A Business Case for Southeast High-Speed Rail

Terry Chastain

Abstract

As the Southeastern region of the United States continues to experience increasing levels of congestion on the regional highways, the Southeast High-Speed Rail corridor presents an appealing alternative to automobile travel. The corridor is slated to run from Washington, D.C. to Charlotte, North Carolina and eventually from Charlotte to Birmingham, Alabama. The key to implementing the project is the privatization of operations, a model not traditionally used for rail in the U.S. With the Southeastern states moving ahead with the environmental impact statements, the outstanding issues include setting the timeline, choosing the operators, and designing the routes.

Introduction

With tremendous economic and population growth, the Southeast needs a comprehensive, multimodal transportation system. High-speed rail (HSR) service will provide business and leisure travelers with a competitive alternative to air and auto for trips between 100 and 500 miles.

The Southeast High-Speed Rail Corridor (SEHSR) is one of five originally proposed high-speed passenger rail corridors designated by the U.S. Department of Transportation (USDOT) in 1992. The corridor was designated to run from Washington, D.C. through Richmond, VA and ending in Charlotte, NC. It is part of an overall plan to extend service from the existing (ACELA, or Amtrak) high-speed rail on the Northeast Corridor (Boston to Washington) to points in the Southeast (see Figure 1).

High-speed rail in the Southeast will mean a top speed of 110 mph and average speeds between 85 to 87 mph. Virginia, North Carolina, South Carolina, and Georgia have joined together with the business communities in each state to form a four-state coalition to plan, develop and implement high-speed rail in the Southeast. Under the current plan, the system will be developed incrementally, upgrading existing rail rights-of-way. Portions of the Washington–Charlotte SEHSR corridor could be completed by 2010, depending on funding availability.

The Need for High-Speed Rail

A regional approach to transportation will help states in the Southeastern region to meet the challenges of

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growth, while improving air quality. The highways of the region and the airports along the Eastern seaboard simply cannot handle the present traffic volumes, let alone accommodate future travel needs. The South has the highest per capita vehicle miles traveled and ranks second in carbon monoxide emissions (USDOT, 2001). Recent figures from the USDOT reveal the growing transportation needs of the Southeastern states. As implied in Figure 2, traffic congestion on urban freeways in the Southeastern region is expected to increase by 400 percent by 2020 (Southeast High-Speed Rail, 2003).

Compared to air travel under three hundred miles, HSR has many advantages. First, most airports are located miles away from city centers, whereas HSR could connect directly to downtown areas. Second, a business traveler could make use of electronic equipment (cell phones, laptops, etc.) the entire trip, thus providing an opportunity for increased productivity. Third, HSR could arguably be less stressful than the air experience given today's current security situation.

As congestion continues to increase along major interstate corridors, HSR travel times will also

Figure 1. High-speed rail corridor destinations. Image courtesy of Terry Chastain.

Meanwhile, $4.5 billion must be spent on roads to accommodate existing levels of congestion.

From an economic development perspective, SEHSR could facilitate urban revitalization by bringing more travelers directly to downtown centers. Refurbished and expanded stations could be transformed into mixed-use facilities, and SEHSR could also encourage significant public/private investments.
continue to improve in comparison to driving times. The intercity business traveler choosing the auto for transportation will often have to compensate for the unpredictable nature of interstate congestion due to accidents, construction, or volume by leaving earlier than otherwise necessary.

High-speed rail will allow for time-efficient travel between cities in the Southeast (see Figure 3). Assuming only an average speed of 75 mph and a 45 minute check in allowance, HSR from Richmond to Washington would be a little over two hours; four and a half hours from Raleigh to Washington; three hours from Charlotte to Raleigh; four hours from Atlanta to Charlotte; two hours and forty-five minutes from Atlanta to Greenville; and two hours and forty-five minutes from Birmingham to Atlanta (see Figure 3).

