

REPORT OF  
THE GOVERNOR'S RAIL TASK FORCE



TO GOVERNOR JAMES G. MARTIN

January 1993

Based on Executive Order Number 71

REPORT OF  
THE GOVERNOR'S RAIL TASK FORCE

TO GOVERNOR JAMES G. MARTIN

January 1993

Based on Executive Order Number 71

James G. Martin, Governor

State of North Carolina Department of Transportation

Thomas J. Harrelson, Secretary

Public Transportation & Rail Division

David D. King, Director

---

## **G**overnor's Rail Task Force

*Term of office*

James M. Peden, Jr., *Chairman* .....January 1, 1991 to present  
Edward S. Goode, *Vice Chairman* .....January 1, 1991 to present

*Members*

*Term of office*

John M. Alexander .....March 13, 1991 to present  
Donald R. Billings .....March 11, 1988 to present  
Jerome W. Bolick .....March 11, 1988 to present  
Joanne Bowie .....May 22, 1991 to present  
Alex Bowness .....March 11, 1988 to January 9, 1991  
Dorothy R. Burnley .....March 11, 1988 to present  
Howard Clement, III *Chairman*: .....March 11, 1988 to January 9, 1991  
*Member*: .....January 9, 1991 to present  
Frank A. Daniels, III .....March 11, 1988 to June 6, 1990  
Thomas W. Dayvault .....March 11, 1988 to present  
Roger Dick .....March 13, 1991 to present  
Elwood Goodson .....March 11, 1988 to January 1, 1991  
William H. Kincheloe .....March 11, 1988 to present  
Richard D. Messinger .....March 11, 1988 to present  
Suellen Myrick .....March 11, 1988 to present  
H. Allan Paul .....March 11, 1988 to July 1, 1992  
Ralph E. Reardon .....March 11, 1988 to present  
Frank A. Rouse .....March 11, 1988 to January 9, 1991  
E. Steven Stroud *Vice Chairman* .....March 11, 1988 to January 9, 1991  
*Member*: .....January 9, 1991 to present

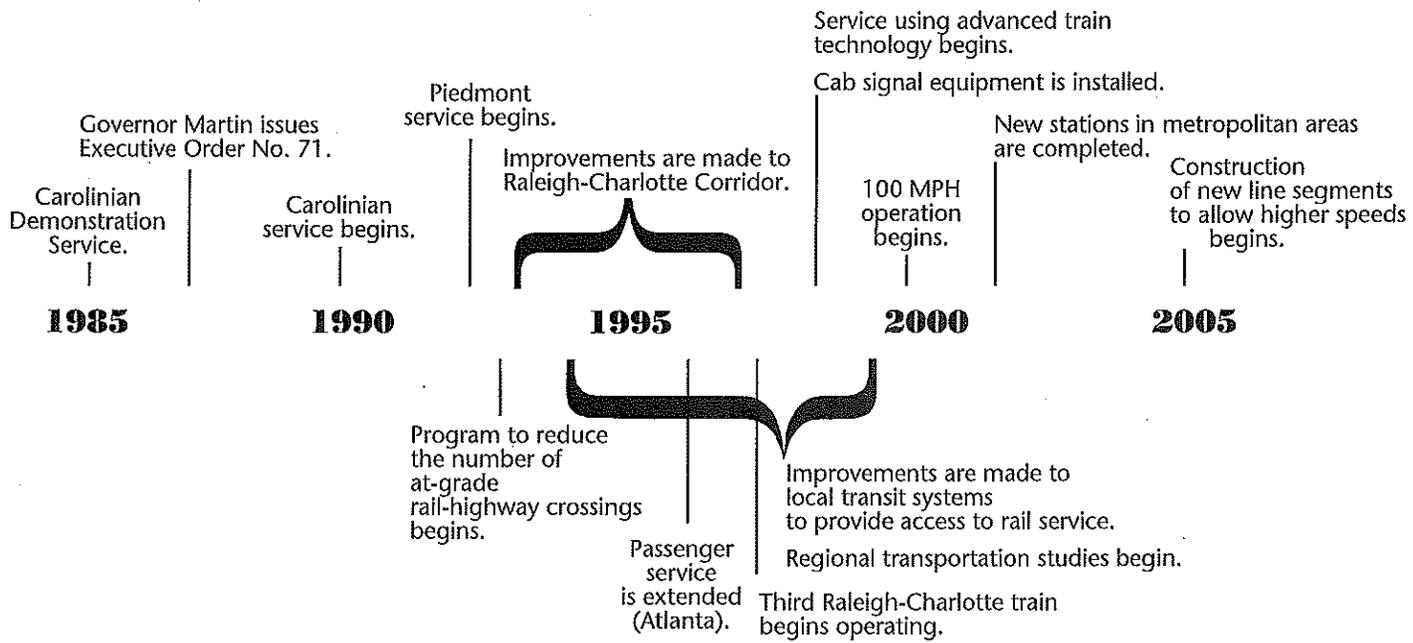
---

## TABLE OF CONTENTS

	Page
<b>Executive Summary</b> .....	1
<b>Introduction</b> .....	2
History of the Task Force .....	2
Purpose of this Report .....	2
Changes in Land Use Would Foster Rail Passenger Transportation .....	3
<b>An Examination of North Carolina's Rail Passenger Needs</b> .....	3
Studies Conducted by the Task Force .....	3
The Rail Route From Rocky Mount to Charlotte .....	3
The Demand for Passenger Service .....	3
<b>Accomplishments of the Task Force</b> .....	4
New Passenger Train Service Has Been Established in North Carolina .....	4
Additional Raleigh-Charlotte Service Will Be Established Soon .....	5
Contract Operation of Service With Amtrak Should Continue at Present .....	5
<b>A Program of Action for 1993-1994</b> .....	6
Establishment of a Permanent Rail Council Is Essential for Continuity of Policies and Programs .....	6
Train Speeds Can and Should Be Increased .....	7
The Task Force Recommends Improving the Raleigh-Charlotte Route .....	8
Existing Rail Stations Need Improvements .....	9
Intermodal Stations .....	10
Crossings Improvements Should Enhance Safety .....	10
Amtrak's Food Service Should Be Improved .....	11
Highway Directional Signs for Train Access .....	11
New Feeder Services .....	11
<b>North Carolina Railroad Map</b> .....	12-13
<b>A Program of Action for 1995-1997</b> .....	14
Service Extensions Should Be Studied .....	14
Connections With Other Public Transportation Services .....	15
Further Rail Studies .....	15
<b>A Program of Action for 1998 and Beyond</b> .....	16
The TRB Report on High Speed Passenger Service .....	16
The Route from Raleigh to Charlotte Has Been Designated as a High Speed Railroad Corridor by the Federal Railroad Administration .....	18
North Carolina Should Adopt an Incremental Approach to High Speed Rail .....	18
<b>An Examination of North Carolina's Rail Freight Needs</b> .....	20
Importance of the State's Rail System .....	20
Government Regulation Should Strive for Equity Among Modes .....	21
Short Line Railroads Will Require Special Treatment .....	21
Essential Rail Corridors Should Be Preserved .....	22
Adequate Funding Is Required .....	23
Cumulative Running Time Improvements Chart .....	25

*Cover photo: One of North Carolina's two GP40H-2 locomotives that were delivered in December 1992. The locomotives were manufactured by the ElectroMotive Division of General Motors at La Grange, Illinois and were remanufactured to North Carolina's specifications by AMF of Montreal, Canada. Each 3000 horsepower locomotive has a separate engine and generator to provide 425 kW of hotel electric power to the train.*

**Timeline: Accomplishments and Projected Program of Action**



---

## EXECUTIVE SUMMARY

On March 11, 1988, the Governor's Rail Task Force was formed to study the present, near-term and future needs for rail transit service connecting major cities of North Carolina. The Task Force determined that there was a demand for new passenger train service between Rocky Mount, Raleigh and Charlotte and worked with Amtrak to institute this service. The Carolinian, a New York - Charlotte train (operated under Section 403(b) of the Rail Passenger Service Act) began operating on May 12, 1990. Ridership on this train has exceeded all expectations. Operating arrangements for an additional train, the Piedmont, between Raleigh and Charlotte are now being negotiated with Amtrak. The Piedmont will be scheduled to depart Raleigh in the morning and return from Charlotte in the late afternoon.

In reviewing the status of North Carolina's passenger train service, the Task Force noted where improvements were needed. In order to reduce the probability of accidents at grade crossings, it is advised that the state should adopt an aggressive program to signalize, grade-separate or close crossings on passenger train routes. While stations are located in the central business districts of the cities, an ideal arrival and departure point, the facilities need to be upgraded. Improvements need to be made beginning with the stations on the Carolinian's route from Rocky Mount through Raleigh to Charlotte since this route serves over half of the state's population. It was advised that the Department of Transportation should continue to promote and press for intermodal stations wherever they are feasible.

It was decided that in order to meet the Task Force's near-term goal of reducing the Raleigh-Charlotte train schedule time (including stops) to three hours, a program of improvements must be undertaken using funding provided through the Intermodal Surface Transportation Efficiency Act of 1991. Other near-term improvements that will be pursued include operation of a dedicated bus or van service between Greensboro and Winston-Salem. As soon as possible, additional train service on fast schedules should be offered between Raleigh and Charlotte and service on one train should be extended from Charlotte to Atlanta.

On October 20, 1992, the Federal Railroad Administration announced the designation of the rail route from

Washington to Charlotte through Richmond and Raleigh as a high speed rail corridor under Section 1010 of the Intermodal Surface Transportation Efficiency Act. North Carolina will use its funding to improve or eliminate grade crossings between Raleigh and Charlotte. In the long term, designation of the corridor as a high speed route may be more important for future development than the relatively meager funding provided through Section 1010.

Continued study should be given to new high speed ground transportation technologies that could meet intercity passenger demand with a more energy efficient, less environmentally detrimental and safer alternative to expanded highway networks or airports. Land use policies that lead to higher densities of population will tend to foster the development of such systems. "High speed" rail service will come to North Carolina incrementally and first between Raleigh and Charlotte. Conventional equipment can operate at speeds up to 90 MPH. Beyond that speed, new equipment capable of traversing curves safely at higher speeds on the existing track alignment would be needed. If warranted, the next step would be to construct a new railroad, possibly along the right of way of an interstate highway. If service nonstop from Raleigh to Charlotte is ever justified, then a new railroad on a new, relatively straight alignment between these two cities should be constructed.

It is important for economic development to preserve and maintain the state's rail network. Placing the rail industry on a "level playing field" with the other transportation modes, most notably highways, should be a goal of the state's transportation policies. Short line railroad formation is the preferred method of preserving service on light-density lines. Where continued rail operation cannot be justified, the rail corridors should be preserved for future transportation uses. Funding for short line assistance and corridor preservation could come from the proceeds from the sales tax on rail-related items purchased by railroads, an estimated \$2.6 million annually.

The Task Force recommends that a Rail Council be established within the Department of Transportation to develop and promote programs to benefit rail passenger and freight service across the state.

