waste oil recycling) by state government. It was estimated that the rate of participation in such community-wide programs ranged from 10 to 20 percent, when collection centers were

permanent and the effort was well publicized, up to 50 to 65 percent, when the material was collected at curbside and local ordinances required that it be kept separate from other trash.⁶⁸ New Hanover County is also pilot-testing the combustion of solid wastes in a steam-generating plant.

It is therefore recommended that the state and the counties enact major incentives to encourage recycling and reduction in generation of wastes in order to stretch shrinking landfill capacity, reduce the public tax expense of waste disposal, and delay the need for major public investment in new landfills and disposal facilities. Effective measures include economic incentives, such as requirements for deposits on reusable containers and for separation of wastes at the source; effective publicity programs; and convenient facilities for disposing of separated wastes.

The state should also encourage and assist counties to plan now to meet their future disposal needs; to consider regional solutions, such as shared incinerators, land application programs, and landfills; to explore the possible advantages of contracting this service out competitively to private firms, under appropriate safeguards to retain public control and continuity of service; and to consider, where feasible, the potential for the combustion of refuse as a source of energy.

INTERSTATE POLLUTION

Some of the state's most critical future environmental problems may be caused by actions beyond its borders. Acid precipitation that damages lakes and crops may come from as far away as New Jersey, Ohio, or Alabama. Coastal oil pollution can result from offshore drilling under federal jurisdiction. Water pollution of some rivers and estuaries may arise primarily from discharges in neighboring states upstream. Groundwater may be lost both directly and by coastal brine intrusion because of excessive pumping by users in adjacent states. The transportation of hazardous chemicals through North Carolina creates a risk of accidents or spills even if they are en route to disposal sites elsewhere. In each of these cases, the state bears the burden of environmental harm—sometimes including substantial economic cost as well—for activities whose benefits accrue to other states. In each case also, North Carolina cannot solve the problem by its own laws and regulations alone: action must be taken either by the other states involved or by the federal government.

The Commission on the Future of North Carolina therefore urges the governor to negotiate with other states to obtain effective controls

on activities that cause environmental damage in North Carolina; and recommends that he and the congressional delegation also press for effective federal controls to reduce interstate pollution.

Recommendation 5

The governor and the congressional delegation should press strongly for action by and with other states and the federal government to prevent the pollution of North Carolina by actions elsewhere.

ALLOCATION AND MANAGEMENT OF WATER RESOURCES

North Carolina as a whole enjoys an abundant natural supply of water. However, a number of areas, such as the upper sections of some river basins and some coastal communities, possess only limited supplies. Even in areas where additional water sources are readily available, a large number of communities will need to develop them and construct treatment and distribution systems to meet the needs of their growing population and economy. The state's estimated 1970 water use will probably double by the year 2000.⁶⁹

Goal II

To Ensure an Adequate Supply and Equitable Allocation of Water Resources

Meeting future needs will require substantial investments in reservoirs, wells, pipelines, treatment plants, and distribution systems. One serious constraint on the ability to meet these needs is the extreme fragmentation of the state's water industry, in which 98 percent of a total of 2,750 water systems serve fewer than 10,000 people. This fragmentation results in high costs per capita, poor service, inadequate financial resources to support technical personnel, and insufficient size to take advantage of scale efficiencies or integrated solutions. Almost any other industry that represented an investment of \$6 billion and expended \$400 million per year would also invest in system-wide coordination and establish system-wide information systems, technical assistance, and research functions to achieve more effective management and investment programs than are possible in individual units alone. In North Carolina, however, because of the fragmentation of the water service industry, little integration or coordination of management has occurred.

If the state continues its pattern of relatively dispersed rural

growth, the costs of a fragmented service industry will be compounded by the high costs of building and maintaining a system to serve a dispersed population. It may be necessary for communities and counties to adopt forceful policies to encourage more compact development, such as charging developers the full marginal costs of service extensions.

A second serious constraint is the increasing difficulty of financing new facilities. Water and wastewater services and other public facilities are an essential part of economic development. Yet federal financial aid is being slashed, and the bond market is now making it difficult for local governments to raise their own funds for capital projects. The state cannot meet either its water supply goals or its economic development aspirations unless these difficulties can be overcome and an adequate financing system created. Equally serious is the continued deterioration of existing water and wastewater facilities unless proper maintenance is financed and performed. Old water systems are often major contributors to both water pollution and water loss, like those in many other states, North Carolina's systems require investments in maintenance and replacement that are not now being made.

Recommendation 6

The General Assembly should establish a fair and effective basinwide system for water management, including countywide water supply plans, efficient direction of surface and groundwater service systems, regional coordination and allocation of water supplies, and a statewide framework for conflict resolution, conservation incentives, and technical assistance.

Planning, financing, and construction of a new water supply source can take a decade or more. Communities must take timely action to meet future needs, but local governments, given their limited geographical jurisdictions, cannot effectively plan water use for the appropriate regions where all relevant water supply and demand factors can be taken into account: river basins, subbasins, and major aquifers.

An effective water supply planning process carried out in partnership between the state and local governments is needed. This process should include selection of first-priority areas where planning is most urgent, technical planning assistance from the state, local government leadership in goal-setting and in fostering regional cooperation, incentives to encourage local governments to partici-

pate, and perhaps a more explicit statutory framework for water supply planning. The state could also help to make technical assistance and appropriate incentives easily available to local governments that want to promote water conservation measures.

The end of the first two state Clean Water Bond issues and the major reduction in federal financial assistance will also place a much heavier burden on local governments. Small municipalities, which need to improve water services as an essential step to attract jobs and industry, will face particularly difficult problems. Options for financing include a renewed state Clean Water Bond program, a small charge on all water users to raise water development funds, and the establishment of river basin or regional authorities that possess limited taxation powers.

Water conservation incentives could play an important role in reducing the need for expensive capital investments and in ensuring that water transfers from one community or river basin to another are used to meet real needs efficiently. At the local level, water conservation can be encouraged by the elimination of bulk rate discounts in water pricing, by adequate investments in maintenance of water systems, and by requiring drip rather than spray irrigation systems. At the same level, additional incentives could be provided: a policy that water transfer would be approved only when the requesting community has established an effective conservation program, and more active use of the state's "capacity use area" law for management of surface and groundwater in areas of scarcity.

Recommendation 7

The General Assembly should provide for a program of systematic monitoring to document and protect major groundwater supplies.

Sixty percent of the state's residents are directly dependent on groundwater for domestic water supplies. Some municipal systems and industries as well as farms also rely heavily on it. Withdrawals are estimated at nearly 700 million gallons per day and are increasing at an estimated 5 percent per year.⁷⁰ Recent rapid rises in withdrawals have lowered aquifer water pressure levels as much as several feet per year in much of the Coastal Plain, which increases the potential both for pollution and for conflicts among resource users. Groundwater is also subject to increased risk of pollution from waste disposal in leaky lagoons and retention basins, landfills, leaky storage tanks and pipelines, accidental spills, agricultural chemicals, and saltwater intrusion. An effective statewide program is needed to mon-

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itor both the quality and withdrawal rates from major aquifers and to enhance county and regional institutional capacity to use this information for fair allocation and protection of the quality of its groundwater resource.

Goal III To Stop Erosion and Fertility Loss of Productive Soil and Reduce Water Pollution from Sedimentation

Piedmont streams in North Carolina were fairly clear before row cropping began in the 1700s. Today, however, soil erosion is a serious natural resource management problem. Whenever land is disturbed and adequate measures are not taken to protect exposed soil, erosion by both wind and water will occur. Nearly 80 million tons of soil are eroded annually in the state, chiefly from farmland, construction and development sites, roadsides, surface mines, forest lands, and urban areas (figure 11).

Cropland accounts for 65 percent of the total soil loss. An annual erosion rate of fifteen tons per acre, the rate for many acres of Piedmont cropland, means that approximately five inches of topsoil will be lost in fifty years.⁷¹ (See figure 12.) The implications of failure to curtail soil losses of this magnitude are serious. Erosion affects the long-term productivity of the land by reducing the water storage capacity of the soil, by increasing energy requirements for tillage, by raising lime and fertilizer application needs, and by decreasing yields. Erosion can also cause costly and damaging sediment accumulation in streams, reservoirs, and estuarine waters.

Recommendation 8

The General Assembly should promptly establish a state cost-share program for soil and water conservation so that by the year 2000 all farms will have adopted the recognized Best Management Practices for soil-erosion control and water quality management.

A central cause of soil erosion, and of related water quality degradation, is the lack of willingness or financial ability of farm owners and operators to undertake necessary measures. Existing sources of federal funds are not sufficient to provide for most lands needing remedial action in North Carolina. Ten states now provide cost-sharing programs for soil conservation; two administer loan programs; and one provides an investment tax credit for conservation tillage equip-

FIGURE 11. Percentage of Total Erosion in North Carolina by Land-Use Category.
Source: U.S. Department of Agriculture, Soil Conservation Service.

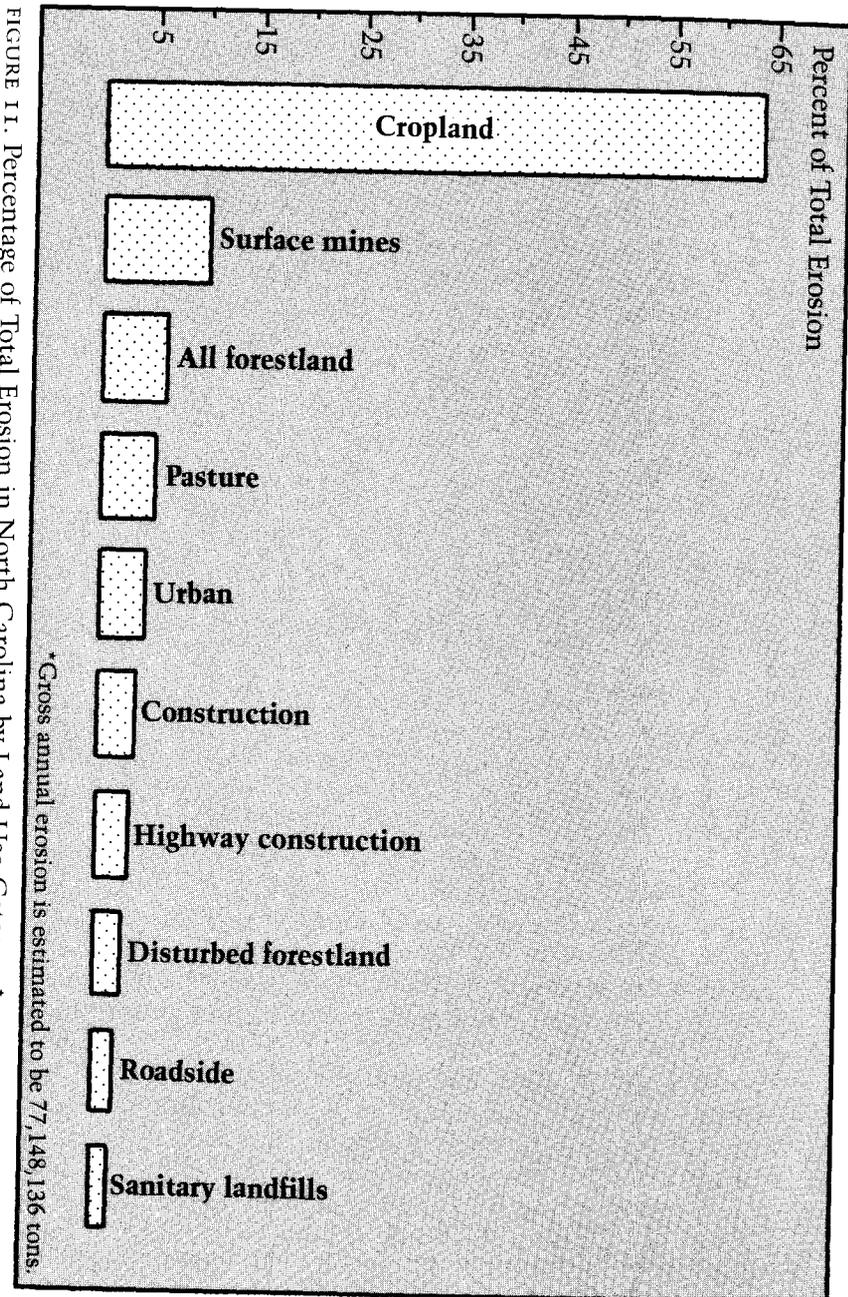
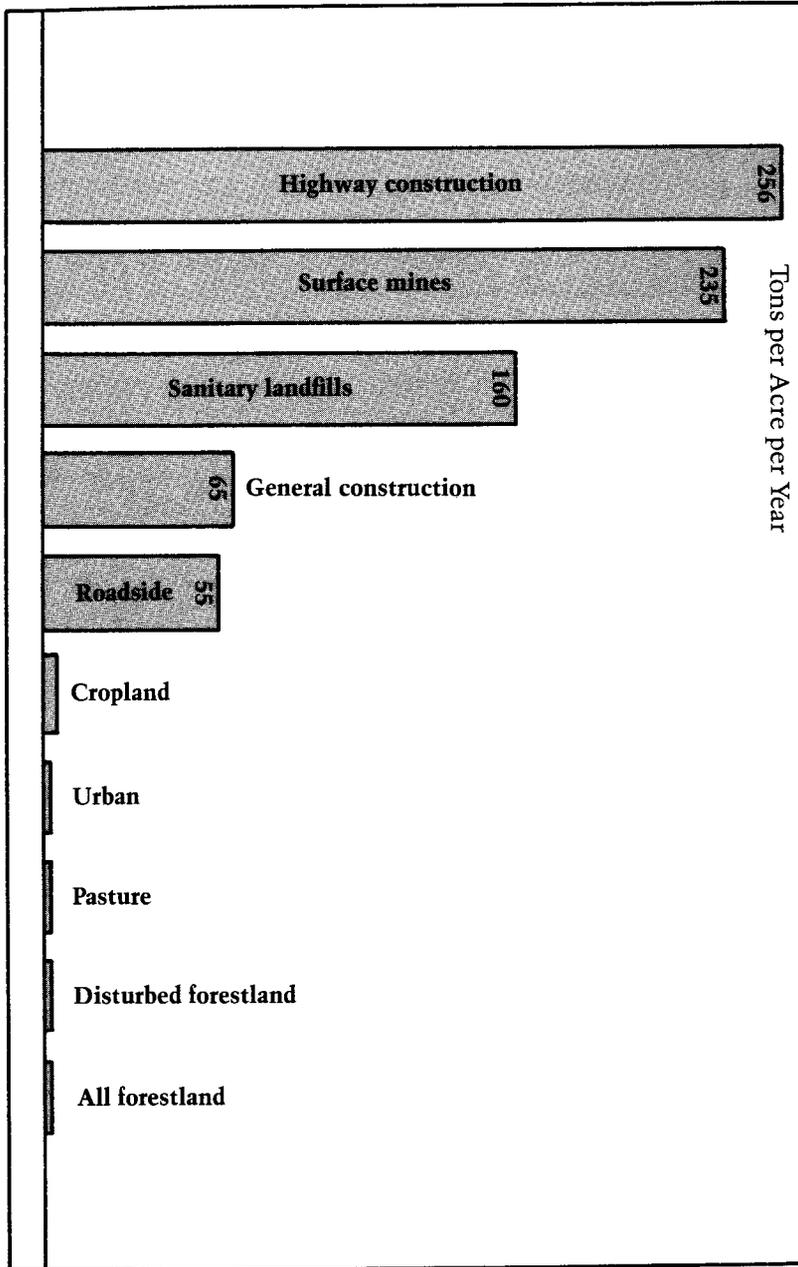


FIGURE 12. Average Annual Rate of Erosion in North Carolina
 Source: U.S. Department of Agriculture, Soil Conservation Service.



Contour strip-cropping is one of the techniques that conserves the state's productive resources and reduces water pollution. (U.S. Department of Agriculture; photo by Ernest Wilson)

ment. In addition, districts in three states administer cost-share programs on the local level that supplement state programs.

Because of the pricing structure of agricultural products, farmers cannot pass on the cost of installing Best Management Practices to the consumer unless management controls are set at the federal level. Even then, the increased cost would not necessarily be reflected in the prices farmers receive for their products on account of global competition.

Proper management of soil to prevent erosion and damage to water quality is a legitimate cost to be shared by government and the agricultural producer. Currently a coordinated approach of education, technical assistance, and federal cost-share funds is being used to tackle the problem. State agency staffs are already conducting "before and after" demonstration projects on farms in Wake County and in priority watersheds in the Chowan River Basin, Wayne-Lenoir counties, the Union Priority Area in the Piedmont, and Buncombe County. These projects, which include physical measures as well as

education and problem-solving efforts with landowners and farm operators, clearly indicate how effectively soil conservation and water quality can be improved where they are addressed vigorously and in a coordinated fashion.

A state cost-share program should therefore be initiated to further the goal of soil-erosion control and water quality management, and state funds for education and technical assistance ought to be increased. The state should establish a systematic monitoring program to identify water pollution from nonpoint sources in order to identify sources and needs accurately for future corrective measures.

It is believed and hoped that adequate cost-sharing and technical assistance will encourage and enable farmers to act voluntarily in solving the state's agricultural soil-erosion problems. If, after regular review of the voluntary approach, this does not appear to be occurring, various reasonable mandatory controls might be considered appropriate and possible in the future.

FARM MANAGEMENT

Agriculture is the state's oldest and most valuable industry, contributing more than \$16 billion annually to the economy. Based on recent experience and current knowledge, farm production could be increased by another 25 percent by the year 2000, especially in horticultural crops, such as vegetables, fruits, greenhouse flowers, woody ornamentals, and Christmas trees. Other promising crops include sorghum and new fiber and fuel crops, such as kenif and oil-bearing plants. A key factor in any of these potentials is improvement in agricultural marketing so that farmers can reasonably expect to obtain adequate prices for their crops.

At present, however, North Carolina farmers, especially the many family operators, face serious uncertainties and economic hardship that may prevent the achievement of this potential. Federal programs that have benefited rural areas, such as rural water supply and soil conservation grants, are being severely cut back; federal arrangements to stabilize agricultural prices and marketing, especially for major North Carolina crops such as tobacco, are undergoing critical reassessment; and general economic conditions confront farmers with high costs for inputs and interest as well as low returns. Under such conditions, many of them simply cannot afford to make long-range investments that would otherwise make sense both for themselves and the state, either in farm modernization or in soil and water conservation. Some, especially small family farmers, who include a high proportion of the state's black farmers, may lose their land and

investments altogether. If agriculture is to continue to play a healthy role in the state's economy, it cannot be taken for granted; strong state leadership will be necessary.

Recommendation 9

The state should continue and strengthen its efforts to further modernization of the management of family farms.

Farm production methods may possibly change as much in the next two decades as they have in the last two. Aided by home computers and new business methods, managerially skilled farmers will be thinking more in terms of crop management systems than of individual farming practices. Pilot Integrated Pest Management (IPM) programs underway in the state enable farmers to devise broad-based strategies for controlling pests that might include rotation, varietal selection, fertility, planting dates, and economic threshold levels, as well as biological and chemical controls. Other elements of an integrated management system include improved production and marketing as well as waste recycling, conservation tillage, water quality management, and the use of wood and waste materials in fuel.

Energy costs will also continue to prompt many modifications in farm production practices. One example is the impact on tillage systems. Reduced tillage could be used for 75 percent of all field crops grown in the state by the year 2000. This could mean less soil-disturbing activity and better soil conservation on four million acres of land that is now plowed regularly.

The most exciting possibilities in agriculture in the next few decades are likely to come from recent breakthroughs in biotechnology. Gene splicing, tissue culture, and other new scientific advances indicate that it is possible to create new plant varieties possessing extraordinary characteristics. These might include plants having the ability to tolerate salt and droughts, produce more protein, fix nitrogen, and resist insects and diseases. Biotechnology is now stimulating a major new research and industrial complex, and much of it is agriculturally related. Serious state attention will be needed, however, to ensure that farmers have both the financial means and the know-how to take advantage of these breakthroughs as they occur.

If these changes occur, farming practices in the year 2000 should be more profitable and compatible with a wholesome environment than many are today. The achievement of these conditions, however, is heavily dependent upon both the sustained economic viability of farming in the state and public support for agricultural research,

education, and modernization of farm management and of the agricultural work force.

Strong state efforts are therefore recommended to further the potential of family agriculture to become a high-wage, high-technology, well-managed occupation, at least equal in importance to manufacturing plants; to emphasize agricultural and other natural resource marketing potentials in industrial recruitment efforts; and to stimulate integrated agricultural and forestry management systems as well as training in them for farmers, including protection of land and water quality, maximum recycling of waste materials, increased use of solar energy, and improved production and marketing. The state should also support regionally based technical personnel to assist specifically in the marketing of promising new agricultural and forest crops.

Resource Production and Conservation

Natural resources provide not only the biological necessities of air, water, and food, but also the materials and energy that sustain economic production and consumption. Agriculture contributes more than \$16 billion a year to the state's economy, forest products in excess of \$5.5 billion, recreation and tourism more than \$2 billion, mining nearly \$344 million, and commercial fishing more than \$140 million.⁷² These productive resources as well as the jobs and revenues they provide are a primary foundation for today's economy and a major asset for future prosperity. To achieve this potential, however, they require both responsible maintenance and management to keep within sustainable levels of use and deliberate investments in development, utilization, and marketing.

Goal IV

To Increase the Productivity of Economically Valuable Resources up to Their Sustainable Potential

The most striking fact about the state's productive resources is how little of their potential is now fully utilized or well managed. North Carolina has the fourth largest area of commercial forestland in the nation, yet its production is estimated at only 40 percent of its potential; on hundreds of thousands of acres, valuable timber stands have been replaced by unmanaged, low-grade hardwoods, and the

furniture industry now actually imports more than 60 percent of its wood from other states. North Carolina is also the sixth leading state in volume of seafood production, yet the profitability of commercial fishing is declining. A significant portion of the shellfish beds have been closed because of contamination, many species of fish that are highly valued in international markets are not effectively marketed, and the potential for intensively managed aquaculture has barely been considered. More than 90 percent of the energy used here is purchased from other states and nations, though North Carolina's own potential—from wood and wastes, sun and other renewable sources, as well as peat and minerals—has hardly been touched.

The two priorities for the state's productive resources, therefore, are *to increase their productivity* as much as is possible without degrading them, and *to stimulate conservation and the use of renewable sources of energy*.

FORESTS

The Southeast is rapidly becoming the nation's "wood basket," and North Carolina is one of the states most richly endowed in forest resources. Sixty-two to 64 percent of its land area is classified as commercial forests, a total of 19.5 million acres—fourth largest in the nation—including portions of the great southern pineries and many hardwood species. National and international demand is increasing for softwoods and high-quality hardwoods. It is expected to rise by 40 to 60 percent by the year 2000 and to double by the year 2030. The state can play a major role in meeting this demand. New technologies—such as genetic engineering of new strains of trees and tissue culture to accelerate reproduction—should also enhance the productivity of forestlands.⁷³

Some 80 percent of the state's commercial forestland is owned by individuals—nearly half by farmers, the rest by professional people or absentees—and management is now minimal on most of these lands. Because their productivity is only 40 percent of their potential, the economic value of the state's wood production could probably be at least doubled. Only one acre in five is being replanted after cutting, and a backlog now exists of nearly 3 million acres of cutover lands predominantly vegetated with low-grade hardwoods. Over the ten-year period 1964–74, hardwoods replaced pines on 370,000 acres. Unless prompt regeneration of cutover lands is carried out, the trend from pine to generally low-grade hardwoods will continue. Simultaneously, the availability of high-grade hardwood for the furniture

industry is diminishing. The state's opportunities to profit from the potential economic returns, especially from softwoods and high-quality hardwoods, will be limited unless management of nonindustrial private forestlands is substantially improved.

