Executive Summary

The proposed Southeast High Speed Rail (SEHSR) project involves the development, implementation, and operation of high speed passenger rail service in the approximately 500-mile travel corridor from Washington, DC through Richmond, VA and Raleigh, NC to Charlotte, NC.

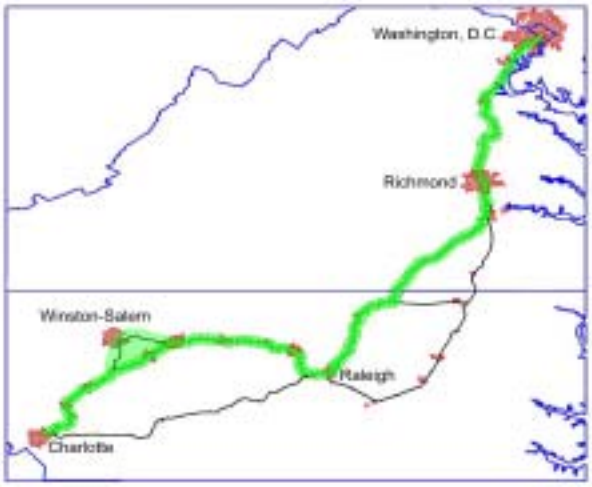
A 10-year long alternatives development process resulted in the identification of nine alternatives. The impacts to both the human and natural environments were minimized by utilizing the existing rail infrastructure and rail rights-of-way. Using existing infrastructure also minimized the initial capital investment required by the system. The purpose of the proposed SEHSR project is to reduce travel time for intercity passenger rail service, thus offering an additional competitive modal choice for transportation within the overall travel corridor.

In August 1999, the North Carolina Department of Transportation Rail Division (NCDOT) and the Virginia Department of Rail and Public Transportation (VDRPT) initiated a tiered environmental study process of the nine alternatives. In August 2001, the agencies, in cooperation with the Federal Railroad Administration (FRA) and the Federal Highway Administration (FHWA), issued a Tier I Draft Environmental Impact Statement (DEIS) on the project. The Tier I EIS is a program level document, and as such does not seek agency permits. This Final Tier I Environmental Impact Statement (FEIS) builds on the Tier I DEIS by identifying the preferred alternative and the basis for that choice, along with a discussion of the alternatives not chosen. This Tier I FEIS also includes the comments and responses from the Tier I DEIS public hearing process, and any corrections or additions to the information in the Tier I DEIS. Following issuance of this Tier I FEIS and a Record of Decision (ROD), Tier II studies would commence at the local/corridor level on the recommended alternative if a decision is made to proceed with high speed rail. These studies would address appropriate environmental and engineering factors.

NCDOT and VDRPT have identified Alternative A (NCRR & S-line), modified with passenger connectivity to Winston-Salem (Alternative B) as the combination of alternatives that best meets the project's purpose and need while minimizing environmental impacts. The agencies also recommend that the Alternative A portion be developed first and that the Alternative B portion be developed in conjunction with the efforts of the Piedmont Authority for Regional Transportation (PART), as appropriate. PART is responsible for coordinating the regional transportation system in the counties around the Winston-Salem connection. The reasons for the selection of the combination of Alternative A and Alternative B include:

- It minimizes potential impacts to wetlands and threatened and endangered species, with moderate levels of potential environmental complexity, and strongest agency support, while providing:
- The highest level of service: highest projected annual ridership, largest combined trip diversions from auto and air to rail, with competitive total travel time;
- Second best net reduction in NO_x emissions and overall net energy use reduction;
- Best operating cost recovery; and
- Highest level of public support.

Figure 1
Recommended Alternative
Alt. A + Alt. B



1.0 ALTERNATIVES

1.1 Introduction and Overview

The SEHSR project proposes to extend high speed passenger rail service from Washington, DC to Charlotte, NC, via Richmond, VA and Raleigh, NC. The Tier I DEIS examined nine alternative corridors. The corridors consist of existing railroad rights-of-way. Because these are shared corridors, any implementation of higher speed passenger rail service must also facilitate freight movement and other existing, and proposed uses of the corridors.

The primary motivation for the proposed rail service is captured by the following key statements from the Purpose and Need sections of the Tier I DEIS:

- Provide the traveling public – particularly special populations such as the elderly and the disabled – with improved transportation choices;
- Help ease existing and future congestion (air, highway, passenger rail) within the corridor;
- 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 impact.

Background and Legislative History

The proposed SEHSR project is part of a plan by the US Department of Transportation (USDOT) and the states to develop a nationwide high speed rail network. Authorization for a program of national high speed rail corridors was included in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA-PL 102-240, Section 1036) and continued in the Transportation Equity Act for the 21st Century (PL 105-178, Section 7201). In 1992, the USDOT designated the SEHSR Corridor as one of five original national high speed rail corridors.[1] Further extensions to the corridor in 1998 added connections into South Carolina, Georgia, and Florida.[2]

Since the initial corridor designation, the Federal Railroad Administration (FRA) and the Federal Highway Administration (FHWA) have worked with North Carolina and Virginia to facilitate development of rail transportation options. In early 1998, FRA, FHWA, NCDOT, and VDRPT entered into a joint Memorandum of Understanding to coordinate and document each agency's respective roles and responsibilities in developing environmental documentation for the rail programs in both states.

[1] The designated corridor extended from Washington, DC to Charlotte, NC via Richmond, VA and Raleigh, NC. This designation allowed federal monies to be spent on improvements to the existing rail system in order to achieve high speed rail service.

[2] 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.

The SEHSR program is identified for funding in the FY 2000-2006 NCDOT Transportation Improvement Plan and in the Virginia Department of Transportation (VDOT) FY2000-2005 Six-Year Improvement Program. Virginia, North Carolina, and the FRA have conducted specific studies to plan for high speed rail. [3] In addition, both states are undertaking improvements along some routes under study to address existing conventional passenger and freight rail needs in safety and operations.

Project Approach

Based on the findings of earlier feasibility studies[4], NCDOT, VDRPT, FRA, and FHWA, focused on Incremental High Speed Rail (HSR) to formulate and analyze the SEHSR project in the DEIS.[5] This approach minimizes the impacts to both the human and natural environments by utilizing the existing rail infrastructure and rail rights-of-way. By using existing infrastructure, the initial capital investment required by the system is also reduced.

Although the rail facilities already exist in most locations, the Incremental HSR approach would require improvements at various locations within the travel corridor. These improvements would accommodate higher passenger train speeds and increase the capacity of the infrastructure to handle additional passenger and freight rail traffic. This incremental approach for SEHSR would utilize fossil fuel train sets capable of speeds up to 110 mph where safe and practical.[6]

Since the SEHSR could potentially be funded with federal funds and may require federal permits, the Environmental Impact Statement process was required, pursuant to the National Environmental Policy Act (NEPA). Because of the magnitude of the study area and the conceptual level of project detail, the NCDOT, VDRPT, and the federal partners chose a Tiered EIS[7] as the appropriate process for environmental documentation. [8]

The SEHSR Tier I DEIS provides an overview of the travel corridor and study area alternatives. Approved state transportation plans and programs were the primary context for the transportation analysis. Environmental data was derived from the most current, readily available

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[3] Examples of studies conducted include:

The Transit 2001 Commission, North Carolina, appointed in September 1995 (recommendations for improving public transportation in the 21st century; resulted in goal to reduce rail travel times between Raleigh and Charlotte to two hours from 3.75 hours).

Potential Improvements to the Washington – Richmond Corridor, FRA, 1999 (establishment of infrastructure improvements needed to accommodate mix and volume of services projected for 2015).

Washington, DC to Richmond, VA Passenger Rail Study, VDRPT, 1995 (evaluation of future demand, revenues, needed improvements, and cost projections for alleviating congestion and implementing high speed rail).

Preliminary Engineering and Feasibility Study for Additional High Speed Track, Washington, DC to Richmond, VA to the North Carolina State Line, VDRPT, 1992.

[4] Feasibility Study Summary & Implementation Plan, NCDOT – Rail Division, April, 1999.

[5] High Speed Ground Transportation for America, US DOT – Federal Railroad Administration, September 1997.

[6] High Speed Ground Transportation has been defined by the USDOT as ground transportation service that is time competitive with air and automobile travel on a door-to-door basis, in the range of 100 to 500 miles. Source: *High Speed Transportation for America*, USDOT – Federal Railroad Administration, September, 1997.

[7] As described in 23CFR 771.111[g] and CEQ regulations 1502.20 & 1508.28.

[8] When conducting an environmental impact analysis, two types of documents can be developed: a program-level document or a project-level document. A program-level document (Tier 1) is typically performed when a large physical area is being addressed for a proposed project, or when a new program is being introduced that may have far reaching effects. A program-level document typically looks at general environmental conditions and general levels of impact. This is because site-specific details have not yet been identified or designed. A project-level document is performed when a specific project is being looked at in detail. Under this type of analysis, detailed impacts are quantified and analyzed and potential mitigation measures are identified. Sometimes a broad, general document (Tier I) is followed by a number of more detailed documents (Tier II). This is called a tiered approach.

sources and used to analyze potential environmental impacts within the study area. Based on the findings and recommendations contained in the Tier I document and the Record of Decision, subsequent, more detailed Tier II analysis and documents would be completed as appropriate for the proposed actions.

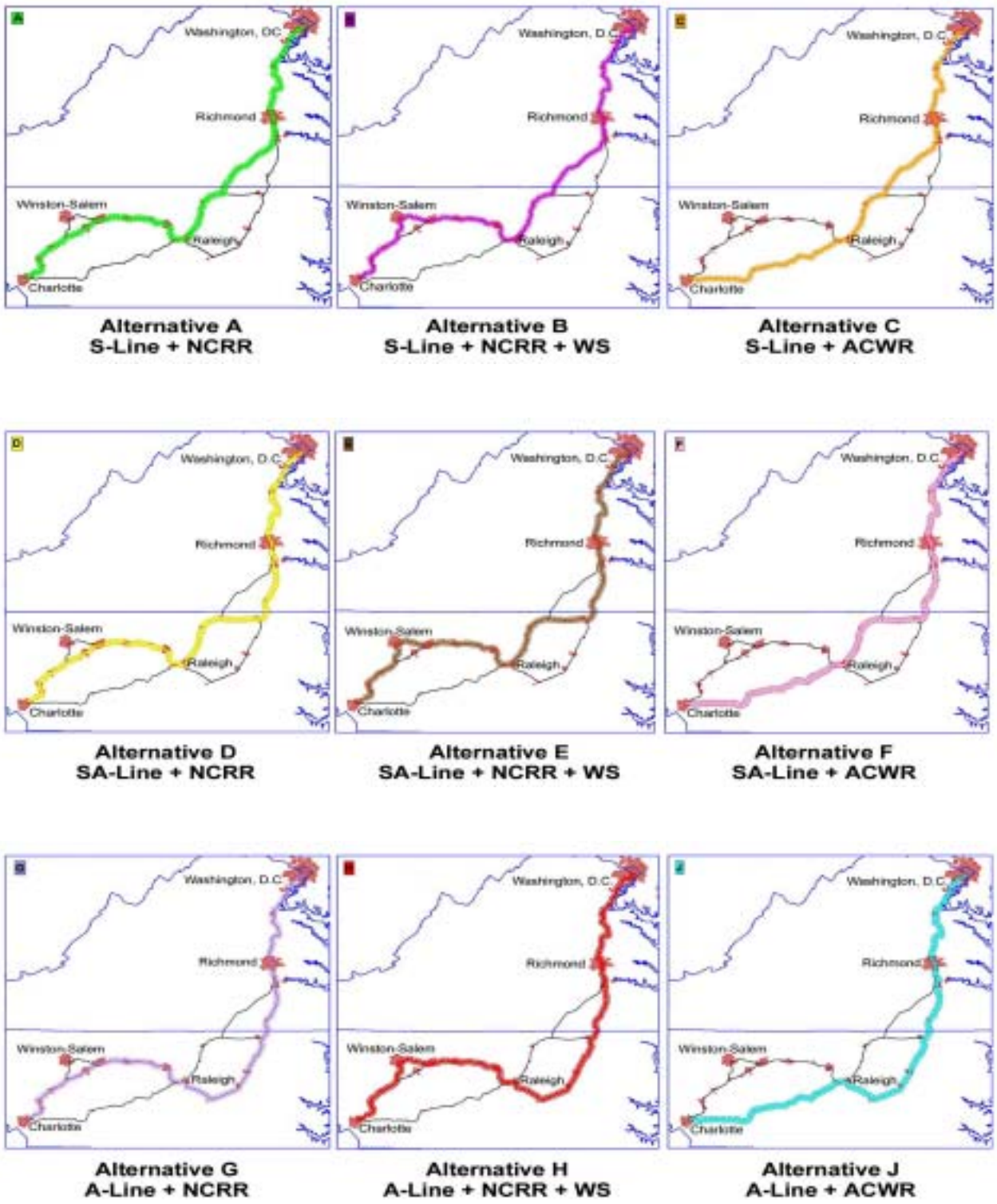
1.2 Preferred Alternative and Basis

Based on previous feasibility studies, and the interactive scoping process, the states with their federal partners identified nine study area alternatives and a "no build" scenario. The overall study area is shown in the Figure 1.1. The individual study area alternatives are approximately six miles wide[9] and centered on existing rail rights-of-way as shown in Figure 1.2.

Figure 1.1
SEHSR Overall Study Area

[9] An exception to the 6 mile width is the study corridor north of Richmond, VA up to Doswell, VA. Here the study area includes both the old C&O line and the old RF&P main line. Only the RF&P was used for analysis.

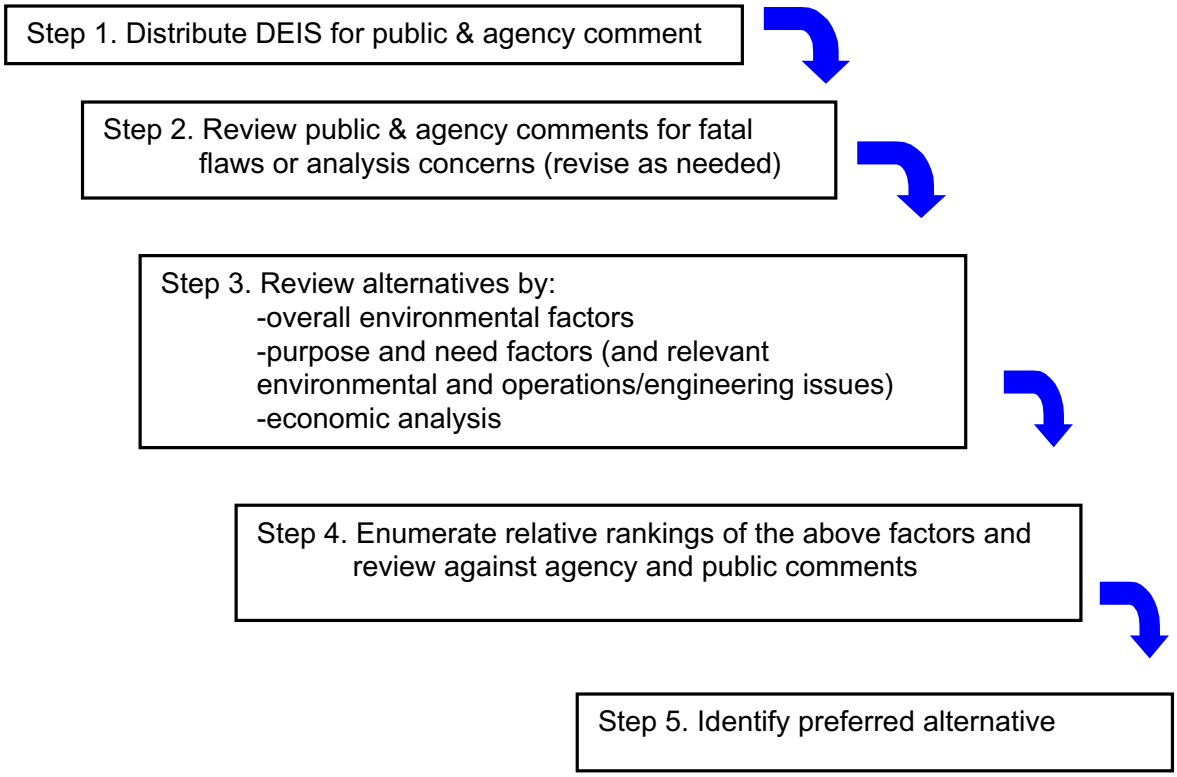
Figure 1.2
SEHSR Study Area
Alternatives



Process for Evaluating Study Area Alternatives

To evaluate the study area alternatives and determine a preferred alternative, the following "waterfall" process was used:

Figure 1.3
Process for Identifying Preferred Alternative(s)



The "waterfall" process was a methodical and sequential means for:

1. Receiving and addressing comments (public, freight railroad, agency, etc.);
2. Correcting for fatal flaws in the analysis or for disqualifying an alternative (as appropriate);
3. Using the summary table of impacts, the purpose and need criteria, and the economic analysis to enumerate the relative rankings of the nine alternatives;
4. Reviewing the relative rankings of the alternatives against comments received; and
5. Identifying the recommended alternative.

The first step of the evaluation process is discussed in the next section with a discussion of the distribution of the DEIS.

Step 1- Distribution of the DEIS for Public and Agency comment

In August 2001, the Tier I DEIS was mailed to state, federal, and local agencies[10] in both states, and was distributed to public viewing locations along all nine study area alternatives. This distribution was followed by a series of 18 public hearings with comments being received through December 2001. The Executive Summary of the DEIS was available on the project web site, and CD's of the full document were made available upon request.

Step 2- Evaluation of Public and Agency Comments

Up to the release of the Tier I DEIS in August 2001, public comments were recorded at workshops, through a hotline, with mail-in comment forms, and in interviews. Between 500 and 600 comments were received. Over 250 of these were substantive feedback, e.g. identification of community concerns. The remaining comments were requests for further project information or clarification. Typical issues included:

- Safety, noise, vibration, and impact on property values,
- Mix of commuter and freight rail and increased congestion,
- Access to high speed passenger rail service, and
- Impact on tourism and preservation of historic districts.

From September to December 2001, a series of public hearings were held in 18 locations along the study area alternatives in both states. The public comments received from these hearings were reviewed and analyzed to determine the public's overall support of, or opposition to, SEHSR. Six hundred and fifty comments were supportive with eleven comments opposed. The following table shows the distribution of these comments.

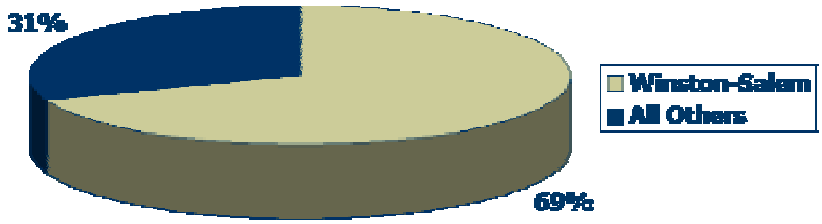
Table 1.1
Public Comments: Support for and Opposition to SEHSR

Location	For	Against	Other	Total
Winston Salem, NC	449	1	6	456
Henderson, NC	36	2	6	44
Roanoke Rapids, NC	24	1	5	30
South Hill, VA	19	0	1	20
Springfield, VA	19	0	26	45
Wilson, NC	19	0	3	22
Greensboro, NC	18	0	3	21
Cary, NC	12	0	1	13
Durham, NC	9	1	16	26
Charlotte, NC	9	0	2	11
Raleigh, NC	9	0	6	15
Richmond, VA	8	0	24	32
Salisbury, NC	8	0	2	10
Star, NC	4	6	4	14
Petersburg, VA	3	0	13	16
Fredericksburg	2	0	3	5
Sanford, NC	2	0	2	4
Emporia, VA	0	0	0	0
Totals	***650***	***11***	***123***	***784***

[10] The full distribution list is located in Chapter 5 of the DEIS. Copies were also sent to the Advisory Committee in both states.

