

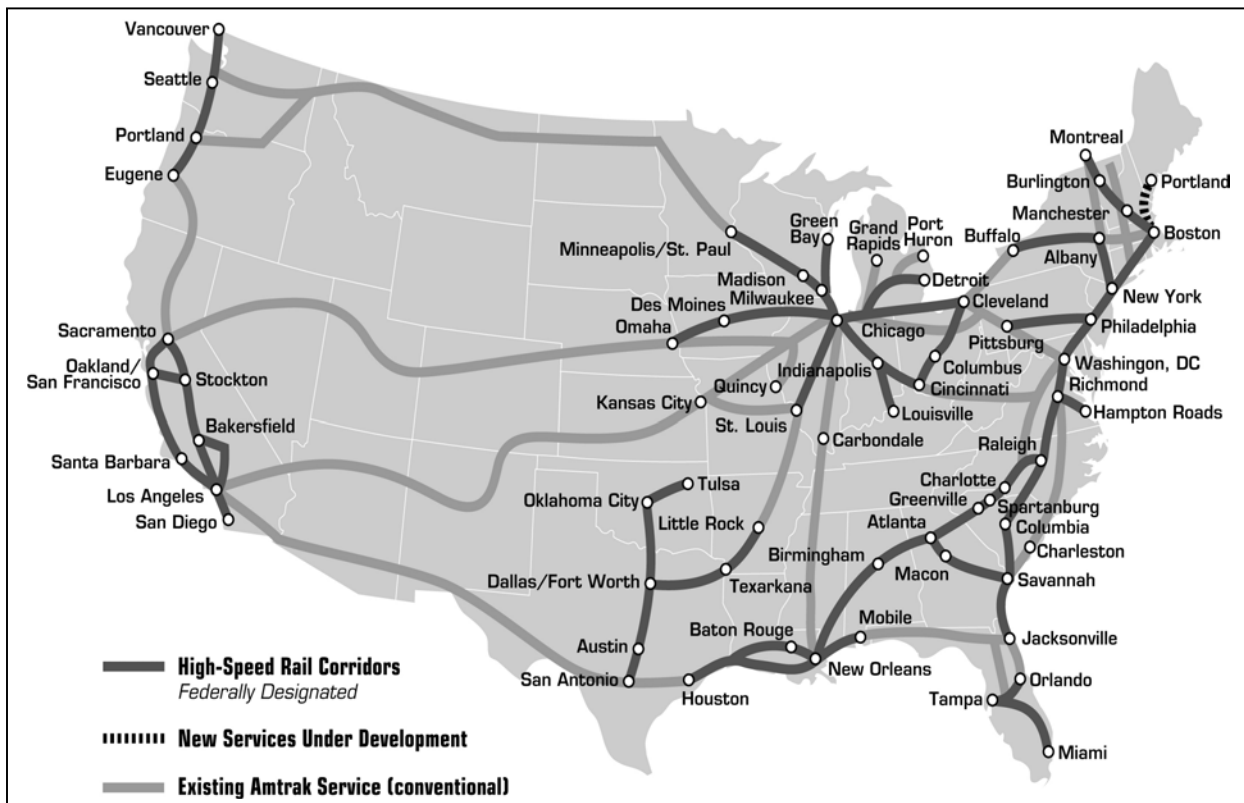
# Proposal: Corridors of the Future

## Proposed corridor: Southeast High Speed Rail Corridor Washington, DC to Charlotte, NC

Submitted by: North Carolina Department of Transportation

The Southeast High Speed Rail Corridor (SEHSR) is part of a plan by the U.S. Department of Transportation (USDOT) to develop a nationwide high speed ground transportation network. The Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA Public Law 102-240, Section 1036) authorized a program of high speed rail corridors. This national high speed rail network is one component toward achieving ISTEA's goal of developing an economically efficient, environmentally sound, and globally competitive nationwide intermodal transportation system.

In 1992, the USDOT designated SEHSR one of five original national high speed rail corridors<sup>1</sup>. Further extensions to the corridor added connections into South Carolina, Georgia, and Florida<sup>2</sup>. A map of the currently designated high speed rail corridors is shown below.