Forestlands provide many major values in addition to production of wood that impact upon the quality of life, including opportunities for recreation, watershed protection, and wildlife habitat. Multiple use of these lands can provide increased wood production and other tangible benefits, including an enhanced quality of life. National forests in the state provide demonstrations of effective forestry practices for multiple benefits, as well as of wood utilization. One major advantage of better management of private lands, in fact, would be to free public lands—especially national and state forestlands—to serve the vast rise in recreational demand that is now occurring and is expected to increase as the population grows.

Recommendation 10

The departments of Natural Resources and Community Development, Agriculture, and Commerce should work jointly to promote intensive forest management, reforestation, and marketing on private lands in pursuit of the goal of doubling wood production on a sustainable basis by the year 2000.

An estimated 1.25 million acres of North Carolina's forests could offer returns on investment exceeding 10 percent if they were properly managed, and more than seven million acres could be converted to high-value softwood production if their present low-value hardwood cover could be marketed or otherwise utilized.⁷⁴ High-grade hardwoods could be sold for lumber and veneer; low-grade material could be used for industrial and residential energy. One key to achieving these potentials is improvement in market development and recruitment of industries that will utilize them. A second key is to provide effective incentives and information to woodlot owners for the utilization of forest materials, reforestation, and more productive management of their resources. A third is to protect forest resources from fires and pests.

The governor is therefore urged to identify forest productivity as a high-priority goal in the state's economic development and industrial recruitment strategies and to invest in a team of specialists to improve marketing and utilization of forest resources. The state also ought to establish major incentives for reforestation and woodlot management, including consideration of such measures as tax deductibility of reforestation costs, use-value taxation of corporately

owned as well as individually owned forestlands, and severance taxes on sales of forest commodities that would support a reforestation fund. Finally, state forest management training programs should be expanded to appropriate regional university campuses or community/technical colleges to upgrade the husbandry skills of small-tract forest owners.

FISHERIES

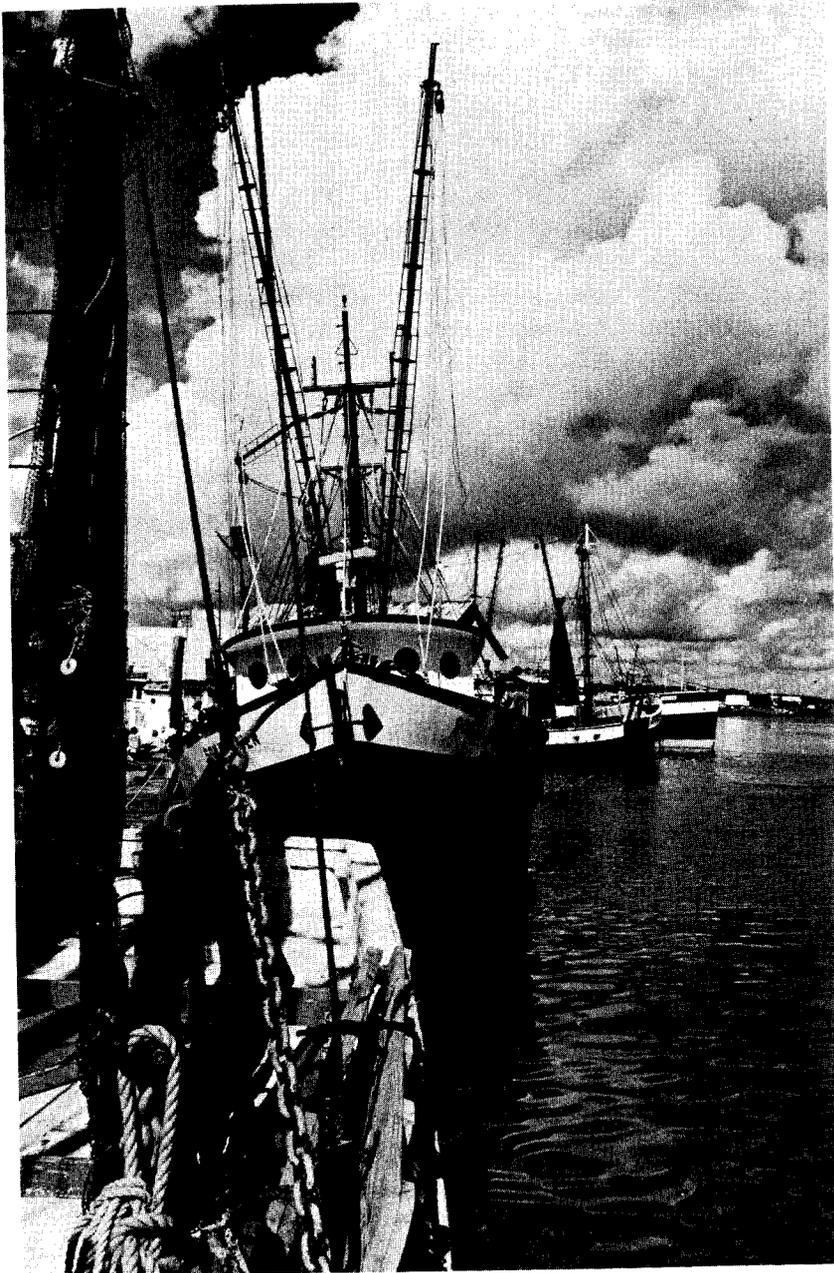
North Carolina also possesses a rich and diverse aquatic resource base, including 2.8 million estuarine and marine acres within the three-mile limit of the coastline. Commercial fish and shellfish landings in 1981 totaled more than 432 million pounds, whose dockside value was \$57.5 million and which contributed more than \$140 million to the economy.⁷⁵

Commercial marine fishery production could be boosted by the year 2000 through improvement in its management. Current research suggests that some species may presently be harvested in amounts less than their potentials, such as tuna, shark, swordfish, tile fish, and deep-sea species. Overseas markets for species such as eel, shark, and ray are not well developed. Present commercial fishing technology results in the killing of many undersized fish, reducing future yields. Many domestic and foreign markets are unfamiliar with North Carolina producers, which creates barriers to sales.

A promising possibility for future production is aquaculture, or intensively managed "fish farming." Just as livestock are domesticated and carefully controlled on land, the production of fish could be increased by this sort of system rather than simply harvesting them with expensive seagoing equipment. Some barriers would need to be overcome—such as the need for rights to the use of public waters and positive protection of water quality, economic investments, and research—but serious applications of this technique should be possible before the year 2000, both in fresh and salt waters.

On the other hand, commercial fishing could become a dying way of life unless the industry is enhanced. The number of fishing licenses sold has risen by 300 percent over the last decade, but only 12 percent of the 25,000 licenses sold in 1980 were to full- or part-time commercial fishermen. The result is a reduction in catch per fisherman, even as pressure on the resource itself continues to increase. Although some commercially valuable species are underutilized, others may already be overfished, causing a threat to the long-range viability of the resource.⁷⁶

Water quality degradation is also a serious and continuing threat



*The fishing industry is a vital ingredient of the state's economy.
(N.C. Department of Commerce; photo by Clay Nolen)*

to the fisheries. As much as half the total catch in some years comes from the estuary around the Albemarle/Pamlico peninsula—the area most subject to land conversion—and many fish nurseries are located in estuarine waters as well. Large sections of state waters are presently closed to fishing or shellfish harvest because of pollution. These problems may continue or even increase because of agricultural drainage, runoff, and coastal urbanization. Major improvements are needed in monitoring and enforcement of water quality to protect and enhance the value of the fisheries.

Recommendation 11

The General Assembly should take actions to ensure a viable fishery resource and industry in the twenty-first century, including increased technical assistance in seafood marketing, fishery research and monitoring, and coastal water quality protection.

As in forestry, one key need is for improved marketing, especially the development of foreign markets for underutilized species as well as more active promotion of North Carolina seafood in domestic markets. A second is effective monitoring and control of water quality, especially in estuarine fish nurseries. For aquaculture, a third key need is for major research on production of the resource and on such questions as leasing of exclusive use rights in public waters and active protection of those waters' quality. The state should therefore invest in marketing specialists for seafood industries, in systematic monitoring and protection of commercial fish stocks and of coastal water quality, and in the research and development needed to provide operational testing of the potential of aquaculture.

MINERALS

North Carolina's mineral industry receives little attention, but it is a major element of the economic base. In 1981 nonfuel mineral production was valued at \$343.9 million; leading commodities included stone, phosphate rock, and sand and gravel. The state leads the world in lithium production and ranks first nationally in feldspar, olivine, pyrophyllite, and scrap mica; it ranks second in common clay and crushed granite. Many of these products are consumed locally, principally in construction, and must be produced close to where they are used; lithium and phosphate products are marketed nationally and internationally.⁷⁷

The state apparently does not possess major deposits of fuel minerals, such as coal, oil, and natural gas, but oil and gas leasing

and exploration are being conducted both offshore and in western North Carolina, particularly on federally owned lands. In the coastal regions, the state has an estimated 640,000 acres that contain about 600 million moisture-free tons of peat; mining permits have been issued covering 264,000 acres. The long-range environmental impacts of mining this resource are poorly understood and could be significant, especially on coastal estuarine waters; most land mined for peat will probably later be converted to agriculture. The long-range impacts of oil and gas exploration are likewise unknown, but caution is required in decisions to commit lands to leasing for this purpose.

By the year 2000, the value of mineral production is expected to approach a billion dollars per year, including a tripling of phosphate, a substantial increase in peat mining, and possibly some reduction in the production of aggregates if new highway construction declines.⁷⁸ In areas where new growth and construction do occur, however, mines and quarries will be needed to provide construction materials. Mining will continue to contribute meaningfully to the economy. Without careful planning, appropriate environmental safeguards, and effective surface reclamation, however, it is a source of air and water pollution as well as soil erosion.

Recommendation 12

The state should require that all proposals for mines, quarries, and oil and gas wells be carefully coordinated with local land-use plans.

Mining is a necessary and economically significant use of natural resources, which involves particular land-use needs as well as potential conflicts. On the one hand, minerals can be extracted only from the lands where they occur, so this process cannot take place just anywhere; and some minerals, such as sand and gravel, are so bulky that for economic reasons they must be extracted close to their points of use, which usually means close to the path of economic development. On the other hand, these are often places where conflicting intrinsic values of the surface land also occur, such as unusual ecological habitats or productive soils, and areas of rapid economic growth may also include land uses, such as parks and residential neighborhoods, where mining activities are unwelcome.

Existing state mining laws require permits for all mines and quarries, as well as operational and rehabilitation plans to minimize physical impacts on the environment. They do not yet, however, deal fully with the need for coordination with local land-use plans. Such plans must both provide for future mining needs and opportunities

and have the power to prevent or minimize future conflicts between mining proposals and other land uses. (See also Recommendation 23 later in this chapter.)

ENERGY

North Carolina imports more than 90 percent of the energy it uses from other states or nations. As energy prices continue to rise, this dependence threatens to drain increasing amounts of financial resources from the economy that could be better used to capitalize its overall development. Primary sources of energy today and in the foreseeable future include petroleum, coal-fired and nuclear electricity, and natural gas, all of which must be purchased outside the state. However, it possesses major untapped resources of solar, wood, and other energy sources that could substantially moderate this dependence if it acts vigorously to promote their use.

Goal V

To Foster Energy Conservation and Encourage the Transition to Renewable Sources of Energy

Future electricity demand growth is expected to be less than in the past because of higher prices, but is still expected to be close to the national average of 3.2 percent per year.⁷⁹ If actual electric-demand growth falls in the upper range of current predictions, electrical utilities will need to rely heavily upon conservation, load management, and alternative energy sources to meet demands. Future energy prices probably will continue to rise, perhaps delivering a significant shock to the state when natural gas prices are deregulated. Any new construction of electrical-generating plants will also cause significant increases in the price of electricity, as well as added environmental impacts—such as acid rain from coal plants and radioactive waste disposal needs for nuclear plants—that would be preferable to avoid.

As the industrial economy continues to grow, some additional electrical-generating capacity may be required by the year 2000. However, major new power plants will cost far more than existing ones to construct and operate, and they are politically and environmentally controversial. The more energy needs can be met through conservation and load management as well as through locally produced renewable sources, the less will be the need for new capital-intensive generating stations and for the imported fossil and nuclear

fuels they require and the more generating capacity that will be saved to meet the needs of industrial and residential growth.

Conservation and Load Management

Of all the strategies for achieving energy goals, conservation and load management are likely to make the biggest immediate contributions. These techniques lessen the need for future supplies by reducing waste of current ones; they lower demand and thus slow the rate of price increases; and they alleviate the adverse environmental effects of energy transportation, combustion, and storage. They can also achieve these results inexpensively by reducing the barriers of laws and past habits that have caused wasteful use when energy was cheap.

Many of the state's homes, businesses, and public facilities were built in periods of cheap energy. They therefore contain little insulation or weatherization and are often equipped with grossly inefficient electrical appliances, such as electric furnaces for space heating. A concerted program to insulate and weatherize these buildings as well as to replace inefficient appliances could substantially reduce future energy usage and costs, not only for those who occupy the structures but also for all North Carolinians, who would otherwise need to help pay for new generating facilities. In industry, the simultaneous production of heat and energy—known as cogeneration—has also become an economically effective means of energy conservation.

Energy conservation programs already in effect contributed to savings equivalent to more than eighteen million barrels of oil in the state in 1981.⁸⁰ It also continues to enjoy electricity rates that are among the lowest in the nation. All the major electrical utilities are experimenting with conservation measures, such as load management, peak-load pricing, and incentive rates for weatherization and the use of energy-efficient appliances. The utilities are also providing support—in cooperation with the Utilities Commission—for the North Carolina Alternative Energy Corporation, which is chartered until 1985 to stimulate innovative technologies and practices that encourage energy conservation.

State government can play a substantive role in encouraging energy conservation. For example, it can disseminate information and foster conservation practices, such as van-pooling and ride-sharing; and it can change its own laws and regulations, such as building and trucking codes, when they unnecessarily block energy conservation measures. It can also exert a major impact through practicing energy conservation itself, both setting a good example and saving tax dollars.

Solar and Renewable Sources

North Carolina has substantial potential for increased utilization of renewable energy sources, including direct solar energy, wood, agricultural biomass, solid wastes, and wind and water power. The more locally produced fuels can be substituted for imports, the greater will be the investment in the economic health of the state rather than that of other states and nations.

Wood is a particularly abundant renewable natural resource and can be used for both heating and electricity generation, either by direct combustion or indirectly through the production of cleaner-burning fuels such as methanol. The forests annually store more energy than the state consumes. An estimated 10 percent of its energy could be supplied in the year 2000 by using wood that is now left as logging residue or is unmarketable for conventional uses; this would also enhance forest productivity because some of this material hampers high-quality growth.⁸¹ Forest owners could feasibly remove and sell up to 31 million tons per year of this material and reinvest the income in replanting more valuable species. Although residential wood burning creates unresolved air pollution problems, industrial wood-boiler emissions are cleaner than coal-fired plants. Several state facilities are already being fired by wood, including Dorothea Dix Hospital and the Eastern and Southern correctional facilities, in Greene and Montgomery counties.

Solar energy is also feasible in the state today, both technologically and economically. It is already being marketed and used in homes and offices; in public buildings, such as highway patrol offices, welcome centers, and the North Carolina Zoo; in industries, such as asphalt batch preparation; and in agriculture, such as for poultry houses. Other states have accomplished even more. In California, for example, the Public Utility Commission has sponsored a major program to install solar hot-water heating in 375,000 residential units within three years, using rebates and low-cost loans offered by the utility companies as an incentive and providing a five-year warranty. California estimates that a major solar energy effort could create 376,000 new jobs per year over the next ten years; and produce a \$51.1-billion rise in gross state product, \$41.2 billion in increased personal income, \$19.8 billion in tax savings, and \$10.2 billion savings in the export of capital.⁸²

Although North Carolina's population and economy are both smaller than those of California, a major state commitment to the use of solar energy could produce dramatic results here as well, especially because dependence upon external sources of fossil fuels

is far greater than in California. North Carolina could also gain immediate benefits from small-scale solar heat collector devices; and, in the longer term, photovoltaics, the conversion of sunlight to electricity, offers a promising growth industry closely linked to the microelectronics firms that the state is now attracting.

Agriculture also offers significant potential, especially for the expanded utilization of available solar energy technologies, for fuel use of agricultural wastes, and for gradually increased production of methane/alcohol fuels. And, in at least five market areas, fuel derived from solid waste refuse could probably be used economically to fire power plants by the year 2000; the North Carolina State University Veterinary School is already installing a boiler to burn refuse.⁸³

In today's economic climate, the largest single barrier to investments in conservation and alternative energy sources is the limited availability of adequate financing under terms that are attractive to both the investor and the user. Because the poor are among those most hurt by rising energy costs, they could benefit most from conservation and passive solar energy technologies; yet they are also least able to afford the initial installation costs of these measures. They may be unable to take advantage of tax credits, and they often live in multifamily rental housing that they cannot renovate on their own. Other barriers to investment include lack of information about conservation and solar applications as well as some unnecessary regulatory restrictions.

Recommendation 13

Beginning immediately, North Carolina should adopt as goals that its energy demand increase at the lowest possible rate consistent with the needs of a growing population and economy and that by the year 2000 at least 20 percent of total demand be met by solar and renewable energy sources; and it should establish an explicit plan and a vigorous program to achieve these results.

Examples already exist of communities and states that have strongly committed themselves to self-sufficient energy policies. Rural Franklin County, Massachusetts, is pursuing measures that could attain near-total conversion from oil to local renewable sources by the year 2000. Included are weatherization of buildings, small hydroelectric projects, improved forest management and methanol production, cogeneration of electricity and heat in industrial plants, and passive solar construction in new buildings. Researchers found that these measures were far from an economic drain; they would substantially

improve the local economy by generating employment, strengthening the tax base, and eliminating the export of funds for fuel.⁸⁴ The state of California has adopted a vigorous policy and action program to commercialize solar energy development over a five-year period, supported by financing mechanisms, work-force training, quality assurance, retrofit of public buildings, information and extension programs, and assistance to businesses.

North Carolina should establish an explicit State Energy Plan to achieve a substantial shift to indigenous solar and renewable energy sources by the year 2000, and the state and local governments ought to lead the way in encouraging and demonstrating the use of cost-effective conservation practices and renewable energy applications. The North Carolina Energy Institute conducted a vigorous research and demonstration program for three years until it was eliminated for budgetary reasons in 1982. The results of its program demonstrate the feasibility and benefits of many conservation and renewable energy applications. What is now needed is a state policy commitment to encourage this pattern, backed by a clear mandate and appropriate support and staffing to a state agency to carry it out.

Other recommendations are that the state actively recruit photovoltaic research and production industries; and that it extend the charter of the Alternative Energy Corporation from 1985 to 2000, expanding its responsibility and financing to include nonelectrical energy users, such as the natural gas utilities.

The state should also act vigorously to accelerate the use of energy conservation and renewable sources wherever feasible in public facilities and other public investments, including existing publicly owned power plants; to identify and remove all unnecessary barriers in existing state laws and regulations; to provide vocational training, both in technical institutes and in prisons, in the installation and maintenance of renewable energy systems and conservation measures; to increase extension services for woodlot marketing and agricultural energy production and uses; to furnish technical assistance to counties and communities in the establishment of local action programs; to underwrite public investments, such as bicycle paths and lanes; and to offer a major program of loans, rebates, warranty insurance, and other appropriate incentives in partnership with the energy utility companies and financial institutions.

Recommendation 14

Beginning immediately, the General Assembly should identify and initiate changes in state laws and regulations, including those regulating public utilities and the transportation industry, that would encourage conservation and renewable energy use.

State laws and regulations can significantly influence energy use patterns, either as encouragement or as barriers to the increased use of conservation and renewable sources. The General Assembly, in cooperation with the governor and the Energy Policy Council, should identify and enact appropriate changes in laws and regulations. Specific possibilities for consideration include those that would protect users' access to sunlight; provide low-interest loan financing through the energy utilities; permit or require cogeneration between the utilities and other energy producers; improve the energy efficiency of building and trucking codes as well as other state standards; furnish tax incentives for gasohol production; and ensure that utility rates reflect the true marginal costs of energy production.

The Governor's Task Force on Solar Law was created to address many of those issues and was charged to report by early 1983. The governor and the General Assembly are urged to act promptly to advance the recommendations of the task force when they are presented.

Our Natural Heritage

The natural landscape is a major source of the quality of life in North Carolina. Although much of it can be used for economic production, the constitution also recognizes the state's responsibility to preserve its special places and qualities as a common heritage for all citizens: "to acquire and preserve park, recreational and scenic areas . . . and in every other appropriate way to preserve . . . its forests, wetlands, estuaries, beaches, historical sites, open lands, and places of beauty." Preservation of these qualities does not always require government acquisition; many of them are compatible with some kinds of economic uses, so long as they are recognized and protected. But support is required for programs to identify such tracts, to ensure that their preservation is somehow provided for, and to acquire them

when necessary to guarantee their preservation and public access to them.

If North Carolina's population and economy continue to grow as expected, the next few decades will be a crucial period for the identification and preservation of the special qualities of the landscape. More of such valuable areas will be in danger of conversion to other uses as urbanization expands; a growing population will need more areas for outdoor recreation than are now available. However expensive it may be to acquire and preserve these tracts now, it will be more expensive later, as development pressures bid up the price. Between now and the year 2000, therefore, an integral element of the state's economic development program should be to *identify and preserve areas that have special natural values* and to *increase the supply of outdoor recreational opportunities* to meet the needs of a growing population.

Goal VI

To Preserve the Special Qualities of the Natural Landscape

Natural areas provide irreplaceable educational, recreational, cultural, scientific, aesthetic, and ecological values. Yet, in this rapidly growing and economically vigorous state, pressures on those that remain are increasing. The natural diversity is rich, yet many of the finest natural areas are unprotected and are steadily being destroyed. Intensive use of land eliminates natural habitats, native animal and plant species, and other types of natural areas. The need to preserve the most outstanding ones is clear, but meeting it is difficult.

Some areas of the state's lands and waters provide essential services and values, yet they are particularly sensitive to accidental or thoughtless damage by human activities. Estuaries and wetlands furnish not only wildlife habitats and recreational opportunities but also nurseries for most of the seafood and sport fisheries. Nevertheless, these functions can be destroyed by upstream water pollution or poorly planned agricultural drainage. Barrier islands protect the mainland coast from the hazards of flooding and erosion, yet they are quite fragile in the face of urbanization and intensive recreational use as well as subject to rapid change by natural forces. For example, by the year 2000, parts of the state's ocean coastline may be as much as 40 to 200 feet farther inland than they are now.⁸⁵

"Aquifer recharge areas" are lands through which rainfall percolates quickly to resupply groundwater resources for wells, yet such functions can be destroyed by paving or building on them. Mountain

slopes are usually stable if their vegetative cover is not disturbed but may erode rapidly if disrupted by construction or poorly sited roads. The soils on some of these slopes are too shallow to absorb septic system discharges. Many productive farm and forest lands have exceptionally valuable endowments of the natural characteristics necessary for food and fiber production, but the thoughtless location of a public investment, such as a highway or sewer, may make it more profitable in the short run to destroy those characteristics.

Recommendation 15

The Department of Natural Resources and Community Development should increase its support for statewide and county mapped inventories of major natural areas and resources, and these inventories should be a part of the basis for all governmental decisions affecting them.

A basic need for responsible protection of the natural heritage, by private owners as well as governments, is adequate information about the locations and values of special resources. So far, however, few of them have been systematically identified and mapped, and fewer yet have been brought to the attention of county commissioners and other public officials who make decisions affecting them.