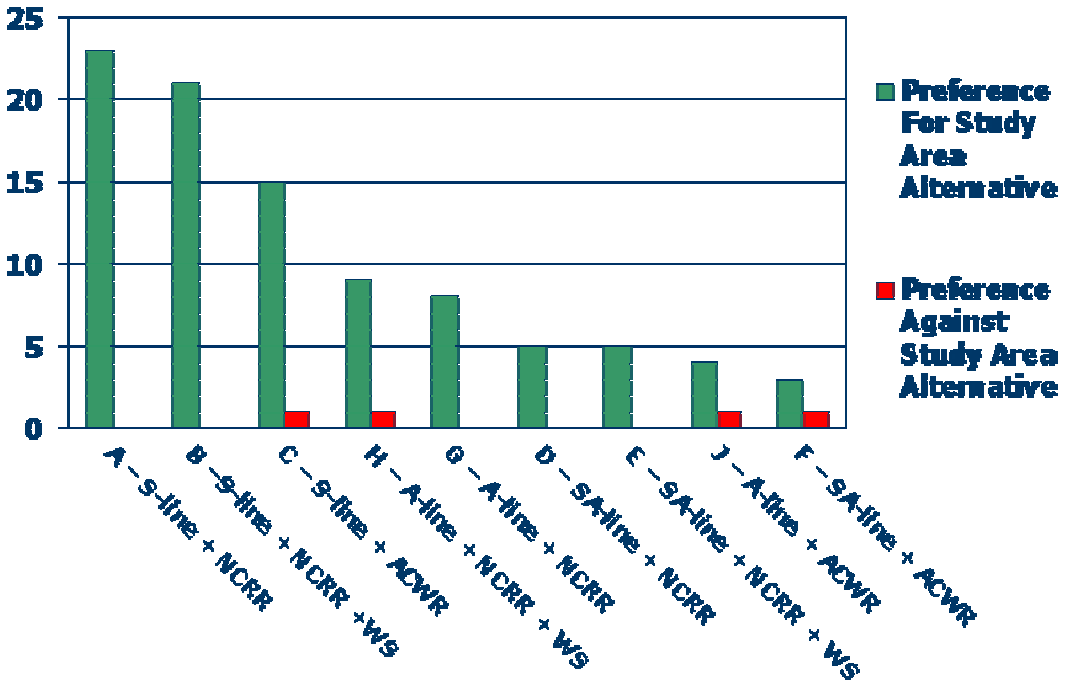
Figure 1.4
Public Comments: Support for SEHSR

Figure 1.4 shows that of the 650 comments that support SEHSR, 69% came from the Winston-Salem area. While most of the comments received from Winston-Salem did not specify support for a specific alternative, they all expressed support for service to Winston-Salem. Service to Winston-Salem is accomplished through alternatives B, E and H.



There were 39 comments that expressed a preference for or against a specific study area alternative; Figure 1.5 shows the distribution of these preferences.

Figure 1.5
Preferences for Study Area Alternatives



About 83 percent of the general public who provided comments on the DEIS were favorably disposed to the overall proposed SEHSR project. One percent of the commenting general public opposed the project.

In summary, overall public input favors Alternative A with strong support for Alternative B.

Through the advisory committee process and other direct communications, regulatory and resource agencies were engaged to facilitate sound decisions and to ensure their input on the SEHSR project. These agencies were involved in the review of each key product as the document process moved forward. As part of the Tier I DEIS distribution process, over 50 federal, state, regional, and local agencies received copies of the Tier I DEIS for review and comment.

Agencies in both states have been supportive of the tiered environmental process. This gave the agencies a big picture look at the future work, and allowed their input from the very earliest planning stages. Thirteen agencies provided comments on the SEHSR Tier I DEIS. Other agencies indicated they will wait until more detailed information is available at the Tier II level to review and comment on the proposed project. Table 1.2 (continued on next page) shows the nature of comments provided by regulatory and resource agencies.

Table 1.2
Summary of Resource and Regulatory Agency Comments

	Preference for Specific Alternative(s) to Carry Forward	Defer Comment to Tier II	Further Analysis/ Clarification Needed in FEIS	Recommend Maximum Use of Existing ROW	Possible Impacts	No Specific Comment
U.S. Department of Army, Corps of Engineers, (Virginia)	✓[11]			✓		
U.S. Department of Army, Corps of Engineers, (North Carolina)	✓[12]			✓		
U.S. Department of Agriculture, Natural Resources Conservation Service						✓
U.S. Department of the Interior, Ecological Services – Virginia Field Office						✓
U.S. Department of the Interior, U.S. Fish and Wildlife Service		✓		✓		✓
Environmental Protection Agency, Region III NEPA Compliance Section			✓[13]			
National Oceanic and Atmospheric					✓[14]	

[11] The Corps of Engineers (VA) recommends either A,B,C,D,E, or F be carried forward in the FEIS.
[12] The Corps of Engineers (NC) recommend Alts. A or B, based on minimizing environmental impacts and maximizing operating efficiency.
[13] The EPA suggested providing a summary of each alternative to make clear which alternative appears best from an operational standpoint, which is potentially the most disruptive to communities, or which alternative may be the most impacting to natural resources (note: this information now appears in this document in narrative form and in table form in the appendix). In addition, the EPA recommended a more detailed analysis of the following issues: (1) noise and vibration; and (2) the potential magnitude of disturbances associated with crossings of state and federal Scenic Rivers. These are addressed in the Chapter 3 responses.

	Preference for Specific Alternative(s) to Carry Forward	Defer Comment to Tier II	Further Analysis/ Clarification Needed in FEIS	Recommend Maximum Use of Existing ROW	Possible Impacts	No Specific Comment
Administration						
Dept. of Transportation, Federal Hwy. Administration – Virginia Division	✓[15]		✓[16]			
Federal Emergency Management Agency		✓				
Northern Virginia Regional Commission						✓
Virginia Dept. of Historic Resources		✓				
Virginia Dept. of Environmental Quality				✓		
Virginia Dept. of Mines, Minerals and Energy		✓[17]				
North Carolina Division of Water Quality	✓[18]					

Many agencies had positive comments about the extent of coordination during the document preparation and review process. The review by the agencies did not reveal, from their perspective, that any regulatory or other environmental "fatal flaws" existed in any of the nine alternatives evaluated.

EPA recommends additional analysis of two topics: potential receptors and the potential impacts of noise and vibration in communities; and an estimation of the potential impacts due to disturbances of state and federal scenic rivers. These comments are responded to in Chapter 3 of this document. The comments of FHWA-VA division office on the issues of estimated ridership for Alternative C are also addressed in Chapter 3.

The agencies favor alternatives that utilize the most urbanized corridor sections (NCRR corridor and Winston-Salem) along with the routing along the highest ground minimizing potential wetland impacts. Thus alternatives A and B have the strongest overall agency support.

[14] The National Oceanic and Atmospheric Administration expressed concern about possible impacts to geodetic control monuments by the proposed SEHSR.
[15] FHWA-VA originally expressed a preference for Alternative C, but upon further clarification now supports Alternatives A & B as preferred.
[16] FHWA-VA asked for additional clarification concerning impact of existing service on ridership if Alt. C is developed. This is answered in Chapter 3 of this document.
[17] The Virginia Department of Mines, Minerals and Energy indicated that our database is incomplete. They asked that we send maps to them to be updated for Tier II.
[18] The North Carolina Division of Water Quality recommended that Alternatives B, E, or H be carried forward for further study, with specific support for service to the heavily populated piedmont region of NC (the NCRR and Winston-Salem areas).

In summary, from Figure 1.5, Alternative A has the highest level of public support from those individuals expressing a preference among the nine alternatives. From Figure 1.4, 69 percent of the favorable comments received came from the Winston-Salem area, indicating a desire for passenger service to the Winston–Salem area, which is satisfied through Alternative B. The primary difference between Alternative A and B is the connecting service to the Winston-Salem area. Alternatives A and B also received the most support from those regulatory/resource agencies that expressed support for specific alternatives. Therefore, from the standpoint of both public and agency comments, Alternatives A and B have the strongest support.

The next step in the evaluation was a review of the alternatives by: overall environmental issues; purpose and need factors (as they relate to the relevant environmental and engineering & operation issues), and; economic or business case analysis.

Step 3- Review by Overall Environmental Factors, Purpose and Need Factors, and Business Factors

Overall Environmental Factors **-**The Tier I EIS is a "tiered" environmental document, which means that a “big picture” look at the proposed SEHSR project is taken. It includes consideration of the full range of environmental issues (natural and man-made), but through a broad, program-level evaluation.

Concerning environmental factors, the Tier I DEIS focused on the identification of known jurisdictional features within the project area. The term “jurisdictional” is used in this context to refer to those environmental factors which are subject to regulatory review, control, or permitting in addition to those required under the National Environmental Policy Act. Examples of jurisdictional features include wetlands, which are regulated under the Clean Water Act, and protected species, which are protected under the Endangered Species Act. Most jurisdictional issues deal with the natural environment. However, impacts to the human environment must also be considered. Although not typically considered “jurisdictional,” other federal laws and regulations exist which provide for special consideration and protection for cultural and community resources, such as historic sites, and publicly owned community facilities. Some of these laws and regulations include the National Historic Preservation Act and the Civil Rights Act. Therefore the locations of community facilities such as parks, schools, and churches/religious institutions were also identified at a broad level. In this way, planning can begin in the earliest stages to avoid or minimize impacts to all elements of the natural environment and cultural landscape.

The information provided in the DEIS presented a corridor level review of the study area alternatives to identify known environmental elements. Information was sought from the appropriate regulatory and resource agencies, and numerous databases and resource agency files were researched.

The information gathered provides for a broad analysis of the potentially affected environment and the potential cumulative impacts within the entire project study area. The subsequent Tier II environmental documents would provide more detailed environmental impact analysis, evaluating specific segments of the preferred study area alternative with additional research, coordination, and field surveys.

For comparison purposes the estimated potential for environmental impacts of the proposed improvements within each study area was based on three primary considerations: the actual footprint of possible improvements based on a 200-foot conceptual engineering corridor, the

possibility of proximity impacts, and the fact that at this level of review the locations of many features are approximate. Proximity impacts come in several forms depending on the environmental feature being considered. Therefore, a potential impact zone or evaluation buffer width greater than the 200-foot conceptual engineering corridor was used to evaluate possible impacts to known environmental features. This increased width allows for inclusion of features very near and possibly within the future design corridor, and provides a "worst case" representation of the known environmental constraints possibly affected within each study area.

A conceptual engineering alignment was developed to maximize use of the existing rail infrastructure between Charlotte and Washington, DC, while minimizing environmental impacts and seeking to meet the conceptual engineering design[19]. All extended evaluation areas were based on the centerline of the conceptual engineering corridor. Table ES-3 (see Appendix) identifies the evaluation buffer width used in identifying the potential impacts within each study area. Three hundred-foot buffer widths were used for most environmental features identified, unless otherwise noted. The items for which wider buffers were used, and the rationale for deviations from the 300-foot width, are explained below.

The full six-mile corridor was considered for potential impacts to federally protected species. One bird species, the red-cockaded woodpecker (*Picoides borealis*), is listed for many of the North Carolina and Virginia counties within the study areas. Where populations are known to occur, an area within a one-half mile radius of the colony site receives a level of protection under the Endangered Species Act. Other animal species commonly listed in many North Carolina and Virginia counties, such as the bald eagle (*Haliaeetus leucocephalus*) and many fish species, have habitat areas of varying size and level of protection.

Impacts to cultural resources, particularly historic properties and districts include not only direct impacts to the historic property itself, but also indirect affects due to changes to the character, setting, and audible and visual landscape surrounding the property. Therefore, the impact zone considered for historic architectural properties was extended to 1500 feet, 750 feet on each side of the conceptual engineering centerline. In this way a possible "worst case" analysis of the potential for adverse effects to historic properties within the area is provided.

The determination of potential impacts to community facilities, Superfund and other hazardous waste sites, and public parks and recreation areas was based on one-half mile buffer areas. The one-half mile buffer width was used for community facilities because impacts to these vary depending on the type of facility and its function within a community. A wider buffer was used in identifying hazardous waste sites due to the propensity of free product within the soil or groundwater to move from its point of origin.

National Rivers Inventory, Water Supply Watersheds, and Prime Farmland were all considered for the entire six mile corridor due to the nature of the data sets (watersheds and farmlands cover expansive areas, and the length and meandering nature of the rivers were better displayed in the larger context).

Concerning the natural environment, the Natural Heritage Program files for both states were searched for records of locations of federally protected species, state listed species, and other

[19] Desired maximum authorized speed: 110 mph (FRA Class 6 track), and desired minimum authorized speed: 80 mph. Subject to physical, environmental, economic and other constraints. Design speeds may fall below 80 mph in certain urban areas or in certain track conditions that discourage high speeds.

rare and unusual geological, ecological, or topographic features within each study area. Also, critical habitat areas as designated by the US Fish and Wildlife Service were identified.

Potential habitat for protected species is minimized along alternatives A, B, and G. These routes use the highly urbanized NCRR corridor which parallels the I-85 corridor between Charlotte NC and Raleigh NC. The greatest potential for habitat exists along the ACWR (the southern routing from Charlotte to Raleigh) because of its rural character (Alternatives C, F, and J).

Potential wetlands were derived from an overlay of wetlands areas shown on National Wetlands Inventory maps and hydric soils, as shown on Natural Resources Conservation Service soil surveys. Hydric soils are soils that are inundated with water long enough to produce anaerobic conditions, and they are one indicator of jurisdictional wetlands. The preponderance of wetland areas in VA and NC are in the eastern portions of the state. The existing A-line runs parallel to I-95 corridor in NC and VA and those routes using this section of line have the greatest potential wetland impacts (alternatives H, J and G). Wetlands potential is minimized on alternatives B, C and A which follow higher ground to the west and north.

Potential 100 year flood plain impacts were assessed using only the information from FEMA's Flood Insurance Rate Map program. This program is urban in nature; therefore stream crossings may provide a better overall indicator of potential flood plain impacts. The greatest negative potential exists along alternatives J and F. Both those routes use the ACWR corridor. That corridor also has the greatest negative potential relative to rivers on the National Rivers Inventory (rivers potentially eligible for Wild and Scenic designation) because the Deep River parallels the existing rail right of way for over 15 miles. A portion of this section of the Deep River is also classified as High Quality Water under the North Carolina Water Quality Classification system. The other alternatives are fairly equal concerning potential stream or flood plain impacts, based on the level of assessment at this time. It is anticipated that impacts to waters of the states (wetlands, streams, water supplies, etc.) would be minimized by use of the existing right of way to the maximum extent practicable. Further avoidance and minimization would be practiced in the Tier II designs, and then Best Management Practices would be followed for design, sedimentation and erosion control, and for construction practices.

The alternatives which use the NCRR corridor and the Winston-Salem connection have the most potential to positively impact air quality maintenance and/or non-attainment areas by virtue of the counties that they pass through. Alternatives J, C and F have the least potential reduction of NOx because they utilize the largely rural ACWR route. The other alternatives vary based on the number of trips diverted from auto use, since air diversions were not used in the calculations for NOx reduction (it was not possible to reasonably determine the affect on flight numbers attributable to trip diversions from air). Alternatives A, B and D have the highest combined diversions from air and auto.

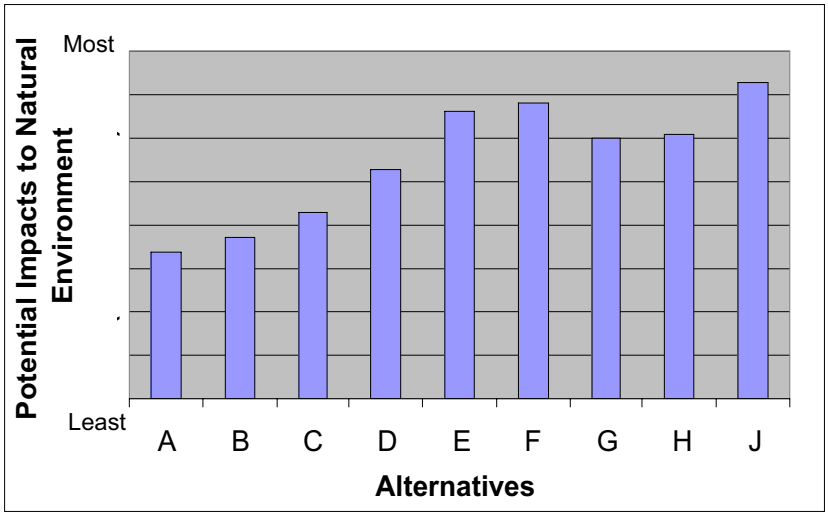
Prime and unique farmlands exist in both Virginia and North Carolina, and are important in the agricultural economies of both states. While there are variances in the total potential acres of these lands between the different alternatives, in most cases this farmland surrounds the rail right of way. Thus diversions from the existing right of way should allow the recovery of the previously impacted farmland back to farm use if desired. This concept could be similarly applied to potential game lands impacts (potential impacts to both farmland and game lands are greatest along alternatives F, J and E).

Under the no build scenario, similar kinds of impacts could be expected due to improvements required for expansion of the existing freight and conventional passenger rail system depending

on whether speed and/or capacity are the focus. While the impacts are potentially spread out over a longer period of time (due to slower expansion of the systems), they could potentially be accompanied by other impacts due to additional auto or air capacity needed to handle the trips which would not be diverted under the no build alternative. The no build alternative lacks the positive benefits of improved air quality and net energy reduction per passenger mile traveled in the corridor. It also fails to meet the other key purpose and need factors of offering additional transportation choices, easing of congestion, while improving overall transportation system safety and effectiveness while minimizing environmental impacts. Thus the no build alternative is not considered responsive to the project purpose and need.

Figure 1.6
Potential Impacts to Natural Environment

In summary, from a pure natural environmental view-point, potential impacts would be minimized on alternatives A, B, C and D as shown in the chart Figure 1.6[20]



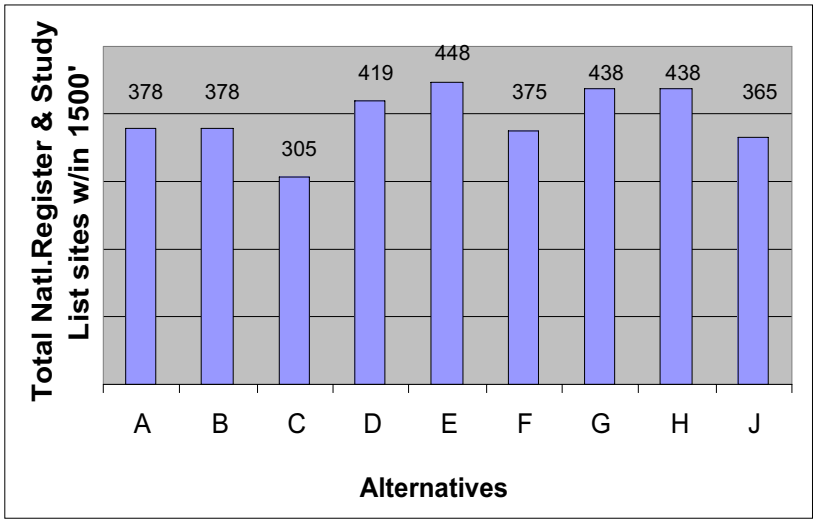
Concerning cultural resources, Section 106 of the National Historic Preservation Act requires that all federal agencies consider the impact of their actions on properties, sites, structures, or objects listed on, or eligible for listing on the National Register of Historic Places. In addition, the use of property within the historic boundaries of any such property is regulated under Section 4(f) of the Department of Transportation Act of 1966.

The railroad lines are an important part of the historic context of many of the cities and towns along all of the alternatives. The majority of the historic structures exist in the cities and towns, as such, we anticipate being able to minimize actions outside of the existing right of way through those areas, which would help minimize potential impacts to such structures and districts. Figure 1.7 displays the total National Register & Study List Sites by alternative. It shows that the greatest potential for impacts exists along alternatives E, G and H. These have the highest combined totals of National Register and Study List sites (i.e. sites identified as potentially

[20] Potential impacts are rank ordered from 1-9, with 1 being the least potential based on the data found in Tables ES-2 and ES-3 in the appendix for the appropriate data types. These are unweighted rankings.

eligible for the National Register). No known archaeological sites were located within the study buffer of any of the alternatives, however, archaeological surveys would be conducted as needed in Tier II. For total historic sites, Alternative C has the least potential number of sites within the buffer zone, with alternatives A, B, F and J in close proximity for second place.