A New Business Model for High-Speed Rail

This new model calls for the privatization of operations, user, and market driven route planning, and changes in funding, with a focus on rapid service to major population and financial centers with a minimum of stops.  

Currently, Amtrak operates all passenger rail service in the Southeast. Amtrak, known officially as the National Railroad Passenger Corporation, began service in 1971. Its route map and budget are subject to Congressional oversight and appropriations, which could be described as too little to allow success and too much to force insolvency. Few routes turn an operating profit, and in fact most routes operate in the red to a shocking degree. SEHSR, however, will benefit from competition because privatization allows the operator to choose
Example Routes | Travel time
--- | ---
Chattanooga-Atlanta | 1h 58m | 3h 0m
Birmingham-Atlanta | 2h 3m | 3h 10m
Atlanta-Greenville | 2h 43m | 3h 10m
Atlanta-Charlotte | 2h 45m | 4h 16m
Charlotte-Raleigh | 2h 59m | 3h 54m
Raleigh-Washington | 3h 25m | 4h 7m
Richmond-Washington | 1h 46m | 3h 0m

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<tr>
<th>Trip Time to Business Destination</th>
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<tbody>
<tr>
<td>Road</td>
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<tr>
<td>Air</td>
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<tr>
<td>High-Speed Rail</td>
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**Figure 3.** Travel savings for high-speed rail users. Image courtesy of Terry Chastain.

The Alliance’s model proposes that the operator choose the routes and stops, which will be dictated by demand. As opposed to the current system, the operator will not be forced to run on unprofitable routes or make stops which are counter-productive. Also, the targeted riders of the Alliance’s model are time-sensitive to business persons and short-haul leisure travelers.

Finally, the Alliance’s model calls for a change in funding. Under the SEHSR proposal, the Federal government will make the initial investment in infrastructure for SEHSR, while operational costs will be maintained by the operator.

**Cost**

The Alliance’s model estimates that total construction of the first phase of SEHSR, from Washington, D.C. to Birmingham, would cost approximately $5.5 billion dollars. Initial studies indicate tickets will cost about 20-22 cents per mile (based on calculated demand for the service). This compares to air travel at 22-75 cents per mile and auto travel at 30-35 cents per mile.

The U.S. Department of Transportation, in reviewing the high-speed rail plans for 23 states, came to the conclusion that the SEHSR route will produce more revenue than any other proposed corridor. It is estimated that it will generate $2.54 in public benefits for each dollar spent to build and operate the corridor. SEHSR is the only proposed corridor projected to cover its total operational costs from the fare box.
Growing Support for High-Speed Rail in the Southeast

Numerous studies conducted to date reveal the benefits of a high-speed rail service in the Southeast. According to a USDOT study, High-Speed Ground Transportation for America, the Southeast is the best investment for new high-speed rail service. The report concluded that, as an extension of the Northeast Corridor, SEHSR operated at a top speed of 110 mph will "generate more revenue than any other" proposed expansion. The ratio of public benefits to public costs is 27 times greater than any other corridor. The average trip would be longer and generate more revenue than any other route. SEHSR will also provide economic benefits both to Southeast states and the Northeast Corridor since it "would increase traffic levels on the Northeast Corridor itself...thus creating synergistic ridership, revenue, expense, and income effects" for both regions.

North Carolina has completed an extensive economic development study on the impact of the construction and operation of SEHSR (Southeast High-Speed Rail Corridor, 1999). The project is expected to generate $700 million in new taxes; approximately $10.5 billion in employee wages over 20 years; over 31,000 new one-year jobs from construction; over 800 permanent railroad operating positions; and nearly 19,000 permanent full-time jobs from businesses which choose to locate or expand in the state as a result of SEHSR.

In addition, North Carolina, Georgia, and South Carolina have recently completed a HSR feasibility study from Macon to Charlotte, via Atlanta, Greenville, and Spartanburg. The report concluded that HSR trains are feasible in the corridor. Now, the states are in negotiations with Norfolk Southern - the railroad company that owns the line - for a detailed capacity study to see how implementation of SEHSR would impact the company's freight business. Following that, the states are committed to beginning work on a Tier I Environmental Impact Statement (EIS) along the route.