The state Department of Natural Resources and Community Development, assisted by the nonprofit Nature Conservancy, in 1976 established a Natural Heritage Program to identify prime natural areas. Although staff and funding have been limited, about 450 areas possessing ecological or geological values of exceptional significance have thus far been designated.⁸⁶ Many public agencies use these inventory data for developmental planning, environmental impact assessments, and resource management purposes.

The state also conducts programs to identify and map productive soils as well as to inventory other land-related resources. All these programs are currently underfunded, however, and therefore provide needed information slowly. The Natural Heritage Program should be expanded to assure that it comprehensively inventories and identifies North Carolina's natural areas, and this information ought to be used in making land management decisions. The state should similarly broaden its inventory programs for soils, minerals, and other land resources; and direct active cooperation in these efforts by all state agencies whose decisions affect natural resource values. Technical assistance should also be provided to counties so that they may conduct similar inventories.

Recommendation 16

The General Assembly should provide incentives to private owners for the protection of natural areas.

Private landowners now lack adequate incentives to conserve natural areas. Increasing property and inheritance taxes, combined with rising land values, often force them to sell natural areas lands. Financial incentives such as tax relief—and, in selective cases, public purchases of easements or development rights—might help to dissuade landowners from destroying natural areas for economic reasons. The state should work with owners of important natural areas to determine the best way to protect them while providing appropriate benefits to the owners.

The Department of Natural Resources and Community Development in 1979 established a Registry of Natural Heritage Areas to recognize and honor owners who voluntarily pledge to safeguard outstanding natural areas. After a nominated area is found to be eligible for registration, the landowner must enter into a nonbinding, written, conservation agreement. As of 1982 more than a hundred natural areas in fifty counties had been registered by their public and private owners, approximately half on private properties.⁸⁷

The state already possesses model legislation providing tax incentives for donors of conservation easements, ensuring permanent retention of land in natural and scenic condition. It is also one of the more than forty states that have adopted preferential-tax laws to ease the tax burden for farmers and owners of timberland, but preferential assessment provisions currently extend only to agricultural, horticultural, and individually owned commercial forestlands. In contrast, Iowa, for instance, allows property-tax exemption without requiring permanent easements on "conservation lands" that meet certain requirements, such as wetlands, recreational lakes, forest cover, and riparian areas.

North Carolina ought to stimulate use of its tax incentives for conservation easements, especially for areas identified as important natural areas, such as unique features and habitats, wetlands, and streams and buffers. The General Assembly should also consider amending its preferential-tax statute to include natural heritage and hazard-prone areas registered by their owners with the Department of Natural Resources and Community Development.

Recommendation 17

Beginning immediately, state and local governments should direct public investments that encourage urbanization—such as highways and sewers—away from valuable natural areas and productive farm and forest lands, except where no feasible and prudent alternatives exist.

Recent research in North Carolina and the nation indicates that government-funded investments—such as highways, water and sewer lines, and subsidies for housing and industrial projects—are major influences on the conversion of farmland and natural areas to other uses. Of some 131 federal programs that impact farmland use, for instance, 70 percent tend to stimulate its conversion to nonfarm uses, and actual sales indicate that the price per acre is approximately double when these government-directed factors are present. The same conclusions would almost certainly hold true for nonfarm natural areas, such as floodplains, barrier islands, and wetlands. State, county, municipal, and other government decisions concerning the locations of public investments as well as the tax valuation of undeveloped land also critically affect land-conversion decisions. Clearly, government decisions themselves are a major source of incentives to develop valuable natural areas.⁸⁸

As one immediate solution to this problem, it is recommended that the governor and the General Assembly direct that any potential impacts of state government decisions on such lands be explicitly identified—for instance, in highway and sewer location decisions—and that such investments not be located in these areas unless no feasible and prudent alternatives exist.

Recommendation 18

The state should formulate explicit policies concerning the primary values that ought to be protected for each of the major state and federal land units, and it should request federal agencies to adopt management plans that will foster these values.

Federal and state lands comprise about 7 percent of North Carolina's land base. Most natural lands in public ownership are administered as national forests, national parks and seashores, wildlife refuges, national wilderness areas, state parks, and state gamelands, though natural areas are also administered by a wide variety of other public agencies. Several large areas, for instance, are managed by the Depart-

ment of Defense on military bases; many small ones in such areas as public school sites could be used for environmental education.

Many of the state's most significant natural areas are located on public lands; and some kinds of natural values, such as wilderness, can only realistically be preserved on the remaining large areas of these lands. Frequently, however, management policies overlook special natural heritage values present on them. Most natural areas may be used without harm for a variety of activities, but many are declining in quality because they are not adequately managed—or, in some cases, not even adequately studied. Thus, the principal values of federal and state lands in relation to North Carolina's natural heritage should be identified, and they ought to be communicated to the appropriate management agencies before potential conflicts arise.

Of special immediate concern is the apparent interest of the U.S. government in selling off portions of federally owned lands, especially if it does so at market value rather than offering them first to state and local governments at a nominal sum in accordance with past practice. A particular case in point is the state's national forests. Including more than a million acres in the eighteen westernmost counties and smaller units in the Piedmont and Coastal Plain, they provide an array of natural qualities. They are economically significant in the areas where they are located, and they are valuable to all the citizens who visit them and use their water, wildlife, and other resources.

Twenty-two million people used these areas for recreation in 1982, an increase of more than 30 percent in just four years; thirteen municipal water supply watersheds and parts of others are on these lands, along with half of the state's trout streams and total gamelands as well as approximately 645 species of vertebrate wildlife.⁸⁹ The national forests are also under commercial pressure, however, for timber production, oil and gas exploration, and uranium and olivine mining—uses that in some circumstances diminish their unique and growing value for recreation, tourism, and other compatible functions. North Carolina should identify these lands as a significant element of the state's natural heritage and participate actively on behalf of its people's needs and preferences in the planning processes of the federal management agencies.

Goal VII To Increase Public Access to Outdoor Recreational Opportunities

The opportunity for recreation is a basic component of any effort to sustain and improve the quality of life of North Carolinians, who now expend approximately one-eighth of their discretionary incomes in recreational pursuits. The increases in population and in leisure time that are anticipated will expand the need for recreational opportunities. This will be particularly true concerning outdoor recreation, such as hunting, fishing, boating, hiking, camping, and beach use—all of which rely heavily on publicly provided sites.

Although demand for outdoor recreation is expected to burgeon, sources of public financial support for additional land acquisition are now being reduced. Federal Land and Water Conservation Fund monies have been slashed, and the extent of public backing for additional revenue bonds is uncertain. Nor are federal lands expected to expand further, though some may be more fully developed.

The General Assembly in 1981 passed legislation to provide for state acquisition of public access to ocean beaches. This is one of the most urgent priority categories of recreational lands because public demand far exceeds their availability and development pressures are intense. The funding thus far provided is far less than will be required, however, and many other categories of needs are not well provided for, such as estuarine coastlands, inland stream frontage, trails, and new state parks and recreation sites as a whole.

The concept of a county or regional land trust should be examined as a means to identify and reserve sites that are logical locations for permanent natural, recreational, and watershed system sites so that especially valuable or unique areas can be set aside as soon as possible. A land trust could serve as a nonprofit corporation to receive gifts of money, land, and land easements and to administer them for the public good.

Recommendation 19

The General Assembly should support more vigorous acquisition and management of natural areas and recreational lands for the growing population, as well as provide for county and regional land trusts to identify and conserve priority lands. (See also Recommendation 24.)

Resource Management

The manner in which natural resources are managed will vitally affect the well-being and prosperity of North Carolina and its citizens through the year 2000 and beyond. These resources are a basic part of the state's real wealth, its capital assets. Responsible management of them is an essential investment in the future and a vital component of the economic development process. However, it cannot be done without cost, and it will not happen automatically through individual decisions alone.

It requires research to identify important natural areas as well as to study how many natural processes work and how they respond to human activities. It requires educational programs to enhance understanding and appreciation of the values of these processes in daily living. It requires effective planning and policy coordination to make sure that valuable areas are preserved, that natural resource needs are provided for, and that conflicts among resource users and responsible state agencies are fairly resolved. It requires systematic monitoring to identify significant changes in the condition of the resources and an effective enforcement system to protect them against damage. Finally, it requires capable and accountable staffing in state and local government as well as adequate financial support to assure stable and professional management.

As the year 2000 approaches, the single best way to make progress toward these goals is *to make the resource management system work more wisely, fairly, and effectively.*

Goal VIII To Improve Understanding of Natural Resources

The foundation for responsible management is knowledge: knowledge gathered through research, updated through monitoring, and shared through education.

Recommendation 20

North Carolina should increase its support of natural resource and environmental management research, as well as strengthen cooperation among the university system, state government, and resource users in setting research priorities.

In some areas of natural resource management, the need for research has been well recognized and supported. Agricultural research and extension, for instance, have been underwritten in part by investments in public land made over a century ago, and in part also by assessments on farmers—in the past called “nickels for know-how”—per ton of fertilizer used. Wildlife and fisheries research are also financed in part by user taxes. Other activities, however, are supported only by federal grants or annual appropriations that are subject to reduction or elimination in times of economic stress; examples include the University of North Carolina Water Resources Research Institute and the North Carolina Energy Institute, respectively. Still other programs are not well backed or organized at all.

The University of North Carolina has established an Environmental Studies Council to improve cooperation between the university and the state and among the university's campuses. This council can provide an important source of leadership in identifying research needs and encouraging efforts to address them. It is recommended that the state increase its support for natural resource and environmental research and education, and that a coordinating agency such as the Environmental Studies Council be used to provide closer links between the university system and state goals and needs. These could include establishing and publicizing agendas for research needs; screening research proposals; and sponsoring conferences, workshops, and seminars on topics of emerging importance.

Recommendation 21

Beginning immediately, the state should establish an environmental indicators program that provides regular and systematic monitoring information on changes in the quantities and qualities of environmental conditions.

At present, major changes in the quality and quantity of natural resources and environmental conditions are not readily discernible because of scarce monitoring data. Monitoring is done for particular purposes on particular problems; and individual agencies have the discretion to choose when, how, and what types of baseline data to collect. As a result, some keep limited data; some are inconsistent in their collection; and virtually none can compile systematic information to show accurate trends in quality, quantity, use, productivity, and demand.

Today's level of monitoring simply does not measure many key problems. Urban monitoring stations do not record acid-rain damage to soil fertility and crops; point source monitors do not measure

pollution from agricultural runoff; and most air and water pollution monitors do not record levels of many toxic or other hazardous pollutants. Improvement in monitoring would supply broader coverage of information on the status of the state's natural resources and allow more accurate interpretation of data on smaller increments, such as counties; it would also permit more effective management as well as reduce the waste and duplication of existing fragmented monitoring activities. Sufficient baseline data would enable management agencies to better direct their resources before problems become critical, and enforcement actions would be based upon more accurate estimates of damages. In addition, the availability of accurate, long-term trend information would educate the public concerning the improvement or deterioration of the environment; and would help businesses as well as public officials to make informed and responsible decisions.

Recommendation 22

The governor should establish an Environmental Education Task Force to stimulate environmental awareness on the part of both adults and children, including the formulation of environmental curricula for elementary and secondary schools.

Environmental awareness and knowledge are valuable not only for professionals in management agencies but also for all the people in a state that is so richly endowed in and so heavily dependent on its natural resources. Many North Carolinians manage natural resources directly, and all citizens use them and affect their condition by their activities. Most people, however, possess little understanding of how the environment benefits them and of how their actions may affect it. Environmental education is therefore a major need in itself as well as a valuable element of a broader scientific and practical education.

The substantial expertise, materials, and personnel that are available in the state could provide the basis for an excellent set of statewide environmental education programs. However, these assets are now scattered among many agencies, school systems, voluntary organizations, and businesses. They are not publicized effectively to those who might use them, nor are they used systematically to improve environmental education statewide.

It is therefore recommended that an Environmental Education Task Force be created to make recommendations on improving environmental education and awareness statewide for both children and adults. Such an organization might inventory existing environmental

education programs and needs, devise strategies and programs to meet those needs, recommend a statewide program approach to the governor, improve coordination among existing efforts, and provide a unified framework of concepts and materials for curriculum packages directed toward the public.

Goal IX To Protect Legitimate Public Interests in Land-Use Decisions

In an era characterized by considerable growth and rapid change, it is unlikely that we will attain a desirable future for North Carolina by accident. Rapid but unguided growth has brought progress and prosperity to many areas, but at the same time it has caused new and extensive pressures on water supplies and other natural resources; strains on already overtaxed city, county and state budgets in response to new demands for services; and an ever increasing transfer of productive agricultural and forest lands to other uses. The inducements that are drawing projected growth to our state are the very things that could be destroyed by rapid, unguided growth. Unless the people of North Carolina are willing to address their current and future growth problems within a rational and responsive framework, a process of decline is likely if not inevitable.

The preceding paragraph is as meaningful today as it was when it was included in 1976 by the North Carolina Land Policy Council in its preface to *A Land Resources Program for North Carolina*.⁹⁰ This program has not been carried out, and the council itself has been disbanded. The state's growth and change have not stopped, however, and the challenges they pose to its natural resource base and public service demands are still increasing.

Recommendation 23

Beginning immediately, each county should establish and carry out a land-use plan expressing citizen preferences concerning growth patterns, public service extensions, economic development, and natural resource areas to be protected. The state should provide technical assistance and incentives for the development of such plans in a uniform framework and require appropriate minimum standards for them.

Some kinds of growth literally cost North Carolinians more than the benefits they afford. If costs of taxes and public services are to be contained, a robust economy maintained, and a healthy environment protected, the capacity to direct growth sensibly at the local level and to provide services as efficiently as possible is essential.

Most decision-making powers affecting land use in North Carolina have traditionally been exercised at the local level, and this should continue to be the case. To exercise these powers effectively in the face of rapid growth and change, however, requires a level of information and technical knowledge that many local governments do not now have available to them; and it requires a deliberate local process for identifying and expressing the community's preferences concerning growth patterns in relationship to land use and public services.

The coastal counties now have this capacity within the framework of the Coastal Area Management Act, which is regarded as a model program nationwide, and have demonstrated the value of it for making sensible and informed local decisions about their counties' futures. This capacity is also essential in the other counties of the state if they are to achieve the benefits of economic growth and avoid unexpected costs of it.

The General Assembly should therefore create effective incentives for the formulation by all counties and municipalities of land classification and public service development plans expressing local intent regarding growth and development through a uniform framework; and it ought to urge federal and state agencies to respect these plans and use them as guides in making public investments. Another recommendation is that the state increase support of its Division of Community Assistance, Department of Natural Resources and Community Development, in providing technical assistance to counties and municipalities in the preparation of such plans as well as in methods for evaluating the economic, social, and environmental impacts of proposed developments. (See also Community Recommendations 4-6.)

Goal X To Simplify, Improve, and Adequately Fund the Management of Natural Resources

North Carolina's natural resources are not a luxury but a vital element in economic development and in the quality of life. If these benefits are desired, however, investment must be made in them. Failure to invest in needed environmental services, such as water

and waste disposal and recreational lands, will deter the new economic activities that will add jobs and tax dollars to the economy. If investment is not made in adequate monitoring and enforcement, the cost will be far more to clean up hazards than they would have been to prevent them: recently it cost more than \$2.8 million to clean up one chemical spill that would have cost virtually nothing to prevent. If investment is not made in research, development, and marketing of state natural resource potentials, the full benefits they could contribute to the economy will never be obtained. Finally, if investment is not made promptly to preserve natural lands that have special values in our heritage, they will be irreversibly lost as they are converted to other purposes or made too expensive by development pressures.

Recommendation 24

The General Assembly should act immediately to create sound and appropriate sources of revenue for the support of natural resource and environmental management programs, including creation of a North Carolina Land and Water Conservation Fund to further the acquisition and management of natural areas and recreational lands.

Many of the natural resource and environmental management programs that are taken for granted have in fact been heavily dependent upon federal funds—funds that are now being eliminated or drastically curtailed. Federal Land and Water Conservation Fund grants, for instance, which have provided \$1 to \$7 million per year for state and local parks over the past fifteen years, were reinstated at a seriously reduced level for 1983 after having been cut to zero the previous fiscal year. Water quality planning grants, which provided about \$1 million per year, have been reduced by more than half. Environmental Protection Agency sewage treatment plant construction grants, for which North Carolina had originally expected \$93.1 million in fiscal year 1984, are being slashed by half or more; and all federal water resource planning grants are being eliminated, reducing the total state program by two-thirds. The policy of the current federal administration is to reduce all air and water quality program grants to zero in the future. North Carolina's Coastal Management Program will lose 70 percent of its total budget, more than \$1 million per year, as a result of the elimination of federal funding by fiscal year 1984. If alternative sources of support are not created for these and other programs affected by federal budget cuts, even management

activities that North Carolinians support and expect today will be lost, as well as additional ones that are needed to protect the future.

Demand for natural resource programs is increasing because citizens want a cleaner environment, more and better park facilities, greater landowner assistance, and improved protection of coastal and marine resources. Significantly, more than 80 percent of the North Carolinians who responded to NC 2000's survey said they would willingly pay *more* money if necessary to protect the quality of their environment. Yet at this time, when the demand for services is rising, traditional sources of funds (appropriations and grants) are becoming more difficult to obtain. The present reduced state growth rate and severe competition for available funds make appropriated state funds less available than in the past. Recent increases in state funding for natural resource programs by the General Assembly have been more than offset by a combination of reductions in federal funding. Similarly serious constraints that also face county and municipal environmental programs and agencies are compounded by the fact that local property-tax-based resources normally grow more slowly than state revenues.

Because general tax funds are limited and the needs are great, innovative sources of financing are needed for the public acquisition and management of significant natural areas and recreational lands. The federal government for nearly twenty years has operated a Land and Water Conservation Fund, which provided support for this purpose; the fund was financed from a percentage of the royalties from offshore oil and gas leases. Many of these revenues have now been reallocated to other purposes. A similar fund could be created at the state level, however, to provide stability for acquisition and management activities on a timely basis.

It is therefore recommended that the General Assembly act immediately to explore the use of other potential sources of funding, especially those that bear logical relationships to the benefits that can be derived from natural resources. These sources might include one or more of the following:

- Tax sources, such as income-tax checkoffs, sales taxes on recreational equipment and vehicles, tax credits for donations, taxes on land transfers and tourist services, stricter taxes on real estate, severance taxes, and other dedicated tax sources.
- User fees, levied on such activities as consumptive use of resources, technical assistance, permits and monitoring, and use of state-owned lands.

- Privilege license taxes for commercial uses of resources, such as commercial fishing and recreation service concessions.
- Product sales through concession operations and from programs and publications.
- Fundraising and donations for particular facilities or projects, including corporate donations of money, property, or facilities as well as on-site solicitation.
- Additional bond issues for major development projects.
- Alternative taxing authorities at the county and local level to ease pressures on the property tax in providing important public services.

Many of these concepts may not be feasible at present, but they are proposed to stimulate discussion about alternative methods of financing natural resource programs in the 1980s and 1990s. An appropriately constituted task force should consider them carefully and propose suitable recommendations. (See also Community Recommendation 27.)

Recommendation 25

By the year 2000, each county should have an effective professional capacity for natural resource and environmental management.

At the county level, where many of the most critical decisions affecting resources and environment are made, most governments and agencies do not have access to adequate professional expertise, either for planning and management or even for monitoring and enforcement. This capability clearly needs to be enhanced. Because county government will assume increasing importance as the state grows, its professional capacity to manage the effects of development on its resources and environmental conditions must be augmented. The state should encourage this process and provide appropriate technical assistance to further it. The counties themselves, and their citizens, should recognize its value and seek to incorporate it more fully into their planning and staffing activities. (See also Community Recommendation 24.)

COMMUNITY

Summary of Community Goals and Recommendations

GOAL I

To Improve Existing Community Physical Environments

Recommendation 1:

Repair, rehabilitate, and, where appropriate, replace deteriorated and obsolete public works.

Recommendation 2:

Renew and stabilize downtown business areas, rundown neighborhoods, and other areas of physical deterioration.

Recommendation 3:

Use schools, libraries, and other existing community facilities more fully and effectively and consider use of existing excess capacity in water, sewer, and other public works when making development decisions.

GOAL II

To Ensure That New Development Enhances Communities, while Accommodating the Expanding Populations

Recommendation 4:

Support development in urban and urbanizing areas that prevents inappropriate or premature conversion to urban uses of open spaces, farmlands, and natural areas.

Recommendation 5:

Encourage, in cooperation with local planning boards, physical development patterns at the neighborhood level that foster a sense of community.

Recommendation 6:

Maintain and strengthen land-use planning, zoning, annexation, and related processes for guiding physical development in an orderly, rational, and responsible manner.

GOAL III

To Increase Opportunities for Recreational Activities

Recommendation 7:

Devise new ways to organize recreational programs and resources to support and supplement existing systems, while emphasizing public-private cooperation in the provision of recreational resources.

GOAL IV

To Ensure Access to Adequate Library Facilities and Services as well as Their Effective Use in Enriching the Lives of Citizens

Recommendation 8:

Reinforce the partnership between state and local government for providing quality public library service for all people.

GOAL V

To Preserve and Enhance the Availability, Accessibility, and Diversity of Community Cultural Opportunities

Recommendation 9:

Adopt a systematic approach for preserving and disseminating the most significant elements of the state's cultural and ethnic heritages.

Recommendation 10:

Through joint public and private efforts, increase the accessibility of the arts: by furthering education in and awareness of them, by providing better opportunities for working artists, and by ensuring adequate facilities for performance and exhibition.

Recommendation 11:

Develop appropriate systems for sustaining the arts, involving both public and private activity.

GOAL VI

To Reduce the Incidence of Crime and Its Effects on Individuals by Improved Prevention and Law Enforcement Efforts

Recommendation 12:

Expand crime prevention efforts through a coordinated approach in education, recreation, employment, human relations, delinquency reduction, law enforcement, physical design, and increased volunteer activities.

Recommendation 13:

Require adequate levels of training and continuing education for all categories of criminal justice system personnel, while stressing improvement in law enforcement methods and capabilities as well as human relations skills.

Recommendation 14:

Expand services to victims and witnesses to cover more of the losses incurred as a result of criminal activity and to increase public cooperation with the criminal justice system.

GOAL VII

To Establish a More Effective and Equitable System of Dealing with Criminal Offenders

Recommendation 15:

Continue efforts to improve the administration of and coordination within the criminal justice system, especially the criminal courts.

Recommendation 16:

Stimulate citizen participation in the handling of criminal offenders through involvement in settling disputes, providing offender support, and backing alternative sanctions.

Recommendation 17:

Devise and employ effective alternatives to incarceration for disciplining convicted offenders who are not a threat to others' safety; and improve efforts at preparing inmates for lawful, responsible behavior upon their return to society.

GOAL VIII

To Ensure a Public Policy Formulation and Decision-Making Process That Is Responsive to Citizen Concerns and Equitable in the Allocation of Public Resources

Recommendation 18:

Improve the information available to public decision makers through better planning, budgeting, and evaluation systems.

Recommendation 19:

Increase the effectiveness of public information and education efforts as well as provide for effective citizen involvement in public affairs.

Recommendation 20:

Review and reallocate decision-making authority between state and local government to provide a reasonable balance of local responsiveness and basic statewide standards for public services.

GOAL IX

*To Organize and Administer Public Services
in an Efficient and Productive Manner and to Pursue,
where Feasible, Fundamental Program Changes That Achieve
Major and Continuing Public Service Cost Reductions*

Recommendation 21:

Clearly define state and local roles in the delivery of public services as well as improve efficiency through increased cooperation and coordination at the service-delivery level.

Recommendation 22:

Begin a major and continuing research and development effort directed at identifying more cost-effective ways of achieving agreed-upon public purposes.

Recommendation 23:

Emphasize, where feasible, prevention rather than correction as a cost-effective alternative in dealing with costly public program issues.