<sup>1</sup> The original SEHSR corridor extended from Washington, D. C. to Charlotte, North Carolina (via Richmond, Virginia and Raleigh, North Carolina).

<sup>2</sup> The USDOT designation allowed for federal monies to be spent on improvements to the existing rail system in order to achieve high speed service. The USDOT designated an extension of the SEHSR from Richmond to Hampton Roads in 1996. In 1998, the USDOT extended the corridor into South Carolina, Georgia, and Florida. Further extensions in 2000 added corridor connections in Georgia and Florida.

## **What is the purpose of the SEHSR Corridor development?**

SEHSR is a critical link for the movement of people and goods to the major economic centers along the east coast. SEHSR would connect in Washington, DC with the passenger and freight network of the existing Northeast Corridor service that extends to New York City and Boston. In North Carolina, the SEHSR system would connect with other rail services in Raleigh and Charlotte for travel and goods movement to South Carolina, Georgia and Florida. System linkages would also connect (via Atlanta) to Alabama, Mississippi, Louisiana and Texas. As well, there will be numerous east-west connections for conventional freight and passenger service.

As population and travel demand grow, intercity transportation by will increasingly suffer from congestion and time delays -- particularly in metropolitan areas, at and around airports, and during weekend, holiday and bad weather periods. This decline in the level of transportation service and the quality of the travel experience adversely affects the movement of goods and people.

The purpose of the SEHSR corridor development is to:

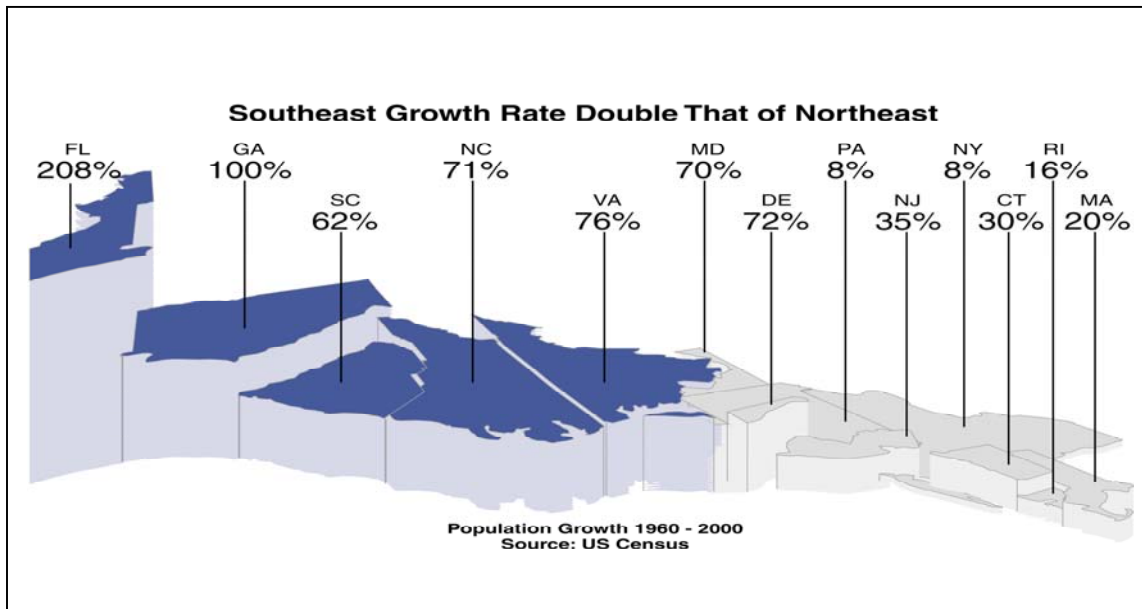
- divert trips from air and highway (auto and truck) within the travel corridor to rail, thus reducing the rate of growth of congestion in those modes; and relieve rail congestion on the existing CSX A-line through the corridor and provide system redundancy.
- result in a more balanced use of the corridor's transportation infrastructure;
- increase the safety and effectiveness of the transportation system within the travel corridor; and
- serve travelers and freight movement within the two states, and between the two states to the northeast and southeast regions of the east coast and beyond.