Figure 1.7
Total National Register & Study List Sites



Assessment of community impacts is a qualitative and quantitative evaluation of the potential effects of the proposed project on communities within the Study Area Alternatives. A number of community characteristics are assessed at a programmatic level to determine both positive and negative impacts, including: physical aspects (including noise and vibration), visual environment, land use, social effects, safety, mobility and accessibility provision of public service, economic conditions, and displacements. In general, no significant negative, and some potentially positive, community impacts were found for the Study Area alternatives. A highlight of the program level analysis for noise and vibration, environmental justice and community impacts follows.

Noise and vibration potential is minimized on the routes using the rural ACWR corridor (Alternatives C, J and F) however, this also avoids serving over half the population of North Carolina which lives within 30 miles of the I-85 corridor (the NCRR corridor utilized by alternatives A, B, D, E, G and H). The rural southern routing would also fail to fully meet the project purpose and need in areas related to diversions from highway and air travel, overall energy savings, overall air quality improvements and increased mobility options for the elderly and disadvantaged.

It should be noted that all alternatives that utilize routings where portions of track were previously removed (Alternatives A, B, C, D, E, F) have the potential to introduce new noise and vibration for buildings built within the last 15-30 years in close proximity to the tracks.

Due to the program level of this document, and the fact that this document is looking at 6 mile wide study areas versus specific alignments, as well as the lack of current aerial photography for the entire study area, and the size of the study area being considered (over 1200 miles of existing rail rights-of-way), it was not deemed appropriate to run a detailed noise model or to

identify individual residential receptors (Category II receptors) for the Tier I analysis. Other detailed studies of similar projects proved helpful in considering the potential for significant new noise or vibration impacts. Studies performed for the Chicago to St. Louis High Speed Rail matched the conditions of the Tier I SEHSR EIS in a number of important areas, mainly:

-eight new passenger round trips daily, mixed with existing freight use
-fossil fuel locomotives
-train sets composed of 2 locomotives with 6 cars
-max speed over most of the route at 110 mph (with a short section of 125 mph)
-a mixture of continuous welded rail and some jointed rail (mainly on special sections such as crossovers and switches)
-a mixture of urban and rural sections over several hundred miles of corridor

Using the assessment methods described in the FRA and FTA manuals, the Chicago to St. Louis study calculated existing and future noise estimates for receptors located within 250 feet of the track centerline, and accounted for the projected change in train volume and operating speeds throughout the corridor for both passenger and freight trains. The appropriate FRA and FTA manuals were also used for analyzing potential vibration impacts.

The noise study identified 3498 residential receptors and 71 institutional receptors within 250 feet of the track centerline. The three major sources of rail noise were: 1) the steel wheel on steel rail interaction; 2) engine noise from fossil fuel locomotives; and 3) horn sounding at crossings. As train speeds exceed 80 mph the major source of noise was the interaction of the steel wheels on steel rail. The study found that there were increases in noise levels associated with all build alternatives over the no-build alternative. However, these increases were all less than 2.4 dBA, with the exception of a 3.5 dBA at one location, and the overall exposure at that one receptor was less that 60 dBA. Changes of 3 dBA or less are generally not severe, and total resulting noise levels less than 60 dBA are not often considered significant. Thus, even with over 3500 receptors there were no new noise impacts, and likewise there were no new vibration impacts.

Because of the similarity in project conditions between the Chicago to St. Louis project and the SEHSR project, it is anticipated that similar findings will exist along the SEHSR corridor when the Tier II detailed studies are performed. This conclusion supports the use of the NCRR corridor (alternatives A, B, D, E, G and H) where the overall purpose and need of the project is best met. Best management practices will also be applied for both noise and vibration during the Tier II studies in order to help minimize the increases in noise and vibration throughout the project corridor. Examples of such practices include grade separations were practicable, use of continuous welded rail, trenching, berming, noise walls, ballast mats, etc., as well as design features of the actual train sets.

Over the past several decades, public concerns have increased over economic, racial and ethnic fairness in the distribution of the environmental and socioeconomic burdens of transportation projects, as well as the economic and mobility benefits derived from transportation projects. The impetus behind environmental justice is to ensure that traditionally underrepresented communities, such as minority communities and low-income communities, are fairly represented.

The potential for environmental justice and community impacts (positive or negative) is fairly evenly distributed among the nine alternatives. There is little variation among the Study Area Alternatives in the percents of estimated minority populations and estimated low-income households that may be affected by SEHSR. The most consistent community concern

expressed during the public hearings was safety. The majority of the towns along all routes were desirous of the project utilizing their corridor because of improved rail access (both passenger and freight), potential jobs, diversions of other vehicles off the roadways, and the potential to attract development in those areas where rail service had previously ceased. There were some negative concerns over existing rail congestion in Emporia, VA (alternatives D, E, F, G, H and J) and the heavy traffic near the Washington DC area (this affects all alternatives), but these concerns would continue even with the no build scenario. Public recreation areas serve important roles within their communities as places where citizens interact, spend leisure time, and provide for the needs of children, adults and pets. Therefore, their role in a community's cohesion must be evaluated in any analysis of community impacts for an environmental document. While alternatives E, G, and H contain the highest numbers of parks, these impacts may be minimized regardless of the alternative chosen by staying on or near the existing rights-of-way.

At this point in the Tier I study and given the methodological assumptions and preliminary GIS findings concerning environmental justice and the variation of the minority and low income populations across the route combinations, it is not possible to identify a preferred alternative relative to environmental justice.

While this assessment focused on identifying those locations along the corridor that could potentially be adversely affected, these same populations may actually support the project, as they could perceive the positive economic development impacts and improved mobility options for their communities. The community leadership interviews supported this line of thinking by expressing strong support for the project. Furthermore, Amtrak statistics show that current passenger rail service is disproportionately utilized by low-income and minority populations. These population groups would likely continue to use and benefit from enhanced passenger rail service in the SEHSR study areas.

Therefore from the community impact and environmental justice criteria there is no clear preferred alternative based on negative impacts, and positive impacts exist along all Study Area Alternatives under consideration. Environmental Justice would continue to be a focus of attention in any Tier II studies.

Cumulative Impacts- Future development will occur primarily around existing train stations, with commensurate levels of noise and congestion associated with the increased use of the facility, as well as with secondary commercial and residential development that may be drawn to the station areas. This could help focus development around the existing infrastructure and minimize the use of undeveloped lands, and thus could help to limit growth of urban sprawl. In areas where no current rail service exists (i.e. the S-line from Petersburg VA to Norlina NC) there may be secondary industrial development because of the new availability of freight access. This could also include expansion of infrastructure and supporting services required by the industrial development (roads, water/sewer, food service, etc.). Industrial development in rural areas could result in impacts to wetlands, water quality, and habitat for both threatened and non-threatened species. Because of the extensive use of existing right-of-way, it is anticipated that the overall cumulative environmental effects of the project would be neutral to positive. The chief potential negative impact would be noise and vibration caused by the re-introduction of service along the S-line in Virginia where there is presently no rail service. Both

states have indicated a desire[21] to restore conventional service to this segment of line, therefore similar impacts would be possible even under the no build scenario. In the no build scenario, if conventional passenger service grows in use, then similar cumulative effects could be seen as with the any of the SEHSR build alternatives. In the build alternatives the overall air quality effect is beneficial based on the number of trips diverted from auto. This benefit would increase proportionally if the cumulative effect of improvements results in the rail mode capturing more of the corridor trips than currently modeled. The net energy use per passenger mile is substantially less for rail than either air or auto, giving a net positive energy benefit. There is a net positive safety benefit because of the safety advantages of train versus auto travel in the corridor, along with the net positive affect of increased mobility choices for all populations, including minority and low income. These net positive impacts would grow if the cumulative effect of the improvements results in higher use of the rail transportation system. From the program level of study the cumulative impacts appear to be similar along all nine alternatives.

Section 4(f) - The provisions of 49 USC 303(c) and 23 CFR 771.135 [commonly referred to as "section 4(f)"] are generally discussed in the DEIS on pages 4-98 through 4-102. Section 4(f) forbids the U.S. Secretary of Transportation to use land from any significant publicly owned park, recreation area, or wildlife and waterfowl refuge, or any significant historic site (whether or not publicly owned) unless there are no prudent and feasible alternatives to the use of that land and all possible planning has been done to minimize harm to the park, recreation area, refuge, or historic site. Because this document is a tiered EIS, the provisions of 23 CFR 771.135 (o) apply. Broadly stated, this section provides that an evaluation should be made on the potential impacts that a proposed action would have on section 4(f) land to the extent that the level of detail available at the first-tier EIS stage allows, and that the decisions made during the first-tier stage should not preclude opportunities to minimize harm during the later stages. These requirements have been met in this document by several strategies:

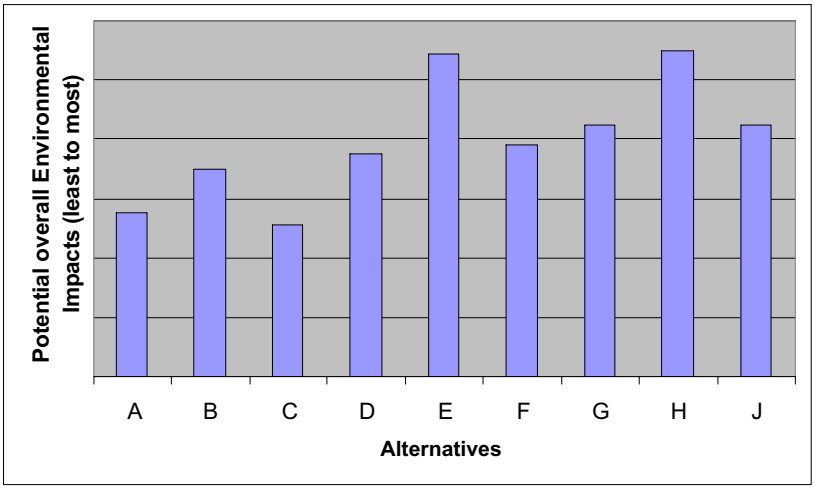
- First, by maximizing the use of the existing right-of-way, potential impacts to resources are minimized across all alternatives.
- Second, by identifying which study area alternatives best meet project purpose and need, while minimizing potential impacts to the above mentioned resources, and
- Finally by use of a wide (6 mile) study area to be carried forward into the tier II studies. The six mile width of the study areas was specifically chosen to ensure that opportunities to avoid and minimize harm at subsequent stages in the development process (Tier II) would not be precluded by decisions made during the Tier I process.

Tier II studies would evaluate all feasible and prudent alternatives to the use of such land, and would include all possible planning to minimize harm to section 4(f) lands.

[21] *Investing in the Future: North Carolina's Passenger Rail Development Programs*, NCDOT-Rail Division, January 2002

In summary, ranking all categories regarding potential overall environment impacts (both natural and human) from 1 to 9, with 1 being the least potential for impacts gives us a pure unweighted assessment of the overall environmental factors favoring alternatives C, A, B and D, as shown in Figure 1.8[22].

Figure 1.8
Potential for Overall
Environmental Impacts



Purpose and Need Factors- The five key factors of the SEHSR project purpose and need were related to the appropriate data taken from tables: ES-2, *Operational and Physical Characteristics Summary Information for Study Area Alternatives*, and ES-3, *Summary of Potential Impacts and Benefits of the Study Area Alternatives*, from the Tier I DEIS Appendix. The following table shows the criteria that were used to assess each purpose and need factor.

Table 1.3
Evaluation Criteria for Selecting a Preferred Alternative

Key Purpose and Need Factors	Criteria Used in The Assessment
Providing the traveling public – particularly special populations such as a the elderly and the disabled – with improved transportation choices	• Annual Ridership
Helping ease existing and future congestion (air, highway, passenger rail) within the corridor.	• Annual Diversions in 2025
Improving safety and energy effectiveness within the transportation network	• Net energy reduction (fuel gal/yr.) • Number of at grade crossings
Reducing the overall air quality related emissions per passenger mile traveled	• Air Quality – Reduction in NO_x

[22] Potential impacts are rank ordered based on the data found in Tables ES-2 and ES-3 in the appendix for the appropriate data types.

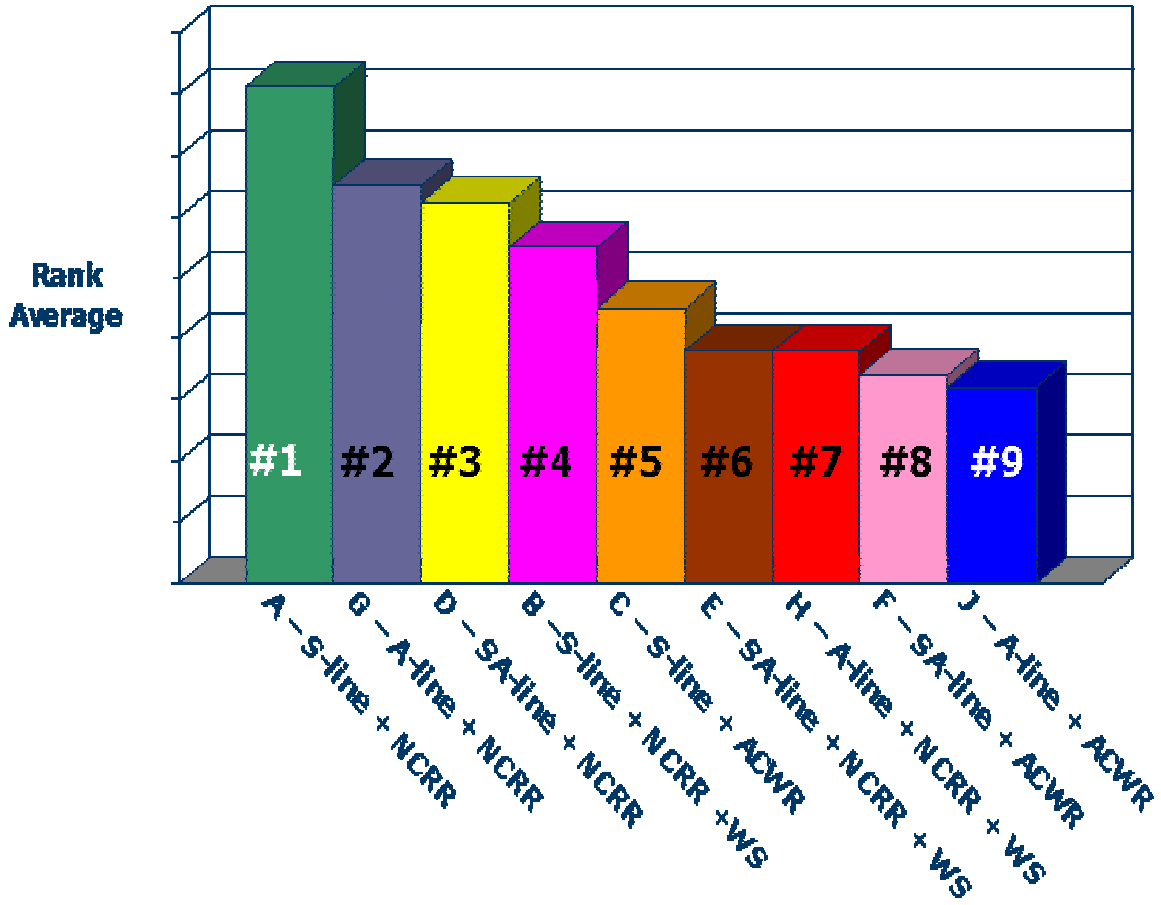
Key Purpose and Need Factors	Criteria Used in The Assessment
within the corridor	
Improving overall transportation system efficiency within the corridor, with a minimum of environmental impacts	• Average Total Travel Time • Net Operating Contribution • Capital Cost Efficiency Factor[23] • Environmental Complexity Index • Engineering and Operations Complexity Index

Of the criteria used in the assessment, six refer to operating/engineering characteristics. Three refer to a composite index or individual environmental factors and one refers to public safety. The emphasis on the operating characteristics is due to the need that the recommended alternative be a viable business alternative with a minimum of environmental impacts.

Each study area alternative was scored on a scale of one to nine (with nine being a higher, or more favorable, ranking) on each of the evaluation criteria shown in Table 1.3. An unweighted average score was computed for each study area alternative to determine rank averages. The results of this process are shown in Figure 1.9.

[23] The Capital Cost Efficiency Factor was calculated by dividing the net operating contribution in 2025 by conceptual capital cost and multiplying the result by a factor of 1000.

Figure 1.9
Relative Ranking of Study Area Alternatives
Based on Purpose & Need

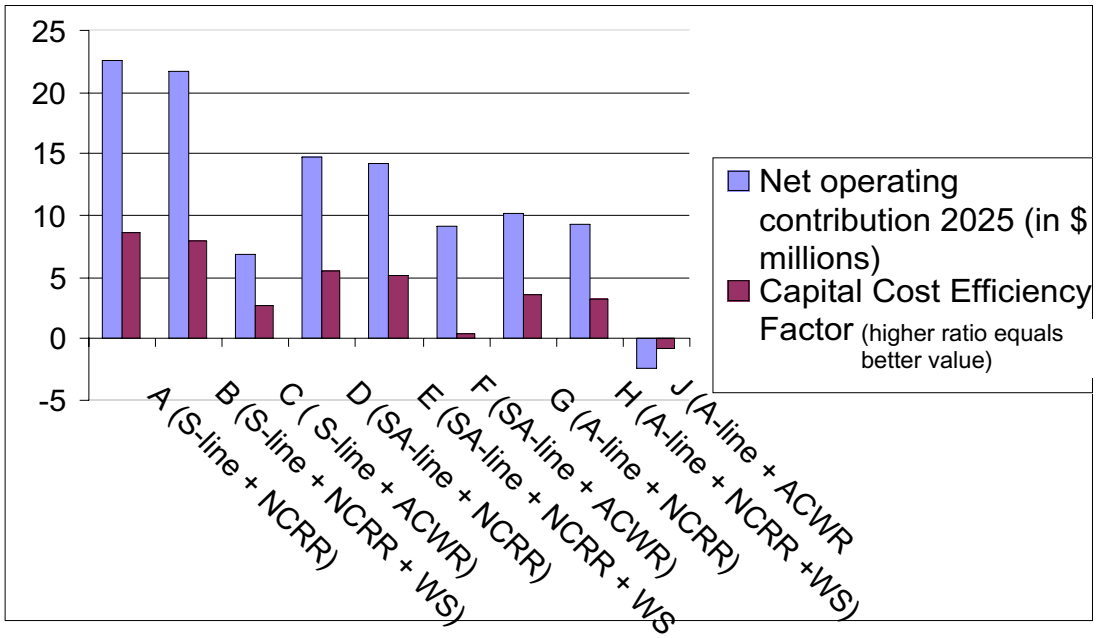


Alternative A ranks highest because it is the best of all nine alternatives for five of the 10 assessment criteria, namely annual ridership, annual air to rail diversions in 2025, net operating contribution, capital cost efficiency, and areas of engineering complexity. Alternative A is second best for four of the 10 criteria, namely annual auto to rail diversions in 2025, net energy reduction, net reduction in NO_x emissions, and average total travel time for the route. From a permitting standpoint, Alternative A is among the lowest for potential wetland impacts and has the lowest potential impacts to threatened & endangered species. Alternative G ranks best in three of the ten criteria, namely annual auto to rail diversions in 2025, net reduction in NO_x emissions, and net energy reduction.

Business Factors- The SEHSR project's "business case" requires the recommended alternative to be economically viable. In order to determine relative economic viability (among the different study areas), study area alternatives were examined based on the potential net

operating contribution[24] and the conceptual capital cost[25]. The net operating contribution did not assume any income from ancillary services such as express mail. The net operating contribution is comparative only, and not intended to predict actual future revenue which would be dependent upon future operating conditions and requirements. The capital cost efficiency factor is the net operating contribution divided by the conceptual capital cost and multiplied by 1000. This gives a form of a benefit/cost ratio for comparison between the different alternatives. Figure 1.10 shows the comparison of study area alternatives based on these two elements.