Recommendation 24:

Attract to and retain in state and local government the best possible professional and managerial talent, recognize and reward excellence, and provide continuing training to improve performance and productivity in the public service.

Recommendation 25:

Use advanced technology to improve governmental productivity, including the interagency and intergovernmental sharing of information, equipment, and technology.

GOAL X

*To Establish and Maintain Adequate and Equitable Means
for Supporting Necessary Public Functions*

Recommendation 26:

Ensure, through a combination of tax and revenue authority and financial aid, that local governments have funds adequate to meet their fiscal responsibilities.

Recommendation 27:

Formulate and use to the extent feasible nontax alternatives to support public enterprise functions.

Recommendation 28:

Review and revise as appropriate tax policies and procedures to ensure fair and adequate tax systems.

Introduction

Amid the turbulence and impersonality of late twentieth-century life, this state clings doggedly to the idea of community, an asset to be prized.⁹¹

That statement, made by Edwin Yoder while he was addressing the NC 2000 Conference on the Future, epitomizes a theme that emerged repeatedly during the conference and the local meetings that preceded it. The state's citizens seem to possess a sense of community that goes beyond conventional textbook definitions: a feeling of uniqueness, pride, and belonging that is based upon a mix of people, place, custom, value, and attitude. It is widely shared and strongly held. It seems rooted in, but not confined to, the state's rural and small-town heritage. North Carolina is big enough, both in size and spirit, to accommodate comfortably both uptown and down home. As it faces the challenges of the future, this uncommon sense of community is an asset to be valued and preserved.

In the geographic sense, the term "community" refers to a group of people living in a given locale who share some common activities, attitudes, and interests. They may be diverse, encompassing a variety of age, income, and ethnic characteristics. At the local level, communities include cities, towns, and other settled areas that have a geographic center and a sense of community identity.

These communities are set in the context of the state, which is also a community of a more generalized form. Functioning in that capacity in its own right, it addresses issues that affect the quality of life of all its citizens and coordinates responses to some issues involving all local communities. It bears responsibility for ensuring that certain resources and services are provided and paid for across the state. For instance, good roads, high-quality education, and adequate corrections facilities have long been fundamental concerns

of the state community. It is a key element in local community affairs.

Community may also be defined in terms of functions: providing benefits best achieved through group action and addressing problems that arise through the common living experience. These functions include providing opportunities for group activities, furnishing security, encouraging members' mutual support, and coordinating the use and conservation of public resources.⁹²

Many changes are underway in North Carolina communities, brought about by movements of people, changes in the economy, and shifts in life-style patterns. The state's population rose during the seventies faster than during any decade since the 1920s (up 15.7 percent), as earlier net outmigration to other states reversed into a large inflow. Although the Mountain region grew fastest, growth was well distributed across all three: Mountain, 17.1 percent; Piedmont, 16.3 percent; and Coast, 13.6 percent.⁹³

The population is increasingly urban in character. Before World War II, the state was almost three-fourths rural. By 1980, only slightly more than half the populace lived in rural areas (places having less than 2,500 residents).⁹⁴ Much of the remaining rural population is not involved in traditional rural occupations, such as farming, fishing, and forestry. The rural-urban distinction is a significant aspect of the form of the state's communities, and it influences the costs and benefits of providing public services. It may not, however, provide much information as to community occupations or predominant political and social views.

Urban development trends reveal sharp rises in the population of the smaller communities. In 1980 some 18.5 percent of the state's population lived in urban places of less than 25,000 inhabitants; in 1970 the figure was 16.4 percent. Much of this small-town development is occurring within larger metropolitan areas, or concentrated urban areas, but a large amount is in nonmetropolitan areas. In 1980 some 288,000 people lived in smaller communities (2,500 to 25,000) adjacent to metropolitan areas, and some 553,000 resided in nonmetropolitan communities in the same size category.⁹⁵

The picture of the communities that emerges from this brief examination of demographic trends is one of diversity. The character of the state is still strongly rural, and twenty-seven counties have no urban population. Growth is rapid and much of it is in urban areas—the fastest in the four largest of these and in the more than 100 communities having populations under 25,000. In the evolving settlement configuration, new emphasis should be given to building

a sense of community and to fostering the multiple benefits that the community can provide.

During the next two decades, the communities will continue to change because of state shifts in population and the impact of new social, technological, and economic forces. One common futuristic scenario sketches the social effects of the unfolding "Communications Revolution" on community life. Telecommunications and teleconferencing will make it possible for more and more people to work at home and reduce the need for commuting. As many as 15 to 20 percent of the labor force may work at home in what some have called the "electronic cottage." Work will become integrated into other aspects of community life, such as leisure and child-rearing. Patterns of community design will be altered as people seek to establish new places and new networks for interaction.

All four of the NC 2000 panels address issues that could be included within the realm of community concerns. The other panels focus on the special needs of people in the communities, the wise use and protection of their natural resources, and the enhancement of their economic climate. In formulating the concept of community and considering issues critical to future harmonious living in communities, the Community Panel did not attempt to duplicate the efforts of the other panels. Rather, it focused on four fields that are particularly germane to community-based functions:

Community Physical Development, by which the community addresses its changing physical needs, seeking to create a form and character of development that fosters all beneficial functions of community, from social participation to resource conservation.

Community Recreational and Cultural Resources, by which the community provides for the intellectual and physical enrichment of its members, for the meaning and diversity of experience that community living can provide.

Community Security, by which the community attends to the problem of crime through providing protection for all its members and attempting to rehabilitate law-breaking members toward more socially acceptable behavior.

Community Government, by which members of the community establish and carry out goals toward its more efficient and beneficial functioning.

Community Physical Development

No one can foretell the physical form of the state's communities two decades down the road. Would-be visionaries in 1960 missed some of the most prominent changes since that time: indoor shopping malls, smokestack-free manufacturing based on microelectronics, and the growing popularity of historic preservation. Many variable factors impinge on land use and physical development: interest rates, life-style preferences, the availability of energy, technological changes, public policy decisions, environmental factors, and migration rates, to name a few. These raise questions on basic assumptions and forecasts. Will the projected population increase materialize? Will oil continue to be available at a price that will allow a high degree of personal mobility? Will the "Communications Revolution" usher in a profound shift in the location of work that will merge today's single-family house and separate cosmopolitan office into tomorrow's self-contained "electronic cottage"?

Other chapters of this report identify current directions and trends that provide some inkling of future forces which will shape the communities. The Economy chapter examines the strength of the state's Sunbelt economy as well as prospects for attracting new industrial plants, jobs that will bring new residents, and tourism and recreational development (which will leave a mark on the land whether people stay as permanent residents or not). The Natural Resources chapter discusses the special character of the state's lands, waters, and environmental quality—physical attributes that development can bolster or destroy. The People chapter, which deals with the changing makeup of the population, identifies growing groups, such as the elderly, many of whose needs the community must meet. One key question concerns numbers: just how many new residents will the state's communities need to provide with housing, water, schools, roads, and other physical resources?

According to recent projections, over the next two decades North Carolina may experience a 30-percent increase in population and 50-percent rise in the number of households.⁹⁶ This rate of growth may or may not be desirable, but, if the projections are close to the mark, the communities will undergo rigorous pressures on their resources. Without adequate preparation, haphazard and chaotic physical changes may result that are destructive to community values and resources. On the other hand, the growth can bring certain

opportunities for a higher quality of life. This will require preparation to preserve and enhance the desirable physical qualities of communities in an urbanizing context. The success of this effort will be read on the land surface: in the emerging patterns of roads, houses, shopping centers, and industrial plants; and in the treatment and preservation of open space, farms, forests, and other nonurban land uses.

Some problems in community physical development are already apparent. In many cases, growth is virtually ignoring existing built-up areas, allowing older public and private facilities to deteriorate and fostering the concept of "disposable cities." At the same time, new development at the urban edges and in rural areas is taking land out of other productive uses: open spaces, farmlands, and critical natural resources are being consumed at an alarming rate. A continuous urban megalopolis stretching through the Piedmont Crescent from Raleigh to Charlotte is an increasing possibility. Some results of the sprawling settlement pattern are inefficiencies and high costs in providing essential services, energy wastage, and loss of valuable natural resources.

Guiding the physical changes accompanying growth to ensure livable, attractive communities is a major public concern. Each community is unique and maintains its own set of developmental goals. These include protecting the health and welfare of its members, encouraging efficiency in the provision of public services, providing an aesthetically desirable environment, conserving energy and other scarce materials, ensuring the equitable treatment of all inhabitants, and safeguarding critical natural resources. The state as a whole is equally interested in the wise use and protection of land and water resources. Protection of some of these is critical enough to warrant regulation by higher standards than those applied to less significant fields and more state involvement.

Contrasting with often unpopular regulatory approaches, public involvement in guiding development involves a number of cooperative approaches between the public and private sectors. For instance, when the public extends water or sewer lines or widens a highway, it is preparing the way for increased private development of the affected areas. Public bodies may also use special incentives, such as tax credits or zoning density bonuses, to influence private development decisions. They may collaborate with private developers in financing or building joint projects. Public land-use planning and growth guidance mechanisms are not and need not be simply a series of constraints on private action.

Although the public has long been involved in development

decisions, land-use issues still create controversy. Some people maintain that the public has no right to participate in this area and should not intervene in any way with the use of private lands. The concept of private property, the right of individuals to do with their property as they please, is a long-standing and cherished notion. But what if a property is a wetland and development results in freshwater pollution of an estuary? What if the proposed use of a tract creates a public nuisance in the context of its surroundings? What if a development blocks a neighbor's solar access or pushes an area's density beyond reasonably tolerable limits? For many years, communities have set certain limits and standards for private development, minimizing some of these spillover effects and protecting the special qualities of the physical environment. This public action has mitigated some of the problems of haphazard, unplanned development, but it has distressed some proponents of unhampered private development.

This conflict is underlain by a second one, which involves different views of what is desirable. One community member may look upon leapfrog development as a natural expression of the state's dispersed settlement pattern; another may see it as a wasteful and inefficient use of scarce resources. In the face of these conflicts, the Community Panel has made some difficult judgments.

Goal I

To Improve Existing Community Physical Environments

As communities evolve over the next two decades and as new development sprouts across the landscape, consideration of the intrinsic value of that which already exists is essential. The older centers of residence and commerce should not be neglected, and the public facilities already in place should be adequately maintained and fully utilized.

Recommendation 1

Repair, rehabilitate, and, where appropriate, replace deteriorated and obsolete public works.

Existing roads, bridges, water and sewer lines, schools, hospitals, parks, police and fire stations, and other public facilities represent a massive standing investment. Although they require continuing attention and care if they are to be adequate for the purposes for which they were designed, their inadequate maintenance and upgrading is a common pattern in the state and in communities across the

nation. During the rapid physical expansion of the last several decades, in-place public works have simply not received proper attention. This has not been a deliberate, planned policy, but rather the result of neglect as attention focused on other needs. When budget trade-offs are made, it is easier to defer maintenance than to cut existing operations or needed new construction.

For instance, many local water and sewer systems, built decades ago, are faced with leaking lines as well as treatment plants inadequate for current capacities and they are unable to meet water quality standards. A substantial number of bridges in the state highway system seriously need repair. A 1981 survey by the state Department of Public Instruction indicated that \$1.8 billion is needed for the repair and replacement of schools.⁹⁷ The problem is not confined to North Carolina. Recent research by economists Pat Choate and Susan Walter indicates that maintenance, rehabilitation, and replacement of public works have been deferred nationwide.⁹⁸

Some special considerations encourage maintenance and modernization of existing facilities:

Cost. It is usually less expensive to maintain existing facilities properly and thereby prolong their useful lives than it is to build new ones prematurely.

Efficiency. Diligent maintenance is required to protect existing works from deterioration. It can also help conserve scarce resources; one example is preventing water losses from leaking pipe. Despite substantial initial costs, maintenance and modernization to take advantage of improvements in technology and operating systems provide numerous long-term benefits in efficiency.

Equity. Residents and firms in areas served by older facilities, who generally are helping to pay for new ones in growth areas, deserve the same level and quality of services available in more recently developed areas.

Attractiveness. To renew older urban areas, the mix of facilities and services must be attractive and comparable to the level of those available in other areas. In this way, maintenance and modernization can be part of a comprehensive redevelopment strategy to lure people back to the older communities.

The state and local communities should accord priority in budget allocations to the maintenance and modernization of communities' existing facilities. The state ought to provide technical assistance to

communities for this purpose. One factor worth special attention is that proper modernization requires adjustment to people's changing needs and preferences. For instance, residents during coming decades may prefer such features as pedestrian areas, sidewalks, and jogging paths.

Recommendation 2

Renew and stabilize downtown business areas, run-down neighborhoods, and other areas of physical deterioration.

Because of the North Carolina pattern of population dispersal in smaller cities and towns, most communities have avoided the "urban crisis" prevalent in other parts of the country. However, some deterioration has occurred in the older town centers. Better-educated, more affluent residents and institutions have moved out to fringe areas, leaving the poor behind to finance public facilities that all citizens in the area use. The result is substantial deterioration of private and public resources in older areas of communities.

The state and local communities should encourage renewal of deteriorated areas. Many factors, such as energy efficiency, rising housing costs, and changing life-styles are already beginning to attract people and firms back into older areas. The public could reinforce this movement in a number of ways:

1. Encourage redevelopment of selected areas and buildings. Outmoded factories, warehouses, and other facilities may be rehabilitated and converted to other uses. State funds might be allocated to establishing local revolving loan funds for this purpose or to carrying out joint public/private redevelopment efforts.
2. Review existing federal, state, and local regulations to determine whether some of them unnecessarily prevent redevelopment from occurring. This review should include, at a minimum, building codes and land-use regulations.
3. Reassess incentives provided to new development in urban fringe areas. In some cases attracting people and firms away from the older urban areas, it is indirectly subsidized by the public. For instance, the use of tax-free revenue bonds to finance new development on the urban fringe may subvert a policy of upgrading deteriorated areas.

As the state and local communities work to renew deteriorated areas, the value of existing neighborhoods must be recognized. To



Rehabilitation of downtown business areas stimulates community spirit. The Fayetteville Street Mall, Raleigh. (N.C. Department of Commerce; photo by Clay Nolen)

“renew” an area by displacing all its current residents is counter-productive. Rather, they should be involved in the renewal process, and every effort should be made to preserve their valuable sense of community.

Recommendation 3
Use schools, libraries, and other existing
community facilities more fully and effectively and
consider use of existing excess capacity in water, sewer,
and other public works when making development decisions.

The community has a critical interest in the wise use of existing public works and private capital investment. New development often results in the neglect and substantial underutilization of older facilities, public and private. At the same time, additional ones are required in newly urbanizing areas, at high public and private cost. Even in nondeclining or growth areas, many opportunities are available to use existing facilities more efficiently and intensively. Emphasizing the highest quality of physical development at the lowest cost, communities should examine the best ways to make optimal use of facilities that are already in place.

One mechanism used in other parts of the country is known as “infill,” the direction of new development to vacant lands within existing urban areas. Infilling is a major recommendation of the Council on the Development Choices for the Eighties, a national body of elected officials and private developers. The council identifies this process as a promising opportunity for making better use of land resources and existing facilities.⁹⁹ Some mechanisms used by local communities to encourage the process include: creation of special infill districts, allowing higher densities in certain areas; and the offering of incentives, such as providing density bonuses or relief from off-street parking requirements.

In 1977 the Community Schools Act, recognizing the potential for expanded use of public school resources, declared that it should be state policy “to assure maximum use of public school facilities by the citizens of each community in this state.” The act provided for use of school facilities by governmental, charitable, and civic organizations for activities within the community, including educational, recreational, and cultural events. By 1982, some 87 percent of the school systems were participating, providing much more efficient use of the school resources, fostering community interest in and awareness of the schools, and stimulating volunteer activity.¹⁰⁰ This successful effort may serve as an example for broader use of other

community lands and buildings. The state should conduct a study to determine the potential for more intensive use of other public facilities, including adaptive reuse of those no longer serving their original functions and full twelve-month use of existing school facilities.

Goal II
To Ensure that New Development
Enhances Communities, while Accommodating
the Expanding Populations

According to some analysts, the state can expect some one million new households by the year 2000.¹⁰¹ Accompanying this residential growth will be an array of industries and services to employ and support the expanding population. The physical form of growth is difficult to forecast. Without some careful preparation and foresight, it could be chaotic and destructive to community values. If it is to enhance existing communities, it must occur through an orderly process, sensitive to the special resources and values that the members wish to preserve.

Recommendation 4
Support development in urban and urbanizing areas
that prevents inappropriate or premature conversion
to urban uses of open spaces, farmlands, and natural areas.

A pattern of low-density development in the state is well established. Through an economy long based on small farms and textile mills, urban settlement has been dispersed among small- and medium-size cities and towns.¹⁰² Many citizens prefer a feeling of spaciousness, of being surrounded by fresh air and a natural environment.

In recent years, a different form of low-density development has begun to challenge the continued abundance of open space and rural lands. Strip development along major thoroughfares, leapfrog development in rural areas, and rapid growth along the urban fringes have accelerated the conversion of lands to urban uses. Farmlands, forests, watersheds, and other natural areas are being consumed by shopping centers, parking lots, and subdivisions. In contrast to the state's traditional pattern of integrated small-scale cities and towns, the new development represents a haphazard arrangement of urban bits and pieces linked to adjacent urban areas. The consequence of this sprawl is a disorderly web spreading over the countryside, bound to

larger urban areas by precarious transportation threads that rely on the continued abundance and low cost of energy.

This trend is not only unnecessary but is also undesirable. A megalopolis of six-lane highways, gas stations, shopping centers, and bowling alleys need not stretch from Raleigh to Charlotte. If preparation is adequate, the state may retain its traditional pattern of well-delineated smaller urban areas and the concurrent abundance of open spaces and natural areas. A planned form of urban growth may stimulate healthy physical development in several ways:

Efficiency in providing public facilities and services. Provision of roads, sewage facilities, and other necessary public works and services is less costly for compact than for sprawling, leapfrog development.

Energy use. Contiguous, compact development means that work and other activities are closer at hand. Trips are shorter and fewer; energy usage is reduced. Public transit is often a workable option. Because of uncertainty about the future availability of gasoline and other energy resources at affordable prices, energy efficiency in physical development is a major concern for the future.

Conservation of land resources. Planned development allows for the slower conversion of rural lands to urban uses than does a more sprawling, inefficient pattern. The former leads to a more rational allocation of resources, including wise use and conservation of farm and timber lands as well as protection of special habitats, surface waters, and other natural areas. In addition to maintaining the land's productivity and conserving critical resources, preservation of open spaces between urban areas promotes a sense of spaciousness and natural harmony, a boon to both urban and rural residents.

Recommendation 5

Encourage, in cooperation with local planning boards, physical development patterns at the neighborhood level that foster a sense of community.

Sense of community is a difficult notion to define, but it is a major contributor to many people's quality of life. Essentially, it means feeling a part of a larger social grouping that provides mutual support, personal relationships, group participation, and security. It stands in sharp contrast to the increasing isolation and alienation that many

social scientists have predicted for people in the advanced industrial or postindustrial society.¹⁰³

Because of today's high degree of mobility and sophisticated communications technology, community ties may go well beyond defined geographic boundaries and be formed on the basis of distant relationships or on the basis of common interests or beliefs. Systematically strengthening these types of bonds would be very difficult. However, in the context of a defined geographic area, such as a neighborhood, public and private development decisions can markedly affect the sense of community. As a graphic example, the siting of an expressway within an established neighborhood will slice through and damage networks of personal and group contacts, produce noise and air pollution, and encourage those residents who can move to do so.

The local or neighborhood sense of community may be particularly important to certain groups of people: those who are less mobile. Elderly residents often lack the energy or mobility for far-flung relationships, and the poor do not have the money to pursue them. For these groups, a viable local sense of community is especially valuable.

Future advances in computer and communications technologies will probably intensify the need for a locally developed sense of community. Some futurists predict that as many as 15 to 20 percent of the workers of the future will not leave home for a distinct workplace each day because their information-based jobs will not require direct physical proximity. According to the scenario, the "electronic cottage," plugged into the rest of society by microcomputers and telecommunications, will replace the dual work and home structures maintained today. Such a living situation would profoundly alter personal relationships. If these changes occur to the extent projected, a local sense of community will become even more crucial. More public spaces, more community centers, and new ways for communities to stimulate personal relationships will be needed to keep the "electronic cottage" from begetting "cabin fever."

In the past, public actions have all too often encouraged development patterns inimical to building a feeling of community. Highways have insensitively slashed through residential neighborhoods. A lack of sidewalks and pedestrian trails has reduced the potential for spontaneous meetings out-of-doors. Schools and other facilities have been built on scales that dwarf the individual, discouraging community identity and activities. Outmoded single-purpose zoning has resulted in an unnecessary separation of activities that inhibits the creation of a community sense.

The state and local communities should evaluate the effects of their actions on social integration. Although communities are diverse and a multitude of factors must be considered in public and private development decisions, the following broad proposals are suggested:

1. *Consider community identity in the provision of road and street networks.* Highway construction programs and standards should be evaluated to determine how best to foster community integration.
2. *Establish facilities for pedestrians.* Sidewalks and footpaths afford people the opportunity to meet; foster neighborhood spirit; and, if properly laid out, may provide more spaces for gatherings and discourage undesirable building types and patterns.
3. *Emphasize the human scale in building and site design and development decisions.* Massive buildings and intrusive roads that are out of scale with the people they are designed to serve hinder building a sense of community. For example, massive school facilities can dwarf some students and create settings where they feel alienated and threatened by the sheer size of the facility and the student body. Building on a human scale produces smaller, more manageable environments, where students can more easily socialize as well as learn and which the community can also use as focal points for activities outside school hours.
4. *Provide centers for community activities.* Schools, parks, open spaces, and other community physical facilities should be situated and operated so that they may serve as centers for community activities.
5. *Encourage mixed land uses where appropriate.* Single-purpose zoning was originally established at the beginning of this century to prevent dangerous and obnoxious nuisances, such as slaughterhouses and glue factories, from intruding into residential areas. In many communities, the single-purpose system has survived intact and unquestioned from earlier days, when it did contribute to a healthier environment. Because of the exciting mix of shopping, light industry, cultural activities, and offices and residences now attracting people back to some mixed-use urban neighborhoods, it is time to reexamine the desirability of single-purpose zoning.

Mixed-use zoning is not appropriate for all areas, but it may be a workable and attractive option for many neighborhoods.

Recommendation 6
Maintain and strengthen land-use planning, zoning, annexation, and related processes for guiding physical development in an orderly, rational, and responsible manner.

Responsible development attempts to anticipate, prepare for, and respond to problems that accompany changes in the community's physical form by protecting common land and water resources, preventing hazardous forms of development, advocating efficient community layout, and encouraging a mix of housing and job options. Some existing public sector tools for stimulating orderly, rational development are highly effective and need to be maintained and built upon. A case in point is the state's current annexation law.

In other respects, however, the public sector is seriously hampered in carrying out its role in the development process. One problem is insufficient capacity for guiding land use at the edges of existing urban areas. A major tool used for this purpose, the land classification plan, is inadequate or lacking in a number of localities. Another critical problem is poor coordination among the various counties, municipalities, and special-purpose districts in decisions that affect more than one jurisdiction. More fundamentally, physical development decisions, public and private, all too often are not made on a sound basis nor are they based on a cohesive framework for growth.

Following are some approaches for building the capability of the public sector to guide development decisions in a more sound and responsible manner (see also Natural Resources Recommendation 23):

1. The state's model annexation laws should be maintained and reaffirmed to foster wise public and private investment decisions, to assure adequate fiscal capacities of governments, and to make public sector actions more predictable.
2. Increased public involvement ought to be encouraged in land-use planning.
3. Counties and municipalities should formulate effective land classification plans that provide sufficient authority to guide the use of land at the edge of existing urban areas and to protect farmlands and fragile natural areas. State technical assistance and funding should be made available for this

purpose. The state should also encourage cities, counties, and special-purpose public agencies to prepare memorandums of agreement delineating cooperative approaches to carrying the plans out in contiguous areas under more than one jurisdiction.