## INTRODUCTION



*Rail Task Force members (from left to right) Howard Clement, Don Billings, Dick Messinger, Ralph Reardon, Tom Dayvault, Jim Peden, Joni Bowie, Ed Goode (Photo: N.C. State Ports Authority)*

### History of the Task Force

Executive Order Number 71 was issued March 11, 1988, establishing a 15-member Governor's Task Force on Rail Passenger Service. The Task Force included representatives from most of the state's major metropolitan areas, including Durham, Wake, Mecklenburg and Guilford counties. Later, the name of the Task Force was changed to the Governor's Rail Task Force in recognition of the its involvement in other rail issues, such as rail corridor preservation and rail freight service.

Executive Order 71 mandated that the Rail Task Force study the "present, near-term and future needs for rail transit service connecting major cities of North Carolina." The Task Force was also instructed to prepare a report to Governor James Martin early in 1989.

It focused on present opportunities and made the following recommendations:

- 1) Essential rail corridors should be preserved for future rail passenger and freight transportation use. Various methods and funding mechanisms were suggested.
- 2) Passenger train service should be provided between Raleigh and Charlotte, with a connection to the national Amtrak system. Demand was determined to be high, and the Task Force saw important benefits in offering an alternative to air and highway transportation.

The report emphasized that a long-term commitment to the new service should be made, including an evaluation of how travel times should be reduced and how customer expectations for service and comfort should be met.

### Purpose of this Report

Executive Order Number 71 mandated the study of both present, near-term and long-term rail passenger needs. In its 1989 interim report, the Task Force focused on present opportunities, many of which have been successfully implemented. These include reestablishment of the Carolinian service and allocation of funding to protect rail corridors.

This "blueprint" report focuses on near- and long-term opportunities for improving rail transportation in the state. It includes suggestions for future rail passenger service expansions and track, station, and operating improvements. A proposed strategy for increasing passenger train speeds is discussed as are recommendations for funding and administering rail passenger programs. Also proposed are ways to assist North Carolina's rail freight industry.

## Changes in Land Use Would Foster Rail Passenger Transportation

Many people point to Europe's fine network of passenger train services as a model to be followed in the United States. The ease of travel by passenger train in Europe and the ability to transfer between modes is unparalleled in the world. In the near future, North Carolinians will be able to benefit from the creation of intermodal transportation centers in several major cities, but the volume of passenger train service found between European cities cannot be developed here without major changes in land use and transportation policies. Mass transportation systems depend upon gathering enough passengers to make operation of a vehicle or train economically feasible. Land use policies that lead to higher densities of population will tend to foster the development of such systems.

Cities and towns control development and zoning within their jurisdictions. They should be encouraged to consider the benefits of guiding growth to discourage sprawl. Where cities are in close proximity, a regional approach to planning is needed. Cities in a region must consider the effects of their policies on each other and the surrounding area, not just their own needs. "Regions" that are emerging in North Carolina include Raleigh-Durham-Chapel Hill, Greensboro-Winston-Salem-High Point, and metropolitan Charlotte. The state should assume a leadership role to support and coordinate regional planning as these areas develop.

## AN EXAMINATION OF NORTH CAROLINA'S RAIL PASSENGER NEEDS

### Studies Conducted by the Rail Task Force

The Task Force's Interim Report discussed the results of the Task Force's studies in detail. Following is a description of each study and a summary of the results.

#### *The Rail Route From Rocky Mount to Charlotte*

The state hired Wilbur Smith Associates to conduct a survey of the Rocky Mount-Charlotte route and identify improvements that could be made to reduce running times. The report, completed in October 1990, recommended that no improvements be made between Rocky Mount and Selma. The potential improvements that could be made to the Selma-Raleigh, Raleigh-Greensboro and Greensboro-Charlotte segments are detailed on page 25.

#### *The Demand for Passenger Service*

The state contracted with the UNC Institute for Transportation Research and Education to conduct a study of the demand for rail passenger service. Drs. Eric Pas and Joel Huber of Duke University led the study team and produced a report that estimated the demand for single and multiple frequency service in the Piedmont Crescent between Raleigh and Charlotte. They also developed a model for predicting ridership with various combinations of train services and fares. The report predicted that the basic service would easily exceed the Task Force's suggested 40 percent cost recovery goal for new services.



Raleigh, N.C.

## ACCOMPLISHMENTS OF THE TASK FORCE



*The Carolinian*

### **New Passenger Train Service Has Been Established in North Carolina**

Early in its tenure, the Governor's Rail Task Force recommended that twice-daily passenger train service be restored between Raleigh and Charlotte and that one train be connected with Amtrak's national rail system. North Carolina approached Amtrak with the Task Force's request, and Amtrak agreed to operate one train, under Section 403(b) of the Rail Passenger Service Act, between Rocky Mount and Charlotte which would have through cars to and from New York City handled on the Palmetto north of Rocky Mount. Section 403(b) allows Amtrak to operate service requested by states. The cost of providing the equipment and operating the train is shared by Amtrak and the state. After a train's first year of operation, 65

percent of the train's operating loss is paid by the state. The request for a second Raleigh-Charlotte train was denied. On May 12, 1990, the Carolinian made its first trip. The schedule called for the train to leave Charlotte northbound in the morning and pass through Raleigh southbound in the late afternoon, thus providing same-day round trip service to Raleigh from the central Piedmont.

From its inception, the Carolinian's ridership exceeded projections made by both Amtrak and the state. The service began as a three-car train but it was soon lengthened to four cars, then five as the summer peak-travel season began. Due to the train's success, it was rescheduled to operate independently of the Palmetto between New York and Charlotte beginning on April 7, 1991. For the

July 1, 1991 to June 30, 1992 fiscal year, the Carolinian carried 147,812 passengers in North Carolina, a 19 percent improvement over the 124,184 passengers carried in the train's first year of operation. For the 1992 fiscal year, total revenues earned by the Carolinian in North Carolina were \$2,183,153. Passenger revenues covered 62 percent of the cost of the train's operation, and the state's contribution amounted to \$1,035,299 (or \$7.00 per passenger carried), \$400,000 less than Amtrak had projected.

### **Additional Raleigh-Charlotte Service Will Be Established Soon**

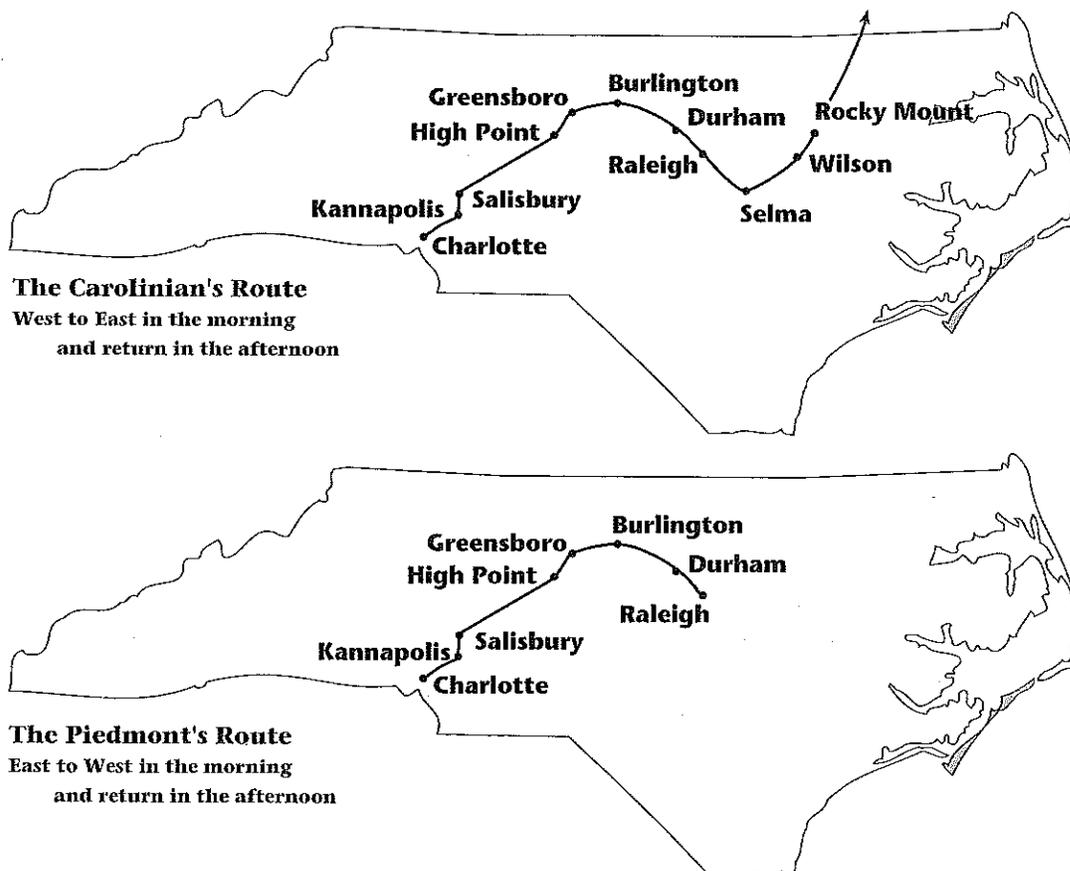
Due to constraints imposed by a lack of sufficient federal funds for many years, Amtrak was unable to supply additional cars and locomotives to operate the second Raleigh-Charlotte train (to be named the Piedmont) desired by the Task Force. Early in 1990, the Task Force began investigating the possibility of the state's supplying new or refurbished equipment for this train. The group was not convinced that buying new cars at \$1.2 million each was economically prudent when used equipment could be purchased and refurbished for half that amount. Five coaches were purchased from the Chicago and North Western Railroad in December 1990. EDA, Incorporated, was hired in July 1991 to develop the specifications for refurbishment of the coaches, and in January 1992 a contract for the work was awarded to Delaware Car Company. The refurbishment was completed in December 1992.

The Task Force also evaluated locomotive options and determined that a rebuilt locomotive offered the best value. In April 1992, a contract was awarded to AMF of Montreal, Canada, to supply two rebuilt 3,000 horsepower ElectroMotive Division GP40H-2 locomotives. The locomotives were received in October 1992 and are capable of operating at speeds up to 100 MPH.

As of the date of this report, contractual details to allow operation of the Piedmont are still being negotiated with Amtrak. This train will be scheduled to depart Raleigh in the morning and return from Charlotte in the late afternoon.