Figure 1.10
Analysis of Study Area Alternatives Based on SEHSR Economic Viability Factors
(note: Net Operating Contribution is for 8 SEHSR trains only)



A review of Table 4.8 (Revenues and Expenses for SEHSR in 2025- found in the appendix) also shows that Alternatives A and B generate the highest net operating contribution, highest passenger mile/train mile, best revenue/cost ratio, and highest contributions per passenger mile. Therefore Alternatives A and B are strongly preferred from the business case perspective.

Step 4 Review of the Rankings Against Agency and Public Comments

At this point, Alternatives A, B, C, and D are the most viable candidates for the recommended alternative based on all the relative rankings examined. Of the four alternatives, Alternative A

[24] Ticket revenues were based on ridership derived from the KPMG Ridership/Revenue Model. The model assumed four daily round trips between Charlotte, Raleigh, Richmond, Washington, and New York, and four daily round trips between Charlotte and Raleigh, for a total of eight daily round trips between Charlotte and Raleigh. Each train assumes two diesel locomotives, five coaches, and one cafe-lounge car. Net Operating Contribution is the revenue generated less the operating expenses for each routing. Operating expenses were projected using cost factors developed in the Amtrak Intercity Business Unit State Pricing Model. The base year for all expenses is 1997, and they have been inflated to 2000 dollars using Amtrak inflation rates ranging from three to five percent annually.
[25] Conceptual costs were based on using current cost factors applied to a conceptual engineering design (approx. 10% engineering level) with a 60% contingency added.

and Alternative B show the strongest potential for economic vitality (see Figure 1.10), which is essential for long term success as a transportation option.

Alternative A and Alternative B also minimize potential wetland impacts (Alternative B is lowest). Alternative A offers a moderate level of environmental complexity (6), this is the level of difficulty required to avoid or minimize environmental impacts in a certain area. It ranks second highest in net energy reduction and net reduction in NO_x primarily because it offers service along the most populated areas of the NCRR and it offers the greatest combined passenger diversion from auto and air to rail. Alternative B is similar to alternative A, but has some increased environmental complexity (8) due to grade issues in the Winston-Salem area. Alternative C has the lowest level of environmental complexity (4), but the highest potential for impacting protected species and significant natural areas, along with the poorest air quality benefits due to bypassing the heavily populated sections of NC; as well as the highest potential water quality impacts due to the Deep River paralleling the track in this alternative. Alternative D, has a moderate level of environmental complexity (5), but has potentially greater impacts to wetlands, which are more prevalent in eastern North Carolina, and also has the greatest potential impact for prime farmland, historic resource impacts, and the most major stream crossings.

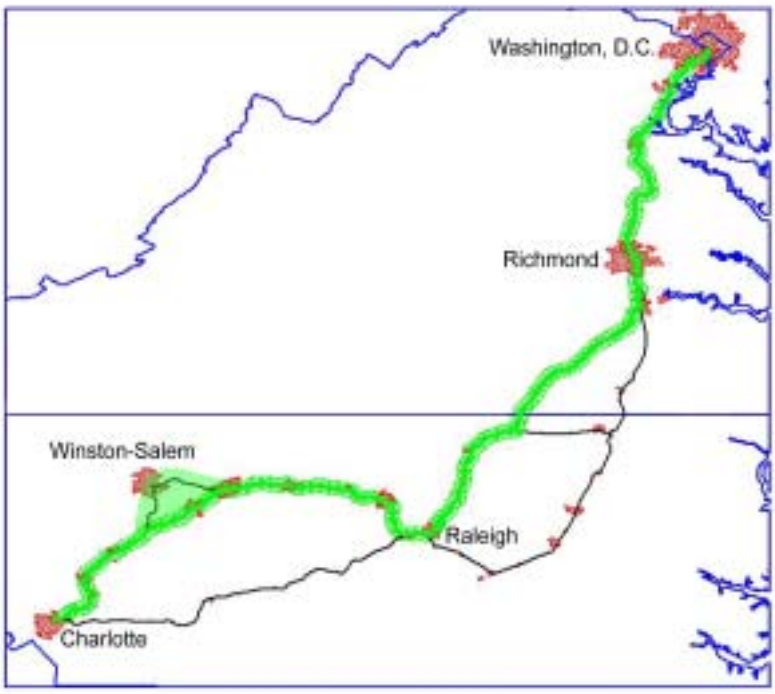
Considering the complexity of avoiding and/or mitigating for significant wetland acreage, the presence of substantial protected species, and prime farmland impacts, along with water quality concerns, Alternatives A and B are the environmentally preferred among those candidates satisfying the criteria for purpose and need and economic viability. These two alternatives are also supported by the overall agency and public comments.

Step 5 Identify the Preferred Study Area Alternative

The overall analysis indicates a strong case for Alternative A. In addition, public comment, agency comment, and economic viability suggest strong consideration for Alternative B. Therefore the agencies have concluded that Alternative A (NCRR & S-line), modified with passenger connectivity to Winston-Salem (Alternative B) is the combination of alternatives that best meets the project's purpose and need while minimizing environmental impacts. The agencies recommend that these two study areas be carried forward into Tier II level studies. Alternative A is recommended to be developed first because it is comprises the presently functioning Amtrak route from Charlotte NC to Raleigh NC. It is recommended that Alternative B be developed in conjunction with the regional transportation efforts of the Piedmont Authority for Regional Transportation (PART). PART is responsible for coordinating the regional transportation system in the counties around the Winston-Salem connection. The agencies through the Tier II studies would determine the exact phasing of the development of the overall corridor. Because the no build scenario would not achieve the project's purpose and need, and would still contribute to potential negative effects (due to potential increases in freight and conventional passenger use), without the potential for the overall positive effects due to the improved HSR system, the preferred alternative is also the environmentally preferred alternative. The combination of the two alternatives:

- Minimizes potential impacts to wetlands and threatened & endangered species, with moderate levels of potential environmental complexity, and strongest agency support, while providing;
- The highest level of service: highest projected annual ridership, largest total annual trip diversions from auto and air to rail, with competitive total travel time;
- Second best net reduction in NO_x emissions and overall net energy use reduction;
- Best operating cost recovery; and
- Highest level of public support.

Figure 1.11
Recommended Alternative: Alt. A + Alt. B.



1.3 Agency Coordination and Public Involvement

Together, the NCDOT Rail Division and VDRPT worked with federal agencies, freight railroad companies, state resource and regulatory agencies, and the public to allow for early and on-going input on the SEHSR project.

At the federal level, FHWA and FRA are the lead federal transportation agencies. Because of an existing Memorandum of Agreement (MOA) in Virginia, the US Coast Guard, the US Army Corps of Engineers, and the US Fish & Wildlife Service agreed to participate as formal cooperating agencies. A Notice of Intent to prepare a Tier I Environmental Impact Statement was published in the Federal Register on August 5, 1999.

The SEHSR team developed a scoping process to gather input from federal, state, and local agencies with areas of responsibility relevant to the project and from the public who are in some way affected by the project. The SEHSR Tier I EIS scoping process was composed of the following:

- Informal communications with agencies about the project – regulatory and resource agencies received informal letters and phone calls in July 1999 to introduce the project concept, prepare for the upcoming tiered EIS process, and provide an early chance to ask questions, seek clarification, and provide input.

- Formal joint bi-state scoping meeting – a full project overview was presented at the joint bi-state scoping meeting on October 12, 1999. The input from this meeting, provided by oral

comments and written comments submitted after the meeting, helped to direct the study efforts of the project team.

- Information briefings and small-group meetings – meetings for regulatory and resource agencies were held in both states to familiarize them with the project and to obtain their input on their key issues. Small group meetings were also held with interested organizations along the corridor in both states.

- Written data and input requests – written requests for data regarding planning efforts within the study area were made of planning directors and school boards. Coordination with State Historic Preservation Officers (SHPOs) was conducted mainly through telephone conversations and meetings.

- The formation of an Advisory Committee – an advisory committee was formed to facilitate sound decisions and to insure input from a broad range of stakeholders in both states (Metropolitan Planning Organizations; Planning District Commissions; local, state, and federal transportation officials; Amtrak; freight railroads; and regulatory and resource agencies). The Committee met in March 2000 to receive a project overview, to ask questions, and to provide input. It reconvened in November 2000 for review and input concerning the Draft *Purpose & Need Statement* and the Draft *Study Area & Modal Alternatives Analysis* Report, and again in late July/early August 2001 to review the DEIS. In December 2001, the Committee met for a review and discussion of the Tier I DEIS key findings and recommendations. The Committee also reviewed the Recommendation Report in early March 2002.

- Public Involvement Program – a proactive public involvement program was conducted to ensure the integration of community feedback through the entire process. The public involvement program would continue to function throughout the life of the project. Pre-DEIS public involvement in the study area included:

    - Almost 7,000 people were contacted, in order to complete a 1,200-sample public opinion survey to determine opinions and concerns about potential high speed rail service and to help shape outreach approaches and techniques.
    - Direct mailings were sent to more than 225,000 addresses along the corridors in both states.
    - Twenty-six public workshops were held to provide a project overview and to view display maps of the entire study area, as well as detailed maps related to specific workshop locations.
    - Community outreach tools, including the SEHSR Web site, project hotline, mobile display units, newsletters, and fact sheets were developed to inform the public about the project.
    - Media outreach was extensive, including media kits, follow-up calls, and editorial board briefings, to increase the visibility of the project.
    - Community outreach research was comprised of environmental justice analysis and community leadership interviews to develop strategies to involve underrepresented groups in decision-making.
    - Public feedback was recorded at workshops, through the project toll-free hotline, mail-in comment forms, and in interviews.
    - 18 public hearings, 12 in North Carolina and 6 in Virginia were held over a four month period.

The following table shows dates and cities of public hearings and viewing locations for the DEIS document. At each hearing, the public was provided the opportunity to give comments on the Tier I DEIS verbally, in writing, to a certified court recorder, or by mail within 10 days of the public hearing date. A total of 784 comments were received as a result of the Tier I DEIS public hearing process.

Table 1.4
Public Hearing and DEIS Viewing Locations

Hearing Date	City and Viewing Location	Hearing Date	City and Viewing Location
9/18/01	Durham, NC NCDOT Division 5 Office	10/23/01	Salisbury, NC NCDOT Division 9, District 1 Office
9/20/01	South Hill, VA South Side Planning District Comm.	10/25/01	Emporia, VA Emporia City Hall
9/25/01	Sanford, NC Lee County Manager's Office	10/30/01	Winston-Salem, NC NCDOT Division 9 Office
9/27/01	Wilson, NC NCDOT Division 4 Office	11/1/01	Greensboro, NC NCDOT Division 7 Office
10/2/01	Roanoke Rapids, NC NCDOT Division 4, District 1 Office	11/7/01	Richmond, VA VDOT Richmond District Office, Colonial Heights, & the Richmond Planning District Comm.
10/9/01	Henderson, NC NCDOT Division 5, District 3 Office	11/8/01	Petersburg, VA Crater Planning District Commission
10/11/01	Springfield, VA VDOT Northern Virginia District Office	11/13/01	Raleigh, NC NCDOT Division 5, District 1 Office
10/16/01	Star, NC Star Municipal Building	11/20/01	Fredericksburg, VA VDOT Fredericksburg District Office
10/18/01	Charlotte, NC NCDOT Division 10, District 2 Office	12/10/01	Raleigh/Cary Area, NC NCDOT Division 5, District 1 Office

Table 1.5 shows the distribution of public hearing comments by proximity to the public hearing locations and by the topic of comment.

Table 1.5
Summary of Tier I DEIS Public Comments By Location and Topic

Comments By Location	Number of Comments		Comments By Topic	Number of Comments
Cary	13		Cost	21
Charlotte	11		Cultural Resource Impact	4
Durham	26		Natural Resource Impact	7
Emporia	0		Noise	5
Fredericksburg	5		Project Schedule	3
Greensboro	21		Property Impact	14
Henderson	44		Public Involvement	8
Petersburg	16		Record Opinion	466
Raleigh	15		Safety	10
Richmond	32		Service Features	119
Roanoke Rapids	30		Stops	90
Salisbury	10		Other	37
Sanford	4			
South Hill	20		***Total***	***784***
Springfield	45			
Star	14			
Wilson	22			
Winston Salem	456			
Total	***784***			

1.4 Future Actions to Reduce Potential for Environmental Impacts

The incremental HSR approach reduces the potential for environmental impacts by maximizing the use of the existing infrastructure and right of way.

By using a tiered document, the overall program concept is examined, allowing opportunity to best minimize potential environmental impacts while still meeting the project purpose and need. During the Tier II process, planning would be done to avoid and minimize impacts to both the human and natural environment by accurately identifying resources at the detail level, and then by examining different design options, giving consideration not only to potential construction impacts, but also to operational impacts.

The actions for implementing HSR in the SEHSR corridor would each receive the appropriate level of environmental documentation during the Tier II process.

Detailed noise and vibration studies would be done as appropriate to identify mitigation needs. Potential mitigation techniques range from noise walls and ballast pads, to quiet zones and modification in the design of the actual train sets.

Care would be taken to span waterways where practicable, and to avoid paralleling flood plains and waterways, as well as avoiding wetlands to the maximum extent practicable. Best Management Practices would be followed in the planning, design, and construction stages.

Detailed field studies, coupled with completion of Endangered Species Act, Section 7 consultations, along with completion of the Section 106 process of the National Historic

Preservation Act, would help insure the avoidance and reduction of potential impacts to natural and cultural resources.

Every effort would be made to continue the communication process with the regulatory and resource agencies that has been initiated during this first tier phase. This communication would allow input from the agencies to help guide the planning, design, and construction in a way that would minimize potential negative impacts. This same communication process has included the local communities along the preferred study area alternative, and their continued input would be critical in reducing potential impacts to the human environment to the maximum extent practicable.

During the detailed Tier II studies, mitigation plans would be developed as appropriate for unavoidable impacts in concert with the regulatory and resource agencies and local communities.

2.0 ERRATA

This chapter contains clarifications and corrections in accordance with 40 Code of Federal Regulations (CFR) 1503.4(c). Neither the clarifications nor the corrections alter the conclusions presented in the Tier I DEIS regarding environmental impacts. The corrections and clarifications form the substance of Chapter 2 of this Tier I FEIS. Errata rectify minor errors found in the Tier I DEIS ranging from corrections of spellings to inserting words or phrases inadvertently omitted from the Tier I DEIS to changes resulting from the response to Tier I DEIS comments. Clarifications consist of explanatory information designed to enhance understanding of information in the Tier I DEIS. These clarifications do not represent substantive changes to the analysis or findings in the Tier I Draft EIS.

2.1 Organization of Clarifications and Corrections

To assist the reader, organization of this chapter follows the organization of the Tier I DEIS. The corrections and clarification first address the Executive Summary of the Tier I DEIS and then progress through the remainder of the chapters and appendices that were included in that document. Those sections of the Tier I DEIS not requiring any changes or clarifications have not been included in the list of errata.

2.2 Finding Clarifications and Corrections

Each correction or clarification is listed according to its page, paragraph, and sentence in the Tier I DEIS. If you did not receive a copy of the Tier I Draft EIS dated August 2001, please locate it on the CD that can be found in the pocket of the last page of this Tier I FEIS, or contact David Foster of the NCDOT Rail Division at (919) 508-1917.

In order to follow the errata changes made to the Tier I DEIS, some sections, paragraphs, or tables have been reprinted in their entirety. However, most of changes are simply a replacement of a word or phrase.

Page Number	Location	Errata
Cover Sheet	Line 4	Replace: "June" with "August"
Abstract	The paragraph starting with, "The proposed project is…"	Sentence four. Replace: "will" with "would"
Abstract	The paragraph starting with, "The proposed project is...	Sentence eight. Replace: Entire sentence with "Projected total ridership for the proposed SEHSR in 2025 is between 1.3 million and 1.8 million passengers annually, depending on the route."
ES-2	The bullet starting with, "At-grade highway…"	Sentence two. Replace: "pubic" with "public"
ES-3	Exhibit ES-1	Replace: "Pittsburg" with "Pittsburgh"
ES-5	Exhibit ES-3; Segment Description – SEHSR	Bullet 1. Replace Bullet with: "**Former RF&P Line and S-Line** – Washington, DC to Centralia, VA and **Former C&O Line** – Richmond, VA to Doswell, VA (common to all 9 alternatives)"
ES-6	Exhibit ES-4	Replace: "AlternativeD" with "Alternative D"
ES-8	Table ES-1	Replace: Entire table with new Table ES-1 located at the end of this chapter. Table has been re-formatted for text consistency.
ES-9	Table ES-2	Row six. Remove: Entire row titled "Net Operating Income or (loss) in year 2025." This row is a duplicate of row five. Insert footnote: "Includes all twelve trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
ES-10	Table ES-3	Replace: Entire table with new Table ES-3 located at the end of this chapter. The correct units (acres) to the "Wetlands (NWI & hydric soils)" section of Table ES-3 have been added; the numbers of Historic Sites/National Register Sites/Study List Sites have been corrected and revised; and the Hazardous Material study site buffer has narrowed from six miles to 0.5 miles.
1-1	The paragraph starting with, "The proposed SEHSR…"	Sentence 2, parenthetical clause. Insert: New footnote, "with the exception of the Richmond to Doswell portion which is a wider study area."
1-4	The bullet starting with, "Environmental Impact Statements…"	Replace: "known that the action will have significant" with "reasonably anticipated that the proposed action or alternatives could have substantial"
1-6	Figure 1.2	Replace: "Pittsburg" with "Pittsburgh"
1-9	The paragraph starting with, "Since 1960, the population…"	Last Sentence. Delete: "the FEIS and"
1-12	Table 1-1	Insert footnote: "Includes all twelve trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."

Page Number	Location	Errata
2-5	The paragraph starting with, "Another approach to ..."	Last Sentence. Insert: footnote "EPA Tier 2 compliance for locomotive emission limits as specified in 40 CFR Parts 85, 89, and 92."
2-5	The paragraph starting with, "Many non-U.S. trains..."	First Sentence. Replace: "it" with "them"
2-6	The paragraph starting with, "Provision of dual power..."	Third Sentence. Replace: "No are no" with "There are no"
2-8	Bullet 1.	Insert: "(study area includes the former C&O line from Richmond, VA to Doswell, VA)" after "between Washington, DC & Richmond;"
2-10	Bullet 1.	Replace bullet with: "**Former RF&P and S-line** – Washington, DC to Centralia, VA and **Former C&O Line** – Richmond, VA to Doswell, VA (common to all 9 alternatives)"
2-10	The paragraph starting with, "This segment encompasses..,"	Insert a new second sentence after the first sentence: "The study area in this section widens to include the C&O Line from Richmond to Doswell".
2-11	Figure 2.2; Segment Description – SEHSR	Bullet 1. Replace Bullet with: "**Former RF&P and S-line** – Washington, DC to Centralia, VA and **Former C&O Line** – Richmond, VA to Doswell, VA (common to all 9 alternatives)"
2-18	All Bullets	Insert: "Former C&O line, " after "Former RF&P, "
2-19	All Bullets	Insert: "Former C&O line, " after "Former RF&P, "
2-20	The paragraph starting with, "This Study Area Alternative..."	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-20	Table 2.1	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-21	The paragraph starting with, "This Study Area contains..."	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-21	Table 2.2	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-22	The paragraph starting with, "This Study Area contains..."	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."