Review of current growth trends in Virginia and North Carolina indicate that more individuals and freight are traveling through the already congested highway, rail and airport corridors. The Southeast High Speed Rail project could:

- provide the traveling public with improved transportation choices;
- help ease existing and future congestion (air, highway, passenger rail);
- improve safety and energy effectiveness within the transportation network;
- reduce the overall air quality related emissions per passenger mile traveled within the corridor; and
- improve overall transportation system efficiency within the corridor, with a minimum of environmental impacts.
- Provide opportunities to incorporate a multi-state trail (East Coast Greenway) for environmental stewardship and to promote tourism and economic development in the corridor
- Provide opportunities to develop improved train operational systems such as positive train control and improved scheduling software
- Increased opportunity for movement of freight by higher speed intermodal trains

### ***Purpose- Improve Congested Facilities***

Population and economic growth rates in Virginia and North Carolina have exceeded the national average over the past thirty years and are projected to remain high over the next few



decades. In addition to this rapid population growth, vehicle miles traveled within parts of the SEHSR corridor have grown at up to four times the rate of population growth<sup>3</sup>.



Air travel within the corridor increased over 95% from 1980-1996, and this trend is expected to continue with 76% growth forecast nationally from 2000-2010<sup>4</sup>.

This growth has burdened the airport and highway networks of both states. As a result, transportation facilities in Virginia and North Carolina are experiencing capacity problems that are projected to worsen despite planned improvements. Trends such as migration from rural to urban areas and aging populations in both states put additional and unique burdens on the transportation networks.

In the corridor between Washington, DC and Charlotte, NC the I-95 and I-85 roadways are experiencing levels of service beyond capacity even during some off peak periods. Heavy truck traffic is also causing significant concerns for roadway maintenance and safety.

<sup>3</sup> Approximate growth in the Piedmont crescent of NC, Raleigh to Charlotte along the I-85 corridor, from 1975-2000.

<sup>4</sup> Federal Aviation Administration, March 2000 Annual 12 Year Forecast.

Intermodal rail traffic is the fastest growing segment of rail service. With west coast ports reaching capacity, eastern ports will see steady increases in traffic for the future. The ports at Norfolk, VA; Morehead, NC; and Wilmington, NC are all planning expansions. A new international port is planned for Southport, NC that will be similar in size to the port at Norfolk. The flow of goods from these ports will add considerable stress to the roadway and rail network within the SEHSR corridor.

Congestion on the current rail network has resulted from increased trains on the track network, as well as chokepoints along the corridor. If passenger and freight trains are to provide fast, frequent, reliable and safe service, improvements must be made to relieve or bypass current chokepoints. These improvements would accommodate higher speeds, as well as increase the capacity of the railroad to handle additional freight rail traffic, intermodal traffic, passenger service resulting from both diversions from highways, and new travel growth.

***Purpose- Improve Travel Time and Reliability for Passenger and Freight service***

Rail ridership in Virginia and North Carolina climbed steadily in the 1990's despite slow service and increasingly high levels of unreliability<sup>5</sup>. For fiscal year 2005, ridership on the Carolinian service between Washington, DC and Charlotte, NC grew by 10.9% even with poor on time performance. Both states are working on their freight and passenger systems to alleviate rail capacity constraints, as well as improve safety on the systems. The *Washington, D.C. to Richmond, Virginia Passenger Rail Study* found that if travel times between Washington and Richmond could be reduced to 90 minutes, rail ridership in the I-95 corridor would triple by 2015. The proposed SEHSR service could reduce travel time from Washington DC to Charlotte, NC from the current ten hours to an estimated six and one half hours, which would produce almost a four fold increase in ridership by 2025. The system would also facilitate intermodal freight, and potentially relieve congestion from the current CSX mainline.