4. The state should carefully consider extending the growth guidance approach used in the Coastal Area Management Act to the rest of the state. Critical elements of this technique involve the preparation of land-use plans by all counties and municipalities, the delineation of areas of regional and statewide concern, and effective state and local cooperation in development decisions. Such an approach statewide would spur rational development.

Community Recreational and Cultural Resources

Community recreational and cultural resources, sometimes called the “amenities” of living, are vital forces influencing the quality of community life. They foster physical and mental health, serve as creative outlets for self-expression, and stimulate social interaction. Their value is being intensified by the trends toward increased urbanization, rising leisure hours, and steadily growing demands for high-quality leisure pursuits. A major concern of the Commission on the Future is to maintain and enhance the quality of community life by encouraging cultural and recreational opportunities.

Goal III

To Increase Opportunities for Recreational Activities

Recreation is a prominent concern of North Carolinians, and is a prime ingredient in the quality of life. In cities, towns, and rural areas across the state, people find diverse ways to unwind and have fun: hunting and fishing, playing tennis and basketball, canoeing, attending craft fairs and classes, swimming, jogging, watching football, playing such games as checkers, and participating in a wide array of other recreational pursuits. Engendering a feeling of satisfaction, these activities also benefit mental as well as physical health and bring people together. They therefore contribute to more cohesive and efficient communities. Recreation is also a major economic

factor, generating a profusion of business activity from local residents and tourists.

North Carolina has a rich tradition of providing public recreation and park facilities, at both the state and local levels. It was the first state to establish an independent state recreation commission to foster the growth of state and local recreational services. It has one of the oldest state park systems, now the second largest in the Southeast; state waters and beaches; a state zoo; and a small state forest system that provides educational and recreational opportunities. National recreational resources are extensive: the Great Smokies National Park; Hatteras and Lookout national seashores; and several national forests, wilderness areas, and lakes.

In 1980 some 6 percent of local community revenues were spent on park and recreation systems.¹⁰⁴ By 1982, in addition to various private recreational outlets, municipal or county-level recreation departments were operating full time in 84 out of the 100 counties (115 municipal and 55 county departments). This active recreational system reflects the words of the General Assembly: “It is the policy of North Carolina to forever encourage, foster and provide these [parks and recreation] facilities and programs for all its citizens.”¹⁰⁵

Several factors lead researchers to conclude that demand for recreation will continue to rise through the end of this century. First, workers are enjoying more leisure time (figure 13). In 1900 the average worker spent roughly 23 percent of his or her life at work; by 1960, the figure was down to 15 percent. The increases in discretionary time have been occurring lately as blocks of holiday or vacation time rather than as reductions in the length of the working day.¹⁰⁶ Larger blocks of free time are also becoming available as the four-day workweek gains in popularity. A related factor contributing to leisure-time increases is a change in living patterns, as the so-called “linear life-style” of full-time school to single career to retirement becomes less common.

The nature of recreational demand is also in a state of flux. In recent years, people have been traveling less to reach recreational areas. This trend is expected to continue as fuels remain costly, placing increased demands on nearby park and recreation facilities and recreational programs. Local, regional, and state recreation departments in populous areas will experience increasing pressures on facilities, programs, maintenance, and administration. The changing age structure in the state will also contribute to a difference in the nature of demand. Numerous studies have shown a direct connection between age and recreational preferences.¹⁰⁷ Park and recrea-

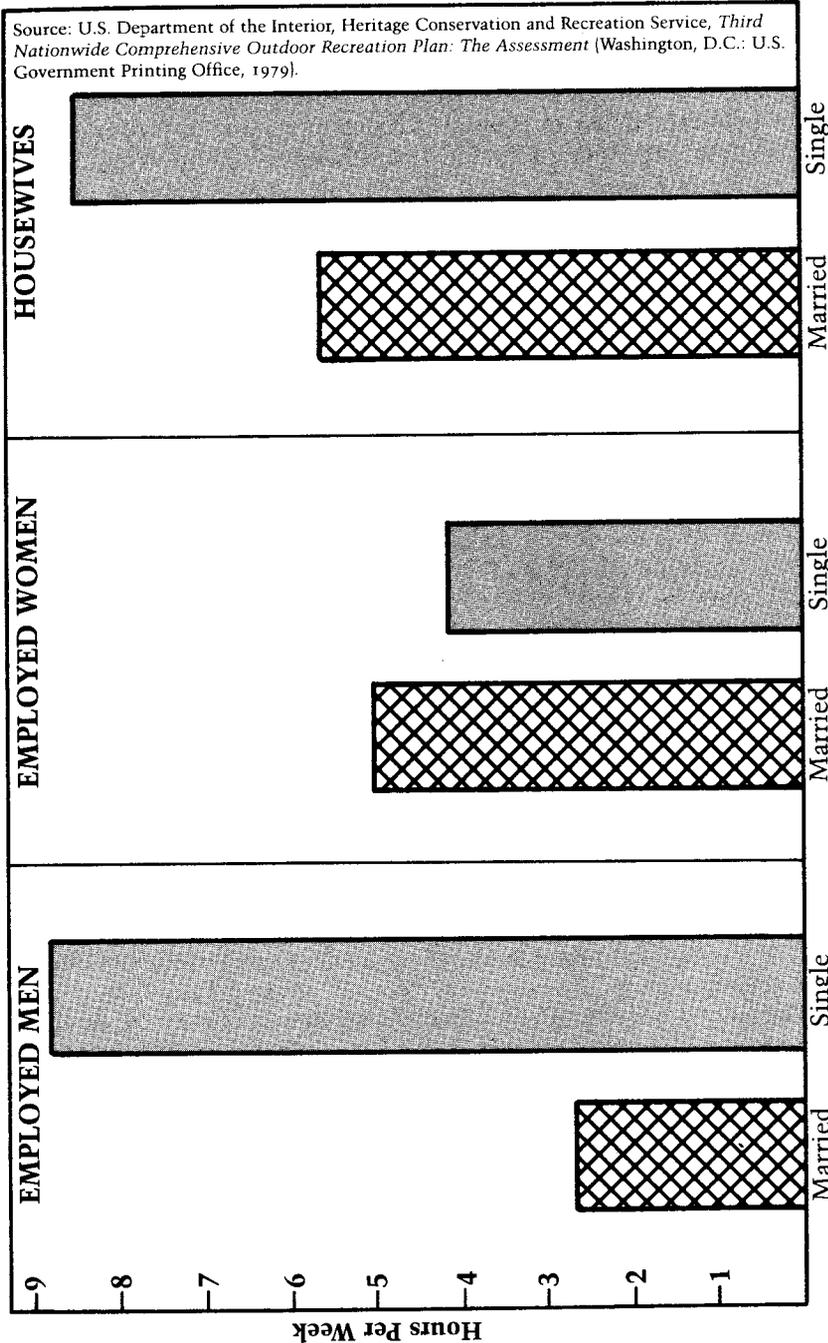


FIGURE 13. Increases in Leisure Time in United States, 1965-75

tion departments must be prepared to respond to the needs of the larger middle-aged and retired populations.

A priority concern for the present and future is continuing to provide for the creative use of leisure time as demand rises; as education, family structure, migration, work and unemployment patterns change, and as the federal government provides less funding for recreational needs. The issues involve maintaining and improving the quality and diversity of recreational experiences as well as ensuring that adequate opportunities of these types are available in communities across the state.

These will probably be more difficult tasks in the future. In recreation, as in many other areas, needs that have traditionally been considered as the responsibility of government will outpace the availability of governmental funding support. Since January 1981 federal assistance programs for the capital development of parks and recreation have been drastically reduced or completely eliminated. Included were those that afforded the most benefits to municipalities and counties, such as Land and Water Conservation Fund grants, the Urban Park and Recreation Recovery grants, and the Young Adult Conservation Corps program. Several park and recreation departments have also recently received drastic budget cutbacks in local operating funds.

The need is growing for better public awareness of the benefits and opportunities for recreation in the state. As citizens enjoy more discretionary time and as communities gain an increasingly large retired population, leisure behavior will become more critical in people's lives. Improvements in information and communications technology will enhance the capability to inform citizens of recreational resources. Also, the public schools can encourage students to acquire those skills and attitudes that underlay meaningful leisure pursuits.

Recommendation 7

Devise new ways to organize recreational programs and resources to support and supplement existing systems, while emphasizing public-private cooperation in the provision of recreational resources.

Because public resources are not expected to be able to keep up with rising demands for recreation, closer cooperation must be fostered between the public and private sectors in the provision of leisure resources. Various innovative cooperative arrangements would allow for expansion of public recreational resources and programs

through: private development on public property, private development on private property for public use, and private not-for-profit supplementing of park and recreation holdings.

Private development on public property has been a long-standing practice of the U.S. Forest Service and National Park Service. Through cooperative agreements, private operators have managed numerous ski, aquatic, and other facilities. Such joint development and operation could be extended to local recreational resources, subject to adequate guarantees of public access. One method that is used in other parts of the country is enactment of a "public days" policy, which allows anyone to enter and use a facility without paying a charge during designated hours. At other times, a normal fee schedule is in effect.

A second option involves increasing the public use of private facilities. For example, utility companies and other corporations possessing large landholdings might be encouraged to make their lands available to the public. One factor currently deterring such a practice is the potential liability of a private property owner should a nonemployee be injured on his or her lands.

A third option is a mechanism for incorporating additional land and other resources into state and local systems. This involves encouraging private groups to donate resources. For example, the nonprofit Nature Conservancy has considerably enhanced the state park system through donations of critical land resources. Recently, in California, the for-profit Kaiser Corporation developed and deeded a 5,000-acre park to the city of Oakland. The corporation continues to manage and operate the park.

The state and local communities should facilitate joint public and private approaches in expanding community park and recreation facilities. The following steps are proposed in support of this recommendation:

1. Establish a pilot program to test the feasibility of allowing private firms to develop and operate portions of local park and recreation facilities. A major focus of such a program should be to find adequate mechanisms for ensuring continued public access to public areas.
2. Study rules, regulations, and legal factors to identify and assess possible barriers and incentives to the public use of private areas. For example, the concepts of relieving private owners from some of the liability associated with such use and providing appropriate types of tax incentives should be investigated.
3. Improve communication between public recreation departments and the private sector. As the recent National Outdoor Recreation Plan states: "A substantial gap remains between government's understanding of the potential role of the private sector and the private sector's understanding of the programs and policies of the government." This observation applies to North Carolina as well, where significant opportunities for private profit and nonprivate groups to aid the public sector in providing public recreational resources may be missed if communication is not improved.

To ensure the continued growth of recreational opportunities, available public resources will need to be used in the most efficient way possible. This may entail consolidation of efforts in some areas and more effective systems of coordination in others. Elsewhere in the country, innovative organizational structures, such as the leisure service agency and the regional/district recreational authority, have proved to be useful vehicles for the better utilization of limited resources.

The regional recreation authority concept involves consolidation of separate municipal or county departments into a large regional body, avoiding some of the duplication inherent in a more fragmented system and filling other voids. A cursory look at the distribution of the state's local departments reveals that consolidation might be useful. One county currently has six municipal recreation departments; eleven others have three or more.

Traditionally, municipal and county governments have been relied on for recreational services, but the district authority is an attractive concept for the future. It allows utilization of the resources of a large geographic area without the undesirable constraints of jurisdictional boundaries. Legislation enabling the formation of regional recreation authorities already exists, but no such agency has ever been established in the state.

Another alternative organizational structure worthy of consideration is the multiservice leisure agency. This concept entails consolidating a number of services into a single agency. Resources such as park and recreation facilities, libraries, museums, craft centers, and other suitable amenities have been combined under single agencies in parts of California and Canada. These are known as departments of "public amenities" or "community services." Proponents of this system maintain that it supports a healthy mixing of arts, education, and physical activities, exposing people to more diverse ways of using their leisure time. The multiservice agency would also allow for

more cooperative planning and management among the various leisure service groups and encourage more effective utilization of physical resources. North Carolina should explore the feasibility of this concept, while paying particular attention to the need for maintaining the strength of the cultural arts elements in such a system.

Goal IV

To Ensure Access to Adequate Library Facilities and Services as well as Their Effective Use in Enriching the Lives of Citizens

The constitution of North Carolina states: "Religion, morality, and knowledge being necessary to good government and the happiness of mankind, schools, libraries, and the means of education shall forever be encouraged." In addition to their primary educational role, public libraries contribute to cultural life. In them, citizens find historic publications and registers of historic sites and buildings, musical and other recordings, and reference works on the arts. In many communities, the libraries offer the only public meetingplaces for arts and humanities programs.

Recommendation 8

Reinforce the partnership between state and local government for providing quality public library service for all people.

Since 1941 state aid has been available to local government to provide public library service statewide. Currently, registered patrons of the libraries total approximately the same number as are enrolled in formal education from kindergarten through graduate school, public and private.

The state's libraries, which number more than 2,500, house in excess of 40 million books and 282,000 serial titles. They employ more than 7,000 full-time equivalent staff. Final plans are being formulated for a North Carolina Library Network that will make the vast resources of all the libraries (academic and research, community college, school, special, and public) accessible to everyone, including the visually impaired and other handicapped persons. Through the use of data banks, information retrieval technology, and interlibrary loan processes, the libraries provide access to state, national, and world information resources.

In these rapidly changing times, it is becoming increasingly

important that citizens enjoy access to the information necessary to educate themselves. It is important that library resources be utilized effectively to support cultural and intellectual enrichment.

Goal V

To Preserve and Enhance the Availability, Accessibility, and Diversity of Community Cultural Opportunities

Issues concerning North Carolina's cultural environment fall within two primary areas: preservation and communication of its cultural and ethnic heritages; and advancement of the performing, literary, and visual arts. Heritage concerns encompass preservation of historic buildings and sites, written records, and surviving craft traditions. These may be of statewide or local interest. The state historical agency, the third oldest in the nation, conducts programs in archeology and historic preservation, publications, archives, and historic sites. It also operates a state museum of history. In addition, local communities support historic districts, sites, and museums.

Continued growth of the arts, an integral part of community life, is an area of concern. Guided by the Cabinet-level Department of Cultural Resources, they are fostered by a state-supported arts museum, symphony, and school of the arts; numerous dance, music, and drama activities; and a network of community arts councils and working artists. Between 1967 and 1980, the number of arts organizations in the state soared from approximately 250 to an estimated 700; the number of community arts councils rose from 17 to 89.

In addition to its roles in personal growth and community cohesion, a healthy cultural environment generates tangible economic gains. In 1981 some 40 million people nationwide paid \$188 million to attend arts performances. The overall economic impact is estimated to exceed \$2 billion.¹⁰⁸ Further, cultural resources play a significant role in industrial recruitment efforts. As North Carolina communities compete with other areas to attract new and specialized industries, the cultural environment is a magnet that attracts desirable firms. The arts may also help to revitalize community centers. Spirit Square Arts Center, a renovated church three blocks from the geographic center of downtown Charlotte, together with adjacent Discovery Place, shares part of the credit for a \$250 million renaissance of new townhouses, condominiums, apartments, restaurants, and specialty shops. Tourism is another economic benefit; museums, historic sites, and community arts events are enticements to tourists and travelers.

The cultural environment is healthy, but it is not without substantial problems. Many people desire to maintain links with the past, as evidenced by the proliferation of historical societies, districts, buildings, and museums throughout the state. However, the current approach to maintaining its heritage is rather piecemeal; it lacks a coherent basis. If the best and most representative features of the heritage are to be preserved, a more systematic approach is needed.

Beyond preserving elements of the past as valuable cultural resources, the state should continue to foster new opportunities in the performing, literary, and visual arts. This will involve: broader public awareness of the arts, expanded availability of performances and of opportunities to enjoy and engage in artistic and cultural pursuits, and adequate financial support.

Enhanced awareness may begin with exposing children and young adults to exhibitions and performances as well as to opportunities for active participation. All too often the arts are viewed as a nonessential luxury in the schools and institutions of higher learning. Particularly in rural areas, more effective use of the school systems to support and enhance involvement in the arts should be considered. Another problem is the isolation of minority art and artists from other parts of the arts community and insufficient training and representation of black artists.

Growth is also hindered by inadequacies in the availability of resources. Many communities lack sufficient performing and exhibition facilities to provide all citizens with access to the arts. Some aspiring artists do not have the facilities they need. Two proposals have been suggested for improving physical facilities. One involves a carefully planned network of professionally equipped regional theatres, auditoriums, and galleries. These facilities would be spread among communities throughout the state and might be provided in part through the improvement and sharing of already existing structures. Another proposal envisions a state cultural center, a single-site complex providing a focus for creative opportunities in all the arts. This would enable writers, artists, actors, and other arts professionals and organizations to pursue common interests and advances, much like the Research Triangle Park does for industry.

Establishing a stable base for continued support of arts activities is another primary concern for the future. Since 1965 federal aid through the National Endowment for the Arts and the National Endowment for the Humanities has boosted the arts in North Carolina. These federal dollars have augmented a high level of state financing, up from \$1.9 million in 1967 to \$111.7 million nationwide in 1981. Corporations and individuals have also played key roles.

Nationwide, corporations spend more than \$500 million per year for this purpose.¹⁰⁹ In North Carolina, grants to local communities through the Grassroots Arts Program have resulted in matching funds from private individuals, firms, and local governments estimated to average three times the public allotments.

Continuing decline in federal funding appears likely. The federal cuts strain an arts system already beset by inflation, rising energy costs, and increasingly diverse demand. The continued growth and enhancement of community cultural resources is threatened by an unstable funding situation.

Recommendation 9
Adopt a systematic approach for preserving and disseminating the most significant elements of the state's cultural and ethnic heritages.

At present, no system exists for identifying, evaluating, and establishing priorities for protecting archeological and historical structures, artifacts, sites, and records. All too often action to preserve cultural resources has been reactive—reacting to federal grants, reacting to tax incentives, reacting to an opportune tip from a private citizen. These efforts are worthy but are fragmented and piecemeal. The problem is that some vital resources may slip through the current preservation structure and be destroyed. Without more comprehensive information on the nature and extent of heritage resources surviving throughout the state, the losses may never be discovered. However, when a unique building, archeological site, or record is destroyed, we are all the poorer.

Better heritage preservation should begin with a systematic and intensive survey to identify and document significant buildings, sites, records, crafts, and other resources in every county of the state. This effort would involve much volunteer labor and professional coordination, and it would result in the identification of resources of local, regional, and state interest. An action program should follow the survey effort to enable leaders in the legislature, county and municipal governments, local historical organizations, and academic institutions to determine preservation priorities. These people, perhaps working through the North Carolina Historical Commission, could then coordinate efforts for protecting priority resources. This program should also include provisions for such activities as public acquisitions, joint public-private management efforts, and increased education and awareness about heritage resources.

Preservation is only half of the heritage issue: the other half is

providing opportunities and incentives for all citizens to become aware of, to share, and to take pride in their diverse and unique cultural heritage. Schools, libraries, clubs, and all types of public and private groups and facilities should be used to transmit and interpret our history and heritage so that they become a vital and important positive force in community life.

Recommendation 10

**Through joint public and private efforts,
increase the accessibility of the arts:
by furthering education in and awareness of them,
by providing better opportunities for working artists,
and by ensuring adequate facilities for performance and exhibition.**

The National League of Cities, the U.S. Conference of Mayors, and the National Association of Counties have passed resolutions endorsing the principle that the arts should be recognized as "an essential service" and should be made available to "all citizens."¹¹⁰ This entails providing a number of elements, including resources needed to attract and nurture artists, adequate facilities for performances and exhibitions, and an aware and appreciative citizenry.

The state, local communities, and private groups should formulate an educational structure in the arts designed to reach all ages and classes of citizens. This structure would involve:

1. Access to classes and courses in the arts for students enrolled in all schools from kindergarten through high school, in community colleges, technical institutes, and the state universities. Some music, dance, theater crafts, and studio art should be available throughout so that the taste for them can be steadily fostered through the years of formal education. In addition, graduate study in the arts and art history should be strengthened.
2. Expanded professional training in the creation and performance of arts as well as in architecture and crafts.
3. Increased opportunities for nonprofessionals outside the formal education process. Books, films, slides, and other arts materials should be bolstered in the public libraries to enhance public appreciation and critical understanding. New means should be devised for amateurs to participate in and create art.

In addition, the state should undertake an exhaustive survey of existing sites for the performance or viewing of the arts, including



The arts enrich community cultural life. Visiting artist Howard Whitfield (standing left) directs students and faculty members in an alfresco theatrical rehearsal on the campus of Southeastern Community College.

theaters, auditoriums, art centers, galleries, museums, schools, and churches. The survey should identify areas where such facilities are scarce or nonexistent and make recommendations for their provision in areas inadequately served. By the year 2000, a carefully planned network of facilities should be in place, including professionally equipped locations for performance arts, exhibition facilities for visual arts, and facilities where arts and crafts may be created.

Finally, it has been suggested that, in addition to building on an established base, a more daring and innovative approach be taken to focus attention and resources on the arts: the establishment of a cultural complex focusing on facilities for the performing arts. The potential economic and cultural impacts of such a facility, plus the clear potential for public-private cooperation, argue strongly for the further study of this concept.

Recommendation 11

**Develop appropriate systems for sustaining the arts,
involving both public and private activity.**

The only certainty regarding future funds is that they will continue to be needed in ever-increasing amounts. As a custom-made product, the arts are not amenable to the introduction of labor-saving, cost-cutting devices used in other fields. However, given the traditionally unstable and fluctuating financial support for the arts, it is essential to assess their future growth capacity, to identify new sources of private aid, and to coordinate public and private support strategies. The goal should be not only to withstand inroads into arts support, but also to reach the year 2000 with increased levels of financial backing for the arts in communities across the state.

In considering alternative ways of providing the additional funds that are necessary, care must be taken to assure that new fundraising efforts do not result in unintended, adverse consequences. For instance, one proposal would have the public supply the additional funds through large boosts in admissions and fees. Such a policy, however, would lead to smaller audiences and limit access to the arts. The public should provide support through fees, but at reasonable prices that provide access to citizens of all income groups.

Sustaining the arts at a level that allows for future growth is not the sole responsibility of any one group, but must be a combined responsibility of state and local government as well as the private sector. The following approaches emphasize this point:

1. Encourage the formation of a board of private citizens to stimulate private sector funding, to participate in statewide planning in cooperation with communities and existing art organizations, and to foster the arts in general. This board would be independent but would closely coordinate its activities with the state Department of Cultural Resources. A primary focus would be to further the support and interest of the private sector in the state's art community. The board could also work toward more effective coordination of those arts activities and resources that can be shared among communities.
2. Continue to develop state/local partnership efforts such as the Grassroots Arts Program (GAP). This is a revenue-sharing network that channels state funds to local arts programs and services in all 100 counties. This program has emphasized the requirement for matching funds from local governments, businesses, and individuals. The state/local partnership can build a strong base of support for arts in the community, be responsive to its needs, and stimulate greater local contributions.

Community Security

In the two citizen surveys conducted for the NC 2000 effort, crime protection was ranked as the fourth highest factor needing improvement in one survey and the third highest factor with which residents were dissatisfied in the other.

One issue cuts across all the recommendations that follow: the availability and deployment of resources in the criminal justice system. Salaries for professional personnel, including those for law enforcement officials and some judges and corrections workers, are inadequate to attract the quality of personnel and sufficient funds are not available to employ the number of staff people needed for a top-flight criminal justice system. Minority representation in staffing should also be strengthened so that the personnel mix more closely reflects the mix of citizens who become involved with the criminal justice system. In addition, more modern technological systems could improve capabilities to handle work optimally. For instance, computerized court records would speed up case disposition, reduce direct labor costs, and possibly even further the cause of justice by making information more readily available to judges and juries.