Page Number	Location	Errata
2-22	Table 2.3	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-22	Table 2.3	Replace: "$73.89 million/$52.71 per passenger" to "$89.91 million/$62.75 per passenger".
2-23	The paragraph starting with, "This study area contains…"	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-23	Table 2.4	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-24	The paragraph starting with, "This Study Area includes…"	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-24	Table 2.5	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-25	The paragraph starting with, with "This Study Area includes…"	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-25	Table 2.6	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-26	The paragraph starting with, with "This study area contains…"	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-26	Table 2.7	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-27	The paragraph starting with, with "This study area contains…"	First Sentence. Insert: "former C&O line, " after "Former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-27	Table 2.8	Replace: "Existing Railroad right-of-way" with "Potential

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		right-of-way needs". Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-28	The paragraph starting with, with "This study area contains…"	First Sentence. Insert: "former C&O line, " after "former RF&P, " Insert new Third Sentence: "The former C&O line lies between Richmond, VA and Doswell, VA."
2-28	Table 2.9	Replace: "Existing Railroad right-of-way" with "Potential right-of-way needs". Replace: "579.0" with "797" Add footnote: "Includes all 12 trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains)."
2-30	Table 2.10	Line 3, Column 3. Replace entire description: "A newly constructed flyover bridge exists at the junction of I-295 and I-64."
2-32	Table 2.11	Line 2, Column 3. Replace the first sentence: "An expansion of the airport was recently completed and an underground connection to the main terminal and permanent mid-field terminals is under construction."
2-43	The paragraph starting with, "The environmental document focuses…"	Replace the fourth sentence: "Due to the large size of the study areas, the general nature of the existing environment, potential benefits and impacts, and conceptual capital costs for study area improvements, will also be reviewed at a larger scale."
2-44	Table 2.16; Row starting with "Rail Lines"	Column A. Delete: "A-line" Column B. Delete: "A-line" Column C. Delete: "A-line"
2-45	Table 2.17	Replace: Entire table with new Table 2.17 located at the end of this chapter. Ridership and revenue figures have been corrected to show only numbers attributable to the modeled eight SEHSR trains. Note. Delete: "food and beverage"
3-25	Table 3.7	Replace: Entire table with new Table 3.7 located at the end of this chapter. The Hazardous Material study site buffer has narrowed from 6 miles to 0.5 miles, resulting in a change to the number of impacted sites.
3-30	Figure 3.1	Replace: Figure 3.1 with new Figure 3.1 at the end of this chapter.
3-31	Figure 3.1B	Replace: Figure 3.1B with new Figure 3.1B at the end of this chapter.
3-41	Figure 3.2	Replace: Figure 3.2 with new Figure 3.2 at the end of this chapter.
3-52	The paragraph starting with, "There are 46 counties…"	Change sentence one: "There are 46 counties" to "There are 46 counties and/or independent cities"
3-52	The paragraph starting	Change sentence five: "and Warren (46%) Counties" to

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	with, "The population in..."	"and Warren (46 percent) Counties"
3-56	Figure 3.3	Replace: Figure 3.3 with new Figure 3.3 at the end of this chapter.
3-57	Footnote 1	Revise first sentence to read: "Data sources for this analysis are the 1990 Census Summary Tape File 3 and 1999 population estimates and 2004 projections calculated from the 1990 data sets using forecasting factors developed by CACI Marketing. CACI Marketing is a nationally based firm that specializes in population projections."
3-58	The paragraph starting with, "Table 3.17 provides..."	Change sentence one: "Study Area Alternatives by County" to "Study Area Alternatives by county and/or independent city"
4-9	The paragraph starting with, "The actual wetland impacts..."	First Sentence. Revise to read: If the ROD for the Tier I process states that a build alternative will be carried forward for further analysis, more refined estimates of wetland impacts will be identified in the Tier II studies. Total final wetland impacts identified in the Tier II process would be substantially less than the estimates shown because of the use of existing trackbed in many areas and a smaller proposed construction footprint (200 feet versus the 600 feet buffer). Study Area Alternative B has the smallest area of identified wetlands within 300 feet of the existing rail lines at 115.8 acres."
4-19	Prior to table 4.1	Add the following paragraph: "Emergency response procedures for handling dangerous goods/hazardous materials incidents are outlined in the *2000 Emergency Response Guidebook* developed jointly by Transport Canada (TC), the U.S. Department of Transportation (DOT), and the Secretariat of Transport and Communications of Mexico (SCT) for use by fire-fighters, police, and other emergency services personnel who may be the first to arrive at the scene of a transportation incident involving dangerous goods. The guidebook includes an indexed list of dangerous goods; provides safety recommendations including the potential hazards the material may display; suggested public safety measures based on the situation at hand; contains a table that lists, by ID number, TIH materials; and emergency response actions, including first aid (ERG, 2000). Procedures set forth in the guidebook will be followed in the operation of the proposed service. TIH materials are defined as liquid or gas which is known to be so toxic to humans as to pose a hazard to health during transportation, or in the absence of adequate data on human toxicity, is presumed to be toxic to humans, because when tested on laboratory animals it has an

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		LC50 value of not more than 5000 ppm. The release of hazardous materials into receiving waters could occur due to refueling, collisions, derailments, or minor leaks from trains. Mitigation for these occurrences would be incident specific. Appropriate agencies would be contacted at the time of an incident.
4-20	Table 4.11	Insert at beginning of the table: New section of Table 4.11, located at the end of this chapter. The new section contains data for Virgina that was inadvertently left out of the Tier I DEIS.
4-54	The paragraph starting with, "In general, no..."	Sentence two. Replace: "Table 4.24 provides" with "Table 4.21 provides"
4-55	The paragraph starting with, "Sound and Noise..."	Sentence three. Replace: "due to this increased traffic" to "due to this increased traffic, assuming no mitigation or enhancements to abate noise and vibration effects"
4-62	The paragraph starting with, "The effects of..."	Revise paragraph to read: "The effects of the No Build Alternative will be due to projected ridership growth along the Washington, DC to Charlotte, NC corridor from its current level of 418,000 to 498,000 by 2015 and 543,000 by 2025, as described in Section 2.5. Similarly, travel delays within the corridor are due to the increasing volumes of both passenger and freight service, and the need to efficiently manage peak passenger and freight rail traffic will become even more critical over the next 15 years. Subsequent noise and vibration effects will also result from this increased traffic, assuming no mitigation or enhancements to abate noise and vibration effects."
4-62	The paragraph starting with, "Based on a review..."	Last sentence. Replace "the final Tier I Environmental Impact Statement." with "Tier II studies."
4-63	Table 4.24	Replace: Entire table with new Table 4.24 located at the end of this chapter. An incorrect method was previously used for including the northern segment with all other segments. Because the error had a proportional effect on all alternatives, the numbers in the new table do not alter any conclusions or findings presented in the Tier I DEIS.
4-64	The paragraph starting with, "Study Area Alternative C..."	Sentence one. Replace: "minority community members ;" with "minority community members;"
4-64	The paragraph starting with, "A conclusion from..."	Sentence four. Replace: "exceeds the general population average by 50%" with "exceeds the general population average by 50 percent"
4-65	The paragraph starting with, "Table 4.25 provides..."	Sentence three. Replace: "illustrated in Figure 4.20" with "illustrated in Figure 4.11"
4-69	The paragraph starting with, "Poverty statistics	Sentence three. Replace: "illustrated in Figure 4.12" with "illustrated in Figure 4.13"

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	from 1990..."	
4-69	The paragraph starting with, "The analysis of minority..."	Sentence one. Replace: "The analysis of minority and low-income populations" with "As seen in the previous sections, the analysis of minority and low-income populations"
4-70 and 4-71	The paragraph starting with, "In order to help..."	Change paragraph to read: "In order to help identify issues, concerns, and desired outcomes for a given community or underrepresented group, key interviews were conducted with community leaders in each location where a public workshop[3] was held. MPOs in the corridor, NCDOT and VDOT representatives, prominent community members, and Internet searches recommended candidates for interviews. Each interview candidate received a package of information on the project, including a personalized letter asking for participation in a telephone interview, the "Time to Act" brochure, a newsletter, and fact sheets. One hundred forty-four information packets were sent."
4-72	The heading starting, "Major Community Concerns..."	Change heading format to: italics, no bold
4-72	The paragraph starting with, "The concerns with..."	Bullet two. Replace: "rail bridge" to "rail bridge;"
4-84	The paragraph starting with, "*Build Alternative:* With ..."	Replace sentences three and four: "Table 4.29 depicts potential schedule conflicts between commuter rail (VRE) and high speed rail (SEHSR). The color-coded blocks show time periods when both passenger rail systems would be at the station designated on the left side of the table. Narrow blocks indicate shorter periods of time while wider blocks indicate longer periods of time. The time period between 8 p.m. and 9 a.m. did not have potential conflicts based on the source data. Based on table 4.29, three VRE trains would have station stops during SEHSR station stops in Fredericksburg, VA, two VRE trains would have station stops during SEHSR station stops in Alexandria, VA, and potentially six VRE trains would have station stops during SEHSR station stops in Washington, D.C."
4-84	Table 4.29	Legend. Insert after "SEHSR" and "VRE": "(Time period of station stop)"
4-84	The paragraph starting with, "There are three potential ..."	Sentence one. Replace entire sentence with: "The number and frequency of potential schedule conflicts between VRE and SEHSR impacts track configuration, platform size and location, building capacities, parking area capacities, and access to the station."
4-92	The paragraph starting with, "National Register	Sentence six. Replace entire sentence with: " The current number of National Register properties range from 333 in

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	Historic Sites -	Study Area Alternatives A, B, D, and E to 291 in Study Area Alternative J. The existing number of Study List properties ranged from 168 in Study Area Alternatives G and H to 58 in Study Area Alternative C. The highest combined number of National Register properties and Study List properties, estimated at 498, are located within Study Area Alternatives D and E while the least number, estimated at 362, are located within Study Area Alternative C".
4-92	Table 4.31	Replace: Table 4.31 with new Table 4.31 at the end of this chapter. The numbers of Historic Sites/ National Register Sites/ Study List Sites has been revised.
4-106	Table 4.38	Replace: Entire table with new Table 4.38 located at the end of this chapter. The Hazardous Material study site buffer has narrowed from 6 miles to 0.5 miles, therefore changing the number of impacted sites. The number of historic sites/National Register/Study List sites has been corrected and revised. The number of conceptual crossings and pedestrian crossings were mistakenly included in this table in the Tier I DEIS, which is intended to show existing known crossings.
5-1	Listing for "Department of Housing and Urban Development"	Revise address to read: Mr. William Stoken / US – HUD VA State Office / 600 E. Broad Street, 3rd floor / Richmond, VA 23219-1800"
6-4	The paragraph starting with, "Urban: the U.S. Office…"	Sentence one. Replace: "(OMB) define the" with "(OMB) defines the"
6-4	The paragraph starting with, "Because the study…"	Sentence two. Replace: "to a much lesser extent, suburban areas" with "to a much lesser extent, suburban areas were undersampled"
6-4	The paragraph starting with, "Sampling of more…"	Last sentence. Replace: "reported in March and April" with "reported in March and April 2000"
6-5	The paragraph starting with, "Findings from the survey…"	Bullet three. Replace: "obtaining project newsletters" with "obtaining project newsletters."

Table ES-1
Study Area Alternatives: Geographic Characteristics

	A	B	C	D	E	F	G	H	J
Rail Lines	Old RF&P NCRR S-line	Old RF&P S-line NCRR K-line WSSB	Old RF&P S-line NS-line CF-line ACWR	Old RF&P A-line SA-line S-line NCRR	Old RF&P A-line SA-line S-line NCRR K-line WSSB	Old RF&P A-line SA-line S-line NS-line CF-line ACWR	Old RF&P A-line NCRR	Old RF&P A-line NCRR K-line WSSB	Old RF&P A-line NCRR NS-line CF-line ACWR
Segments	1, 2, 3, 5, 6, 13, 14, 15 and 16	1, 2, 3, 5, 6, 13, 14, 16, 17 and 18	1, 2, 3, 5, 6, 13, 19, 20 and 21	1, 6, 7, 8, 9, 11, 13, 14, 15 and 16	1, 6, 7, 8, 9, 11, 13, 14, 16, 17 and 18	1, 6, 7, 8, 9, 11, 13, 19, 20 and 21	1, 7, 8, 9, 10, 12, 13, 14, 15 and 16	1, 7, 8, 9, 10, 12, 13, 14, 16, 17 and 18	1, 7, 8, 9, 10, 12, 13, 19, 20 and 21
Communities Served: **Virginia**	Alexandria Woodbridge Fredericksburg Ashland Richmond Centralia Petersburg Burgess La Crosse	Alexandria Woodbridge Fredericksburg Ashland Richmond Centralia Petersburg Burgess La Crosse	Alexandria Woodbridge Fredericksburg Ashland Richmond Centralia Petersburg Burgess La Crosse	Alexandria Woodbridge Fredericksburg Ashland Richmond Chester Colonial Heights Petersburg Collier Emporia	Alexandria Woodbridge Fredericksburg Ashland Richmond Chester Colonial Heights Petersburg Collier Emporia	Alexandria Woodbridge Fredericksburg Ashland Richmond Chester Colonial Heights Petersburg Collier Emporia	Alexandria Woodbridge Fredericksburg Ashland Richmond Chester Colonial Heights Petersburg Collier Emporia	Alexandria Woodbridge Fredericksburg Ashland Richmond Chester Colonial Heights Petersburg Collier Emporia	Alexandria Woodbridge Fredericksburg Ashland Richmond Chester Colonial Heights Petersburg Collier Emporia
Communities Served: **North Carolina**	Norlina Henderson Raleigh Cary Durham Burlington Greensboro High Point Lexington Salisbury Charlotte	Norlina Henderson Raleigh Cary Durham Burlington Greensboro Kernersville Winston-Salem Lexington Salisbury Charlotte	Norlina Henderson Raleigh Cary New Hill Moncure Colon Gulf Robbins Star Troy Norwood Oakboro Aquadale Midland Charlotte	Weldon Norlina Raleigh Cary Durham Hillsborough Burlington Greensboro High Point Lexington Salisbury Concord/ Kannapolis Charlotte	Weldon Norlina Raleigh Cary Durham Hillsborough Burlington Greensboro Kernersville Winston-Salem Lexington Salisbury Charlotte	Weldon Norlina Raleigh Cary New Hill Moncure Colon Gulf Robbins Star Troy Norwood Oakboro Aquadale Midland Charlotte	Weldon Rocky Mount Wilson Selma Clayton Garner Raleigh Cary Durham Hillsborough Burlington Greensboro High Point Lexington Salisbury Concord/ Kannapolis Charlotte	Weldon Rocky Mount Wilson Selma Clayton Garner Raleigh Cary Durham Hillsborough Burlington Greensboro Kernersville Winston-Salem Lexington Salisbury Charlotte	Weldon Rocky Mount Wilson Selma Clayton Garner Raleigh Cary New Hill Moncure Colon Gulf Robbins Star Troy Norwood Oakboro Aquadale Midland Charlotte

Source: Carter & Burgess, Inc, KPMG Ridership and Revenue Projections, September 2000; Compiled by the Resource *Group, May 2001*

Table ES-3
Summary of Potential Human/Natural Impacts and Benefits of the Study Area Alternatives

Environmental Information	Buffer width for review	A	B	C	D	E	F	G	H	J
Water Supply Watersheds	6 mi.	27	33	19	28	35	21	27	34	21
Major Rivers (potential crossings)	n/a	29	28	29	31	30	33	29	28	31
Wetlands (NWI & hydric soils in acres)	300 ft.	117.3	115.8	117.0	124.0	122.5	123.7	190.7	189.2	190.4
FEMA 100-year Floodplain crossings	n/a	83	76	44	89	82	50	97	90	58
Mineral Resources (Mines)	0.5 mi	36	37	40	37	38	41	33	34	37
Hazardous Materials Sites	0.5 mi.	412	441	252	427	456	267	454	483	294
Air Quality-Net reduction in NOx emissions (lbs/yr)	n/a	554,889	530,895	279, 065	547,392	517,065	269,540	589,505	553,099	298,179
Annual 2025 Trip Diversions	n/a									
-From auto to rail		865,349	841,840	595,092	858,004	828,290	585,761	899,266	863,596	613,822
-From air to rail		320,061	311,365	220,103	242,001	233,620	165,215	171,289	164,494	116,918
Estimated Relocations										
-Residential dwellings (each)	n/a	365	371	220	405	411	260	301	307	156
-Business (square footage)	n/a	65,145	110,920	57,374	62,191	107,966	54,420	70,344	116,119	62,573
Noise & Vibration Category 9 sensitive receptors	300 ft.	333	342	259	371	371	287	369	372	284
Prime farmland (acres)	6 mi.	37,219	39,360	26,523	45,137	46,992	34,308	57,346	59,134	46,670
Protected Species - # of known populations identified	6 mi.	33	35	45	44	46	56	43	49	51
National Rivers Inventory	6 mi.	11	11	13	10	11	13	12	13	14
Estimated Relocations										
-Residential dwellings (each)	n/a	365	371	220	405	411	260	301	307	156
-Business (square footage)	n/a	65,145	110,920	57,374	62,191	107,966	54,420	70,344	116,119	62,573
Historic Sites										
-National Register Sites	1500 ft.	333	333	304	333	333	304	320	320	211
-Study List Sites	1500 ft.	102	102	58	165	165	121	168	168	124
Parks	500 ft.	14	15	11	14	15	11	15	16	12
Gamelands/Public lands (ac.)	500 ft.	5.7	5.7	14	5.7	15.7	15.3	5.7	5.7	15.3
Areas of Environmental. Complexity (high)*	n/a	6	8	4	5	7	3	7	9	5

***Refers to the level of difficulty required to avoid or minimize environmental impacts in a certain area. High areas of complexity are those that would require creative avoidance and minimization techniques and add to the overall construction effort and would require public agency coordination and involvement.**
Source: Carter & Burgess, Inc. 2001, compiled the Resource Group May 2001

Table 2.17 Study Area Alternatives: Operational and Physical Characteristics									
Study Area	**A**	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**J**
Length	448 miles	463 miles	428 miles	468 miles	483 miles	448 miles	481 miles	496 miles	461 miles
Existing Railroad ROW	677.8 acres	731.31 acres	929.95 acres	620.13 acres	673.59 acres	872.23 acres	544.99 acres	598.0 acres	579.0 acres
Average Total Travel Time (Washington, DC to Charlotte)	6.23 hours	6.90 hours	6.20 hours	6.55 hours	7.23 hours	6.53 hours	6.75 hours	7.43 hours	6.73 hours
Average Travel Speed	72.6 mph	68.7 mph	70.0 mph	73.1 mph	69.3 mph	70.5 mph	72.1 mph	68.5 mph	69.6 mph
Net Energy Reduction Fuel (gal/yr)	10,015,119	9,724,939	6,679,376	9,924,448	9,557,693	6,564,192	10,433,752	9,993,470	6,910,545
Conceptual Capital Cost (Year 2000 $s)	$2.611 billion	$2.720 billion	$2.515 billion	$2.711 billion	$2.820 billion	$2.6215billion	$2.848 billion	$2.957 billion	$2.752 billion
Year 2025 Annual Ridership	1,644,900	1,612,000	1,239,400	1,556,000	1,517,700	1,174,900	1,523,500	1,480,700	1,152,900
Year 2025 Ticket Revenue/Plus Food/Bev.	$103.33 million	$105.39 million	$81.66 million	$95.21 million	$97.72 million	$75.72 million	$90.37 million	$92.66 million	$72.35 million
Year 2025 Operating Expenses	$80.83 million	$83.75 million	$74.75 million	$80.42 million	$83.48 million	$74.81 million	$80.22 million	$83.32 million	$74.79 million
Net Operating Contribution (loss)	$22.497 million	$21.649 million	$6.914 million	$14.789 million	$14.237 million	$0.908 million	$10.150 million	$9.341 million	$(2.44) million

Source: Carter & Burgess November 2000: KPMG Model Forecast Data, October 2000.
**Note:* Additional revenues are expected from mail, express and baggage. These numbers are for the 8-modeled SEHSR trains.

Table 3.7 Summary of Hazardous Substance Sites and Superfund Sites within each Study Area Alternative (0.5 mile buffer)	
Alternative	**Hazardous Substance Sites (each)**
A	412
B	441
C	252
D	427
E	456
F	267
G	454
H	483
J	294
Source: EDR; North Carolina Center for Geographic Information Analysis, 1999.	