***Purpose- Improve Safety***

Safety is a key concern in the development of the SEHSR corridor. Passenger rail travel is one of the safest ways to travel. In the first 30 years of operation, Amtrak carried approximately 600 million intercity passengers, while suffering only 100 passenger fatalities<sup>6</sup>. By examining the number of fatalities per passenger mile, comparisons can be made between different methods of travel. Amtrak experienced .04 fatalities per 100 million passenger miles, which is similar to what major airlines experienced. In contrast, highway fatalities equaled 1.29 fatalities per 100 million passenger miles<sup>7</sup>. Safety of the existing passenger and freight rail system would be further improved by implementation of SEHSR, due to track, crossing, and equipment upgrades. Highway safety would also be improved by reductions in the rate of growth in truck and auto use.

***Purpose- Improve Energy Efficiency***

Increasing the modal balance the SEHSR corridor would also result in less energy use and a corresponding decrease in pollution within the corridor. Intercity rail is 45% more energy-efficient than domestic commercial airline service and 76% more energy-efficient than general aviation<sup>8</sup>, and the typical freight box car has the carrying capacity of three tractor trailer trucks.

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<sup>5</sup> *Feasibility Study Summary & Implementation Plan*, NCDOT- Rail Division, April 1999.

<sup>6</sup> Amtrak Senior Director of Communications, Cliff Black

<sup>7</sup> National Safety Council

<sup>8</sup> *Transportation Energy Data Book, Edition 16*, Oak Ridge National Laboratory, July 1996.

Even greater improvements are gained over auto travel, resulting in net benefits to the human and natural environment along the corridor, as well as a reduction in oil dependency.

## Where is this portion of the SEHSR located?

As defined by the original USDOT designation in 1992 (Washington to Charlotte), and further refined by the SEHSR Tier I Environmental Impact statement (June 2002), the SEHSR corridor flows as follows:



- From Washington, DC to Petersburg, VA the corridor centers around the current CSX railway mainline paralleling I-95
- From Petersburg, VA to Raleigh, NC the corridor centers around the old CSX S-line paralleling I-85
- From Raleigh to Charlotte, the corridor centers around the NC Railroad paralleling I-85, and including a connection with Winston-Salem

The SEHSR corridor includes:

- Portions of the I-95 and I-85 highway corridors
- Approximately 276 miles of the East Coast Greenway corridor
- Major metropolitan areas of
  - Washington, DC
  - Richmond/Petersburg
  - Raleigh/Durham/Chapel Hill (the Research Triangle)
  - Greensboro/Winston-Salem/High Point (the Piedmont Triad)
  - Charlotte
- Portions of two Class 1 railroads (CSX and Norfolk Southern) and the state owned North Carolina Railroad

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(Note: these numbers reflect Amtrak equipment in use in 1994, both fossil fuel and electric, and represent BTU's/passenger mile as compared with air travel)

## What is preliminary design for SEHSR?

The proposed Southeast High Speed Rail service is based on an incremental approach of improving existing rail rights of way for higher speed passenger and freight service. The designs are based on the use of fossil fuel locomotives, with the maximum design speed for passenger service at 110 mph, and an average speed of 85-87 mph. The design parameters, such as super-elevation and degree of curve, are set to accommodate both freight and passenger train use.

The track design varies depending on the section of the corridor, but in general is as follows:

- Washington to Richmond, sharing 2 to 3 tracks with freight, commuter, conventional passenger
- Richmond to Petersburg, mostly on separate main line track
- Petersburg to Raleigh, single track with 5 mile long passing sidings, approx. every 10 miles, mixed use
- Raleigh to Charlotte, a mixture of single and double track with the potential for some third track, mixed use

## What kind of costs are expected?

Costs were estimated in the SEHSR Tier I EIS at approximately \$2.5 billion for the corridor from Washington, DC to Charlotte, NC. This averages about \$5.5 million per mile. The major share of the cost will occur in the portion of the corridor from Richmond to Raleigh, for which more detailed estimates will be available in the Tier II EIS currently being developed.