Goal VI To Reduce the Incidence of Crime and Its Effect on Individuals by Improved Prevention and Law Enforcement Efforts

In grappling with the problems of crime, communities need to address simultaneously a number of related approaches: combating the many causes of crime, involving citizens in crime prevention, enforcing the law, treating criminal offenders justly and effectively, and reducing the effects of crime on its victims. The complexities and interdependencies are underscored by the size and scope of the criminal justice system, whose components consist of administratively independent law enforcement, courts, and corrections. The problems are legion, but the community goal is clear: to improve community security by preventing and reducing crime, by lessening its impact on individuals, and by treating criminal offenders justly.

Another aspect of community security that is of particular concern at the local level is the work being done by fire and rescue units to

protect lives and property. Although no formal recommendations were adopted by the Commission on the Future of North Carolina concerning this subject, the Commission has noted the importance and effectiveness of this activity as well as its critical contribution to community safety and public well-being.

TRENDS IN CRIME

North Carolina's crime rate historically has been low in comparison with the rest of the nation. In 1978, as the eleventh most populous state, the crime rate ranked fortieth. However, the state has tended to follow national trends of substantial increases in reported crime during the 1960s and 1970s. During the five-year period 1976–80, for instance, the Uniform Crime Reports Index tallied an increase of more than 29 percent.¹¹¹ Beyond the general trend of more crime, the nature of criminal activity in the state appears to be undergoing some major shifts. In North Carolina, like much of the South, for the last two decades the rate of aggressive crime (murder, rape, aggravated assault) has been high relative to the rest of the nation. In 1974, at the peak of the differential, the state's per capita rate of aggressive crime was 60 percent higher than the national rate, while aggravated assault led the list of this type of crime (figure 14). During the same period, material crime (robbery, burglary, larceny, motor vehicle theft, i.e., crimes directed against property) occurred much more frequently than aggressive crimes, but at rates 20 to 40 percent below the national figure.¹¹² (See figure 15.)

Recent evidence indicates that the state's wide variance from the national patterns of material and aggressive crime may be diminishing. During the last several years, the material crime rate has been increasing much faster than that of the nation. Between 1973 and 1979, it leaped 65 percent whereas the national rise was 34 percent. Likewise, though the state's rate of aggressive crime traditionally has been higher than the nation's, the national rate is increasing rapidly. If present trends continue, it will surpass that of the state in a few years. Hence, the nature of the crime increase appears to be changing: property crimes are rising much faster than crimes directed solely against people. This change is bringing North Carolina increasingly in line with patterns in the rest of the nation.¹¹³

Another recent shift involves large increases in predominantly rural areas. For example, the rural counties of Nash, Sampson, Franklin, and Davie experienced more than a 25-percent jump in index crime during 1978—four times the state rate. In McDowell, Montgomery, and Nash counties, material crime offenses jumped 50

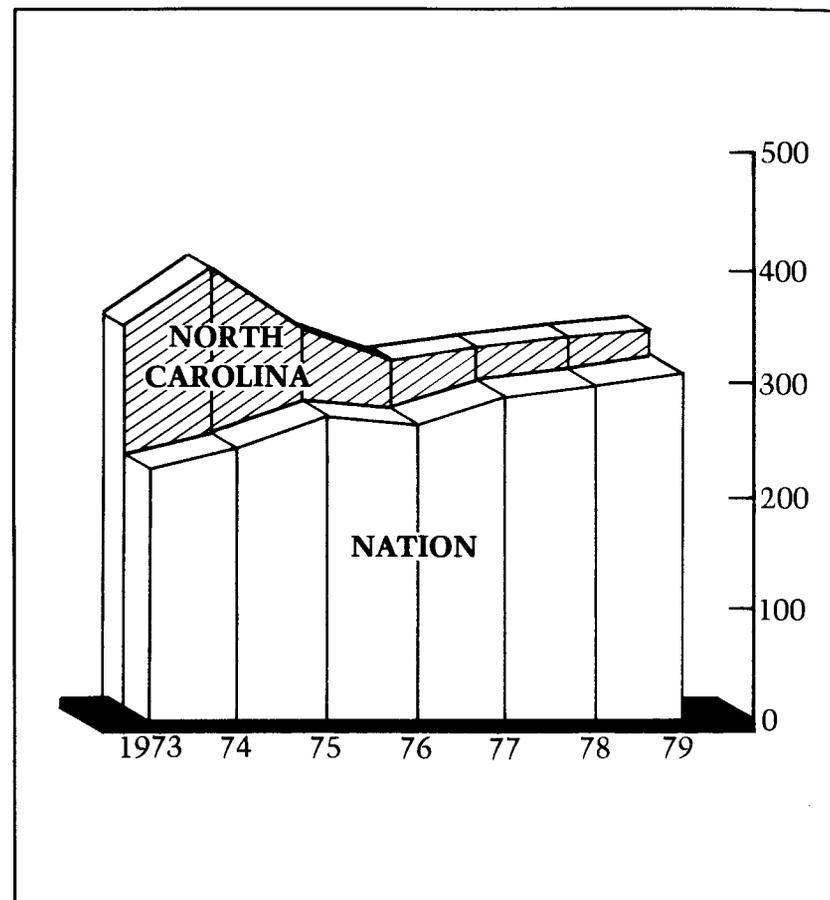


FIGURE 14. Aggressive Crime Rate per 100,000 Population for North Carolina and the Nation, 1973–79

Source: David Jones, "How Much Crime in North Carolina?" *Popular Government* 46, no. 2 (Fall 1980).

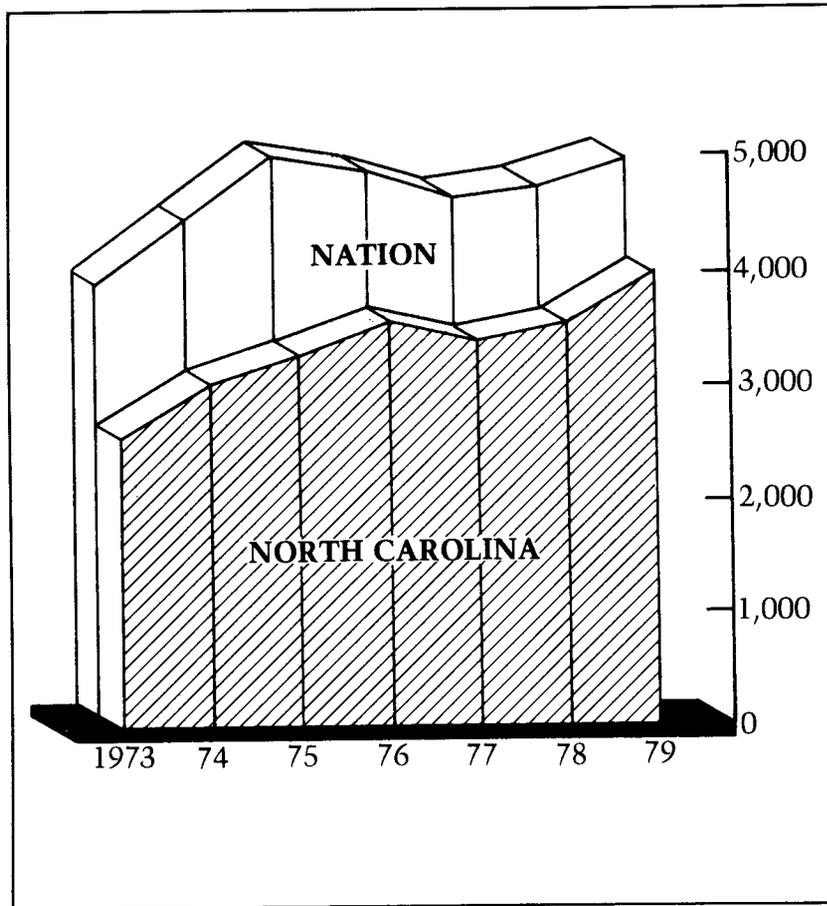


FIGURE 15. Material Crime Rate per 100,000 Population for North Carolina and the Nation, 1973-79

Source: David Jones, "How Much Crime in North Carolina?" *Popular Government* 46, no. 2 (Fall 1980).

percent in a single year, 1979. The increasing incidence of drug-related crime is of particular concern in many rural counties.

Realistic measures of crime volume, such as victimization surveys, should be instituted to determine accurate levels of community crime. Increased reporting of crime may be a positive indicator of police effectiveness and community resource usage. The levels of crime that are characteristic of community makeup should be analyzed and effective management techniques sought.

Predicting future rates and types of crime is problematic. Changes in demographics, family structure, economic factors, education, values, and methods of deterrence are studied as major elements in theories of crime causation. A study conducted in 1974 by the National Institute of Law Enforcement and Criminal Justice analyzed crime statistics and criminal justice in all fifty states in an attempt to link causative factors with observed increases and decreases in crime. The finding was that factors of youth, urbanization, and income play predominant roles in preventing or reducing crime—in fact, many times bigger ones than the various deterrence factors considered.¹¹⁴

Other studies tend to corroborate findings that socioeconomic and demographic variables are significantly linked to crime rates. Emerging trends in age composition, urbanization rates, and income in North Carolina may thus be good indicators of future crime rates. During this decade, the percentage of the population aged fifteen to twenty-four is expected to decline substantially which should lower crime rates somewhat. This should be more than offset, however, by significant rises in urbanization and per capita income. The vigorous population and economic growth expected for the state may unfortunately be coupled with substantial increases in material crime, if the national patterns apply to North Carolina. Other projections for the year 2000 involve rises in less conventional or newer types of crime: white-collar, organized, and computer-related. These types are of much concern, but little hard data exist to indicate current conditions and trends.

A recent publication of the National Institute of Mental Health provides a useful overall perspective on the future of crime and criminal justice: "It is possible to envision a society marked by increasing violence and attacks on private property, by intolerance of any deviation from an obsessive morality, and by far-reaching police surveillance coupled with a loss of civil liberties in a totalitarian social order. It is also possible to envision a society with widespread acceptance of and conformity to the criminal law, a modest view of the proper reach of the state, and methods of law enforcement that

are just, humane and effective."¹⁵ Moving state communities closer to this vision of a lawful and just society in the face of crime-fueling factors beyond the reach of the criminal justice system is a priority concern of the Commission on the Future of North Carolina.

CRIME PREVENTION

One logical, efficient, and humane response to the potential increase in crime is to attack the problem at its root: to try to prevent it from occurring in the first place. Such an affirmative approach demands a high degree of community commitment and involvement, but it may ultimately be much less expensive in monetary and personal costs than a more reactive response. Fundamental to this approach is fostering a sense of responsibility—a heightened understanding and respect for the rule of law—on the part of all citizens.

Recommendation 12

Expand crime prevention efforts through a coordinated approach in education, recreation, employment, human relations, delinquency reduction, law enforcement, physical design, and increased volunteer activities.

A preventive approach requires a multipronged strategy addressing an array of related factors. It stresses the role of family, education, youth employment, human relations, attention to juveniles, and even physical design of buildings. It involves both professional and voluntary actions. Most importantly, it aims at deterring crime rather than reacting to it.

The state has already strongly committed itself to crime prevention, and this stance should be bolstered through a number of avenues:

1. *Education.* Awareness of the law and knowledge of the legal system can be significant elements in building better understanding of and respect for the law, thus preventing crime through voluntary obedience of the law. The state should encourage additional measures for disseminating knowledge and awareness of the law, through such avenues as the public school system, criminal justice professionals, and volunteer organizations. For instance, law-related education programs, such as that of the American Bar Association, should be favored. The state should also encourage criminal justice professionals, lawmakers, and executive agency officials to

conduct outreach and education programs stimulating citizen awareness of the law. Such programs ought to emphasize its social and personal benefits, the need for citizen involvement in crime prevention and citizenship duties (such as jury and witness service), and the philosophical framework of the state's deterrence system. Resources should be provided for seminars, and educational materials ought to be furnished to citizens' groups.

2. *Employment.* Adequate and equal employment opportunities, especially for young people, can help offset the economic incentives to turn to material crime.
3. *Human Relations.* Some motivations for crime involve a clear lack of understanding among individuals or a disregard for the rights and dignities of others. In some cases, these motives pit members of one race, age group, or neighborhood against another. The state's communities have been spared the degree of social disintegration apparent in some other parts of the nation, but significant problems in communication and interaction among various groups still remain. The North Carolina Human Relations Council addresses divisions among various groups within the state. This body's work correlates with the concerns of most community members for a more socially cohesive society, free of unnecessary criminal disruptions caused by a lack of understanding. The state should identify and provide additional mechanisms for fostering positive personal interactions, including the formation of community human relations councils.
4. *Delinquency Prevention.* Because the goal of a crime prevention strategy is to stop the tendency to commit a crime at the earliest possible opportunity, it should emphasize the problems of juveniles. Children who are slow to learn, runaway, pregnant, neglected, or unwanted have special needs that often go unmet. In the past, some of these children were placed in state training schools as "status offenders" (children who had not committed a criminal offense). This practice is being discontinued, and efforts are underway to direct problem children toward more appropriate community services and home-based approaches.

Still, the state's approach to delinquency prevention needs to be strengthened, especially through better coordination of public education, recreation, family counseling, youth employ-

ment, and social services programs. The state should appoint a study group charged with formulating a statewide delinquency prevention program. A major focus should be the early identification of children at high risk of becoming delinquent. It should also plan for the expansion of innovative community-based approaches, such as the One-on-One Program, that are effective in reducing the delinquency of juveniles who have gotten into trouble with the law.

The state should also explore approaches for lending support to families of children at risk. As the primary communicator of values and socially acceptable behavior throughout history, many families need assistance in fulfilling their social role today because of the pressures produced by modern society. Increased emphasis needs to be placed on research and evaluation designed to improve the capability to prevent or reduce delinquency. Colleges and agencies should be encouraged to carry out more delinquency prevention research. Agencies that serve youth ought to make greater use of research findings and program evaluation results in designing projects.

5. *Physical Design.* Some elements of building design and construction, such as good-quality locks and well-placed lighting, are known to reduce the chances of crime. Many other design elements that potentially can contribute to increased security are often overlooked. The placement of doors and windows, the use of plantings, and attention to lines of sight among neighboring buildings are additional examples of physical elements that may be considered in creating more secure, defensible spaces. The state should further publicize specific information about the relationship of physical design and crime as well as apply these design considerations in publicly funded projects.
6. *Volunteer Activities.* Citizen preventive efforts, including increased community cooperation in monitoring neighborhoods and reporting crime, have raised levels of citizen awareness while substantially deterring or preventing criminal activity. Such efforts are particularly effective in material crimes, which are expected to be an increasingly frequent problem during the coming decades. Citizen participation programs, such as Crime Watch, should be encouraged as useful and significant elements of prevention strategy.

TRAINING OF LAW ENFORCEMENT PERSONNEL

Basic training for law enforcement personnel is provided through the Basic Law Enforcement Training curriculum, a 240-hour course formulated jointly by the North Carolina Justice Academy, the Department of Community Colleges, the Criminal Justice Education and Training Standards Commission, the North Carolina Law Enforcement Training Officers' Association, and the Institute of Government. Designed in 1978–79, it meets minimum standards set by the Education and Training Standards Commission and leads to certification of law enforcement officers. Training is provided by the state Justice Academy, community colleges, and police academies in several cities. This basic system is far removed from the situation in the state prior to 1963, when no statewide standards for law enforcement training existed.¹¹⁶

Recommendation 13

Require adequate levels of training and continuing education for all categories of criminal justice system personnel, while stressing improvement in law enforcement methods and capabilities as well as human relations skills.

Although North Carolina has come a long way in its training program, a need remains for more systematic measures to update and modernize it. The need for continuing training is particularly critical in small departments. Ten or fewer officers are assigned to approximately 63 percent of the 537 law enforcement agencies in the state.¹¹⁷ The need is also pressing for expanded in-service training of correctional officers. Results of recent federal and state court decisions, changing rules of evidence, technological innovations, and new types of crime are some of the changing topics concerning which officers need to be educated. Another requirement is that personnel in law enforcement agencies and the courts be trained in modern management and information processing skills so that they may make the most effective use of limited and changing resources.

Improving human relations skills is another field that should be incorporated into the in-service training program. This type of training ought to be an integral part of all law enforcement training so that the rights and dignity of all citizens are understood and respected by the officials who are involved. Such skills as communicating with community members, gaining sensitivity to community issues, and handling offenders who have mental health problems should be included.

VICTIM AND WITNESS ASSISTANCE

Many criminal justice officials believe that all too often the criminal justice system has "stepped over the body of the victim" during the mechanical, methodical process of pursuing, prosecuting, and punishing offenders. Although public funds are used to provide attorneys for indigent defendants, multiple "rehabilitative" programs for inmates and probationers, and many other services for those convicted of crimes, efforts to provide emotional or financial support to victims and witnesses have been minimal at best. Even though the criminal justice system is charged with ensuring justice, it often abandons the victim.

Recommendation 14

Expand services to victims and witnesses to cover more of the losses incurred as a result of criminal activity and to increase public cooperation with the criminal justice system.

Only recently has some attention been focused on formulating programs to assist the victim and witness. The first victim compensation statute in the nation was passed in 1965 in California, followed two years later by New York. Today, more than thirty states provide some form of victim compensation.¹¹⁸ These range from programs including broad compensation for loss of work, emotional damages, medical payments, and other results of crime to more limited programs providing medical expenses alone.

North Carolina currently has a number of programs offering limited assistance to victims, including a restitution program, rape victim assistance program, rape crisis centers, and domestic violence victim assistance. These are important steps in the direction of lessening the impacts of crime. However, the compensation measures are far from comprehensive, and many victim needs remain unaddressed.

The U.S. Department of Justice has produced a model program for victim compensation, which covers many of the losses incurred as a result of criminal injury: unreimbursed medical expenses of innocent victims, income losses, and the deprivation of financial support experienced by dependents of murdered or disabled victims. The model is aimed at several general goals: demonstrating the state's concern for the victim's plight; reducing or eliminating crime's financial impact on innocent victims and their dependents; and increasing public cooperation with and support of the criminal justice system. Fulfillment of these goals is sought within the

constraints of available resources by systematically controlling eligibility and benefits.¹¹⁹

The multiple benefits discussed above are substantial arguments in favor of adopting a comprehensive victim compensation program in North Carolina. Unlike restitution payments, this program would provide some relief even when the offender is not apprehended. Unlike an insurance system, such a victim program does not have a built-in bias against the indigent or the high-crime area resident. The state should continue to study adoption of a comprehensive victim assistance program, including an analysis of those programs existing in other states and methods of funding and carrying out such a program. Meantime, the state should endeavor to find ways of maintaining and strengthening currently authorized victim assistance programs, many of which were started with federal grants.

Particular attention should be given to improvements in the existing restitution program. Under current statutory and operating provisions, victims must wait long periods of time to receive their money. The long waiting period is caused in part by the existing system of priorities for disbursing restitution payments; victim compensation is fourth on the list of repayment items. As a matter of justice, victim restitution should receive the highest priority.

Assistance to witnesses should also be expanded. Inconveniences, fears of retaliation, financial and cultural constraints, and distrust or frustration with the criminal justice system are major deterrents to their crucial cooperation in trial proceedings. Coordination programs for witnesses currently exist in ten areas of the state. Through notification of court dates, continuances, and courtroom locations, they save time and other costs; and the court is not only assured of more timely appearances but also receives an improved public image. The witness coordination program should be expanded to all judicial districts.

DEALING WITH CRIMINAL OFFENDERS

Effective and just treatment of offenders is a principal goal of the criminal justice system. Within that system, the courts exercise primary responsibility for dealing with those identified as offenders. Although the court system needs improvement, North Carolina's courts possess many excellent qualities. In the late 1960s, a unified and uniform court system was created that many states adopted as a model.

The new court system resulted in the elimination of the office of justice of the peace; the establishment of the district court, which

has uniform jurisdiction in all counties; elimination of offices occupied by persons paid by fees they collected; modernization of the statutes on jury service; creation of a court of appeals to enable the supreme court to concentrate on the most serious cases; and establishment of an administrative office of the courts, which is responsible for improving court management. Because of these improvements, court organization and structure have not been a major concern of the public. That is not surprising; the subject is not one that attracts a lot of attention unless serious problems arise.

The challenge to those responsible for North Carolina's court system in the future will be to continue the progress made during the past fifteen years. Perhaps the most critical problem is to establish an organizational structure that retains the benefits of uniformity and responds to the needs of both the urban and rural portions of the state. Unless this is done, the criminal justice system cannot fully utilize the resources available to it to perform up to public expectations.

The major goal is to treat offenders justly while dealing effectively with the problems of crime. That involves court procedures which ensure a speedy and fair trial for the accused and a fair sentence for the convicted. That involves a balance in correctional procedures, to deter persons from criminal activity while treating the convicted offender fairly. That may involve punishments other than incarceration, complemented by suitable supervision and follow-up activities. That also involves attempting to foster understanding among a fearful public bent on retribution and less than fully aware of the long-term costs and benefits of various correctional procedures.

Goal VII

To Establish a More Effective and Equitable System of Dealing with Criminal Offenders

An equitable system of justice is a constitutional mandate, an expression of the worth and dignity of all people, and a deterrent to criminal activity. Recent research on criminal sentencing, which has caused concern, suggests that the severity of the sentence imposed by the courts in 1979 depended upon extralegal variables, such as race, in addition to legal variables, such as the seriousness of the crime and the existence of prior criminal records.

This study, which was conducted by the Institute of Government, revealed that race, sex, and type of attorney significantly affected the outcome of a defendant's trial. For instance, a black person's maximum sentence was likely to be 6 percent longer than that of a white

person for the same offense, and minimum sentences for black people were 27 percent longer. Female felons received maximum terms 26 percent shorter than those for males as well as 41 percent shorter minimum terms. All other factors being equal, defendants were less likely to have all charges dismissed if they were represented by a court-appointed attorney rather than one who was privately hired or a public defender.¹²⁰

These findings, however, apply to a period prior to the adoption of the state's Fair Sentencing Act. This statute sets a presumptive sentence for most felonies and is intended to reduce disparities in sentencing. Close examination of sentencing patterns since passage of this act is critical to evaluate whether it has alleviated any of the injustices or disparities that existed prior to its passage. Preliminary results suggest that some of them have diminished since the act was put into effect. Equitable sentencing is essential to a fair criminal justice system, and it is critical that all citizens feel they are being treated equally. Sentencing patterns should be monitored regularly and corrections made when indications of unfair or unequal treatment are observed.

Rate of incarceration is a second priority concern. North Carolina's per capita crime rate ranks among the lowest fifteen states in the nation, but its rate of imprisonment consistently ranks among the top three. Whether or not these factors are directly related is not clear, but North Carolina apparently incarcerates at an excessively high rate that is not commensurate with its relatively low crime rate.

The pattern of high incarceration rates is long established, though the state was one of the last in the nation to build its first prison. After half a century of debate, construction of the first state prison was finally mandated in 1868. One of the principal arguments against it at that time was the cost of operation, but some people contended that the administration of the criminal justice system was best left in the hands of the counties. Despite these concerns, the prison system, once established, grew rapidly. By 1934, more than 7,500 inmates were confined. By 1941, the number had grown to nearly 20,000 sentenced to Central Prison, the Women's Correctional Center, and various road camps and farms scattered throughout the state. Between 1950 and 1960, an average of about 15,000 were imprisoned each year. The number declined during the middle 1960s but began to climb again in the 1970s.¹²¹

Some of the recent increase in the incarceration rate is attributed to longer average prison terms rather than more admissions. Since 1970 misdemeanor admissions have declined and those for felons

have increased. Also, those admitted for violent felonies have risen faster than those for nonviolent felonies. Accordingly, the sentence length for state prisoners climbed from 2.7 years in 1969 to 5.3 years in 1977.