Table 4.10 Hazardous Substance Sites within each Study Area Alternative (0.5-Mile Buffer)	
Study Area Alternative	**Hazardous Substance Sites**
A	412
B	441
C	252
D	427
E	456
F	267
G	454
H	483
J	294
Source: EDR; North Carolina Center for Geographic Information	

Table 4-11
Explanation of Hazardous Material Sites in Cities and Towns along Study Area (0.5-Mile Buffer)

VIRGINIA

CITY	COUNTY	NAME	EPA ID	DESCRIPTION OF SITE
RICHMOND	RICHMOND CITY	GESMAR CORP	VA0812988	FINDS,RCRIS-LQG,TRIS
RICHMOND	RICHMOND CITY	REHIG INTERNATIONAL INC	23220RHRGN90	FINDS,RCRIS-LQG,TRIS, CORRACTS,CERCLIS-NFRAP
RICHMOND	RICHMOND CITY	ST. PETERS STREET DRUM SITE	305258	CERCLIS,FINDS
RICHMOND	RICHMOND CITY	VIRGINIA COMMONWEALTH UNIV SANGER HALL	VAD000798645	FINDS,RCRIS-LQG,CORRACTS
RICHMOND	RICHMOND CITY	VIRGINIA DEPT OF TRANSPORTATION RICHMOND	03-96-0262-0	RCRIS-SQG,FINDS,RCRIS-LQG,MLTS
RICHMOND	RICHMOND CITY	SAMPSON COATINGS INC	011655VA 001	AST,RCRIS-SQG,FINDS,TRIS
RICHMOND	RICHMOND CITY	REYNOLDS METAL RICHMOND FOIL	23224RCHMN7T	FINDS,RCRIS-LQG,TRIS
RICHMOND	RICHMOND CITY	WESTVACO CONSUMER PACKAGING DI	23224WSTVC40	FINDS,RCRIS-LQG,TRIS
RICHMOND	RICHMOND CITY	FEC BIOREMEDIATION FACILITY	VAD086293719	FINDS,RCRIS-LQG,RCRIS-TSD,CORRACTS
RICHMOND	RICHMOND CITY	PHILIP MORRIS USA	23234PHLPM70	FINDS,RCRIS-LQG,TRIS
RICHMOND	RICHMOND CITY	AMOCO OIL CO	VA0024627	RCRIS-SQG,FINDS,CORRACTS
RICHMOND	RICHMOND CITY	CARPENTER CO	I03#19891218	FINDS,RCRIS-LQG,TRIS, RAATS,CORRACTS
RICHMOND	CHESTERFIELD	KINDER MORGAN DEEPWATER TERM	23234PRMRY33	FINDS,RCRIS-LQG,TRIS
RICHMOND	CHESTERFIELD	WORTHEN IND. INC.	VAD055041339	TRIS
RICHMOND	RICHMOND CITY	FERGUSSON J W & SON INC	I03#19950912	FINDS,RCRIS-LQG,TRIS,AST
RICHMOND	RICHMOND CITY	DUPONT E I DE NEMOURS & CO INC	I03#19850320	PADS,FINDS,RCRIS-LQG, TRIS,RCRIS-TSD,CORRACTS
PETERSBURG	PETERSBURG CITY	ALLIED SIGNAL INC - TECNICAL CENTER	VA0023118	FINDS,RCRIS-LQG,TRIS
EMPORIA	EMPORIA CITY	STEELFAB OF VA INC.	VAR000004986	TRIS
EMPORIA	EMPORIA CITY	EMPORIA FOUNDRY INC	VA0023405	RCRIS-SQG,FINDS,TRIS,RCRIS-TSD, CORRACTS,LUST
EMPORIA	EMPORIA CITY	GEORGIA PACIFIC EMPORIA	23847GRGPCDA	FINDS,RCRIS-LQG,TRIS
EMPORIA	FULTON	GEORGIA-PACIFIC CORP EMPORIA	VAD039138227	FINDS,RCRIS-LQG,RCRIS-TSD

Source: EDR, Inc. and Center for Geographic Information Analysis; 1999

Table 4.24 Average Population Density in the Impact Area (300-Foot Total Buffer) for Each Study Area Alternative			
Study Area Alternative	**Ave. Pop. Density 1990 (300 ft)**	**Ave. Pop. Density 1999 (300 ft)**	**Ave. Pop. Density 2004 (300 ft)**
A	2329	2633	2806
B	2280	2571	2734
C	2207	2495	2683
D	2417	2682	2837
E	2369	2626	2774
F	2370	2607	2765
G	2382	2645	2799
H	2333	2589	2736
J	2313	2545	2703

Table 4.31 Historic Sites by Study Area Alternative		
Study Area Alternative	**National Register Historic Sites**	**Study List Historic Sites**
A	333	102
B	333	102
C	304	58
D	333	165
E	333	165
F	304	121
G	320	168
H	320	168
J	291	124

Source: North Carolina and Virginia State Historic Preservation Offices, 1999. Complied AG&M, 2000

Table 4.38
Summary of Potential Impacts and Benefits of the Study Area Alternatives

Impact Areas	Study Area Alternatives								
	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G	Alternative H	Alternative J
4.1.1 Water Resources # Of Water Supply Watersheds (6 mile wide buffer) # Of Potential Crossings of Major Rivers	27 29	33 28	19 9	28 31	35 30	21 33	27 29	34 28	21 31
4.1.2 Wetlands Potential Impacts in acres (Within 300 ft buffer)	117.3	115.8	117.0	124.0	122.5	123.7	190.7	189.2	190.4
4.1.3 Floodplains and Floodways # Of crossings of 100-year Floodplain	83	76	44	89	82	50	97	90	58
Mineral Resources # Of Historic Mines within 0.5 miles Of existing rail lines	36	37	40	37	38	41	33	34	37
4.1.1.7 Hazardous Materials Sites # Of sites within 0.5 mile buffer	412	441	252	427	456	267	454	483	294
4.1.1.8 Air Quality Net reduction in Nox emissions From auto diversion to trains (In lbs/yr) *	554,889	530,895	279, 065	547,392	517,065	269,540	589,505	553,099	298,179
4.1.1.9 Noise and Vibration # Of Category 3 noise and vibration sensitive receptors (Within 150' of existing lines)	333	342	259	371	371	287	369	372	284
4.1.1.10 Energy Fuel consumption per trip (in gallons)	403	432.3	383.5	421.2	450.5	401.7	434.2	463.5	414.7
4.1.1.11 Prime Farmland Prime farmland in acres	37,219	39,360	26,523	45,137	46,992	34,308	57,346	59,134	46,670
4.2. 1 Protected Species # Of known populations identified	33	35	45	44	46	56	43	49	51
4.2.2 National Rivers Inventory	11	11	13	10	11	13	12	13	14

Impact Areas	Study Area Alternatives								
	Alternative A	Alternative B	Alternative C	Alternative D	Alternative E	Alternative F	Alternative G	Alternative H	Alternative J
4.3.1.1Community Impacts Sites with potential impacts in areas of Environmental concern	5	6	5	4	5	4	4	4	4
4.3.1.2Environmental Justice Populations % Minority population (1999)	39%	39%	37%	43%	43%	43%	41%	41%	40%
% Low Income Households (1999) (300 ft buffer)	47%	48%	43%	48%	48%	46%	47%	47%	44%
4.3.1.5 Acquisition/Relocation Acres to be acquired # Residential relocations (each) Business relocations (sq ft)	678 365 65,145	731 371 110,920	930 220 57,374	620 405 62,191	674 411 107,966	872 260 54,420	545 301 70,344	598 307 116,119	797 156 62,573
4.3.1.6 Transportation Impacts** At grade crossings	548	613	544	601	666	597	600	665	596
4.3.1.8 Historic Sites National Register Sites	333	333	304	333	333	304	320	320	211
Study List Sites (1500ft buffer)	102	102	58	165	165	121	168	168	124
Section 4(f) and Section 6 (f) properties **Parks** Gamelands/Public lands (acres) (See 4.3.1.8 above for historic sites)	14 5.7	15 5.7	11 14	14 5.7	15 15.7	11 15.3	15 5.7	16 5.7	12 15.3

* Emission factors from standard EPA emissions models. Assume average car in 1997 operating on a typical summer day (72 to 96 degrees F)
**Includes public and private crossings

3.0 COMMENTS AND RESPONSES

This chapter contains comments received from federal, state, and local agencies and the general public during the public comment period for the Tier I Draft Environmental Impact Statement (Tier I DEIS). The Notice of Availability for the Tier I DEIS appeared in the *Federal Register* on August 5, 2001. This began the standard 45-day comment period. The comment period was extended and closed on December 28, 2001 after 18 public hearings in Virginia and North Carolina. In accordance with the National Environmental Policy Act (NEPA), public and agency comments were reviewed and incorporated into this Tier I FEIS. These public and agency comments are taken into consideration by the Boards of Transportation for Virginia and North Carolina Departments of Transportation in the decision making process.

Public comment was encouraged at each of the public hearings and in newsletters, other publications, and the project hot line. It was made known that responses to these comments would be published in the Tier I FEIS. The following presents the SEHSR Tier I EIS comment and response process.

3.1 Comment Receipt and Review

Comment Receipt

Comments on the Tier I DEIS included both written correspondence and oral testimony received during the public comment period. All comments received during that period are included in the Comments section.

Comment Review

In accordance with 40 Code of Federal Regulations (CFR) 1503.4, comments were assessed and considered as follows:

- Each comment letter and oral testimony was assigned an identification number (e.g. RAL-001) and were read and reviewed carefully.

- Within each comment letter or testimony, substantive comments were identified and given a key number (e.g. 32). The identification number and the key number are used together to identify each substantive comment (e.g. comment number 32 RAL-001). Three guidelines were used for determining substantive comments:

    1. The comment questioned or provided remarks on the proposed action, alternatives, the analysis/evaluation of alternatives or other components of the proposed SEHSR construction and implementation.
    2. The methodology of the analysis or results was questioned or clarification was requested.
    3. The use, adequacy, or accuracy of data was questioned or clarification was requested.

- Non-substantive comments were those expressing opinions regarding the proposed SEHSR or some component of it but did not require a specific detailed response. These comments are identified solely by their identification number (e.g. RAL-001).

- The substantive comments were reviewed by environmental resource specialists and other technical staff who drafted the responses. In some cases, similar comments were assigned the same response. If the same comment was repeated within the same letter or oral comments, it was only identified for response the first time it appeared.

- The individual comments were categorized by topic. These responses are organized by topic and then consecutively by Comment Number within each topic.

3.2 Locating Comments and Responses

Responses to specific comments may be accomplished a variety of ways. Tables 2-1, 2-2, and 2-3 list all substantive comment numbers sorted by agency, geographic location and topic. Table 2-1 lists comment numbers by agency and topic. Table 2-2 lists comments from North Carolina by location and by topic, and Table 2-3 lists comments from Virginia by location and topic. If you are interested only in responses to comments from a certain agency or location, these tables will help you identify the appropriate comment number to cross reference with Table 2-4 (the comment response table). Substantive comments and responses are located in Table 2-4 and are sorted by topic and comment number. Non-substantive comments and responses are grouped by geographic location in Table 2-5.

Public and agency involvement is an important part of the NEPA process, and all comments are taken into consideration by the Virginia Department of Rail and Public Transportation, and the North Carolina Department of Transportation in their decision making process.

The VDRPT and NCDOT would like to express appreciation for your comments. The fact that no responses were prepared for many of the comments praising the proposed SEHSR and requesting the proposed corridor or a station be located in or near a specific town or city does not in any way reduce the value of your participation.

Table 3-1
Comments by Agency and Topic

Subject	Comment Number	
Agency: CSX – Raleigh, NC		
Alternative	7	AGE-018
	8	AGE-018
	9	AGE-018
Cost	45	AGE-018
	46	AGE-018
	47	AGE-018
Safety	187	AGE-018
Agency: EPA, Region 3 – Philadelphia, PA		
Air Quality	2	AGE-011
Alternative	4	AGE-011
	5	AGE-011
	6	AGE-011
Cost	40	AGE-011
	41	AGE-011
Cultural Resources	68	AGE-011
Design	73	AGE-011
Environmental Justice	94	AGE-011

Subject	Comment Number	
Errata	98	AGE-011
	99	AGE-011
	100	AGE-011
Hazardous Materials	102	AGE-011
	103	AGE-011
Infrastructure	105	AGE-011
Land Use	118	AGE-011
Natural Resources	122	AGE-011
	123	AGE-011
	124	AGE-011
Noise/Vibration	131	AGE-011
	132	AGE-011
	133	AGE-011
	134	AGE-011
Other	140	AGE-011
Purpose and Need	160	AGE-011
Ridership	162	AGE-011
Socio-economic	200	AGE-011
	201	AGE-011
Summary	227	AGE-011
	228	AGE-011
Agency: FEMA - Region 3 – Philadelphia, PA		
Natural Resources	121	AGE-005
Agency: FHWA – Richmond, VA		
Cost	42	AGE-012
	43	AGE-012
Design	74	AGE-012
Ridership	163	AGE-012
	164	AGE-012
	165	AGE-012
	166	AGE-012
	167	AGE-012
	168	AGE-012
Agency: Corps of Engrs – Raleigh, NC		
Other	141	AGE-016
Agency: NC Div. of Water Quality – Raleigh, NC		
Other	139	AGE-003
Agency: NOAA - Silver Spring, MD		
Earth/Mineral Resources	90	AGE-007
US Department of the Interior – Petersburg, VA		
Cultural Resources	69	AGE-013
Agency: VA Department of Mines, Minerals and Energy – Charlottesville, VA		
Earth/Mineral Resources	91	AGE-015
Agency: VA Department of Rail and Public Transportation – Richmond, VA		
Cost	44	AGE-014

Subject	Comment Number	
Agency: Corps of Engineers – Norfolk, VA		
Infrastructure	106	AGE-017
Natural Resources	125	AGE-017
	126	AGE-017
Agency: VA Department of Historic Resources – Richmond VA		
Cultural Resources	67	AGE-001

Table 3-2
North Carolina Comment Numbers by Location and Topic

Subject	Comment Number	
Location: Cary		
Alternative	10	CAR-009
Community	37	CAR-013
Environmental Justice	95	CAR-002
	96	CAR-006
Infrastructure	107	CAR-010
Proposed Action	144	CAR-008
Public Involvement	155	CAR-001
Socio-economic	202	CAR-012
Location: Charlotte		
Alternative	11	CHA-004
	203	CHA-010
Socio-economic	204	CHA-011
Location: Durham		
Alternative	12	DUR-020
Design	75	DUR-015
	236	DUR-016
	76	DUR-019
Infrastructure	108	DUR-018
Noise/Vibration	135	DUR-004
Proposed Action	145	DUR-023
Ridership	169	DUR-025
Safety	188	DUR-002
	189	DUR-004
	190	DUR-017
Socio-economic	205	DUR-002
	206	DUR-017
Water Resources	233	DUR-003
Location: Greensboro		
Alternative	13	GRE-005
	14	GRE-008
	15	GRE-009
Cost	48	GRE-004
Design	78	GRE-011
Other	237	GRE-020
Ridership	170	GRE-004

Subject	Comment Number	
	171	GRE-010
	172	GRE-020
	173	GRE-020
Water Resources	234	GRE-001
Location: Henderson		
Alternative	16	HEN-001
	17	HEN-020
Cost	49	HEN-002
Design	79	HEN-008
	80	HEN-014
Proposed Action	146	HEN-020
Public Involvement	156	HEN-013
Socio-economic	207	HEN-005
	208	HEN-016
	209	HEN-020
Location: Raleigh		
4 (f)	1	RAL-007
Cultural Resources	70	RAL-009
	71	RAL-015
Design	84	RAL-009
Natural Resources	128	RAL-007
Proposed Action	148	RAL-012
Ridership	174	RAL-014
Safety	191	RAL-007
Location: Roanoke Rapids		
Alternative	21	ROA-010
	22	ROA-015
	23	ROA-016
Cost	56	ROA-001
	57	ROA-014
Proposed Action	149	ROA-008
Ridership	175	ROA-013
	176	ROA-024
	177	ROA-030
Safety	193	ROA-017
	194	ROA-018
Socio-economic	211	ROA-013
	212	ROA-019
Location: Salisbury		
Alternative	24	SAL-002
	25	SAL-007
Energy	93	SAL-002
Natural Resources	129	SAL-008
Socio-economic	213	SAL-001
Location: Sanford		
Cost	58	SAN-003
Public Involvement	159	SAN-002

Subject	Comment Number	
Location: Star		
Hazardous Materials	104	STA-005
Noise/Vibration	137	STA-002
	138	STA-005
Other	143	STA-014
Safety	196	STA-005
	197	STA-012
	198	STA-013
Socio-economic	218	STA-003
Location: Wilson		
Air Quality	3	WIL-008
Alternative	34	WIL-012
Cost	64	WIL-008
Environmental Justice	97	WIL-015
Natural Resources	130	WIL-008
Proposed Action	152	WIL-009
	153	WIL-014
Ridership	185	WIL-011
Socio-economic	219	WIL-008
Location: Winston-Salem		
Alternative	35	WIN-217
	239	WIN-243
	240	WIN-243
	242	WIN-248
	36	WIN-250
Cost	65	WIN-003
	241	WIN-243
	66	WIN-267
Proposed Action	154	WIN-246
Ridership	186	WIN-266
Socio-economic	220	WIN-001
	221	WIN-008
	222	WIN-020
	223	WIN-024
	224	WIN-025
	225	WIN-237
	238	WIN-243
	226	WIN-343
Water Resources	235	WIN-006

Table 3-3
Virginia Comment Numbers by Location and Topic

Subject	Comment Number	
Location: Fredericksburg		
Design	77	FRE-006
		Petersburg
Community	38	PET-004
Cost	50	PET-001
	51	PET-011
Design	81	PET-005
	82	PET-012
	83	PET-014
Natural Resources	127	PET-002
Noise/Vibration	136	PET-003
Other	142	PET-009
Proposed Action	147	PET-011
Public Involvement	157	PET-010
Socio-economic	210	PET-013
Summary	229	PET-006
Location: Richmond		
Alternative	18	RIC-014
	19	RIC-019
	20	RIC-024
Community	39	RIC-008
Cost	52	RIC-001
	53	RIC-002
	54	RIC-003
	55	RIC-004
Design	85	RIC-021
	86	RIC-022
	87	RIC-031
Infrastructure	109	RIC-020
	110	RIC-027
	111	RIC-028
Land Use	119	RIC-018
Public Involvement	158	RIC-023
Safety	192	RIC-016
Schedule	199	RIC-029
Technology	230	RIC-025
Tier II	232	RIC-002
Location: South Hill		
Alternative	26	SOU-007
	27	SOU-009
Socio-economic	214	SOU-001
Location: Springfield		
Alternative	28	SPR-020
	29	SPR-030
	30	SPR-032

Subject	Comment Number	
	31	SPR-036
	32	SPR-042
	33	SPR-043
Cost	59	SPR-003
	60	SPR-004
	61	SPR-005
	62	SPR-006
	63	SPR-018
Cultural Resources	72	SPR-007
Design	88	SPR-012
	89	SPR-025
Earth/Mineral Resources	92	SPR-008
Errata	101	SPR-016
Infrastructure	112	SPR-018
	113	SPR-029
	114	SPR-031
	115	SPR-033
	116	SPR-034
	117	SPR-044
Land Use	120	SPR-035
Proposed Action	150	SPR-028
	151	SPR-041
Purpose and Need	161	SPR-038
Ridership	178	SPR-018
	179	SPR-026
	180	SPR-037
	181	SPR-039
	182	SPR-039
	183	SPR-040
	184	SPR-045
Safety	195	SPR-025
Socio-economic	215	SPR-002
	216	SPR-010
	217	SPR-013
Technology	231	SPR-021

Table 3-4
Substantive Comments and Responses by Topic

Comment Number		Comment	Response
		Topic: 4 (f)	
1	RAL-007 ***Topic: 4 (f)***	Triangle Land Conservancy purchased a track of about 500 acres in Lee County in October of 2001 with money from the North Carolina Clean Water Management Trust Fund. The site includes an indoor iron furnace, which is a 30-foot high iron furnace that was used before the Civil War and is a site of great historical significance. The Triangle Land Conservancy (TLC) will transfer the land to the state of North Carolina. The plan is to open the furnace apart eventually. The southern route, as proposed, will pass through this property. Because the land is not yet a park, the preliminary assessment did not identify this land as a park so that did not factor into the assessment. I would like to strongly applaud the development of mass transit between North Carolina and Metropolitan areas particularly rail. I would urge you to continue your efforts in developing the rail alternatives in North Carolina. But would urge you all to consider strongly not using a southern route because of its adverse impacts on the triangle land conservancy site.	Thank you for this information, it will be added to our inventory of parks for future reference. Impacts to this resource have been avoided through the choice of Alternatives A and B for the preferred routing (neither A nor B utilize this corridor)
		Topic: Air Quality	
2	AGE-011 ***Topic: Air Quality***	If this level of detail is available on this criterion (residential locations), why is there not similar detail on the air quality (and noise) impacts? (This	The residential relocations were on the footprint of the conceptual design as identified from limited field observation and mapping. This was