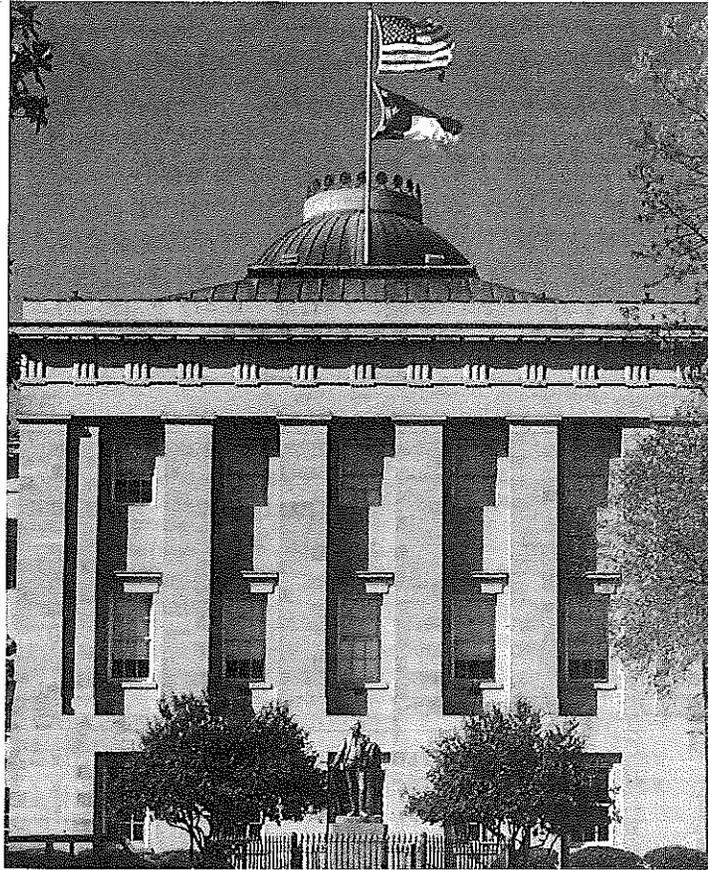
### **Contract Operation of Service with Amtrak Should continue at present**

All of the train operations and expansions discussed assume that the rail service would be operated by Amtrak. By law, the right to operate intercity passenger train service is granted to Amtrak alone. Operation by Amtrak has many advantages, but it also restricts the state's control of the service and fares. If it wished, the state could challenge Amtrak's monopoly in court or attempt to have the law changed. The Task Force recommends that the state continue to work with Amtrak unless this arrangement hinders the provision of service at a level of quality that would be needed to attract more riders.



---

## A PROGRAM OF ACTION FOR 1993-1994



*North Carolina Capitol*

### **Establishment of a Permanent Rail Council is Essential for Continuity of Policies and Programs**

The Public Transportation and Rail Division of the North Carolina Department of Transportation is responsible for implementing rail freight and passenger programs. The allocation of funding for rail programs is determined by the North Carolina Board of Transportation, whose primary focus is on highway construction and maintenance. Since 1988, rail policies and strategic planning have typically been initiated by the Governor's Rail Task Force. The continued future of the Rail Task Force is uncertain since subsequent administrations must take the initiative to sustain it.

The Governor's Task Force is concerned that ongoing rail policy and strategic planning continue and recommends the establishment of a permanent council with exclusive responsibility for developing rail policy, conducting strategic planning, allocating funding, directing rail research and development projects and establishing rail engineering study programs in our universities.

Legislation proposing the creation of a Rail Council within the Department of Transportation is currently being drafted and is supported by the Department of Transportation.

The Rail Council would be responsible for:

1. Advising the Governor, Secretary of Transportation, Board of Transportation and the General Assembly concerning preservation and enhancement of the state's rail system.
2. Designating a Strategic Rail System with the North Carolina Railroad as its foundation.
3. Recommending funding sources and levels to the Board of Transportation.
4. Recommending the distribution of financial assistance for revitalization of railroads and conservation of railroad corridors.
5. Assisting in the preservation of the rail system through branch line rehabilitation and corridor acquisition by the Department of Transportation.
6. Advising the Department of Transportation on the reinvestment in the state's rail system of the annual dividends received by the state from its ownership of stock in the North Carolina Railroad and appropriated in G.S. 136 16.6.
7. Promoting and assisting in the preservation of rail access to the facilities operated by the state Ports Authority.
8. Promoting and assisting in the preservation of rail access to passenger and cargo airport facilities.
9. Promoting rail research and development projects and the establishment of programs of railroad engineering at North Carolina's universities.
10. Performing any other duties relating to public transportation and rail which the Secretary may refer to it.

The proposed composition of the Rail Council is 18 members: 14 appointed by the Governor, 2 appointed by the President Pro Tempore of the Senate, and 2 appointed by the Speaker of the House.

### **Train Speeds Can and Should Be Increased**

In 1989, the Task Force recommended new train service between Raleigh and Charlotte with the requirement that the former 3-hour, 59-minute travel time be improved. Highway improvements had brought the trip time by automobile to approximately three hours, and the Task Force wanted the train trip time to be comparable or better. Before the service began, the state hired Wilbur Smith Associates to conduct a survey of the Rocky Mount-Charlotte route and identify improvements that could be made to reduce running times. The report, completed in October 1990, recommended that no improvements be made between Rocky Mount and Selma. The potential improvements that could be made to the Selma-Raleigh, Raleigh-Greensboro and Greensboro-Charlotte segments are detailed in the table on page 25.

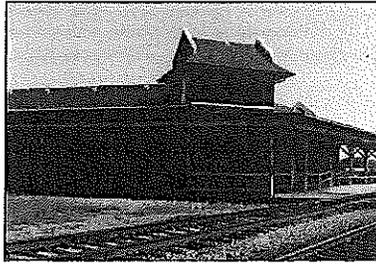
## The Task Force Recommends Improving the Raleigh-Charlotte Route

The Task Force decided to place first priority on improvements in the Raleigh-Charlotte segment. North Carolina's most heavily-traveled transportation corridor extends along highways I-85 and I-40 from Raleigh and Durham through Greensboro to Charlotte. The corridor links seven urbanized areas, four of which fail to meet air quality standards.

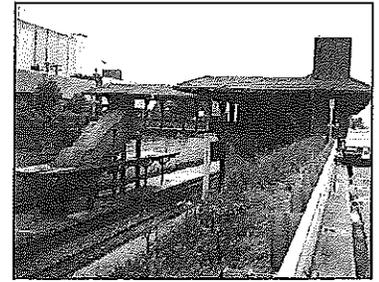
Approximately half of the state's population now resides within a band extending 15 miles on either side of this corridor. Congestion and air quality problems will be exacerbated by increased automobile traffic and highway reconstruction along this corridor.

The study conducted by the UNC Institute for Transportation Research and Education showed that shorter travel times should be offered in order to attract travelers who now use their automobiles. Eventually, one economic benefit of providing passenger train service will be realized when it is no longer necessary to build additional highway lanes to accommodate travel demand. The Northern Virginia Transportation Commission has determined that providing long-distance commuter service will eliminate the need to add an additional north- and southbound lane to highway I-95 between Fredericksburg and Washington. The same benefit could be realized in North Carolina. Commerce would be well-served by effectively "making the state smaller" by reducing travel times.

In order to reduce the Raleigh-Charlotte running time to three hours, the following improvements (dubbed "Rail-Impact") will be needed:



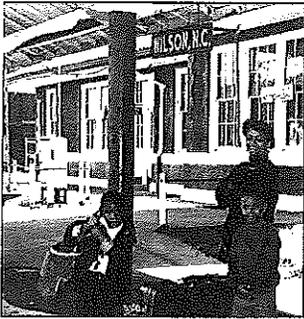
Selma, N.C.



High Point, N.C.

1. Increase speeds through cities and towns.  
When the report was prepared, the cities of Raleigh, Cary, Durham, Graham, Mebane, Burlington, Elon College, Gibsonville, High Point, Thomasville, Lexington, China Grove and Landis had city ordinances limiting train speeds within their corporate limits. At the state's request, Raleigh, Durham and High Point repealed their ordinances. Numerous court decisions have shown that local ordinances are superseded by federal laws governing train speeds, and the Task Force recommends that speeds be increased through the remaining towns. Crossing signals that were installed in the towns in past years were set to correspond with the town speed limits, and the activating circuits must be changed before higher speeds can be achieved. Improvements will cost approximately \$731,000 and will result in a time savings of 17 minutes.
2. Realign track switches and install a higher-speed switch in Cary.  
Passenger trains must slow to 50 MPH when moving from single to double and double to single track at eight locations between Greensboro and Charlotte. The switches at these locations are equilateral turnouts and require all trains to take a diverging route at each switch. These turnouts may be realigned so that all of the diverging angle is on one side. The straight side may be traversed at 79 MPH. Passenger trains are limited to 25 MPH when traversing a switch at Cary. Installation of a new switch with a reduced angle would allow a speed of 45 MPH. Improvements will cost approximately \$600,000 and will result in a time savings of 4 minutes.
3. Increase the amount of superelevation on curves.  
On curved track, one rail is made higher than the other; the difference in heights is called superelevation. Increasing the superelevation in curves will permit higher speeds for trains traversing the curves. Improvements will cost approximately \$1,250,000 and will result in a time savings of 4 minutes.
4. Install a signal system between Greensboro and Cary.  
Federal law limits passenger train speed to 59 MPH in the segment from Greensboro to Cary where there are no block signals to govern the movement of trains. Installation of a signal system would allow a maximum speed of 79 MPH. Powered switches at the ends of four passing sidings would facilitate meeting and passing trains and allow maximum flexibility in the use of the track. Improvements will cost approximately \$7,000,000 and will result in a time savings of 12 minutes.

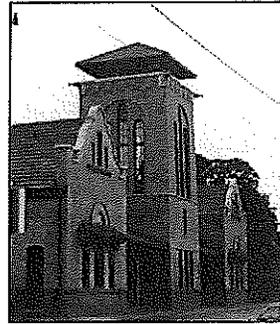
The estimated cost of these four projects is \$9.6 million. The Task Force recommends that the state enact the improvements, giving appropriate consideration to safety factors. The state should pursue the use of Surface Transportation Fund moneys made available in the Intermodal Surface Transportation Efficiency Act in order to accomplish this work in the shortest possible time. In June of 1990, the Board of Transportation approved these projects as part of the Statewide Transportation Improvement Program. In future years, other improvements such as curve realignments between Raleigh and Charlotte and improvements east and north of Raleigh should be considered.



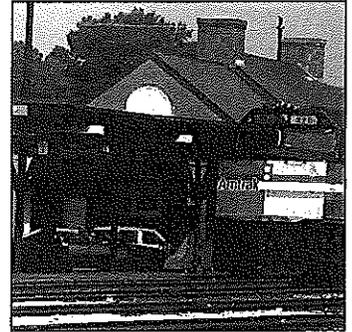
Wilson, N.C.



Kannapolis, N.C.



Salisbury, N.C.



Raleigh, N.C.

### Existing Rail Stations Need Improvements

Passengers' impressions of a city as well as the rail service they are to use are shaped by the station facilities with which they are provided. Many North Carolina cities are served by only two trains per day, and some cities on the Carolinian's route had no passenger service at all for many years. As a result, station facilities are now rudimentary at best. A positive feature, however, is that stations are located in the central business districts of the cities, an ideal arrival and departure point.