Substantial increases have also recently been recorded in the prison population nationwide. From 1971 to 1981 the overall state and federal figure grew by almost 80 percent, from just under 200,000 to almost 350,000 inmates. Almost 45 percent of them were in the southern states, a situation often attributed to various cultural and historical factors. In 1980 the national rate of prisoners serving sentences of more than one year per 100,000 general population was 147/100,000; this compared to a southern rate of 198/100,000. Even in comparison to the southern pattern, North Carolina imprisons at an extremely high rate, 256/100,000 in 1980—or one inmate for every 420 residents, more than 70 percent beyond the rate for the nation as a whole.¹²²

One often-mentioned response to the problem of overcrowding is construction of new prison facilities. However, the costs of this option are staggering. A current estimate of \$35,000 to \$50,000 per cell has recently been quoted in North Carolina. If the last five years' prison population's growth of 20 percent is projected to the next fifteen years, the prison population in the year 2000 will exceed 30,000 individuals. At \$50,000 per cell and without controlling for inflation, the cost of building additional cells to bring the capacity up to 30,000 (from the present 14,500) would be \$775,000,000. At \$35,000 per cell, the figure would be \$542,500,000.¹²³ Added to this are annual operating costs that are estimated at \$9,000 per prisoner (nearly \$500,000 per day) in 1982. Such costs cannot be projected with confidence, to be sure, because of the large number of intervening variables that are involved, but they do at least represent a conservative estimate of some of the public costs involved in continuing present incarceration policies.

If such a high incarceration rate were really solving the crime problem, many citizens would gladly bear the high costs. However, the correctional system has not effectively stemmed the tide of crime. The mandatory seven-year sentence for armed robbery has apparently produced little or no results; armed robberies have risen since it went into effect.

An additional priority within the correctional system is the provision of training programs, counseling, and other measures directed toward treating or rehabilitating prisoners. Despite the treatment resources currently provided by the Department of Correction, an estimated 60 percent of those who are released will even-

tually return to prison. This clearly indicates that rehabilitative measures need much more emphasis.

In recent years, the state has made progress in furthering the availability of rehabilitation programs. The Western Correctional Center, which deals with offenders under age eighteen, provides a good example of what can be done. Its multiple programs include vocational rehabilitation, on-site and off-site sheltered workshops, alcohol and drug programs, special education and high school equivalency education, individual and group counseling, Explorer Scout posts, and other opportunities. At Sandhills Center, which serves youths aged eighteen to twenty-one, individual programs are prepared that link vocational interests and aptitudes to available jobs in the home community as well as appropriate vocational training plans. These kinds of programs should be enlarged to serve more inmates.

For adult offenders, educational programs, work-release, recreational, and other developmental programs have been expanded in recent years. However, several impediments hamper further improvement. For instance, manufacturers outside the correctional system may oppose organizing a new prison industry to provide gainful employment and marketable skills to inhabitants. Greater attention should be given to improving the job skills of inmates. However, for rehabilitation measures to succeed, public support is essential.

Recommendation 15
Continue efforts to improve the administration of
and coordination within the criminal justice system,
especially the criminal courts.

A criminal court is a complicated institution. For a trial in superior court to be ready to proceed, a judge, at least two attorneys, a clerk, the court reporter, the parties, the witnesses, and twelve jurors must be present and ready to proceed. Coordinating the schedules of all these participants would be difficult if one person exercised clear authority over all of them. In the courtroom on the day of trial, the judge has that authority, but in the crucial period before trial, when investigations occur and decisions about prosecution are made, no one person or agency is responsible for coordinating the system. Because of the importance of the criminal courts to the community, new mechanisms must be established to improve coordination and existing ones improved.

Some measures that should be considered to achieve these ends are discussed below:

1. Continuing education programs focused explicitly on improving interagency cooperation should be established. For the last three years, the Governor's Crime Commission, the Institute of Government, and the School of Business Administration of the University of North Carolina at Chapel Hill have sponsored the Justice Executives' Program, which has brought together representatives of all segments of the criminal justice community to help them understand the problems of other agencies and discuss ways in which they can work together better. This particular program has been discontinued because of lack of funding, but the state should consider the establishment of similar ones. This kind of training alone will not create a more efficient and coordinated court system, but without it substantial improvement will be difficult.
2. Criminal justice coordinating councils already exist in some judicial districts. Their function is to bring local court and law enforcement officials together to discuss problems that better communication and coordination can help alleviate. These councils will not achieve their goals unless the people in charge of them are trained to manage group processes. The state and its subdivisions should ensure that such training is available, and ought to foster the growth of such councils.
3. The City of Charlotte, Mecklenburg County, and the Administrative Office of the Courts plan to appoint a coordinator to work with criminal justice agencies. This individual will not possess any powers that could possibly undermine the constitutional or statutory authority of court agencies and officials. However, his or her status as the "official" spokesman for the system and recognition that the assignment involves improving coordination and cooperation among law enforcement and court officials offer the possibility that the experiment may improve the efficiency of the criminal courts. The state and communities should monitor the progress of the project; and, if it proves successful, consider replicating it in other areas.
4. The management role of the district attorney in the criminal court system is crucial, and holders of that office need more assistance in improving this capability. District attorneys determine which cases are prosecuted and decide when they will be heard. They are all lawyers, which means they lack managerial training. Yet they must manage the equivalent of at least a medium-size law firm. A poorly managed district

attorney's office guarantees that the criminal courts do not function efficiently. The state should make every effort, consistent with the constitutional freedom granted to district attorneys to do their work, to assist them in their management role.

In addition to these recommendations that explicitly affect relationships among officials working with the criminal courts, other steps would improve the ability of the court system to handle its workload efficiently. Information is the lifeblood of the criminal justice system. Data on cases filed and in progress, previous records of defendants, and numerous other kinds of information are essential to an efficient court system. Automatic data processing equipment, though not appropriate for all counties in the state, should be available for those counties or judicial districts that can justify the cost. Care should be taken, however, that the system is planned to prevent duplication at the local and state levels and to provide for compatible data systems.

The management of civil cases should be improved as well because they constitute a significant part of the court workload. In many criminal cases, criminal courts are not used if civil courts are perceived as having the capability to handle them. In addition, if civil courts use personnel and facilities efficiently, the criminal courts enjoy correspondingly more resources to dispose of criminal matters. In recent years, professionally trained court administrators have been used in most of the urban court districts of the state to aid trial judges in civil case management. The results of that experiment are generally favorable, and the expanded use of these types of administrators should be considered.

Two other factors should exert a significant impact on the courts' ability to handle their caseloads. Most court officials belong to voluntary associations (e.g., the Conference of Superior Court Judges) that meet one, two, or three times yearly to discuss items of current interest and to listen to speeches on pertinent subjects. These meetings are planned and conducted with the assistance of the Institute of Government and the Administrative Office of the Courts.

These efforts should be continued or expanded but, in addition, participation in training at national or regional educational institutions for court officials should be encouraged and funds should be made available to those desiring to attend. State funds for that kind of continuing education have been limited in the past, and federal funds are not available any longer. The benefits of the training to the court system are difficult to quantify, but past experience suggests the investment contributes to improving the quality of justice.

Finally, the state should begin to evaluate carefully the kinds of disputes that are appropriate for resolution by a court. In addition, among those cases determined to be appropriate for court resolution, those that are categorized as crimes should be studied to see if the added costs that provide criminal procedural protections to those accused are outweighed by the benefit society receives by categorizing that conduct as criminal. Some disputes are basically between two citizens, and the state's interest in resolving them is not significant so long as the resolution is peaceful. Dispute settlement centers, arbitration, and other nonjudicial settlement should be examined to determine if any of those methods can resolve disputes at less cost to the state and its citizens without sacrificing the quality of the resolution or reducing the protection of society. Traffic violations, worthless check offenses, and other regulatory crimes might be more appropriately treated as noncriminal offenses. Existing study commissions like the Courts Commission or the Governor's Crime Commission should continuously monitor the criminal justice system to evaluate whether the designation of offenses as criminal is appropriate.

Recommendation 16

Stimulate citizen participation in the handling of criminal offenders through involvement in settling disputes, providing offender support, and backing alternative sanctions.

All too often, increasing crime rates and growing fears of crime have been accompanied by increasing citizen detachment from the offender sanction and treatment process. Despite efforts in recent years to encourage a better balance of responsibility in this field, communities and citizens continue to abdicate most of the responsibility for processing offenders to the state system. This situation presents tremendous lost opportunities for a more effective processing and rehabilitation system, as well as severe constraints to innovation and reform.

Two types of community involvement are required for major progress in the system: active volunteer work with offenders as well as increased support and acceptance of processing and sanction alternatives. Examples of active, volunteer criminal justice efforts indicate the value of this approach in improved results, increased efficiency, and lower public costs. For instance, volunteers working through dispute mediation centers are settling minor civil and criminal cases without the intervention of the formal courts system. The success of these "neighborhood justice" centers in Chapel Hill

and Wilmington has led to the recent initiation of a program in Greensboro.

In the postsentencing period, volunteers can also play major roles. Volunteers to the Court, a nonprofit organization fully funded by Guilford County, is successfully coordinating the efforts of volunteers in providing rehabilitative services to youthful offenders. Clients aged seven to twenty-five are referred to the program through the district court, juvenile court counselors, or the state probation office. A voluntary sponsor works with a young offender in an effort to help him or her to become a productive member of the community and stay out of trouble with the law. Other volunteer organizations provide fellowship and counseling to prisoners, ex-prisoners, and their families. Completing the institutional system, these activities provide additional services and resources that can make the crucial difference between a one-time offense and a repeat offender. The active use of volunteers also helps to achieve improved communication between the public and criminal justice professionals.

The second phase of expanded community involvement concerns broadened support for necessary reforms and innovations in offender processing and treatment. The awareness of citizens of the need for reform should be stimulated even though some of them are unsympathetic and are likely instead to seek even harsher sanctions. Nonetheless, if substantial sentencing reforms, improvements in the prison system, and increased use of alternatives to incarceration are to occur, the public must be willing to accept and support these initiatives. Responsibility for juvenile and adult offenders should be shared through community aid in furnishing work and housing opportunities for offenders and through acceptance of nonincarcerative criminal sanctions in the community, such as halfway houses and small treatment centers.

These community involvement measures are not new. In many ways, they represent a return to measures practiced when offender discipline was carried out at the local level. They are not comprehensive remedies for the problems of criminal justice, but are only useful adjuncts to professional efforts. Much has been done in recent years to make the criminal justice system more community-centered and to provide for more citizen participation. The state should encourage these trends by making every effort to raise public awareness and enlist the aid of communities in providing for more humane and effective handling of offenders. Successful community dispute processing and offender aid programs should be recognized and stimulated through provision by the state of financial subsidies, technical assistance, and other resources. Small-scale pilot programs

should be established to test innovative community-based treatment approaches.

ALTERNATIVES TO INCARCERATION

Alternatives to incarceration are not suggested as a humanitarian gesture, but rather because incarceration does not work for many offenders. Instead of making society more secure from criminals and their acts, prisons frequently train them to become more professional and more violent, thus taking a heavier toll on society when they are eventually released. Although incarceration is essential in some cases, warehousing convicted offenders in penal institutions is not the basis for a workable correctional system.

Recommendation 17

Devise and employ effective alternatives to incarceration for disciplining convicted offenders who are not a threat to others' safety; and improve efforts at preparing inmates for lawful, responsible behavior upon their return to society.

In considering appropriate criminal sanctions that place priority on making the law-abiding citizen's life safer, the differences between those convicted of violent and those convicted of nonviolent crimes are crucial. Recent figures indicate that the vast majority of prison admissions are for nonviolent offenses, such as breaking and entering, larceny, embezzlement, and less serious drug offenses. As discussed earlier, those are the types of crime that are expected to rise most rapidly during the coming decades. For some of these nonviolent offenders, the use of sanctions other than imprisonment may be a more productive response than locking them up in prisons that do not rehabilitate. For many violent offenders, imprisonment is the only acceptable deterrent. Those convicted of violent crime who are a danger to others or to society must not be turned loose on the streets. Most corrections administrators believe, however, that these individuals are a minority of the prison population.

Alternatives to incarceration are also critically important in the case of juvenile offenders. The state has taken giant strides in its juvenile justice system and must continue efforts to turn young people away from a life of crime while there is still a chance to do so. Introducing young offenders to career criminals and to a life of brutality and resentment creates the opposite effect.

Beyond keeping some offenders out of the "schools for crime" that many prisons have become, some alternatives to incarceration offer

opportunities for victim and community restitution and thereby reduce some of the impacts of crime. They may also save society hundreds of millions of dollars in reduced prison construction and operating costs. As indicated earlier, the current prison construction cost per bed is up to \$50,000 and by 1984 will be an estimated \$70,000 per bed. Operating costs are also staggering; for example, the cost of a year's college education is far less than that of maintaining a prisoner in a state institution for the same period. The public interest demands greater attention to alternatives to incarceration. These include residential community-based centers, such as halfway houses, drug and alcohol rehabilitation centers, and work-release centers. Although they place restrictions on offenders' liberty and supervise their behavior, they also provide means for self-improvement.

A major problem faced by advocates of alternatives to incarceration is public fear of convicted offenders and an unwillingness to allow nonincarcerative correction facilities in particular neighborhoods. This creates a powerful block against extensive judicial use of this approach. As in other matters related to crime and criminal justice, for any significant change to occur the groundwork must be laid at the local level. It is encouraging to note that a recent survey by the State Budget Office revealed strong public support for wider use of alternative punishments, especially restitution. State agencies and concerned organizations ought to play an active part in informing the public about the needs for and benefits of alternatives to incarceration.

Other states in which alternatives to incarceration have been widely employed report lower recidivism rates and dramatically lower costs for correction systems. Most of the alternatives are already available to judges and corrections officials and need only broader acceptance and more resources to become more commonplace. The state's recent Split Sentencing Act, which encourages joint incarcerative and nonincarcerative sanctions, is one partial approach available for evaluation.

The Governor's Crime Commission should formulate a systematic plan for the maximum possible use of alternatives to incarceration. It should also give serious study to the recommendations of the Citizens' Commission on Alternatives to Incarceration, which like the Commission on the Future, strongly endorses the use of alternative punishments. Where necessary, experimental programs to test the feasibility of more innovative approaches ought to be established. The emphasis must be on whether or not the nonincarcerative sanctions are effective in enhancing the security of society. The plan should also include reduced caseloads; improved training; and related

betterment in probation services, by far the most widely used alternative to incarceration currently in use.

IMPROVING PRISON REHABILITATION

Some offenders must be incarcerated, particularly those prone to violent acts. In addition to preventing them from committing additional crimes while behind bars, a major goal is to correct their antisocial, dangerous behavior. Ninety-five per cent of them will return to society at some point, and, if they are no better or even more criminally inclined than when they went in, prisons are not serving society as effectively as they should. If the correctional system is to benefit society and prisoners fully, it must do more than punish them and deter them from further crimes while they are behind bars.

High recidivism rates have seriously challenged the effectiveness of the rehabilitation ideal as currently practiced. The Federal Bureau of Investigation estimates that nationwide some 74 percent of released prisoners are rearrested within four years.¹²⁴ As a Michigan legislator has stated, "to place a criminal offender in an artificial world composed only of other criminal offenders and then to expect that person to emerge from that abnormal environment as a healthy and whole person is certainly a questionable strategy."¹²⁵ All too often today prisoners are subjected to severe overcrowding, the continual threat of violence from other inmates, frequent opportunities for further training in crime, deadening routine, and growing resentment.

Whether or not prisons can effectively rehabilitate inmates is open to debate. However, because most of them will be back on the streets eventually, prisons must do what they can to prepare them to live constructively upon their release. When an incarcerative sentence must be imposed, treatment measures should be pursued more diligently, applied more broadly, and coupled with critical elements of prison reform. Traditional rehabilitation programs, such as work-release, study-release, and high school and vocational training, help to relieve the boredom and monotony of imprisonment, while preparing inmates for postprison employment. More of these programs should be instituted, along with prison industries, arts programs, and other strategies for motivating the large portion of the prison population that is idle. Medical and psychiatric treatment programs should be expanded so that they are more readily available to inmates who have special problems.

In moving toward a more effective correctional ideal, these measures should be coupled with needed reforms in prison conditions to

make them safe. In no case should nonviolent offenders be housed in cells or dormitories with those guilty of violent crime or behavior. Prisoners should be protected as fully as possible against physical violence, threats, and intimidation from other inmates.

The state should renew its dedication to an effective correctional focus for inmates. More programs and additional resources should be provided for work and study opportunities, improved counseling and treatment measures, and other rehabilitative activities. Some of these resources may be provided by redirecting some of the funds saved by not incarcerating so many offenders. Necessary prison reform measures should be instituted to provide an environment in which the incarcerated offender may eventually return to society as an improved person.

Community Government

Governing the community and the proper role of government in the context of the community as a whole are concerns that cut across almost all the issues addressed by the Commission on the Future of North Carolina. Two major current trends will significantly affect the demands placed upon governments in the state through this decade and into the next: the reduced rate of government growth and the substantial shifts that are occurring among levels of government. State and local governments are faced with assuming additional responsibility for essential domestic programs during a period in which their share of the economy as well as the economy as a whole are not growing as rapidly as they have in past years.¹²⁶

The fiscal problems faced by the federal government are real and deeply rooted. They will not change quickly, and state and local governments, together with those served directly by federal domestic programs, can expect further cuts. Local governments have limited taxing capacity and are heavily dependent on the property tax. State governments face a triple burden—their own increasing costs, reduced federal support, and local demands for fiscal relief—all in the context of a weak economy and slower growth in state general revenues.

North Carolina cannot escape the technological change that is affecting society as a whole. This change brings increasing complexity and further burdens on government. At the same time, it offers the opportunity for more efficient government through the application of advanced technologies and improved management processes.

The state population continues to grow and change in demographic composition. Requirements for investment in water, sewer, and related infrastructures, together with training and retraining to accommodate change and support growth, must compete with the need to provide adequate services for an increasing over-sixty-five age group; to maintain commitments to quality education and adequate criminal justice and health-care systems; and to address continuing needs in transportation, housing, and related areas of public concern.

Rich in human and institutional resources, North Carolina is basically well governed and possesses the potential to meet the challenges of the next two decades as well as any other state. The professional and administrative capacity of local government, and more recently of state government, have received considerable emphasis. At the same time, the present challenges are unprecedented in recent history and will require responses that will test the capability and resourcefulness of elected and administrative officials at all levels and in all branches of government.

A half-dozen priority issues now require attention. They are mutually interdependent and must be addressed collectively as well as individually. They include: improving governmental management and productivity, reassessing fiscal capacity and policy, evaluating the scope and levels of program services, providing for citizen involvement, using existing human and institutional resources more effectively, and increasing intergovernmental cooperation. The extent of success achieved in addressing these issues will directly affect the role of government as well as the quality of life in the year 2000.

Regardless of the particular program or field under consideration, the functions of government can be broken down into three distinct processes: determining what should be done, doing it, and paying for it. These three issues—public policy determination, public administration, and public finance—are the focal points of the community government goals and recommendations identified by the Community Panel. A thorough reexamination of the function, organization, financing, and interrelationships of state, county, municipal, and other local government units as well as the relationships of all of them to the federal government should be undertaken, consistent with the specific recommendations that follow.

PUBLIC POLICY DETERMINATION

Public policy determination—deciding who receives, who provides, and who pays for public benefits—is at the heart of the community government process. Public decision authority is distributed over

several levels of government—federal, state, and local—and the state determines its allocation between the state and local levels.

Goal VIII To Ensure a Public Policy Formulation and Decision-Making Process That Is Responsive to Citizen Concerns and Equitable in the Allocation of Public Resources

Decision authority can be separate from both administrative and financial responsibility, as in the case of the state mandating that local governments administer and pay for a particular public service. The complexity of many public issues demands considerable expertise to make well-informed decisions. The relative capability of the legislative and executive branches to do so and the balance between the branches relating to the type and degree of decisions each makes directly affect the efficiency and responsiveness of government. Areas of concern in the public policy process are the degree and nature of citizen participation and the authority and responsibility of general-purpose governments in relation to special districts or quasi-independent boards and commissions.

Recommendation 18 Improve the information available to public decision makers through better planning, budgeting, and evaluation systems.

The state has experienced an extended period of revenue growth.¹²⁷ Its executive and legislative resource allocation process is geared toward decision making that is based on expanding resources. The federal government has been similarly oriented; inflation-generated rises in revenues and deficit financing have supported continually increasing expenditures. However, the federal budget is now encountering severe stress. State and local governments face a comparable problem. Existing service levels in all programs cannot be maintained while meeting essential new needs, given a fixed or inadequately increasing resource base. Some services will need to be decreased or eliminated while others are kept stable or are expanded.

The judgment of elected officials—legislative and executive—is affected by many factors. An accurate and rational assemblage of information about an issue and alternative courses of action relating to it is only one such factor, but is one of increasing relevance in a

period of scarce resources.¹²⁸ Proposals for new or added expenditures have traditionally received close scrutiny in budget processes. As reallocation of existing resources in the absence of adequate new funds to meet essential new or expanding programs is required, the evaluation of existing programs will take on added significance.

At both state and local levels and in both the executive and legislative branches, a continuing reassessment of planning and decision-making processes—particularly in regard to resource allocation issues—is called for in response to a changing economic environment and evolving information systems technology. Provision should be made for both sound professional analysis and informed, effective citizen participation in the planning and decision-making processes. As legislative staff capacity increases and legislative leadership demands more sophisticated analysis of issues, executive staff capacity must in turn improve its capabilities to be responsive and to maintain executive initiatives. This process, already occurring at the state level, will be accelerated by rising technological capability and growing state responsibility for domestic programs.

A budget or program plan cannot be effectively formulated at any level of government without due consideration of the fiscal and program impacts of activities at other levels of government. Information on overall revenue, expenditures, and program activity patterns within the state need to be organized in such a manner that each level of government can see the whole, as well as its part of the picture, for any given program. Both interagency and intergovernmental cooperation among planning and budget offices and agencies, to include sharing of information and technology, should be pursued.

Capital budgets addressing the long-term expenditure requirements of individual units of government are vital in sound budgeting. Lifecycle budgeting of capital facilities, including maintenance and operating cost procedures, should be considered. Similarly, a statewide capital budget addressing the public works investment needs of the state as a whole, to include utility and other quasi-public major investments critical to growth and development, would be a significant contribution to effective, long-term development planning.

Any substantive changes proposed in planning, budgeting, and evaluation systems must be politically as well as administratively viable. They must allow for relatively rapid incremental change while striking a balance between principles and practices that have served the state well over time and the demands of changing technology and circumstances.

Recommendation 19
Increase the effectiveness of public information
and education efforts as well as provide for
effective citizen involvement in public affairs.

Economic, political, and technological changes beyond the state's control directly affect the quality of life. Change is now rapid, and the pace is likely to step up over the next two decades. North Carolina has to deal with two types of change: those that occur as the twenty-first century approaches; and the impacts of rapid growth and increasing urbanization.

The local NC 2000 effort has demonstrated the existence of grass roots interest in and concern for participation in the public process by a wide spectrum of citizens. If this interest can be fostered and channeled into effective participation in the public decision-making process, elected officials will be provided with a valuable resource in making decisions more responsive to public needs as well as a base of support for making the decisions and carrying out the programs necessary to maintain and improve the quality of life.

To participate effectively, people must be aware of and understand public issues. This calls for a concerted and continuing public educational effort to stimulate the interest of citizens and inform them about issues that affect them. Its objective should be heightened participation in the political process. Motivating the populace to become informed participants as voters, volunteers, and advisers in the public process is critical to a sense of community as well as to responsive and effective government.