Comment Number		Comment	Response
		refers to comment, which says "The extent of residential relocations defined in Table 4.38 is notable and needs explanation since the assumption is that the SEHSR would occupy existing ROW. ")	done as a part of the conceptual engineering effort on the project to identify existing conditions within the railroad rights of way and in areas where we may have need to go outside of the rights of way. This information was also needed to be able to develop credible order of magnitude capital cost estimates, which were also a part of the evaluation criteria. Noise and vibration analysis, and air quality analysis, require modeling that is beyond the scope of a program level document. The more detailed noise and vibration and air quality analysis will be done during the Tier II documentation when analyses of specific alignments and designs are considered.
		Topic: Air Quality	
3	WIL-008 ***Topic: Air Quality***	Looking at the impacts of the emissions that are to be generated from the trains going through the area, has there been any consideration or I should say, I hope there will be consideration and further to the air quality issue that Raleigh contends with. I think they have the highest air quality problem in the country at present. So just looking at the fact that the tables indicate that we may have half a million pounds of toxins going into the air from the trains traveling through the state would be considered at some point.	The half million pounds of toxins (NOx) is the amount removed from the environment by use of trains, based on the number of trips diverted from auto to rail. This is a positive net benefit to air quality.
		Topic: Alternative	
4	AGE-011 ***Topic: Alternative***	Table 2.10 and 2.11: Please update these tables. The 1295/64 flyover is complete, not planned. The Dulles Airport expansion is underway, not planned e.g. the underground walkway.	The information provided in this comment has been incorporated in the respective tables via errata sheets. These tables will be updated further and as needed during any future Tier II environmental documentation that may result from the Tier I Record of Decision.
5	AGE-011 ***Topic: Alternative***	Table 4,29: To a non-railroad engineer this table is unreadable. Please explain in the text and in the table legend how to interpret this table or remove it if it doesn't add much useful information.	Table 4.29 graphs the potential daily schedule conflicts between high speed rail and commuter rail in the congested corridor between Fredericksburg, Va. and Washington, D.C. The information contained in

Comment Number		Comment	Response
			this table is useful as a planning tool to better coordinate schedules between high speed rail and commuter rail. It notifies both high speed rail and commuter rail that future studies may require additional consideration of passenger capacity, track use, and station access due to the potential number of passengers. The readability of this table has been improved by adding an explanation in the text and in the legend and the change is noted in an errata sheet
6	AGE-011 ***Topic: Alternative***	Some technology options for powering the trains were dropped from consideration without full explanation. Both states dropped the electric traction option apparently due to high costs relative to ridership. One negative factor was the lack of vertical clearance in some places and the visual impact of overhead wires. The document does not indicate whether third rail power supply instead of overhead wires was considered, This action would eliminate the need for overhead wires. Third rail may be a viable option, especially since efforts will have: already been made to "seal" the corridors (in part for safety). The electric traction option would not only meet, but would exceed the operational requirements for speed. It would also be superior to diesel because it would minimize the environmental impacts associated with noise and polluting air emissions. This is important because several areas within the study corridor have existing or projected air attainment difficulties. One key performance factor to win and retain riders is to ensure that rail travel time is less than vehicular travel time. In the future, as demand increases for more station stops, the diesel locomotive will not have the increased performance potential that electric has in terms of acceleration, top speed and deceleration to compensate for more stops. To further reduce delays, every effort should be made to provide seamless	The early ridership revenue models were run at a variety of speeds to test the effect of speed on ridership. These models showed that within our 20 year planning window, increasing speeds above 110 mph (via electrification) did not significantly increase ridership, and yet would increase cost from 200% - 300% Third rail power presents unique problems for the incremental approach that utilizes both a shared corridor with mixed commuter, freight, and passenger service and shared lines (freight and passenger using the same actual track) with at-grade crossings. A third rail operation would ideally need to be totally separated from the other corridor uses from a safety standpoint. In the incremental approach, it is impractical to effectively seal the system against trespassers, and there would be greatly increased risks for workers maintaining the other corridor uses. The term "seal" in the Tier I DEIS refers to FRA guidance concerning the use of four quadrant gates and/or median barriers to keep vehicles from going around the gates when in the down position. Third rail also uses low voltages, which require that the substations are much closer together than high voltage systems. This greatly increases the overall environmental impacts as well as

Comment Number		Comment	Response
		connections. Since trains north of Washington are electrified, this is added justification for further consideration of the electric traction locomotive on the SEHSR.	cost. Seamless connection with the NEC would be accomplished either by using a push/pull configuration of both fossil fuel and electric locomotives, or changing engines in the DC area as is currently done.
7	AGE-018 ***Topic: Alternative***	The preferred "A-Plus Alternative" contemplates operations over the abandoned S-Line, which is owned by CSX Transportation. At various times over the last several years, discussions have focused on two alternatives regarding ownership and control of the S-Line. The first alternative would be for CSX to sell the S-Line to a responsible buyer. This would give the acquiring party control over the operations on the line. A second alternative, suggested at various times from the State of North Carolina, would be some type of partnership, with CSX retaining operating rights for freight service. While we are still opened minded on the issue , our current preference would be to sell the S-Line. Our A-Line offers us a high quality freight line that meets our current and future operating needs. We also think that separating high speed rail from slower moving freight trains makes a good deal of sense in the long-term. As will be discussed further below, our company policy is to not allow mixed freight and passenger operations in excess of 90 mph. A word should also be said about the unique nature of the S-Line. In today's world of "not in my backyard" local politics, the ability to access a fully connected right-of-way of 140 miles from Cary, NC to Petersburg, VA is a significant opportunity. If this were a highway project, the planners would not hesitate a moment to recognize the importance of this assembled corridor and pay the full up-front cost of acquisition, realizing the benefits that come from ownership.	Operations over any of the alternatives under consideration would require appropriate agreements with the owners/operators of the existing right of way and infrastructure. These agreements will be negotiated, and as such they will reflect the conditions acceptable to all parties involved. The existence of the S-line as an intact transportation corridor is recognized as a valuable asset by both VA and NC.
8	AGE-018 ***Topic:***	Capacity: We must be able to operate our network and serve our current and	Capital improvements to the A-line were evaluated in this study. These

Comment Number		Comment	Response
	Alternative	future customers with a high level of performance. Regardless of the issues on the S-Line, it must be noted that the A-Line between Petersburg and Richmond is part of our I-95 corridor, which is one of the busiest and most important on our system. The introduction of new passenger trains originating as part of the SEHSR Coalition will likely require capital improvements to ensure that our freight rail operations are not compromised. The Commonwealth of VA is also contemplating trains from Bristol to Richmond, as well as new traffic flows of Amtrak trains operating at Main Street Station in Richmond, that will likely have an impact on our operations.	improvements included constructing second tracks where single tracks currently exist, lengthening and adding passing sidings, consolidating crossings, and improving signalization. These improvements were designed to accommodate both passenger and freight needs through the design year, based on the information available to the planning team. Future detailed studies (Tier II) will be coordinated with the freight railroads to insure adequate facilitation of existing and future service needs.
9	AGE-018 ***Topic: Alternative***	Lastly, we do recognize that some benefits could be obtained by CSX from the Alternative A-Plus proposal. They would potentially include: 1. fair market compensation from a possible S-Line sale, 2. operating rights on the S-Line if it is put back in service, 3. S-Line could be used during the maintenance periods on the A-Line or times of natural disaster to give us increased operating flexibility, 4. some Amtrak trains could be pulled off the already congested A-Line, freeing up capacity.	These comments are statements of opinion that do not require responses.
10	CAR-009 ***Topic: Alternative***	I just want to be sure that the SEHSR lines intersect TTA in downtown Raleigh in one coordinated structure. To have SEHSR trains come down the S line and have a cross-platform transfer the TTA system between Morgan and Hargett Streets.	Coordination of commuter rail and high speed rail passenger services extends beyond the structures to schedules and ridership. Specific station design is a function of a more detailed study, as is detailed coordination with local/regional commuter services and these will take place during the Tier II studies. The NCDOT Rail Division will continue to work toward a coordinated station in the Raleigh area.
11	CHA-004 ***Topic: Alternative***	He suggests to upgrade the Amtrak system and dispose of any fossil fuel train concepts.	With the exception of the northeast corridor, the Amtrak system uses fossil fuel trains. The northeast high speed rail corridor upgraded existing electrification systems to operate at higher speeds. The cost of constructing overhead wires, sub-

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			stations at 30-mile intervals, and signal systems for electrified rail are 2 to 3 million dollars per mile. Previous feasibility studies indicate the optimum return for the SEHSR corridor is at the 110 mph top speed within our planning horizon. These requirements are adequately met with fossil fuel locomotives without incurring the additional environmental impacts from substation construction; the additional costs (decreasing the benefit cost for public investment); safety concerns and overhead clearance requirements.
12	DUR-020 ***Topic: Alternative***	How can time between Raleigh and Charlotte be affected if route uses same track as TTA? How does SEHSR plan to coordinate use of track with TTA, Amtrak, and freight?	TTA will share right-of-way for a short portion of the SEHSR. The NCDOT Rail Division is presently cooperating with TTA (as well as with Amtrak and the freight railroad companies) on designs to accommodate all users of the right-of-way. The two systems vary in both purpose and technology. Commuter rail (TTA) uses lightweight train sets to travel short distances with frequent stops. Freight railroads require a different and separate track system from the track system for their heavy rail services. Therefore, TTA will have it's own system of tracks that will not significantly affect the SEHSR. Coordinating Amtrak, SEHSR and freight will be accomplished using state-of-the-art signaling systems for train traffic, lengthening passing sidings to accommodate longer trains, and separating through tracks from service-oriented tracks.
13	GRE-005 ***Topic: Alternative***	Have you considered high speed mag lift rail as opposed to mag lev? Have you explored placing mag lift in the median of the interstates? In other words, utilize the interstates ROW we all own as opposed to RR corridors that were fine in 1900 but not very populated in 2001. I understand that even though commerce has moved	Monorail is an infrastructure technology. Maglev is a propulsion technology. Monorail-based transportation systems are short distance systems associated with special purpose services (i.e. airline terminals, amusement area connector). This purpose is inconsistent with the long distance,

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		away from RR corridors, that the road crossings continue to weigh heavily as a high cost safety issue. Would not placing monorail in the median be a project worth researching relative to speed, ridership, costs, safety, low environmental impact, and the like? Especially in terms of cost over a 30 year period of time. I would like to ask that if you have done such a study, I would very much appreciate reviewing it. In terms of "door to door", I look at the triad area and I can point out on a map the "employment centers", that is, those areas where we work, shop, dine, entertain, even attend universities and other schools. This to me is door to door which means that I can park my car at a metro station and commute via express or multi-stop monorail throughout the triad. In fact I have drawn a map showing such a system. Same could be applied to an interstate-aligned monorail system. From Downtown Raleigh, through RTP, to RDU.... Utilize the mag lift system throughout the state, and use either mag lift or a Bombardier/OTG/or Severn Lamb type system for the local rail. Connecting station for the state system in our area would be placed at Lee Street exit off I-85. We then run the local system through the triad and the state system continues on to Charlotte via I-85. Simple, fast, convenient and I believe could be built with a profit motive in mind due to a far higher ridership. Selling sponsorships along the way for developments such as Grandover in Greensboro, which might purchase access to a station at its convention center along I-85.	high speed system considered in this study. Therefore, monorail was not a technology considered in this study. Magnetic Levitation (Maglev) and related technologies hold a great deal of promise for the future, especially as it relates to higher speeds. FRA is presently sponsoring two pilot projects for maglev technology, and the initial estimates for these projects is between 39-85 million dollars per mile. Based on the needs of the SEHSR corridor within our planning horizon (see response 11 CHA-O4), this high cost is not warranted for the SEHSR corridor at this time. The incremental approach allows us to maximize the existing rail system, as well as the other existing transportation systems as we develop a program of rail ridership in the SEHSR corridor.
14	GRE-008 ***Topic: Alternative***	After carefully analyzing the information in Exhibits ES-6 and ES-20 I have concluded that Alternative C is clearly best overall. It would also provide an alternative route to existing Amtrak service via Greensboro and Rocky Mount. I assume there would be some intermediate stops at places like Petersburg, Henderson, somewhere near Sanford (perhaps	Although the exact location of stations would occur at a later date, preliminary locations for the purpose of this study included Petersburg, VA, Henderson, NC and Sanford, NC. Star and Troy were not considered in this study. The analysis put forth in the Tier I FEIS has identified Alternatives A & B as best meeting the purpose and

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		Colon) and either Star or Troy.	need of the overall project, while minimizing environmental impacts. Station locations and schedules will be determined through the Tier II planning studies.
15	GRE-009 ***Topic: Alternative***	Take route through Greensboro and include both High Point and Winston-Salem track improvements. You cannot leave out either city.	This Tier I FEIS identifies as preferred the Alternatives A&B. These combine to include both High Point and Winston-Salem.
16	HEN-001 ***Topic: Alternative***	As part of this project, will there be any efforts or funding to create secondary services such as bus service to and from local rail stops?	Many of the existing stations have been, or are in the process of being, renovated, including their connections to supporting transportation services. These efforts have been funded separately from the SEHSR corridor development, and they will continue through the Tier II process.
17	HEN-020 ***Topic: Alternative***	What towns would the train stop?	Final station stop locations will be determined during the Tier II process. For the purpose of this study, the cities of Washington, D.C., Alexandria, VA, Fredericksburg, VA, Richmond, VA, Petersburg, VA, Henderson, NC, Raleigh, NC, Cary, NC, Durham, NC, Burlington, NC, Greensboro, NC, High Point, NC, Salisbury, NC, Kannapolis, NC, Winston-Salem, NC, and Charlotte, NC were identified for estimating travel time and capital costs.
18	RIC-014 ***Topic: Alternative***	... a mention at that time of the possibility of perhaps moving our train station out of town up to the sewer plant outside the Town of Ashland. And that proposal led to the general public outcry, I would have to say, after that became public. And I just wanted to restate for the record that I personally, and a large number of citizens in Ashland, are not in support of moving our station out of downtown. We see that as a vital part of our community; and it is important, we feel, to keep service from downtown to downtown, not from sewer plant to downtown.	Thank you for your comment, see response 17 HEN-20.
19	RIC-019 ***Topic: Alternative***	In some places I see reference to the little alternative loop route north of Richmond that runs from Main Street Station and loops around to Doswell, but it doesn't show on there, that	While the overall study area includes the old C&O line from Richmond up to Doswell, the conceptual engineering and analyses done for this document utilize the former

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		particular map. Can you comment on is that in or out of the matrix of the route segment consideration?	RF&P line. One of the key purposes for this document is the identification of general routing south of Richmond through Raleigh to Charlotte (all alternatives under consideration utilize a common corridor north of Richmond).
20	RIC-024 ***Topic: Alternative***	Another question about it in terms of Hampton Roads, and this comment I have read periodically, which is one -- I cannot conceive of whenever it is done that it would not include the Petersburg/Norfolk Southern, and Norfolk and Virginia Beach in the future as a separate (inaudible).	All of these railroad lines are outside scope of this present study, however, during the Tier II studies connecting corridors will be examined as appropriate for the segment under consideration that that time.
21	ROA-010 ***Topic: Alternative***	Had the high-speed train for all the extremely important and salient reasons that have been expressed tonight but in addition possibly and in coordination with you guys, possibly having that steam train so that it can boost the economy in this area. As possible as well, such a steam train could be put together with private dollars so it would involve government aid in that respect and really see the economy boost as a result.	Thank you. That comment is outside the scope of this present study, but will be noted for future consideration as appropriate.
22	ROA-015 ***Topic: Alternative***	I would ask that you consider in the study, if it has not already been considered, when you run a train, it should run from Alexandria to Charlotte as the same train and hopefully with the same engineer and avoid two or three hours in Richmond and other places where the current trains lay over.	Thank you. That comment is noted for future consideration as appropriate.
23	ROA-016 ***Topic: Alternative***	My only comment is that in order to get the Weldon, you have to come through Garrysburg. My question to you, are you planning on having any more stops or are you just going to use the existing stops.	Station stops have not yet been determined. See response 17 HEN-20.
24	SAL-002 ***Topic: Alternative***	I think that high-speed rail is the right thing to do. The event ... something you have not mentioned is that the events of September 11, when the entire airline industry was shut down for a period of several days. I think that illustrates the importance of developing additional modal choices.	Thank you for your comment.

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25	SAL-007 ***Topic: Alternative***	We should now consider bus commuter systems for Forsyth, Guilford, and Davidson Counties tied in to the chosen rail route. When evaluations are made for 2010/2020-passenger rail service, these counties should have cooperatively developed their commuter traffic potential. As a testimonial to commuter choices other than highway congestion "road wars", CATS vans are parked in Lexington grocery lots today. If commuters will ride a bus to Charlotte, why not more so to Triad cities and PTI airport? With construction costs for rail at $5.5 million and highways at $12 million per mile now, the use of modern rail service will be even more cost effective and advantageous in the future. Plus economic development will be boosted in the Triad by the best overall transportation system.	Thank you for your comment. We have been and plan to continue to coordinate with the Piedmont Authority for Regional Transportation (PART) and their efforts in planning and implementing regional transportation programs for the Triad.
26	SOU-007 ***Topic: Alternative***	Would like a station/stop at LaCrosse, Virginia.	Thank you for your comment. Station stops have not yet been determined. See response 17 HEN-20.
27	SOU-009 ***Topic: Alternative***	It is my opinion that this project should merge with the Government and implement my idea of a land-saving, highway semi-truck accident reducing, emissions controlling, overall advance in transportation utilizing these routes with an underground freight transportation and passenger transportation. A machine can be made to bore under the highway and lay tunnels and tracks simultaneously. There will be no railroad crossings for this high speed service, less semi-trucks on the roads, and less buses and vehicles. The cost for this style would be more expensive but the lives saved far outweigh any price.	Your proposal is interesting but we are unable to evaluate it as a part of this study. Present technology for building an underground system is cost prohibitive for the benefit received during our planning horizon. See response 13 GRE-05
28	SPR-020 ***Topic: Alternative***	Don't try to save a buck by avoiding major population areas like Winston-Salem. In the long run it will be better to include them (unless existing systems will tie into SEHSR).	This Tier I FEIS identifies as preferred Alternatives A&B which includes a connection to Winston-Salem.
29	SPR-030 ***Topic: Alternative***	Make train stations downtown, not in a rural area like Richmond.	Station locations have not yet been determined. However, historically downtown stations have been the mainstays of inter-city rail travel both in America and Europe.

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30	SPR-032 ***Topic: Alternative***	Use SEHSR as the core line to connect major population locations. Use regional, slower speed trains to connect smaller cities to SEHSR.	SEHSR is proposed to be a part of an integrated transportation system for the southeastern region. The proposed service would be designed to work cooperatively and effectively with other modes providing the maximum mobility options for the system user.
31	SPR-036 ***Topic: Alternative***	I recommend maximum interchange with airports-travel between the modes should be seamless, not competitive.	See response to comment number 30 SPR-032.
32	SPR-042 ***Topic: Alternative***	And how many cities, more or less? In other words, how many stops? And I say more or less. I mean I'm not trying to pin you down on a final number. Well, what it comes down to is the number of stops impinges or affects your average speed or your travel time. In other words, every time you stop, there are X amount of minutes lost in accelerating and decelerating, plus the standing time in the station. Amtrak is figuring that out up there in that Boston to New York run.	Station stops have not yet been determined. For the purpose of this study, it was assumed that all stations currently served by Amtrak would continue to be served. See response 17 HEN-20
33	SPR-043 ***Topic: Alternative***	Was consideration given to marketing as a potential commuter rail between Richmond and Washington?	The SEHSR is an intercity passenger rail service with appropriate service frequencies. Commuter rail service requires a much higher frequency of service. Therefore, the SEHSR was not considered a potential commuter service in any service area.
34	WIL-012 ***Topic: Alternative***	Why not examine route link between Raleigh and Rocky Mount via direct route or Raleigh to Wilson via a direct route? Eliminate Selma and shorten route from Raleigh to Richmond.	The SEHSR study identifies the A-line from Centralia, VA to Selma, NC and the NCRR from Selma, NC to Charlotte, NC as the study corridor. These two routes are not within the study corridor based on the findings of earlier feasibility studies.
35	WIN-217 ***Topic: Alternative***	The building of more highways has not satisfied or created more efficient means of moving people. The costs for moving people should be directed into efficient rail and highway construction. The examples of more highways can be seen in the I-40, I-85 and US-52 that has caused congestion and fatal accidents. It would seem to me that on existing highways such as I-40, I-85, I-77 and US-52 that the development of monorail systems to run over these	See the response regarding monorail in comment number 13 GRE-005.