Stations with Amtrak ticket agents along the route of the Carolinian are located in Rocky Mount, Raleigh, Greensboro and Charlotte. This minimum level of service should be continued. Amtrak's current policies do not allow for the provision of ticket agents until passenger volumes are quite high. For the next ten years, it is most likely that the addition of a travel agency at stations will be the only way ticket sales may be offered at other stations unless local governments are willing to sponsor Amtrak's providing the service. Station buildings that are opened at train times by a caretaker are located in Wilson, Selma, High Point, Salisbury and Kannapolis. Stops having only a shelter with no other

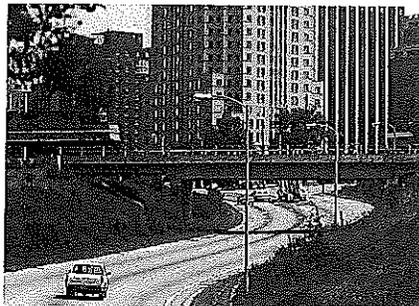
services are located in Durham and Burlington.

Improvements should be made beginning with the stations on the Carolinian's route from Rocky Mount through Raleigh to Charlotte since this route serves over half of the state's population. Later improvements should be targeted at the remaining stations in the state.

City	Recommendations
Rocky Mount	The present historic station should be rehabilitated and should incorporate intercity bus service.
Wilson	The present historic station, located opposite the Wilson City Transit intermodal station, should be rehabilitated.
Selma	The present historic station should be rehabilitated.
Raleigh	The city should begin studying the possibility of combining bus and rail at one location in a new station in connection with its downtown revitalization plans.
Durham	Concept plans for a new downtown intermodal station have been completed. City leadership is strongly in favor of construction of a new facility.
Burlington	Future demand may justify the construction or rehabilitation of a station.
Greensboro	Concept plans for a new downtown intermodal station have been completed. City leadership is strongly in favor of construction of a new facility.
High Point	The historic station is located downtown adjacent to the HiTran bus transfer facility. Work is underway to transfer ownership of this station to the city and then rehabilitate it.
Salisbury	Historic Salisbury, the owner of the station, is examining methods to provide more space for Amtrak passengers.
Kannapolis	The present station is sufficient for the current traffic level.
Charlotte	A concept plan for a new downtown station that would combine intercity bus and rail services has been completed, but due to the high projected cost of the capital improvements required by Amtrak and the Norfolk Southern Railway, it may be many years before such a facility is constructed.

## Intermodal Stations

The Task Force recommends that the state Department of Transportation continue to promote and press for intermodal stations wherever they are feasible. The Intermodal Surface Transportation Efficiency Act (ISTEA) offers "Enhancement" funds that may be used for restoration of historic transportation facilities. This funding, made available to cities on an 80 percent federal, 10 percent state, 10 percent local basis, should be utilized to the greatest extent possible. Its availability will greatly accelerate the pace at which renovation of the Rocky Mount, Wilson, Selma and High Point stations can take place.



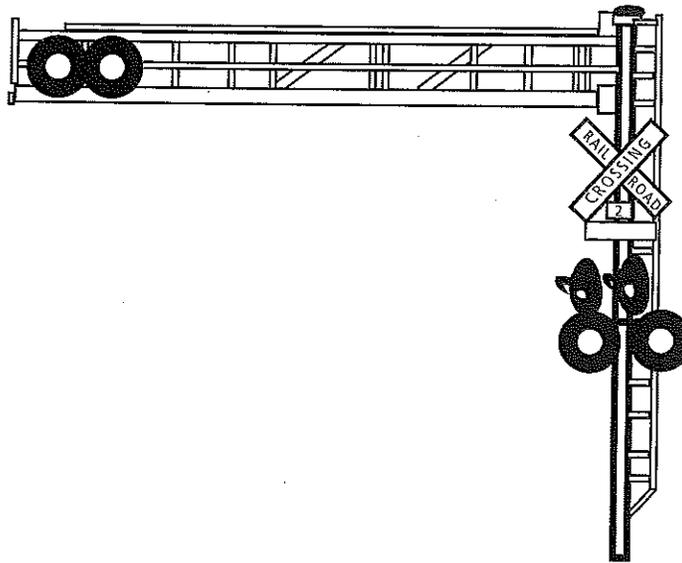
*Grade Separation*

## Crossing Improvements Should Enhance Safety

The frequency of car-train collisions at-grade crossings depends primarily on three factors:

- 1) the number of highway vehicles using the crossing,
- 2) the number of trains using the crossing and
- 3) the type of signal protection. In order to reduce the probability of such accidents, the state should adopt an aggressive program to signalize or close crossings on passenger train routes.

The Department of Transportation this year instituted a supplementary \$2 million annual program to speed the signalization program. The Department has also surveyed passenger train routes with the railroads and has begun identifying crossings that should be closed. The Department also advocates the construction of grade separations wherever warranted, with special consideration given to locations on routes traversed by passenger trains. The Task Force endorses these efforts



*Cantilevered lights*

To reduce the burden on the railroad the state should consider paying the entire cost of crossing signal maintenance and assume the entire cost of maintaining the roadway surface through rail-highway crossings.

### **Amtrak's Food Service Should Be Improved**

The Task Force believes that Amtrak's menu must be expanded to offer more substantial meals, especially in the evening hours. Food service on the Carolinian is offered in a dinette car that is equipped with both microwave and convection ovens. Passengers purchase food from an attendant and may carry it to a table seating located in the dinette car or to their seats in a coach. The menu is standard across the Amtrak system and features sandwiches, pizza, snack foods and beverages. The

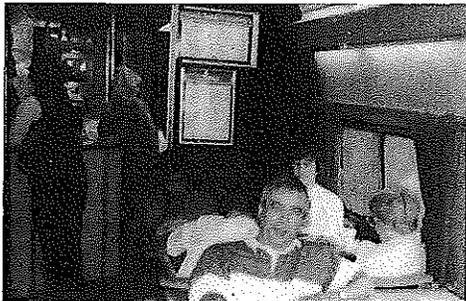
scope of this food service is the minimum that may be acceptable for those passengers eating one meal on the train.

Long-distance passengers find that this menu for both lunch and dinner is less than desirable.

The Department of Transportation identified a vendor who could supply prepared meals that could be heated in a microwave oven and served for about \$4.00. Amtrak rejected the proposal on the grounds that the food was not attractively presented and was too "institutional." Subsequently, Amtrak began its own investigation into the possibility of serving such meals and plans to offer similar items on the Carolinian at a later date. The Task Force endorses this effort.

### **Highway Directional Signs for Train Access Should Be Provided**

Travelers who use the Carolinian for long-distance travel often drive from outlying towns. In order to facilitate such trips, and to remind highway travelers of the existence of rail service, a program to increase the number of directional signs has begun. The Task Force recommends that all stations be well-marked from major highways serving each city where the train stops.



*Dining Car*

### **New Feeder Services Should Be Instituted**

Analysis of the Carolinian's ridership has shown that the larger cities produce more riders. The only large city not directly served by the Carolinian is Winston-Salem. A study conducted at Greensboro revealed that almost 25 percent of the passengers boarding in Greensboro had actually begun their trips in Winston-Salem. One way to better tap this market would be to offer a connecting bus service from Winston-Salem to the Greensboro rail station. The Department of Transportation contacted both Carolina Trailways and Greyhound to determine their willingness to re-route existing bus service to serve the Greensboro rail station. Carolina Trailways agreed to do so, but Greyhound did not. Since it was necessary to have the cooperation of both companies to provide roundtrip service, the idea was tabled. The Task Force recommends that the Department of Transportation pursue the possibility of offering a dedicated bus or van service between Greensboro and Winston-Salem in order to encourage rail travel from that city. While long-distance travelers may be willing to drive their own cars or have someone else drive them to and from Greensboro, intrastate travelers are less likely to make the transfer since their overall trips are short. A guaranteed, worry-free connection could serve as an enticement to get more travelers on the trains.



**Public Transportation & Rail Division**  
 North Carolina Department of Transportation  
 PO Box 25201 Raleigh, NC 27611-5201

# NORTH CARO



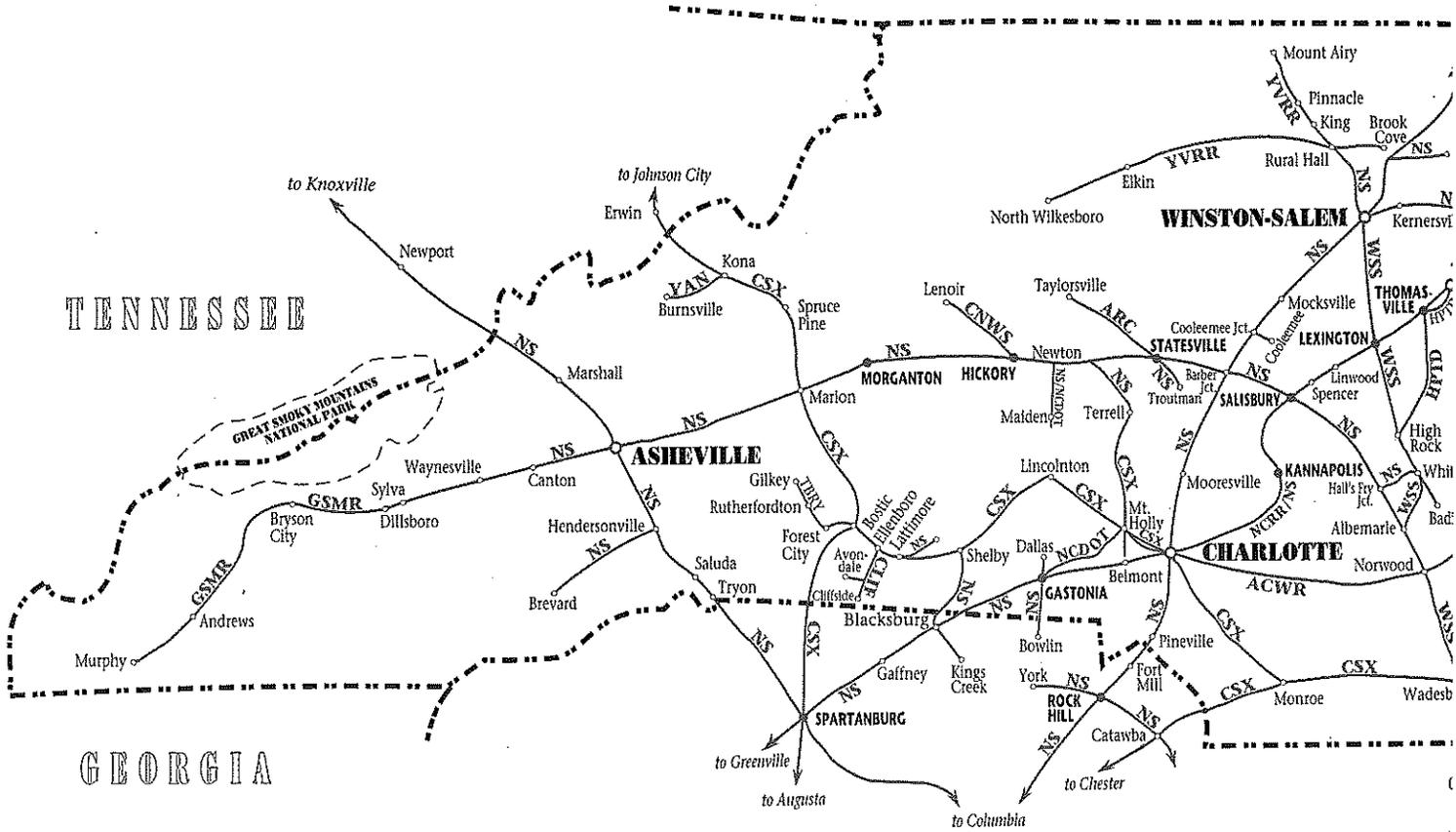
Phone: (919) 733-4713  
 Fax: (919) 733-1391