Serving on boards, commissions, advisory groups, and similar bodies provides opportunities for citizens to become informed and involved in the public decision-making process as well as to contribute diverse views and expertise to the deliberation of public issues. To be effective, such participation must spring from the interests and desires of individual citizens. Government should be prepared to respond to and provide vehicles for their organized involvement.

The issue of government's relationship to the media is critical in a free society. Current and evolving media technology provides almost unlimited potential for informing—or for misinforming—the public on any range of issues. The competition for the public's attention is keen, and the media's drive for bumper-sticker simplicity may not always adequately treat complex public issues. Government public information activities are not always viewed as being completely objective. Providing complete and accurate information to media

representatives and encouraging their responsible treatment of public issues must be a high priority for the state and local governments.

Recommendation 20
Review and reallocate decision-making authority
between state and local government to provide
a reasonable balance of local responsiveness
and basic statewide standards for public services.

Local government units, under the constitution, are creations of the state. The legislature is responsible for allocating decision authority between the two spheres. Clearly, some types of public decisions are essentially local in scope and nature and are best left to decision processes at that level, where officials are in a position to possess more information about issues facing the community and to be more responsive to its interests and priorities. At the same time, some issues are obviously of statewide interest. All citizens, regardless of their physical location in the state, need to have equal access to various types of public benefits, such as good schools and roads. Arbitrary, unreasonable, and unnecessary statewide standards and mandates can impose an unacceptable burden on local units of government. Similarly, in the absence of state intervention, local fiscal or policy constraints can deny necessary protections, services, and benefits to the populace. Striking a proper balance between state and local decision authority is a critical and difficult task.

Linking such authority and taxing responsibility is a popular, but not necessarily a viable idea. Ultimately, the legislature decides what types and levels of service a local government must provide and what types and levels of taxes it may impose. The different effects of various types of taxes, the political problems related to their imposition, and the particular sensitivity of the property-tax issue all affect the question of the proper relationship between decision authority and taxing responsibility. The concepts of revenue- or tax-sharing and intergovernmental financial support for various types of programs are well established; decision authority, financial support, and administrative responsibility can be treated as separate, though related, issues for any given program.

Maximizing flexibility in local decision making in response to local circumstances while maintaining adequate and fair statewide standards for necessary public services is an objective that should be pursued in the context of each major public program area.

PUBLIC ADMINISTRATION

The combination, over the past several decades, of the rapid growth in public sector resources and responsibilities and the increase in the scope and complexity of government programs presents significant management challenges. Determining the proper organization and allocation of responsibility for the delivery of public services, increasing productivity, and maximizing efficiency in public management are priority public concerns, heightened by recent economic trends.

Goal IX
To Organize and Administer Public Services
in an Efficient and Productive Manner and to Pursue,
where Feasible, Fundamental Program Changes
That Achieve Major and Continuing Public Service
Cost Reductions

Organization, staffing, and operations are interrelated elements of the public management system. Each level of government must pursue not only the maximization of its own operating and management effectiveness, but must also do so within the context of an intergovernmental system in which activities at each level complement and are coordinated with those at other levels.

States are emerging not only as the key level in the administration of domestic programs but also as the linchpin of the intergovernmental system.¹²⁹ The efficiency of state, county, and city governments and the relationships among them will be key factors in determining the quality and cost of public services over the next few decades. If North Carolina state government alone—not counting local governments—were a private corporation, it would rank among the top sixty on the Fortune 500 list, based on total budget.¹³⁰ Any organization of this scope, if it is concerned about cost-effective operations, must continuously reexamine and improve organization and management systems and practices.

Beyond this, a technological breakthrough, a change in methodology or values, or a financial imperative may from time to time allow or require more sweeping change. To achieve adequate and lasting cost reductions, it may be necessary to identify fundamental changes in the traditional structure and practices of some public programs—changes in the basic way communities go about achieving a public purpose. Such changes have occurred or are occurring, for example, as a result of the use of chemotherapy in treating

tuberculosis and in the deinstitutionalization of patients who have psychological problems. A deliberate strategy of seeking major cost-reduction and cost-limiting achievements through program innovations should be considered.

Recommendation 21

Clearly define state and local roles in the delivery of public services as well as improve efficiency through increased cooperation and coordination at the service-delivery level.

A key to the organization of the delivery of public services is accountability. Tradition is strong in the state for fixing it with general purpose governments—state, county, and city. The present challenge is to build on this established base and at the same time to respond to developments that call for innovative arrangements for reasons of economy and efficiency.

Most people in North Carolina would agree that primary and secondary education programs, for example, are best administered locally. At the same time, they would concur that their financing should be primarily a state responsibility and that the state should play a major role in setting statewide standards and requirements. Accepting this principle of the separability of administration, financing, and standard-setting places decision makers in a position to analyze the best arrangement for the administration, or the actual delivery, of public services.

One issue that must be addressed is state versus local administration. It is generally accepted that the latter, where feasible, is desirable. However, in some North Carolina programs, such as transportation and courts administration, a shift to state administration has proven to be effective. The underlying issue in this matter is decentralization and responsiveness. Local administration tends to put operational decision making closer to the point of service delivery and thus make it more responsive to local circumstances. On the other hand, state-administered programs can be effectively run on a decentralized basis, and locally administered programs can be inflexible or unresponsive to citizen needs.

A closely related issue is that of interlocal cooperation. As counties have increasingly provided traditionally municipal services in unincorporated areas and as urban areas have continued to grow, the issue of city-county cooperation in service delivery has taken on added import. In the interest of economy, purchase of service, consolidation of service, and similar city-county cooperative ventures must be

examined. Similarly, multicounty arrangements may be desirable to achieve economies of scale appropriate to some program areas.

A special case of interlocal cooperation involves local general-purpose government relationships with schools, special districts, and voluntary or nonprofit groups. For example, a fair method of ensuring adequate financial support for such essential services as are provided by fire and rescue squads and ensuring proper coordination with related agencies at the local level is a major priority, particularly in rural areas.

Interagency cooperation, at both the state and local levels, can be hampered by outmoded practices and regulations, poor communications, and bureaucratic competition. Potentials for sharing facilities, equipment, and even staff should be considered where feasible and in the public interest. Finally, purchase of service arrangements involving private sector vendors may offer increased economies in a broad range of both state and local programs and ought to be examined.

No scientifically "correct" solution exists for the problem of state/local or interlocal allocation of service delivery responsibilities. Each program in which the issue arises must be examined in the context of traditional relationships, current circumstances and capabilities, and the relative costs of specific alternative arrangements. As costs become an increasingly significant factor in the administration of public programs, public attention will focus on cost-effective service delivery arrangements.

PUBLIC FINANCE

State and local governments can debate endlessly the merits of shifting the costs for a given program back and forth between levels, but, as long as these costs remain the same or continue to rise, the general public receives little tax relief from these cost-shifting exercises. Furthermore, the means of achieving a public purpose have a way, over time, of becoming ends in themselves. A prime example was keeping tuberculosis hospitals open for economic or political reasons when it was unnecessary or counterproductive to patients' interests because of new treatment methods.

It cannot confidently be assumed that one best way has been found to achieve each public purpose that is sought. Alternatives may be just as workable and less costly. Particularly in an era characterized by rapid technological change, innovative and cost-effective approaches should be sought, in an organized and continuing process, and tested in pilot and demonstration programs.

Recommendation 22

Begin a major and continuing research and development effort directed at identifying more cost-effective ways of achieving agreed-upon public purposes.

Examination of funding formulas and mechanisms should be included within the scope of the research and development process. Unquestionably, funding patterns drive program activities. Payment for student enrollments and filled hospital beds yields student enrollments and filled hospital beds. Although it admittedly is more difficult to figure out how to pay for the end result of educated children and healthy people, some effort to link public program funding mechanisms to the ends desired—or at least to avoid rewarding those activities that do not necessarily support the ends that are sought—is worthy of consideration.

Some futurists might argue that an education system run on the schedule of an agrarian society and structured to serve the purposes of an industrial society could be modified to meet the needs of an emerging postindustrial society in a more efficient and cost-effective manner than currently prevails. Also, a system which incarcerates lawbreakers in an institutional setting that provides food, clothing, lodging, health care, and related services, while many of their victims live in substandard housing, ill-fed and lacking in needed services, seems somehow subject to improvement. Something is needed besides tinkering with costs at the margin or shifting them back and forth between levels of government. Applied research directed at achieving cost reductions is required.

Recommendation 23

Emphasize, where feasible, prevention rather than correction as a cost-effective alternative in dealing with costly public program issues.

It is less costly to identify and treat high-risk newborn infants than it is to maintain mentally retarded or crippled children in an institutional setting for their entire lives at public expense. Similarly, the cost of treatment for life-style diseases can be eliminated or reduced if intervention can be accomplished in time to maintain good health, rather than coping after the fact with unnecessary illness. Dealing with school dropouts can be more expensive than keeping children in school in the first place; the cost of maintaining an individual in a correctional facility is not less than maintaining one in a higher education facility, but the social outcomes are very

different. Rebuilding a road or replacing a building or piece of equipment is usually more expensive than proper maintenance.

The principle of prevention as a cost-effective alternative to correction is generally recognized and accepted. During difficult economic times, the short-term costs involved in this approach can sometimes overshadow the long-range benefits. A conscious and deliberate cost-prevention strategy should be devised and pursued where appropriate as one measure to control the increased cost of government programs.

Recommendation 24

Attract to and retain in the state and local government the best possible professional and managerial talent, recognize and reward excellence, and provide continuing training to improve performance and productivity in the public service.

As a rapidly growing state, which has a six billion dollar budget and is the tenth most populous in the nation, North Carolina has special needs. The goals of inspired leadership cannot be realized unless individuals in the career service possess the competence, dedication, and continuity that are needed to pursue and achieve the goals of citizens as expressed through their elected leadership.

By 1975, some 120 North Carolina cities, including all those whose populations were more than 10,000, used the council/manager form of government. Three-fourths of the counties employed the manager form. Professionalism in local government administration is the standard. It has been fostered by the specialized programs of the Institute of Government, combined with the graduate and specialized courses in public administration offered by higher education institutions.

Establishment of the Government Executives Institute in the School of Business of the University of North Carolina at Chapel Hill and the state's Public Manager Program represents efforts to professionalize the management capabilities of public executives. The use of business-oriented resources, as well as the combined participation of both state and local executives in such programs, lead to improved communication and cooperation between public/private sector and state/local government officials, in addition to improving management skills.

Staffing and management are undoubtedly the keys to productivity and cost control in any large organization. As costs become a more critical factor, it may be desirable to reexamine the full range of

personnel management practices in government. Staffing is the most significant cost element in state and local government, both in itself—in terms of salaries and benefits—and in its effect on all other costs. Instituting a comprehensive and effective human resources management system could contribute substantially to achieving the publicly endorsed goals of economy and efficiency in program management.

Ways should be sought to encourage the ablest graduates of the schools and universities to enter government. In an era when the last two U.S. presidents have run for office on antigovernment platforms, the image of public service is less than positive. National values or perceptions cannot be changed, but the state can take steps to ensure that its state and local governments attract and retain the ablest of those who choose to enter public service. Current achievements in training and development can be furthered, the contributions of career public officials can be recognized, and a professional public service system can be built that will serve state and local governments with pride and efficiency. The long-term trend at the local level and recent initiatives at the state level directed at professionalizing government management must be strengthened to take full advantage of emerging technology and management methods.

Recommendation 25

Use advanced technology to improve governmental productivity, including the interagency and intergovernmental sharing of information, equipment, and technology.

The bottom line for government is return on tax dollars invested in public services. Maximizing the return in both the private and public sectors is largely a function of productivity. The key to increased productivity, particularly in labor-intensive activities, which many government processes tend to be, is the proper application of technology and advanced management practices.

Government has experienced a period of sustained revenue growth and relatively plentiful resources over the past two decades. However, because of the slower growth rates now being experienced and that are anticipated for the foreseeable future, productivity reemerges as a priority concern. The state cannot afford to pursue every fad and invest in every gadget that comes on the market; neither can it afford the inefficient use of public resources in outmoded systems and procedures. The investment necessary to keep abreast of current technology and systems, and to adopt those that will improve efficiency and productivity in public sector programs and operations,

is required for the prudent management of public resources by state and local government.

One priority is fiscal data management. The state set standards for local financial management in the 1930s that have served as a model for the nation. The concepts and standards established at that time are still viable. The technology for maintaining current, comprehensive, and accurate data on the fiscal capacity, condition, and requirements of local government is currently available but is not being utilized. A fundamentally different era in public finance has now arrived, particularly as it relates to intergovernmental financial relations. The application of current information systems technology to both state and local fiscal data management would contribute substantially to better-informed decisions on matters related to state-local finance.

In a democracy, the rights of individual citizens must be a central and continuing concern. In applying new information technology in public programs, due concern should be given to their right to privacy. Computer dossiers on individual citizens are closer to George Orwell's 1984 than they are to the U.S. Constitution. Balancing the need for accurate and complete information to administer public programs with the privacy rights of individuals will be an increasingly serious public policy issue.

Goal X

To Establish and Maintain Adequate and Equitable Means for Supporting Necessary Public Functions

Organizations, including governments, obviously cannot function effectively without funds adequate to carry out their responsibilities. Over the past several decades, governments have taken increasing shares of the national wealth, chiefly through the interaction of inflation and a progressive tax system. Assuming this trend does not continue, redefining what constitutes necessary public functions and establishing an equitable way to provide adequate resources to carry them out effectively poses a serious public decision issue.

The manipulation of revenue mechanisms to achieve desired social or economic purposes is a crosscutting issue that requires careful consideration. In simple conceptual terms, the subsidization of a group or an activity can be accomplished in one of two ways: collecting the same taxes from everybody and giving money back to those being subsidized (a regular expenditure); or collecting less taxes from those being subsidized (a tax expenditure). In either case, it is a

public outlay; revenues otherwise available for general public purposes are being used to subsidize a particular group or activity. A cash payment to a welfare recipient subsidizes poor people; a mortgage interest tax deduction, homeowners. Both these mechanisms are perfectly appropriate and commonly used. However, it must be recognized that increased tax exemptions in one area will require either increased taxes or decreased expenditures in other areas.

Recommendation 26

Ensure, through a combination of tax and revenue authority and financial aid, that local governments have funds adequate to meet their fiscal responsibilities.

Because the tax base and capacity vary considerably among governmental jurisdictions, to the extent that public services must be financed from local revenues, the provision of public services may be unequal among local units of government. North Carolina is unusual in the extent to which financial and, for some programs, administrative responsibility for public services has been shifted to the state, which pays for them through statewide taxes. The benefits of this centralization are, first, that these public services are available without regard to the ability of local units to finance them and are therefore provided more nearly equally than if they were financed through local taxes.

Second, the statewide revenues used to provide these services are collected from all citizens according to their ability to pay, but disbursed according to need. In this way, taxpayers in wealthier areas help to furnish services provided by units that are less able to finance them. Finally, the shift to state financing has helped to keep property and other local taxes moderate, and the property tax has been reserved largely for supporting public services that are essentially local in nature.

Property-tax rates will likely come under additional pressure in the future unless the state provides additional tax sources, shares its revenues, or takes over financial responsibility for some local expenditures. Fiscal pressure is likely to be greatest on county governments. As the chief deliverers of human services, they bear a heavier burden as population increases and federal and state human services funding is cut back or fails to keep pace with rising costs. Intensified growth outside established municipal limits also requires counties to provide more urban services in unincorporated areas.

Recommendation 27

Formulate and use to the extent feasible nontax alternatives to support public enterprise functions.

This recommendation addresses three principal alternatives to taxation: user fees; financing; and nonmonetary resources, such as volunteer and private sector initiatives. User fees involve underwriting the cost of a public enterprise by imposing a fee on the direct beneficiary of a particular service, such as that of a ferry or toll bridge. Only those services where the direct beneficiary can be clearly identified are subject to this approach. Issues of accessibility to public services for those unable to pay, as in the case of tuition at public higher education facilities, and the cost-benefit of collecting the fee, as in the case of staffing a public boat launching site to collect fees, impinge on the user-fee issue.

Citizens sometimes complain about being charged a fee for a "public" service, and contend that, that by definition, it should be tax supported. Yet the user-fee concept is clearly established and commonly used in relation to such services as water, sewer, and commercial trash collection. The degree to which user-specific services, such as mass transit, are tax-subsidized in the general public interest or self-sustaining based on fees for users can be controversial. A deliberate and well-informed treatment of user fees is essential in addressing public finance, at both the state and local levels.

Debt financing of capital projects distributes the cost of a public facility over its life. Cost escalation can make the current dollar net cost of a debt-financed facility less than that of one which is deferred for financing out of future cash flow. For reasons of equity and economy, the proper role of debt financing must be considered in the overall government revenue picture. Local governments in particular have taken a relatively conservative stance regarding use of their debt capacity, which may need to be reevaluated in terms of meeting operational expenditures out of current revenues and distributing capital costs over the useful life of capital projects. State-sponsored "bond banks" and other technical innovations in debt financing can help lower local government costs for capital projects.

Where appropriate, volunteer services and other nonmonetary resources, such as private sector participation in joint public-private ventures, can play a substantive role in providing public services and benefits if properly organized and managed. Such resources, however, are not "free." They have a definite cost-benefit relationship, and the initial cost in organizing and maintaining systems for constructive

voluntary and private sector participation must be underwritten in order to realize the potential benefits of this type of support.

Recommendation 28
Review and revise as appropriate tax policies and procedures
to ensure fair and adequate tax systems.

The equity of a tax system is usually viewed in terms of two principles of taxation: the benefits and ability-to-pay principles. According to the first of these, citizens and businesses should pay taxes according to the benefits they receive from public services. This approach is feasible if the benefits can be assessed and if a roughly appropriate tax or charge can be devised. It is generally accepted that, to finance programs whose benefits accrue generally to the public and that cannot be allocated to certain individuals or businesses, taxes should be collected according to taxpayers' ability to pay.

The latter concept has figured prominently in the evolution of the state's tax system. Even the nineteenth-century system of property taxes, which is largely in place today, was based on this approach—though wealth, not income, was considered to be the measure of ability to pay. North Carolina, in 1921, was one of the first states to adopt a modern personal-income tax with a progressive rate structure and a system of exemptions and deductions to account for differences in taxpayers' financial capability. Today, the progressive income tax is the primary means for achieving equity among individuals of different income levels. And, because the revenues from this tax as well as other taxes are used to finance health, education, welfare, social services, and other public services across the state, it also serves to achieve more equality in the provision of services.¹³¹

Following is a listing and brief discussion of some of the major long-term public finance issues:¹³²

A. State Personal-Income Tax

1. *Should the personal-income tax rate structure be adjusted regularly to account for inflation or to reduce growth in revenues?* The current rates and structure, which have not changed since 1937, cause taxpayers to pay a higher percentage of their income in taxes even when, because of inflation, their real incomes do not increase. The fundamental issue here is whether or not in the long term taxes should continue to grow as a proportion of income. An alternative approach is to leave

income-tax rates as they are but to reduce growth in other state and local taxes.

2. *Should the income-tax rate structure be made more progressive by additional rates on higher levels of taxable income?* The highest rate is 7 percent of taxable income above \$10,000, but the state constitution authorizes a figure up to 10 percent. Higher rates would make the tax more progressive. However, the effective rate of the income tax is already relatively large compared with those in other states. Some people feel that still higher rates would create disincentives to work and save.
3. *Should changes be made to improve equity among persons with the same income levels?* Certain provisions of the tax violate the concept that taxpayers who have equal ability to pay as measured by income should pay similar taxes. For example, renters pay more taxes than homeowners because the latter may deduct mortgage interest and property taxes; and the first \$3,000 of military retirement pay is exempt. Inequities also tend to arise when the income tax is used to benefit certain groups or to provide incentives intended to stimulate social objectives, such as investment in energy-saving equipment or facilities for the handicapped. A concern is that the income tax may eventually offer so many special provisions (often regarded as "loopholes") that people will come to feel that it is unfair.

B. General Sales Tax

1. *Should food sales be included in the sales-tax base?* The exemption of food from the tax base was repealed in 1961 to provide additional revenues for public schools. Some citizens object to taxing such a basic necessity as food even though housing, also a basic necessity, is taxed at much higher rates under the property tax. Other people contend that the tax is regressive, falling more heavily on the poor. Although it is somewhat regressive, repealing it would not substantially change the overall pattern of incidence of state and local taxes, and its regressiveness is offset by the progressivity of the state income tax. If North Carolina should choose not to tax food sales, a solution that would maintain revenues

would be to eliminate food from the base but increase the tax rate on other taxable items.

2. *Should the sales-tax rate be increased to provide additional revenues for the state and/or local governments?* The state sales-tax rate has remained at 3 percent since it was enacted in 1933. For more than a decade, counties have enjoyed the option of placing an additional 1 percent tax piggyback on the state tax (the local tax is collected by the state and returned proportionately to each participating county and the municipalities within its borders). Current proposals would increase the authorized local-option tax rate or raise the state rate for various statewide uses. The sales tax of thirty states is higher than that of North Carolina, and some states authorize local rates of as much as 5 percent; at the same time, many states do not tax food, and some do not provide for a local sales tax.

C. Property Tax

1. *What kinds of property should be included in the property-tax base?* North Carolina's property-tax base is a holdover from the mid-nineteenth century, when the prevailing concept of equity in taxation was that levies should be made on all types of property. Thus, the property-tax base includes real property as well as intangible property (stocks, bonds, and cash in saving accounts); personal property, such as business inventories and household furnishings; and personal belongings, such as cameras and jewelry. The original purpose in taxing personal property was to assure that relatively wealthy merchants and those who owned stocks and luxury items like carriages, pianos, and jewelry paid their fair share of taxes. Today, ownership of property, particularly personal property, bears little relationship to ability to pay, and taxation of incomes has replaced that on property as the primary means of taxing according to ability to pay. Levies on such personal property as jewelry and furniture are not only anachronistic but also, because they are essentially assessed by the taxpayer, amount to a tax on honesty.
2. *How should the property-tax base be adjusted to account for changes in property values?* Under the present

system, most real property is revalued every eight years while property owned by public utilities is valued annually. As a result, every eight years the tax burden shifts, upon revaluation, from annually valued to octennially valued property, even when tax rates are adjusted downward to offset the increase in total assessed valuation. This shift often causes homeowners' and farmers' tax bills to rise substantially and causes considerable distress among taxpayers. Possible solutions to this problem include annual adjustments in assessed value of real property based on estimates of annual increases in values or separate taxation of different classes of property.

3. *Should the property tax be related to ability to pay?* Under the current system, property taxes are levied without regard to ability to pay except that a homestead exemption is available to retired persons whose incomes are low. It is not uncommon, especially after the octennial revaluation and in the case of property that has become valuable for commercial uses, for property-tax liabilities to escalate beyond the ability of some people to meet them. One widely adopted solution to this problem is a circuit-breaker system by which no one has to pay property taxes in excess of a certain percentage of income. If the tax exceeds this percentage, the state pays the local government the difference from state tax collections.

D. Gasoline Tax

1. *Should tax revenues from the per-gallon gasoline tax be supplemented by a percentage-of-price gasoline tax or by revenues from other sources?* Because the gasoline tax is based on the number rather than the value of gallons sold, the effective rate of the tax has fallen sharply. Gasoline tax revenues have grown very slowly in the last decade, and, because the Highway Fund is financed chiefly from the gasoline tax, expenditures on highways supported by this tax have increased much less than any other major category of spending. Whether the tax should be increased or changed depends on whether the state wants to increase the resources available for highway construction and maintenance, two important needs. Although capital requirements for the highway system are still great, few complete new highways are required.

On the other hand, the needs are extensive for widening, bypass, missing link, bridge replacement and rehabilitation, safety improvement, and capacity increase. An efficient highway network is imperative if the state's economy is to continue to grow.

Notes

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