## When can the public expect changes in the corridor?

A Tier II Environmental Impact statement is currently underway for the portion of the corridor between Richmond, VA and Raleigh, NC. The current anticipated schedule is:

September 2008-	DEIS completed and signed
January/February 2009-	Public Hearings for the DEIS in VA and NC
August 2009-	FEIS completed and signed
December 2009-	Record of Decision from FRA
2010	Final design and right of way acquisition
2011-2014	construction (based on availability of federal funds)

## What are possible financing options?

- Federal funding as provided by Senate Bill 1516 reauthorization of Amtrak
- Projects of National and regional significance funding from the next Transportation Reauthorization
- Transportation Bonds
- TIFIA Credit Assistance
- Private funds
- State funds
- Discretionary funding sources
- Railroad Rehabilitation and Improvement Financing

## What are the current traffic trends in the corridor?

Growth trends in area exceed the national averages, with population growth by 2030 expected to be over 50% for North Carolina and over 20% for Virginia <sup>9</sup>.

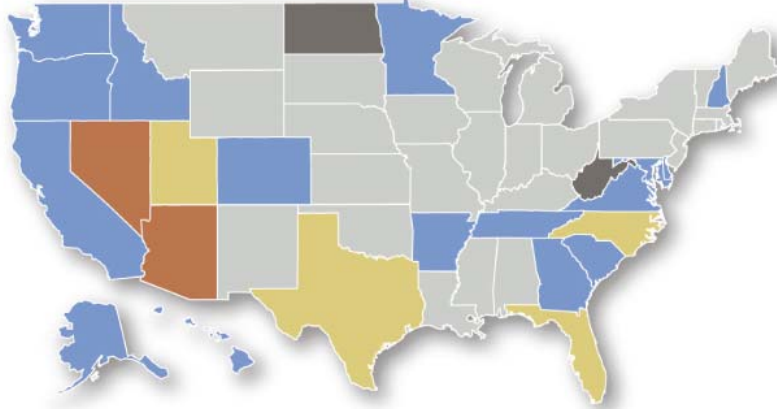
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<sup>9</sup> U.S. Census

### PROJECTED U.S. POPULATION INCREASES, 2000 TO 2030

By 2030, the U.S. population is expected to increase by 29.2 percent, with most of that growth occurring in the Southeast and West. At 52 percent, North Carolina's projected growth is the seventh highest in the country.

- Population decrease
- 0 to 20 percent increase
- 21 to 50 percent increase
- 51-100 percent increase
- More than 100 percent increase



Source: U.S. Census

JUDSON DRENNAN / The News & Observer

Growth in vehicle miles traveled (VMT) grew at approximately four times the population rate from 1970 through 2000. At the time of the SEHSR Tier I EIS, daily traffic volumes on I-95 and I-85 regularly exceeded design capacity in portions of the corridor.

The major airports in the corridor, Washington National, Washington Dulles, Richmond, Raleigh-Durham, Piedmont-Triad and Charlotte-Douglas have been identified by FAA as “delay problem” locations and are expected to generate over 20,000 hours of delay this year.

Freight congestion is evidenced in the corridor by the poor on time performance of passenger service along the same routes. The freight companies have been experiencing steady growth, and intermodal rail freight is the fastest growing segment of rail service. With west coast ports reaching capacity, and a new port planned for NC along with expansions underway at three ports in the corridor, both truck and freight increases are expected to tax an already congested system.

Currently North Carolina, Virginia, and CSX are partnering to complete capacity studies from Baltimore, Maryland to Florence, South Carolina to identify bottlenecks for current and future traffic.

## What is status of agreements relative to the corridor?

### *Regarding planning within the corridor:*

-In 1992 the US Department of Transportation was authorized by the Congress to designate five corridors in the country as candidates for development of high speed rail passenger service, and the US Secretary of Transportation did subsequently designate the corridor from Washington, DC, through Richmond, Petersburg, Raleigh, and terminating in Charlotte, North Carolina, known as the Southeastern High Speed Rail (SEHSR) Corridor.