VIRGINIA

TENNESSEE

GEORGIA

SOUTH CAROLINA



### AMTRAK STATIONS IN NORTH CAROLINA

Burlington	Gastonia	Kannapolis	Selma
Charlotte	Greensboro	Raleigh	Southern Pines
Durham	Hamlet	Rocky Mount	Wilson
Fayetteville	High Point	Salisbury	



FOR MORE INFORMATION CALL: 1-800-USA-RAIL

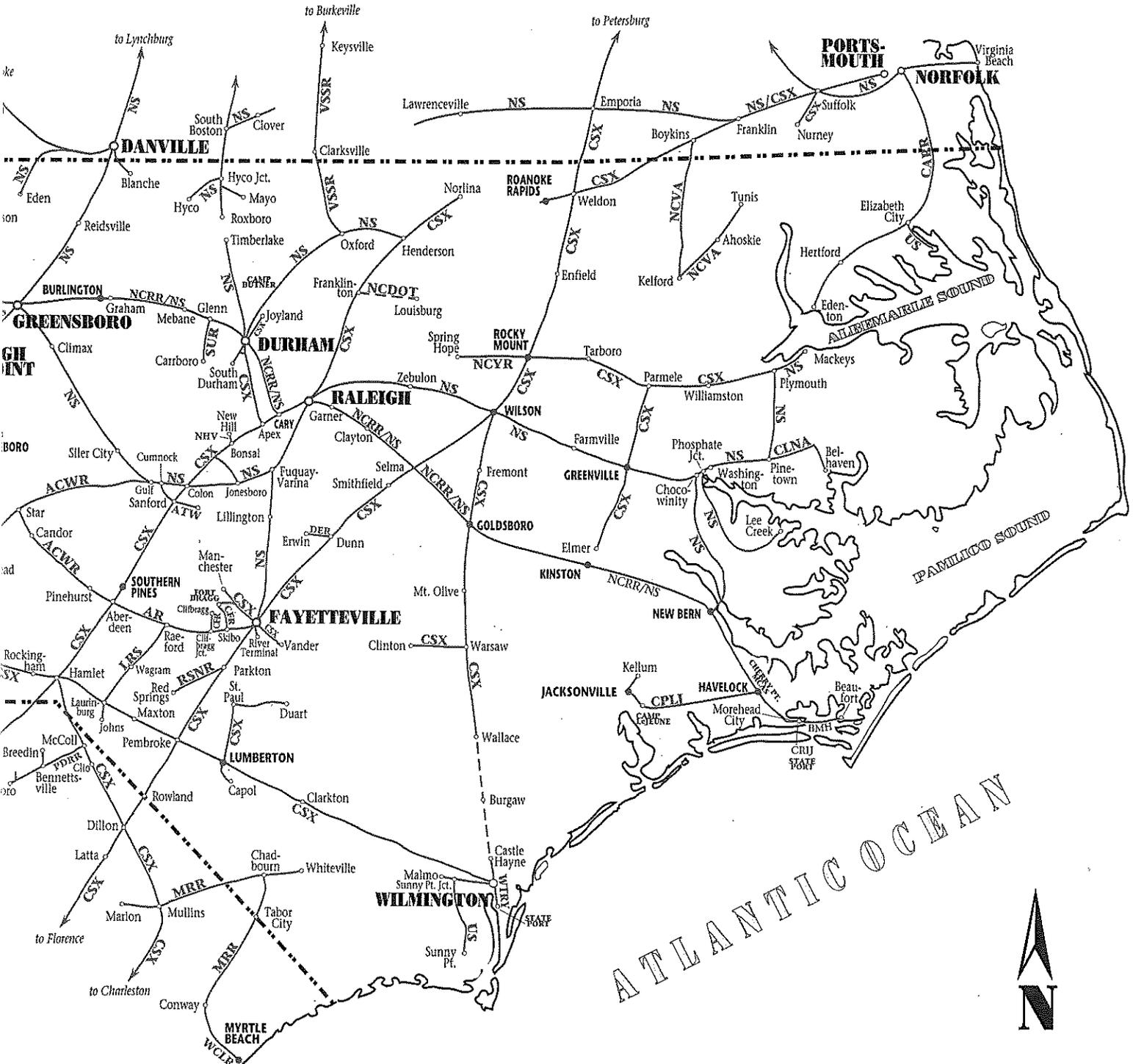
REPORTING MARK	RAILROAD NAME
ACWR	Aberdeen Carolina & Western Railway
AR	Aberdeen & Rockfish Railroad
ARC	Alexander Railroad
ATW	Atlantic & Western Railway
BMH	Beaufort & Morehead Railway
CARR	Chesapeake & Albemarle Railroad
CFR	Cape Fear Railways
CLIF	Cliffside Railroad
CLNA	Carolina Coastal Railway
CNWS	Carolina & Northwestern Railroad
CPLJ	Camp Lejeune Railroad
CRIJ	Carolina Rail Services
CSX	CSX Transportation
DER	Dunn-Erwin Railway
GSMR	Great Smoky Mountains Railway
HPTD	High Point, Thomasville & Denton Railroad
IRS	Laurinburg & Southern Railroad

REPORTING MARK	RAILROAD NAME
NCDOT	North Carolina Department of Transportation
NCR	North Carolina Railroad Company
NCVA	North Carolina & Virginia Railroad
NCYR	Nash County Railroad
NHV	New Hope Valley Railroad
NS	Norfolk Southern Corporation
PDRR	Pee Dee River Railway
RSNR	Red Springs & Northern Railroad
SUR	State University Railroad
TBRY	Thermal Belt Railway
US	US Military
VSR	Virginia Southern Railroad
WCLR	Waccamaw Coast Line Railroad
WSS	Winston-Salem Southbound Railway
WTRY	Wilmington Terminal Railroad
YAN	Black Mountain Railroad

### Legend



# INA RAILROAD MAP

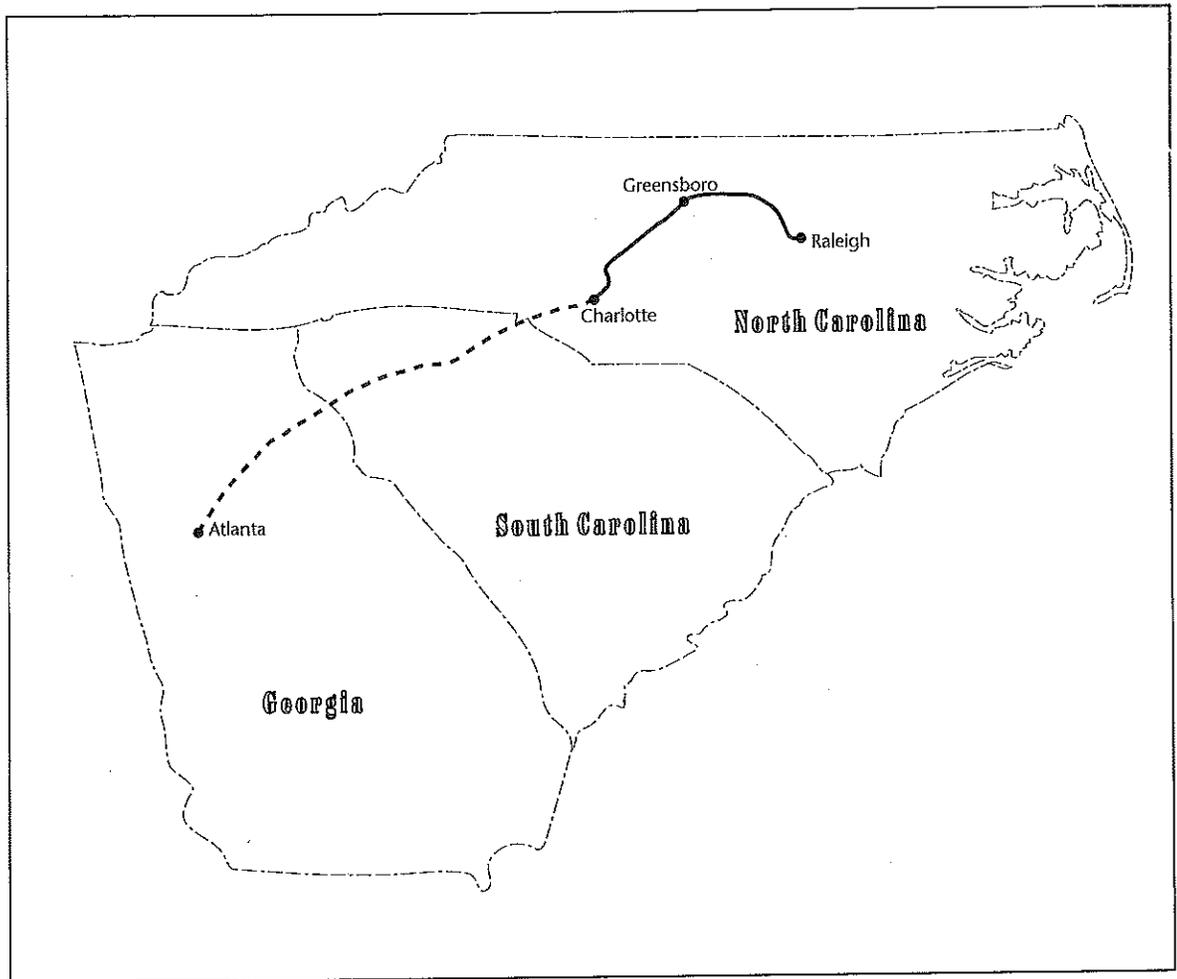


**Fastest Rail Corridor**  
**Served Rail Corridor (Tracks Removed)**  
**City Base**  
**State boundary**



LOOK LISTEN & LIVE  
AT RAILROAD  
CROSSINGS

## A PROGRAM OF ACTION FOR 1995-1997



*Proposed Service Extension to Atlanta*

### **Service Extensions Should Be Studied**

A logical extension of train service from Charlotte would be to Atlanta. The current rail travel time from Charlotte to Atlanta is approximately 5 hours, 20 minutes. A shorter train that would not require a refueling stop at Greenville, South Carolina, could make the trip in approximately 5 hours, 5 minutes. Driving time is approximately 4 hours, 45 minutes. Amtrak has no plans at the present time to offer such service. If it were to be provided, the states of South Carolina and Georgia would have to subsidize the service, and they do not wish to do so at this time. An additional locomotive, two or three coaches and two food service cars would be required for this service, and these are not currently available from Amtrak. Nevertheless, the interstate travel market is larger than the intrastate market, and the state should pursue this idea at the appropriate time.