Key Advances

Virginia is making great strides to extend SEHSR from Washington to Richmond (see Figure 4). A total of $210 million in funds have been committed for infrastructure improvements along the line. Agreement has been reached with the railroads and a timetable for construction has been set. The City of Richmond has recently completed a $50 million renovation and conversion of the Main Street Station into a multimodal facility in anticipation of service in the near future.

For $71 million, North Carolina purchased the North Carolina Railroad, which owns the Raleigh to Charlotte section of SEHSR. The state is also in negotiations with CSX to purchase the railroad line from Raleigh to the Virginia border. North Carolina has also spent close to $100 million of state and Federal funds to refurbish and reconstruct rail stations.
In 2000, North Carolina and Virginia prepared a Tier I EIS, examined the need for the project, and looked at potential impacts on both natural and built environments along nine possible routes. Public involvement was critical during this phase with 26 public information workshops and 18 public hearings that solicited feedback about the project. Citizens, political leaders, planners, resource agencies, railroad officials, and other interested parties were among the many participants of the workshops and hearings.

The Final EIS, which outlines why the recommended alternative was selected, was completed in June 2002 and a formal Record of Decision was issued in October 2002. This Federal document confirms and approves the corridor recommendation by the Tier I EIS. Virginia and North Carolina are now proceeding with the next phase, Tier II, which provides a detailed analysis on the impacts, including track location, station arrangement, and detailed design. Rather than a single large document, smaller Tier II environmental studies will be conducted for specific segments of the route where track work will be needed. The document should be available for public review in early 2005. At that time, public hearings will be held along the affected corridor. In 2005, the final Tier II EIS is expected to be completed and the Record of Decision obtained for the Petersburg to Raleigh segment. Right-of-way and permit acquisition can begin at that time.

The Washington, D.C. to Charlotte portion of the SEHSR corridor could be implemented by 2010, depending upon funding availability. In the meantime, other projects will reduce travel time within the next few years. Implementation of the remainder of the SEHSR into South Carolina, Georgia and Florida will follow by several years.

**Conclusion**

Leaders in North Carolina and Virginia have committed a great deal of political and financial capital into laying the foundation for the future of SEHSR. Georgia, South Carolina, and Alabama are themselves becoming convinced that the SEHSR will be operational at least from Washington to Charlotte in the foreseeable future and have thus began preparations for future extensions from Charlotte to Birmingham (see Figure 5).

![Figure 5. Possible route for high-speed rail line across the Southeast. Image courtesy of Terry Chastain.](image-url)
The eventual completion of the SEHSR corridor is inevitable due to the commercial viability of the trains themselves, the region’s continued population growth and environmental challenges. The main questions that remain are: when will it be built; who will operate it; and where will the routes and stops be located?

About the Alliance

Formed in 2000, the Southeastern Economic Alliance (Alliance) is a coalition of 15 chambers of commerce from 6 states: Atlanta, Birmingham, Charlotte, Charleston, Chattanooga, Columbia, Greensboro, Greenville, Hampton Roads, Macon, Raleigh, Richmond, Savannah, Spartanburg, and Winston-Salem. The Alliance recognizes that implementation of the Southeast High-Speed Rail (SEHSR) corridor would efficiently link business centers in order for the Southeast to compete in global and regional economic markets. The Alliance does not select routes, are not rail technical experts, and is not linked to Amtrak.

References


Endnotes


2. For more detail on the business model, see www.southeastalliance.com.

3. For a copy of the report, see: http://www.fra.dot.gov/us/content/515. This study focused on the Washington to Charlotte leg, because Charlotte to Birmingham has yet to be designated a HSR corridor.

4. For a more detail chronology, see http://www.sehsr.org/history.html.