-In 1997 the US Department of Transportation in High Speed Ground Transportation for America reported to the Congress that the “average trip on the Southeast Corridor would be longer and generate more revenue than on any other route”.

-In 1998 the Commonwealth of Virginia and the State of North Carolina, acting through their respective departments of transportation and VDRPT, the Federal Highway Administration

(FHWA) and the Federal Railroad Administration (FRA), entered into a Memorandum of Understanding specifying how to combine their efforts in developing the SEHSR corridor.

-In 1999 the Commonwealth of Virginia and the State of North Carolina, acting through their respective departments of transportation and VDRPT, FHWA and FRA, agreed to partner in the development of a Tier I Environmental Impact Statement (EIS) for the portion of the SEHSR from Washington, DC to Charlotte, NC in compliance with the National Environmental Policy Act (NEPA).

-In March 2002 the Secretaries of Transportation in North Carolina and Virginia jointly signed a Recommendation Report agreeing upon the preferred study corridor between Washington DC and Charlotte NC to be carried forward into the SEHSR Tier I Final EIS (FEIS) which was completed in June 2002. A Record of Decision (ROD) was issued by FRA and FHWA selecting the preferred study corridor for SEHSR from Washington, DC to Charlotte, NC in October 2002

-In the 2001-2002 sessions of the General Assemblies of Virginia (SJR 396) and North Carolina (SL 2001-266) authorized establishment of a Commission to study the benefits, costs and required legislative actions to develop SEHSR.

-The Congress through adoption of the Amtrak Reform and Accountability Act of 1997 (PL 105-134) authorized formation of interstate rail compacts, and the 2003-2004 sessions of the General Assemblies of Virginia (SB 1092) and North Carolina (SL 2004-114) authorized establishment of a Virginia—North Carolina Interstate High Speed Rail Compact to develop a plan for the design, construction, financing and operation of SEHSR, and to coordinate federal, state and local efforts to establish the service.

- In 2003, The Commonwealth of Virginia and the State of North Carolina, acting through their respective departments of transportation and VDRPT, agreed to partner in the development of a Tier II EIS for the portion of the SEHSR preferred study corridor between Raleigh, North Carolina and Petersburg, Virginia (approx. 138 miles).

-In 2005 the North Carolina Board of Transportation authorized extension of the Tier II EIS termini to include Richmond, VA (an approximately 29 mile increase, for total corridor of approximately 168 miles, Richmond to Raleigh).

-In accordance with §33.1-221.1:1.1 and §58.1-2425 of the Code of Virginia (1950), as amended, funding is provided for the appropriation of funds to be allocated by the Commonwealth Transportation Board for Rail Enhancement Fund projects of this type. On 15th day of December 2005, the Commonwealth Transportation Board approved funding for said Project to undertake completion of the Tier II Draft Environmental Impact Statement between Richmond (Main Street Station) and Raleigh (Boylan Wye). Additionally, the Congress, through an appropriation act (PL 109-115) for the Departments of Transportation, Treasury, and Housing and Urban Development, the Judiciary, District of Columbia, and Independent Agencies for the fiscal year ending September 30, 2006 did allocate rail corridor planning funds for the SEHSR corridor between North Carolina and Virginia.

-On February 3, 2006 the FRA published a Notice of Intent in the Federal Register to extend the Tier II SEHSR EIS termini to Richmond, making the overall project length approximately 168 miles from Richmond, VA to Raleigh, NC.



-NCDOT Rail and CSX have entered into a Preliminary Engineering Agreement regarding coordination and review of engineering related to the Tier II EIS.

-NCDOT Rail, VDRPT and CSX are jointly participating in a Capacity Study for the CSX Mainline (A-line) from Baltimore, Maryland to Florence, South Carolina to identify choke points for current and future traffic.

-NCDOT Rail is currently partnering with South Carolina and Georgia on a feasibility study for corridor improvements from Charlotte through Atlanta

-NC and VA are also cooperating with the Southeast Economic Alliance, a group of 16 Chambers of Commerce along portions of the corridor who are advocating for the development of SEHSR.