Within North Carolina, the second largest city unserved by the Carolinian is Asheville. A study conducted by the Department of Transportation revealed that train service to and from Asheville and connecting with the Carolinian at Salisbury would require an unacceptably high subsidy. The most logical next step would be promoting bus service from Asheville to and from a city served by passenger trains. Further study should be undertaken to determine the primary travel patterns to and from Asheville. The first study indicated that the main destinations could be the Midwest, Atlanta and Florida. These destinations would not require a connection to the Carolinian, but Atlanta and Florida can be reached by other Amtrak services, and it is possible that bus service should be provided to these trains not to the Carolinian.

Within the state, as demand warrants, higher speed service should be offered, on a trial basis if necessary. Our demand analysis study showed that more passengers can be attracted by offering shorter travel times. A shorter running time between Raleigh and Charlotte could be accomplished by eliminating intermediate stops. A ridership evaluation should be done to calculate the number of patrons lost by eliminating stops and those attracted by the faster service. Ridership data from the Carolinian indicate that most intrastate trips originate or terminate at Raleigh, Durham and Charlotte.

If it is found that demand does not warrant multiple train frequencies between Raleigh and Charlotte, consideration should be given to using the state's locomotives and coaches for new rail service through Hickory to Asheville either from Greensboro via Winston-Salem or from Salisbury. Another potential market could be tapped by offering bus service from cities in Eastern North Carolina. If patronage warranted it, train service to Eastern cities could be offered at a later date.

### **The State Should Work to Provide Connections with Other Public Transportation Services**

Much work remains to be done to coordinate existing city transit and intercity bus service with rail service. Riders on the Carolinian are predominantly not traditional bus riders, but they might be willing to use bus services for short distances if efficient and convenient connections with rail service were offered. The State should be alert to the possibility of connecting these modes. It must be recognized, however, that the intercity bus companies tend to regard such connections as detrimental to their own revenues, since long-distance travelers might choose to transfer to a train instead of remaining on the bus. Therefore, it may be difficult to effect such coordination.

### **Further Rail Studies Will Be Needed**

In order to determine the most appropriate role for rail passenger service in the future, detailed studies of the following topics will be needed:

#### *Population Projections and Demographics*

An estimate of the future demand for rail service should be conducted including an analysis of current and future population size, dispersion, density and demographics.

#### *Highway System Capacity*

An examination of the State highway system's ability to meet the transportation demand should be conducted, including an analysis of current and future highway capacity.

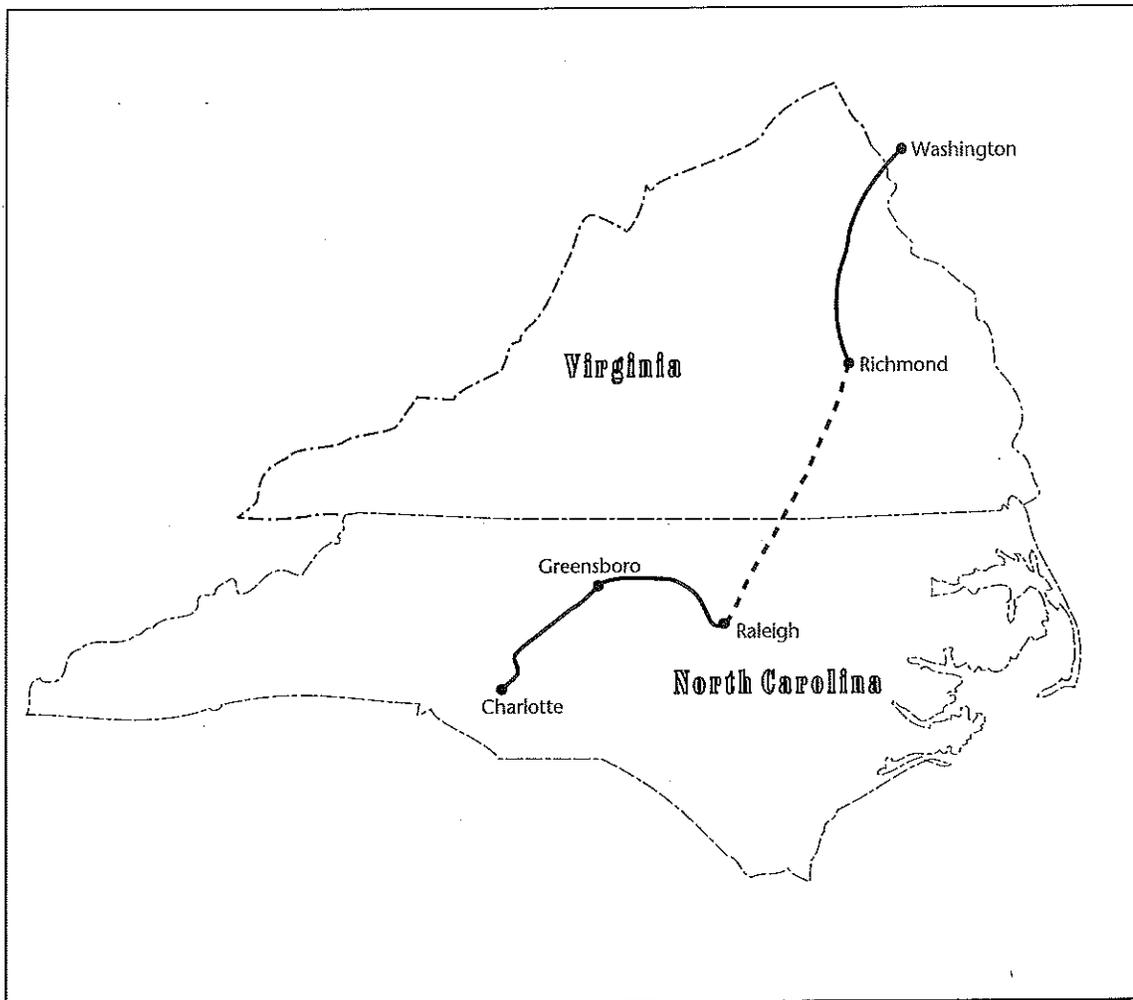
#### *Economic Costs Between Modes*

A study comparing the capital, operating and maintenance costs of highway, railroad and bus transportation should be conducted. The analysis should include qualitative factors such as differences in energy utilization, impact on land use and impact on air quality.

#### *Benefits of Rail Passenger Service in North Carolina*

A detailed study of potential benefits of investing in rail passenger service in North Carolina should be conducted which would include its potential impact on the quality and efficiency of transportation services, impact on the environment including land use and air quality, effect on energy utilization, impact on highway safety and effect on mobility of key segments of the population such as the elderly and low-income.

## A PROGRAM OF ACTION FOR 1998 AND BEYOND



*Designated High Speed Rail Corridor*

### **The Transportation Research Board Report on High Speed Passenger Service**

The Transportation Research Board released its report "In Pursuit of Speed, New Options for Intercity Passenger Transport" in 1991. The Task Force agrees with the following statements from the introduction of the report:

Intercity travel in the United States continues to grow, but the transportation infrastructure to support this growth is becoming more difficult to provide. Increasing highway capacity and building new airports can cause pollution and environmental disruption, create noise, and encourage

greater use of valuable energy resources. Moreover, finding improvements to these infrastructure systems, which require public subsidies, strain already stretched budgets. There may be a better way. New high speed ground transportation technologies are in use and being developed that could meet intercity passenger demand with a more energy efficient, less environmentally detrimental and safer alternative to expanded highway networks or airports.

*Announcement of the High Speed Rail Corridor Designation  
North Carolina Governor James G. Martin  
with United States Congressman David E. Price*



The findings of this report are as follows:

1. Surface transportation technologies are available now that can operate safely at speeds up to 200 MPH.
2. Surface transportation systems are being developed that are likely to achieve top operating speeds well in excess of 200 MPH.
3. Regardless of the transportation technology, higher speeds cost more yet yield diminishing returns in travel time reductions.
4. The capital costs of new high speed ground transportation systems are dominated by the costs of construction of the track or guideway; the cost of the vehicles is a considerably smaller part of the total.
5. In certain corridors speed can be increased and rail service improved without constructing new high speed ground transportation systems. Investments in new rail equipment and selective alignment improvements cost less than construction of completely new systems.
6. Ridership is the critical factor in determining the feasibility of a high speed ground transportation system, regardless of whether it is to be a private or public enterprise.
7. The primary potential travel market for high speed ground transportation systems in the United States consists of intercity trips in the range of approximately 150 to 500 miles. Between major cities separated by distances within this range high speed ground transportation would compete principally with air travel for ridership.
8. It is unlikely that any new high speed ground transportation system in a major United States corridor would cover its capital and operating costs from farebox revenues.
9. Users would benefit most directly from a new high speed ground transportation system, and the benefits would be reflected by the fares they pay. In addition, high speed ground transportation systems might generate additional user and nonuser benefits that are not accounted for by farebox revenues, and these could justify public support.
10. Neither a categorical nor an intermodal fund currently exists at the national level or in most states to fund high speed ground transportation implementation.
11. European and Japanese high speed rail systems have achieved superb operating and safety records. However, these systems do not meet current United States standards for rail passenger equipment. Changes in either the equipment or the regulations would be critical to any United States adoption of foreign high speed rail systems and domestic or foreign magnetic levitation (maglev) systems.
12. For early implementation of a high speed ground transportation system in the United States, the technology must be imported because it is currently available only from foreign suppliers.
13. In order to determine the extent of maglev's potential to provide high speed ground transportation service, additional research and development is needed.

**The Route From Raleigh to Charlotte Has Been Designated as a High Speed Railroad Corridor by the Federal Railroad Administration**

On August 28, 1992, the North Carolina Department of Transportation applied for funding and designation of the corridor between Raleigh and Charlotte as a high speed rail corridor under Section 1010 of the Intermodal Surface Transportation Efficiency Act of 1991. Section 1010 provides the following:

*The Secretary shall set aside \$5,000,000 of the funds authorized to be appropriated for the surface transportation program for each fiscal year for elimination of hazards of railway-highway crossings in not to exceed five railway corridors selected by the Secretary. The corridors selected must include rail lines where railroad speeds of 90 miles per hour are occurring or can reasonably be expected to occur in the future. The Secretary shall consider projected rail ridership volumes in such corridors, the percentage of the corridor over which a train will be capable of operating at its maximum cruise speed, taking into account such factors as topography and other traffic on the line, projected benefits to nonriders such as congestion relief on other modes of transportation service in the corridors, the amount of state and local financial support that can reasonably be anticipated for the improvement of the line and related facilities, and the cooperation of the owner of the right of way that can reasonably be expected in the operation of high speed rail passenger service in such corridors.*

On October 20, 1992, the Federal Railroad Administration announced the designation of the rail route from Washington to Charlotte through Richmond and Raleigh as a high-speed rail corridor. North Carolina will receive \$450,000 in the first year and up to that amount in each of the five succeeding years to improve or

eliminate grade crossings between Raleigh and Charlotte. In the long term, designation of the corridor as a high speed route may be more important for future development than the relatively meager funding provided through Section 1010.

In making application for funding, the Department of Transportation made the following projections for service in the corridor:

Early 1993	Two round trips per day, annual ridership 207,250, travel time 3 hours, 35 minutes, average speed 50 MPH, maximum speed 79 MPH.
Late 1996	Three round trips per day after completion of initial capital improvements, annual ridership 283,500, travel time 3 hours, average speed 58 MPH, maximum speed 79 MPH.
Early 2002	Four round trips per day after addition of supplemental signal system, annual ridership 374,700, travel time 2 hours, 30 minutes, average speed 70 MPH, maximum speed 90 MPH.
2007	Service using tilt-train technology, travel time 2 hours, average speed 87 MPH, maximum speed 125 MPH.
2015	Service using new technology after completion of advanced capital improvement program, travel time 1 hour, 30 minutes, average speed 116 MPH, maximum speed 150 MPH.

**North Carolina Should Adopt an Incremental Approach to High Speed Rail**

Federal law requires that a supplemental signal system be provided where train speeds exceed 79 MPH. Therefore, this speed limit represents a break point above which substantial investment (\$73,000,000 for cab signals between Raleigh and Charlotte) would be required. A study of the market and demand for service running at speeds above 79 MPH should guide the state as it considers the possibility of offering higher-speed service. By the time North Carolina is ready for such service, it is probable that other areas in the United States will have high-speed service, and their experience can inform and guide our decision making. In addition, the development of new technologies could reduce the costs of the needed improvements. The Task Force recommends an incremental approach of improvements leading to higher speeds, keeping in mind that the critical value is overall travel time as perceived by the traveler. Outside factors such as congested highways, high gas taxes or restrictions on auto use due to air pollution may influence the market for high speed rail service. In their absence the market will look as it does today, and an increase in market share will be occasioned by reduced travel times or more attractive fares. At speeds above 125 MPH, the train will become competitive with the airplane for short-distance travelers. The critical question is always what speed level and fare is necessary to attract the desired level of patronage.

A state high speed rail passenger authority, financed by an appropriation, should handle the early planning for a high speed rail system. This authority would be independent of the Rail Council described earlier in this report. The authority should encourage engineering and research and development studies of rail and high speed rail through the university system.

It is likely that the state's first foray into providing high speed service will involve an evaluation of the use of special equipment on the existing right of way as opposed to making major changes to the right of way. The study conducted by Wilbur Smith Associates calculated that an expenditure of \$23 to \$31 million on curve straightening between Raleigh and Charlotte would produce a time savings of 8 minutes, but a different type of train might offer a more cost-effective way of reducing travel time. The Task Force has investigated the Swedish X2000 train that has an active tilting mechanism. Its wheelsets are designed to allow the axles to move independently of each other in curves, so the train can traverse curves at speeds up to 30 percent higher than conventional equipment. The car bodies are tilted hydraulically by a computer controlled mechanism to minimize discomfort to passengers. The Raleigh-Charlotte route, having been laid out in the 1850s, contains many curves that restrict train speeds. The X2000, powered by a turbine engine locomotive, could traverse the Raleigh-Charlotte route in 2 hours, 17 minutes on the existing alignment if the maximum speed were 100 MPH. It must be borne in mind that this scenario involves traveling through many small towns at 100 MPH. Utilizing the existing right of way will require providing many safeguards for pedestrian and vehicular traffic. The construction of the railroad brought

many of the state's towns into being, and they remain along its length like beads on a necklace.

While the development of a new technology could affect the development of high speed service, the progression would most likely be to first make the improvements needed to provide three-hour Raleigh-Charlotte service, including stops, then to operate conventional equipment nonstop (2:50 service), then to operate a train capable of higher speeds on the existing alignment. If warranted, the next step would be to construct a new railroad, possibly along the right of way of an interstate highway. Since highways contain curves that would prohibit effective operation of a train like France's TGV, the train operated on such an alignment would have to

be capable of maintaining high speeds on a curving alignment. If service is to be maintained to Greensboro and Winston-Salem, currently the state's third and fourth most populous cities, this level of service would probably be adequate to meet the state's needs. If service nonstop from Raleigh to Charlotte is ever justifiable, then a new railroad on a new relatively straight alignment between these two cities should be constructed. If demand warrants the construction of a new high speed rail system, the state should investigate the use of tax credits to encourage private sector investment in the project.

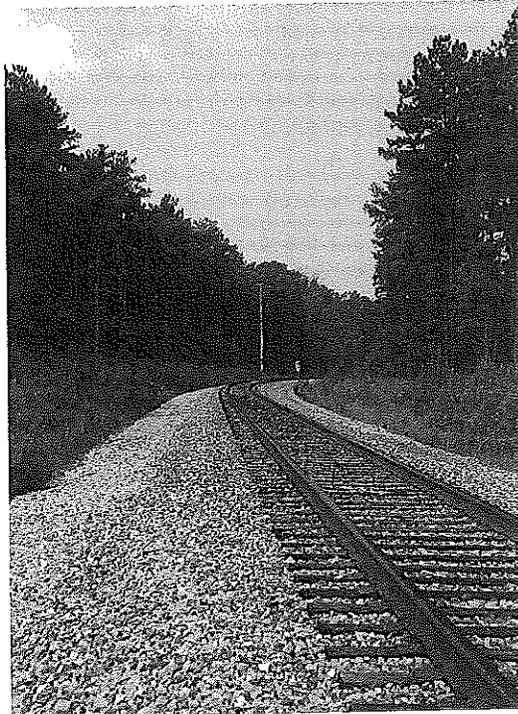
Except for service to Winston-Salem, the current North Carolina Railroad would be the route of most services that would provide feeder service to a new high speed railroad.

The Transportation Research Board report includes cost estimates for a hypothetical 200-mile high speed railroad. Construction cost per mile range from \$9 million (low) to \$18 million (middle) to \$36 million (high). Annual operating and maintenance costs range from \$1,020,000 (low) to \$2,060,000 (middle) to \$4,120,000 (high). Financial break-even passenger volumes (millions of passengers per year) were calculated for various combinations of these factors.

Fare (\$ per passenger mile)		0.38	0.24	0.12
Construction Cost	Operating & Maintenance Cost	Break-Even Volume	Break-even Volume	Break-even Volume
Low	Low	1.6	2.6	6.6
Low	High	3.2	6.8	289.0
Middle	Middle	3.4	6.0	19.3
High	Low	5.3	9.0	22.4
High	High	8.0	17.0	737.0

---

## AN EXAMINATION OF NORTH CAROLINA'S RAIL FREIGHT NEEDS



### **Importance of the State's Rail System**

In early 1991, the Governor's Rail Passenger Task Force asked Governor Martin to drop "Passenger" from its title in order to reflect its interest in considering other rail issues in addition to passenger service. The Rail Systems Committee of the Task Force was directed to examine the issues concerning rail corridor preservation, which included rail revitalization and rail corridor acquisition and management.

What began principally as a single rail alternative for movement at the turn of the century has now evolved into broader choices. Highways, aircraft, and railroads today move passengers and freight. Such diversity is crucial. Today's economy and tomorrow's growth cannot rely upon a single means of moving about. The declining share of total freight volume moving on our nation's rail system and the consequences that trend holds for our future are disturbing. Those consequences are evident today in the disinvestment in rail infrastructure, abandonment applications for less productive rail lines, and corresponding increases in heavy truck traffic on our highways.

In spite of the state's recently expanded highway construction program, we cannot expect North Carolina's

Limitations on future funding and land availability will make it increasingly difficult for continued road building to keep pace with travel needs in the future. Simultaneously, airport congestion is becoming more pronounced, and limited air space capacity in metropolitan regions surrounding North Carolina is disrupting schedules at the state's major airports. By the year 2010, the volume of air travel is expected to be three times today's traffic. It would appear the time is coming when medium to short-haul air travel will be an impractical luxury, while the necessity and number of long-haul commercial flights continues to increase. It can be concluded from these developments that sometime in the next 20 to 30 years North Carolina will become more dependent on railroads to move people as well as goods.

The North Carolina Railroad extends from Morehead City through Selma, Raleigh, and Greensboro to Charlotte. It is leased to the Norfolk Southern Railway through a lease that will expire December 31, 1994. Requirements imposed by Norfolk Southern have been an impediment to the prompt installation of new service. When the lease is renegotiated, the North Carolina Railroad should consider the inclusion of provisions that would allow improved passenger service in

## **Government Regulation Should Strive for Equity Among All Modes**

Placing the rail industry on a "level playing field" with the other transportation modes, most notably highways, has been of great interest to the Task Force. Among the major issues considered are as follows:

- Grade separation at rail-highway intersections on main-line railroads and rail corridors of future industrial, commuter and intercity rail passenger use.
- Rail access to both passenger and cargo airports.
- Income (or property) tax credit to railroads for maintenance-of-way performed.
- Expanding the use of Highway Fund monies to include other modes, therefore, creating a true "Transportation Fund."
- Establishment of a permanent railroad council or board.
- Transfer of at-grade rail/highway crossing surface and signal maintenance to the State.

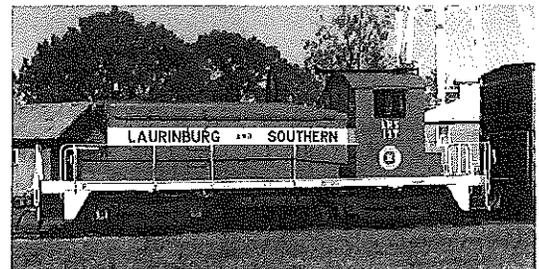
Also, a major emphasis has been placed on legislative initiatives that include the following:

- Transfer of the Rail Safety Program from the Utilities Commission to the Department of Transportation.
- A state program to fund rail access to new or expanding industries as an economic incentive for both industrial development and the railroads.
- Funding of rail initiatives, including revitalization, preservation, industrial access and safety.

The Task Force believes that creation of a state and federal policy and regulatory environment supporting the establishment and nurturing of the short line industry is critically important. It must accompany the public funding role in assuring that the potential of essential future rail service is realized in the public interest.

## **Short Line Railroads Will Require Special Treatment**

A significant number of North Carolina's lightly-used railroad lines have been saved through the formation and revitalization of new short line railroad companies, most of them established since federal deregulation under the Staggers Act in 1981. Still, the threat of a shrinking rail system in North Carolina remains, and the impact of losing certain rail corridors could be severe. Short line railroad formation is the preferred method of preserving local freight service and rail corridors. It is now hindered by the increasing difficulty of financing right of way and equipment acquisition.