-VDRPT is completing a major Tier I EIS for the extension of the corridor from the Richmond/Petersburg area to the Hampton Roads/Norfolk area.

***Regarding Agency and Public Involvement within the corridor:***

-Approximately 7,000 people have been contacted by phone, with 1200 completing a full telephone survey

-Over 225,000 direct mail pieces were sent out along the travel corridor, along with display ads in area papers notifying people of the community workshops about the project

-Over forty (40) community workshops have been held in locations throughout Virginia and North Carolina, as well as numerous small group meetings and public officials meetings.

-in depth interviews with community stakeholders were conducted.

-18 public hearings have been held

-In addition to general public outreach, agency coordination has also played a major role in the development of this Environmental Impact Statement. As with the overall public involvement process, the agency involvement process was designed to be proactive. Outreach and coordination techniques included formal joint-agency meetings, small meetings and briefings, and formation of an advisory committee<sup>10</sup>.

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<sup>10</sup> The advisory committee is composed of officials and representatives from state, federal, and local jurisdictions and agencies along the travel corridor in both states.

## NC-VA investments in the Southeast High Speed Rail Corridor as of June 2006

### Corridor As Defined by USDOT

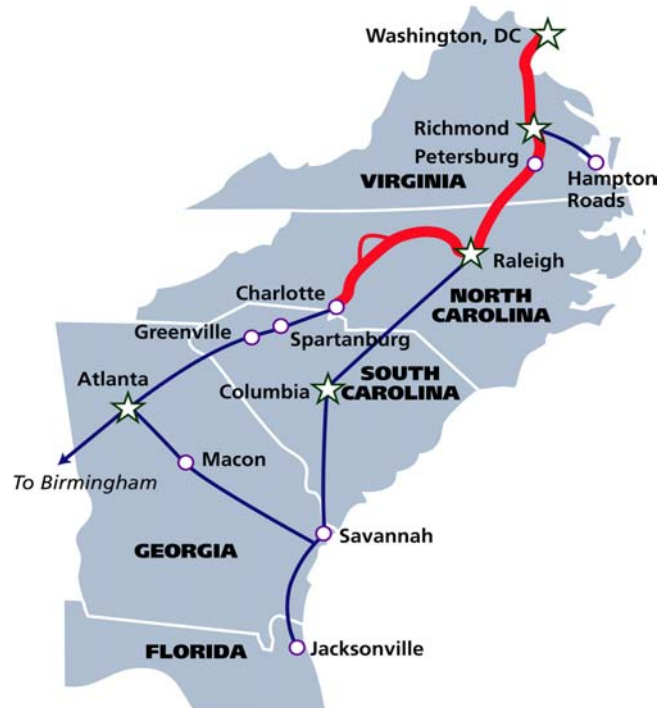
-1992- Washington, DC to Charlotte, NC  
(via Richmond, Petersburg, Raleigh)  
Approx. 450 miles

-1996- added  
Richmond to Hampton Roads, VA  
Approx. 70 miles

-1998- added  
Charlotte-Atlanta-Savannah-Fla  
Approx. 780 miles

And  
Raleigh-Columbia-Savannah-Fla  
Approx. 580 miles

And  
Atlanta-Birmingham  
Approx. 140 miles



### NC investments in SEHSR Corridor (since 1999, approx. figures)

1999- SEHSR four state coalition effort	\$25,000
1999-2002 Tier I EIS, Washington DC to Charlotte NC	\$2,400,000
2003-ongoing Tier II EIS, Petersburg to Raleigh	\$4,500,000
2003-04 Charlotte to Atlanta initial feasibility study	\$25,000
2006-ongoing GaDOT, Volpe study, Charlotte-Atlanta corridor	\$35,000
1999-to date Raleigh to Charlotte improvements	(complete) \$22,000,000 (underway) \$39,000,000
<b>Total</b>	<b><u>\$67,985,000</u></b>

### Other Activities:

-Southeast Economic Alliance (16 Chambers) completed economic analysis confirming the business case for SEHSR