*A Short Line in North Carolina.*

**Essential Rail Corridors Should Be Preserved for Future Use**

Since the 1920s, many miles of valuable rail corridors have been lost in North Carolina. Also lost has been the opportunity to return them to the productive freight and passenger use for which they were intended. Besides being detrimental to economic development, loss of rail corridors has a potentially serious impact on the state's ability to meet its future transportation needs.

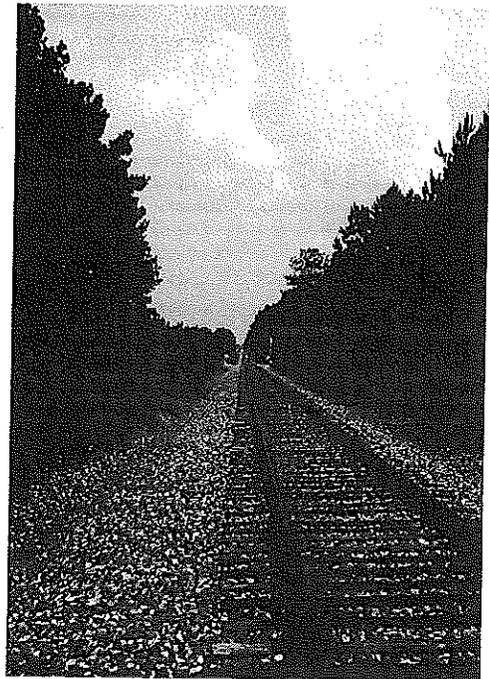
In order to facilitate future rail passenger service, North Carolina's rail system must be preserved. There can be little hope for future rail passenger travel unless rail lines exist between places to be served, or can be economically constructed when there is a need for them. Our railroads not only are important now, but also offer significant available capacity and potential for future freight and passenger transportation needs. They must not be ignored into oblivion. There is evidence that many public laws, policies and attitudes tend to do just that. A close examination is needed of those public actions which, perhaps inadvertently, discourage or otherwise make it difficult for the private railroads to be legitimate players in the nation's total transportation system. Retention and improvement of rail service now is an investment in the future economic and transport viability of the state, as well as being a prudent conservation of public funds for the future.

If a "moderate threat scenario" of a 750-mile loss over 6 to 10 years occurred, the projected preservation cost could be about \$80 million. Yet the alternative to preservation could be worse. It may be prohibitively expensive to return a rail corridor that has been converted to other non-transportation, non-linear use to rail use. A rail corridor lost is probably gone forever.

The Rail Corridor Preservation Act (G.S. 136-44.36A), passed by the General Assembly in 1988, gave the Department of Transportation the power to purchase railroads and preserve rail corridors "for future rail use and interim compatible uses." Amendments to the Act passed during the 1989 Session also declared it a public purpose for the Department of Transportation to reassemble critically-important lost portions of rail corridors by condemnation. This authority provided a means for the Department, when justified, to become directly involved in preserving critical railroad service or preserving inactive rail corridors for future use.

Funding for rail corridor acquisition may be provided by an allocation of up to \$5 million authorized by the Highway Trust Fund Law of 1989 (G.S. 136-44.20 d). These funds may be used for economic rail route alternatives to highway construction.

The Intermodal Surface Transportation Efficiency Act permits transportation enhancement funds to be used for 80 percent of the purchase price of abandoned railroad corridors, so state funds need now be used only to match these funds. North Carolina's annual share of the enhancement funds could be approximately \$11 million.



*A Portion of a Rail Corridor in North Carolina*

Benchmarks	Route Miles
Peak size of N.C. rail system in 1920:	5,522
Miles lost since 1971 (34% of peak size lost):	715
Rail miles remaining in 1991:	3,620
Short line railroads (24% of present system):	858
Corridor miles being considered for preservation:	210
All N.C. rail lines subject to sale, lease, major service change or loss:	750 to 2,144

Ad  
In  
the  
Rail  
car  
\$3.  
ade  
To  
from  
roll  
\$2.  
rail  
The  
foll  
1.  
2.  
3.  
4. S  
s  
C  
O  
(Note  
appre

## Adequate Funding is Required

In 1987, N.C. DOT asked the General Assembly to establish dedicated revenues for the various transportation modes. The dividends from the North Carolina Railroad Company, \$128,000 in 1991, are dedicated to rail purposes. These funds can be used for rehabilitation projects, but, as evidenced by the approximately \$3.5 million backlog of requests for assistance, \$128,000 per year is far from adequate to meet these needs.

To begin meeting these and other needs, it is proposed that the state's proceeds from the sales tax on diesel fuel, locomotives, locomotive parts, accessories, rolling stock, lubricants and track materials purchased by railroads, an estimated \$2.6 million annually, be appropriated to the Department of Transportation for rail purposes. These funds are currently deposited in the state's General Fund. The Department's Aviation Program is similarly funded. Uses would include the following:

1. Rail Rehabilitation and Revitalization - Up to \$2.5 million annually would be used to rehabilitate tracks and bridges of short line railroads. Rail construction equipment would also be purchased for low-cost rental by the Department's Equipment Unit for use on rail rehabilitation projects. Presently, no in-state training programs exist for rail personnel. Safety and the long-term viability of our short line railroads could be enhanced through the availability of training programs for management and operating personnel.
2. Industrial Access - Up to \$1 million annually would be available to assist with rail improvements associated with recruitment of new industrial prospects and with significant expansions at existing industrial facilities.
3. Administration, Planning and Training - Up to \$0.15 million annually would be available to continue the state's regulatory responsibilities, e.g., processing abandonment certificates and carrying out hearings procedures. Current funding of administrative support for the Governor's Rail Task Force is from public transportation funds. As the Task Force's responsibilities are expanded to include all facets of the rail industry, funding of Task Force-sponsored research, meeting, travel and report costs are more properly derived from rail-generated resources.
4. Safety Inspections - Up to \$0.25 million annually would be available for rail safety inspection, training, and accident investigations and reporting. Currently, three state inspectors are responsible for approximately 3,620 miles of track in North Carolina.

(Note that the sum of 1, 2 and 3 must be no greater than the balance of the appropriation after rail safety inspection costs are met.)

The Department of Transportation began examining various rail issues in 1977 as the result of the passage of the Rail Revitalization Act (G.S. 136-44.36) authorizing the North Carolina Department of Transportation to "adopt and implement a state rail plan." In 1979, legislation authorized N.C. DOT, with approval by the Board of Transportation and the Advisory Budget Commission, to provide funds to match federal rail revitalization grants. The Rail Program assists industries and communities by providing them with options for keeping rail service, assisting them in planning and implementing rail projects and providing direct funding for railroad rehabilitation and purchase. State funding for rail rehabilitation is provided by either an annual appropriation of \$100,000 or the amount received each year from dividends paid to the state by the North Carolina Railroad, whichever is greater (G.S. 136-16.6).

Track rehabilitation, an important means of maintaining marginal short line service in the past, is becoming more difficult because of rising needs and severe limitations on public funding assistance. Since 1977, the Department of Transportation's Rail Program has operated with financial resources inadequate to address any but the most pressing needs. Many of the state's 22 independently-owned railroads operate over trackage and bridges where maintenance has been deferred and operating speeds reduced. Derailments are no longer the exception. The escalating requests for high cost rail line rehabilitation are caused partly by the "age out" of major infrastructure components (mainly trestles) to the unavoidable need for overhaul or replacement. Each instance of this situation encountered in the future could represent a funding need of several hundred thousand to several million dollars.

See the Summary of Rail Program Funding Sources, page 24.

**Summary of Rail Program Funding Sources**

Rail Passenger Services	Up to \$5 million annually for alternatives to highway construction as authorized in the Highway Trust Fund Act of 1989
Upgrading of the North Carolina Railroad Corridor	Federal Surface Transportation Program Funds from the Intermodal Surface Transportation Efficiency Act and State matching funds
Railroad Rehabilitation, Revitalization, Industrial Access and Safety	Dividends from the State's shares in the North Carolina Railroad Proposed: Dedication of the sales tax paid by railroads on fuel, track materials, rolling stock, etc.
Rail Corridor Preservation	Enhancement Funds from the Intermodal Surface Transportation Efficiency Act and State and local matching funds
Historic Station Renovation	Enhancement Funds from the Intermodal Surface Transportation Efficiency Act and local matching funds

## Cumulative Running Time Improvements

	Operating Condition	Running Time	Time Savings Over Previous Condition	Estimated Cost (in thousands)	Investment per minute saved (in thousands)
<b>Selma to Raleigh</b>	1. Base Case	00:45:17			
	2. Grade Crossing and Electric Lock Restrictions Removed	00:36:16	9:01	\$ 72	\$ 8
	3. Rail Relay (Max 49 to 59 mph)	00:33:01	12:16	7,923	646
	4. Signal Installation (Max 59 to 79 mph)	00:30:58	14:19	10,187	712
	5. Condition #4 with Max 4" Superelevation	00:26:44	18:33	10,301	555
	6. Condition #4 with Max 6" Superelevation	00:25:30	19:47	10,316	521
	7. Condition #4 with Max 4" Superelevation and Curve Realignment	00:25:51	19:26	16,153	831
	8. Condition #4 with Max 6" Superelevation and Curve Realignment	00:25:16	20:01	12,847	642
	<i>(Numbers 5 through 8 are either/or.)</i>				
<b>Raleigh to Greensboro</b>	1. Base Case	1:59:11			
	2. Grade Crossing and Yard Limit Restrictions Removed	1:37:47	21:24	\$ 128	\$ 6
	3. Turnouts Replaced	1:36:14	22:57	248	11
	4. Signal Installation (Max 59 to 79 mph)	1:34:39	24:32	6,267	255
	5. Condition #4 with Max 4" Superelevation	1:27:01	32:10	863	213
	6. Condition #4 with Max 6" Superelevation	1:23:12	35:59	6,941	193
	7. Condition #4 with Max 4" Superelevation and Curve Realignment	1:23:59	35:12	18,808	534
	8. Condition #4 with Max 6" Superelevation and Curve Realignment	1:20:59	38:12	18,870	494
	<i>(Numbers 5 through 8 are either/or.)</i>				
<b>Greensboro to Charlotte</b>	1. Base Case	1:31:46			
	2. Grade Crossing Restrictions Removed	1:23:26	8:20	\$ 240	\$ 29
	3. Turnouts Replaced	1:21:27	10:19	720	70
	4. Condition #3 with Max 4" Superelevation	1:17:09	14:37	1,360	93
	5. Condition #3 with Max 6" Superelevation	1:14:59	16:47	1,444	86
	6. Condition #3 with Max 4" Superelevation and Curve Realignment	1:15:15	16:31	11,816	715
	7. Condition #3 with Max 6" Superelevation and Curve Realignment	1:14:16	17:30	3,888	222
	<i>(Numbers 4 through 7 are either/or.)</i>				

xx:xx:xx - Hours:Minutes:Seconds

Conditions are additive and time savings and costs are cumulative except as noted

Source: Wilbur Smith Associates