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		highways would bring about less congestion, less accidents, reduce our dependency on foreign oil and improve air quality in our state. The examples are out there where highway development has caused a negative quality of life due to the time frame people spend in their automobiles to got to their place of employment each day-for example, Houston, Atlanta, Los Angeles and the list goes on. Let NC be a leader in bringing rail systems into the transportation plan.	
239	WIN-243 ***Topic: Alternative***	(B) air traffic needs the passenger rail service now,	See response to comment number 32 SPR-032.
240	WIN-243 ***Topic: Alternative***	(C) highway travel is a nightmare in most large cities,	One of the goals of the proposed SEHSR is to provide a viable alternative to travel by auto on congested roadways.
242	WIN-248 ***Topic: Alternative***	I don't believe Winston-Salem is a bump. It is actually a straight line between Charlotte and DC. At least one of the routes bypasses a lot more population basis than such a bump would provide.	The comment made at the Tier I DEIS hearing referring to Winston-Salem as a "bump" makes reference to the fact that Winston-Salem is a little further north and west of the NCRR right-of-way, which appears to be more of a straight line connecting most of the piedmont communities.
36	WIN-250 ***Topic: Alternative***	it is just 15 miles. That's all that bumped on the map is 15 miles. We have a large number of people in this community who would take advantage of high-speed rail. I think some of the calculations particularly based upon that 15 miles instead of showing an almost 3/4 hour difference from the length of the trip going from Charlotte to Washington. It should probably be closer to a half-hour addition based upon 60 miles an hour for the train and a 10-minute stop. Again, that is based on some riding high-speed rails in England and also in Italy.	The additional schedule time required to add a stop in Winston-Salem is in: - limited speeds from Winston-Salem to Lexington, - stop time at Winston-Salem to change the direction of the train at the terminal stop (necessary for doing required safety checks if this is a pull-in stations versus a pull through station), and -in the additional length of travel.
		Topic: Community	
37	CAR-013 ***Topic: Community***	The Cary Mayor writes a Resolution offering support of the NCRR alignment of the SEHSR Corridor and the Cary town manager writes a letter of concerns and possible impacts such as compliance with land use and transportation plan & noise and safety.	Given the programmatic nature of the Tier I Draft Environmental Impact Statement, a general assessment was made of community impacts. These community impacts included social and physical aspects, physical aspects, visual environment, land

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			use, safety, mobility and accessibility, provision of public services, economic conditions, displacements, and potential community impacts as a component of environmental complexity. No substantially negative community impacts were found at the programmatic level in the Tier I DEIS. More detailed study of community impacts would be undertaken for the recommended alternative(s) in any Tier II documentation. Any Tier II environmental analyses would take into consideration more localized impacts such as compliance with land use and transportation, as well as noise and public safety.
38	PET-004 ***Topic: Community***	Mr. W.C. Scheid, Director of Planning for Dinwiddie County, Virginia writes to express to communities concerns over the proposed SEHSR. Mr. Scheid lists ten concerns ranging from environmental impacts to property impacts: 1. Portions of this line have been studied as an East Coast Greenway trail and have received State and National recognition as such. The Dinwiddie County Parks and Recreation Department have embraced this study 2. The State Comprehensive Outdoor Recreation Plan has	Staff from the Virginia Department of Rail and Public Transportation held a meeting with representatives from Chesterfield Co., Dinwiddie Co., Colonial Heights, and Petersburg on Dec. 20, 2001 at the Chesterfield Co. Administration Building to address these issues. 1. Based on the Tier I identification of public parks, within the 500-foot Study Area Alternative buffer and with no specific alignment set, there is little variation between the study areas in the number of public parks. Study areas range from a high of 16 to a low of 11, with most areas having 15 public park areas. Study areas which utilize the S-line have 14 (Alternative A), 15 (Alternative B), and 11 (Alternative C) public park areas respectively. Tier II study and analysis will allow for greater consideration of localized impacts and need for avoidance or mitigation as more specific route alignments are determined. 2. Please refer to responses to #1 and #4. Also, this track

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	Topic: Community	shown portions of this abandoned track as serving recreational needs for County residents and connecting historically significant sites	has not gone through the legal abandonment process and is therefore inactive versus abandoned, and is still is owned by a freight rail road company
		3. Several County citizens have purchased portions of this railroad property to access their property and/or have built structures within the abandoned rail line	3. The Tier I DEIS found that each of the Study Area Alternatives would require varying degrees of right-of-way acquisitions and varying number of relocations. Precise numbers are not possible at the program level of review and analysis. Projected total right-of-way acquisitions range from 620 acres for Alternative D to 930 acres for Alternatives C (uses S-line). Other S-line Alternatives A and B are projected at 678 acres and 731 acres respectively. Projected total residential relocations range from 156 for Alternative J to 411 for Alternative E. Alternatives that utilize the S-line are projected have the following residential relocations: 365 for Alternative A, 371 for Alternative B, and 220 for Alternative C. Projected total business relocations range from 130 in Alternative D to 234 in Alternative B (uses S-line). Other S-line Alternatives A and C are projected to have 144 and 132 business relocations respectively. Right-of-way acquisitions could result from realigning curves to obtain/maintain the maximum operating speed and/or preservation of natural and man-made features, which may require a new location for the rail alignment. The need for land acquisition and the number and types of

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	Topic: Community		properties that might be acquired will be more thoroughly defined during the Tier II environmental process. In addition, information would need to be gathered about the properties and occupants and relocation benefits and sites would be specified. All persons whose property is acquired or who are displaced as a result of a Federal or Federally-assisted project are ensured of fair, consistent, and equitable treatment through the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 and the Uniform Relocations Act Amendments of 1987. State rules and regulations regarding property acquisition would also apply.
		4. The line traverses some major Civil War Battlefields identified as such by the National Park Service. The Board of Supervisors has endorsed the Park Service's Battlefield Epicenter Plan (October 2001) and is in the process of reflecting this action in the update of the County's Comprehensive Land Use Plan	4. The numbers of National Register Historic Sites and Study List Historic Sites located within a 1,500-foot study buffer (which equates to a total width of approximately 0.5 mile) were identified for each Study Area Alternative in the Tier I DEIS. The current number of National Register Historic Sites range from 333 in Alternatives A, B, D, and E to 291 in Alternative J. The existing number of Study List Historic Sites ranged from 168 in Alternative G and H to 58 in Alternative C. The highest combined number of National Register and Study List Historic Sites, estimated at 498, are located within Alternatives D and E while the least number, estimated at 362, are located within Alternative C. Future evaluation in Tier II will involve the identification of historic and architectural

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	Topic: Community		resources within more specific alignments through background research and field surveys, assessment of the effects, and consultation with interested parties, the State Historic Preservation Offices (SHPO), and the Advisory Council on Historic Preservation in compliance with the guidelines set forth by North Carolina and Virginia's State Historic Preservation Offices. If an adverse effect is anticipated, the agency will consult with the SHPO and others in an effort to find ways to make the undertaking less harmful. Potential mitigation could include avoiding historic sites by shifting the alignment, minimizing the area of impact through engineering design, or adding other aesthetic enhancements to eliminate or lessen visual impacts.
		5. The line is located in close proximity to properties which have been developed since the line was abandoned and will adversely impact many of these properties	5. Given the programmatic nature of the Tier I Draft Environmental Impact Statement, a high level assessment was made of community impacts. No significantly negative community impacts were found at the programmatic level in the Tier I DEIS. In addition, at this point in the EIS process, adverse impacts are considered "possible," since passenger equipment type, freight use, and frequencies and time of use all play a part in any adverse impact determination. This information will not be known until Tier II analysis begins. More detailed study of community impacts will be undertaken for the recommended alternative(s)

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	Topic: Community		in the Tier II environmental documents. This will include consideration of more localized impacts such as compliance with land use and transportation, as well as noise and public safety. Also refer to response to #3.
		6. There are considerable at grade rail crossings with the County's secondary roads. There are safety concerns with this situation. It is understood that grade separation is expensive to construct and, generally, considered as a "last resort". Obviously, road closures will occur which will cause inconveniences to the citizens of Dinwiddie County	6. With respect to potential impacts to at-grade crossings, Study Area Alternatives utilizing the S-line rank lower than their counterparts that do not utilize the S-line. At-grade crossings range from 544 for Alternative C (uses S-line) to 666 for Alternative E. At-grade crossings for other S-line Alternatives are 548 for Alternative A and 613 for Alternative B. During Tier II studies, a comprehensive study will be needed – similar to NCDOT's Traffic Separation Studies – to evaluate the need for grade separations, improved grade crossing protection, and potential road closures as part of SEHSR implementation. Grade crossing concerns will also be addressed through continued and targeted public outreach.
		7. There are environmental considerations which will impact on adjacent properties	7. Refer to response provided for CAR-013-37.
		8. The County will not receive any long term benefit from the rail line and will lose any option for alternative uses of the line in the future. As explained by representatives from the North Carolina and Virginia Rail Divisions, ownership of the line will be vested with the State and tax revenue will not be derived by the County. During initial discussions there were statements made that clearly	8. Ownership of the line has not been established. Consequently, tax revenue benefits to the state and/or county are unknown. Public passenger rail service has historically co-shared line use with freight/industrial rail service providers.

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	Topic: Community	established this as a passenger service line and not for industrial purposes. Recent discussions have softened on this matter to the point there is confusion. Also, some comments have been offered regarding train stop(s) and/or station(s) as enticements for support of the line	
		9. There is an active rail line located to the east. A parallel line, alternate "A", could be built with much less impact on adjacent property owners and the community	9. The active rail line has been included as part of the Tier I DEIS in Study Area Alternatives G, H, and J. These three study areas potentially have less impact on adjacent property owners in terms of acres to be acquired, # of residential relocations, and square footage of business relocations. When the study area alternatives are compared based on all study criteria, only Alternative G ranks above the bottom three. Alternative G ranks above other Alternatives only in annual auto to rail diversion in 2025, net reduction in NO_x emissions, and net energy reductions. When Study Area Alternatives are reviewed based on economic viability factors (i.e., net operating contribution and capital cost efficiency factors) Alternatives G, H, and J all rank in the bottom three. More detailed study will be needed in the Tier II DEIS to assess and propose mitigation to possible relocation impacts.
		10. There is considerable concern with the line location in the northern portion of the County as it relates to Chaparral Steel and the County's Enterprise Zone. Clearly, this matter must be addressed before the County considers endorsement of this project. The	10. The Tier II EIS analyses will provide the opportunity for detailed study of this area and the potential impacts.

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	Topic: Community	County/State/private funds have been expended amounting to millions of dollars to develop this area and the proposed S-line will run through the middle of this area. This situation must be studied carefully.	
39	RIC-008 ***Topic: Community***	The Town Council of Ashland, VA highlights interests to the community. The concerns are: sound and noise vibration levels, barrier effect, aesthetics, compatibility with community goals, safety at grade crossings, mobility and accessibility.	Refer to response provided for comment number 37 CAR-013.
		Topic: Cost	
40	AGE-011 ***Topic: Cost***	The document does not define who will be the project operator, but we assume it will be Amtrak. If this is the case, Amtrak's cost guidelines may be relevant and should be included in the document. Also, the required subsidy versus system revenue generation should likewise be presented.	Amtrak is assumed to be the operator in that they are the only entity with statutory authority requiring the underlying railroad companies to work with them. Amtrak cost factors were used in calculating the net operating contribution (see Table 2.17) which measures potential income or loss
41	AGE-011 ***Topic: Cost***	Purpose and Need: While this is not an actual proposal to fund the construction of the project, there was no data on what constitutes a viable (cost-effective) rail project by the FTA or the FRA. This information should be included in the document, since it is probably in the feasibility studies referenced in the DEIS.	The Tier I (program level) document addresses the purpose, the need, the potential regional impacts, the general route, and comparisons to other travel options. Economic information is included in the document as a factor in alternative evaluations (see Table 2.17), and in Chapter 1 of this Tier I FEIS in the business analysis The preferred alternatives shown in this document show a positive net income contribution using conservative ridership estimates
42	AGE-012 ***Topic: Cost***	I also have a comment about the 10 million discussed in the background. Factoring in additional riderships for Alternative C should not have resulted in additional conceptual capital cost. These costs had already been determined and would not have been affected by the ridership adjustment.	Ten million dollars is discussed twice in the background data. First in the Virginia initiatives referring to the VRE-related capital improvements. This is in the RF&P portion of the corridors that is common to all alternatives. A second reference is to "over $9 million" in the North Carolina initiatives. This refers to the sealed-corridor program used for crossing safety improvements throughout

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			North Carolina. To effectively increase ridership, the alternative would have to be more "attractive" to passengers than the other alternatives. Since high speed rail indicates a faster method of transportation, thereby reducing travel times, the way to attract more passengers to Alternative C would be to reduce the travel times by spending more capital funds to improve the track and route.
43	AGE-012 ***Topic: Cost***	I had submitted comments favoring Alternative C. In my comments I had stated that Alternative C was unique from the others because it actually separated from existing intercity rail passenger service (EIRPS) lines at Petersburg to form another line. I went on to say that I felt some of the figures for Alternative C were skewed, or understated, because of that separation at Petersburg. At the December 11 meeting, you indicated that because of my comments another model had been run and the net operating income for Alternative C had increased by about $2 million but at the same time, conceptual capital cost had increased by about $10 million. Since the meeting, I have been thinking about Alternative C and still believe that the figures for it may still be understated and not truly representative. I am submitting some additional comments for your consideration.	The figures for Alternative C are based on the fact that a major segment of the route would operate in a sparsely populated section of North Carolina, with revenue producing stops only in Raleigh and Charlotte, also the location of the study corridor between Washington DC and Raleigh is identical for Alternatives A, B, and C As for the increased income and increased conceptual capital cost, only an increase in ridership can increase the income. To effectively increase ridership, the alternative would have to be more "attractive" to passengers than other travel modes. Since high speed rail indicates a faster method of transportation, thereby reducing travel times, the way to attract more passengers to Alternative C would be to reduce the travel times by spending more capital funds to further improve the track and route in an effort to further improve the travel times. The conceptual capital costs were generated from improvement programs that would provide the same level of service for each alternative, not give any alternative an unfair advantage over the remaining alternatives.
44	AGE-014 ***Topic: Cost***	The Commonwealth has developed cost estimates for the Richmond to DC corridor. These were completed in the 1994-1997 time frame. Those estimates showed a cost of about $3.5 million per mile and about $250 for electrification. These costs have	Conceptual capital costs are based on perceived improvements to the corridor in addition to known improvements that are planned but not constructed. The FRA study was used for planned improvements. However, since the Washington, D.C.

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		escalated. FRA's recent study showed higher costs. We are working with CSX engineers to develop project by project cost estimates.	to Richmond, VA corridor is common to all alternatives, the same cost was factored into the total cost for each alternative.
45	AGE-018 ***Topic: Cost***	Liability: CSX has a financial responsibility to our shareholders and employees and we cannot expose ourselves to any additional risk or liability that would occur due to the introduction of new passenger service in our right-of-way. Our most recent requirement is a minimum of $500 million in insurance per incident, subject to upward adjustment. However, due to ever increasing liability exposure, we have our limits under constant review and cannot commit to any prescribed limits for future occupancies.	The issue of insurance will be addressed prior to the implementation of high speed rail in the operating agreements that will be established with the appropriate parties
46	AGE-018 ***Topic: Cost***	Compensation: We expect to be compensated for any use of our rights-of-way at fair market value. CSXT will not subsidize passenger operations by discounting property or service below market values. To be clear, we do not define market value as the current Amtrak rate, which is the result of a historical bargain that relieved the railroad of common carrier obligations for passenger service in the early 1970s.	Compensation for right-of-way is an issue that will be addressed prior to implementation of high speed rail, in the operating agreements that will be established with the appropriate parties
47	AGE-018 ***Topic: Cost***	We also had some concerns about the language in the draft report regarding an "incremental approach" to the project. It has been our experience that "incremental" is often synonymous with trying to lessen the true long-term costs of the project. If it is the intent of the Southeast Coalition to run high speed service in excess of 110 mph, the we believe that the stakeholders should recognize the true long-term investments that will be required. In Europe and Asia, the two areas with the most operating experience with high speed service, the investments they have made are often $20 million/mile or more to build world class high speed service. We believe that if you want that type of service, you should state it clearly in the beginning and recognize the full level of investment that would be	The incremental approach refers to the actual construction of improvements and the funding of those improvements. The conceptual costs of the project account for the improvements anticipated for implementation of high speed rail to a maximum speed of 110 mph. This reflects the estimated long-term investment that would be required to implement this service. This approach was specifically chosen because it meets the project purpose and need with an efficient and effective use of public funds for the design year (2025). Future planning will continue with input from all concerned parties, as the SEHSR corridor matures. Net operating income, by definition, is the income (profit or loss) realized

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		required. We also share Norfolk Southern's views regarding "net operating income" from the project. While this is not clearly defined in the draft, we assume that the proponents expect to make some amount of profit from the operations. We have looked at passenger operations throughout the world, and to the best of our knowledge there is not a single operation that makes a profit when capital costs are factored into rates of return.	after deducting operating expenses. Capital costs are not operating expenses, but long-term investments. Maintenance and replacement of capital improvements are included in operating costs.
48	GRE-004 ***Topic: Cost***	How much is it going to cost to elevate or build on the surface a whole new set of tracks to handle an Acela or a mag lev train? You may as well compare that to taking advantage of the highway corridors to understand the differences. What about automation vs. having to man each train? How does that cost compare? What about 30 year operating numbers? At the end of the day, I am extremely concerned that if we follow the path of the current rails, and if we decide to use surface rail whether regular or high speed, or if we decide the whole high speed line must be elevated and we still follow the current rail lines, we end up with a system costing far more over a 30 year period of operation as compared to a monorail system built from the outset along the highway corridors and major thorough fares.	An Acela (electrified high speed rail system) would cost approximately 9 to 10 million dollars per route mile to construct. Maglev technology is estimated to cost approximately $39-85 million per route mile to implement. Automated train technology has seen rapid advancements recently, but the advancements apply to light rail transit and freight yard operations. Implementing an automated train system requires automation equipment installation on both public and private sector equipment. This also requires a central control of train traffic since multiple freight companies operate within the same region. See response 13 GRE-05.
49	HEN-002 ***Topic: Cost***	What would be the cost if any to county residents? Cost from Henderson to Raleigh?	Funding for the high speed rail project would be from federal and state funds. Counties and cities would not fund improvements nor subsidize operations for this passenger rail service. The costs of specific improvements have not been determined for this program level document. Only conceptual capital costs for each alternative were developed for comparison purposes. Specific costs can only be determined with more detailed design, which will be prepared during the Tier II studies.

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50	PET-001 ***Topic: Cost***	The cost estimate of $2.6 billion doesn't even pay for the trackage.	Conceptual capital cost includes estimated costs for purchasing right-of-way, improving track geometry and condition, improving safety at highway railroad at-grade crossings, and grade-separating highway railroad crossings.
51	PET-011 ***Topic: Cost***	How would this project be funded?	The high speed passenger rail project would be funded by federal and state funds.
52	RIC-001 ***Topic: Cost***	Another question we heard back in the (inaudible) – in the DC to Richmond corridor where there is some funding available and things are progressing a little further, the question related to that from, especially from (inaudible) shortly things that speed up that trip. The stretch from Acca Yards to the station is in significant need of considerable upgrading. And I'm just curious whether that (inaudible) upgraded, and I'm (inaudible) current funding and time frame?	More than $770 million in needed capital improvements for the Washington, D.C. to Richmond, VA corridor have been identified. Approximately $380 million of the total would be state funds programmed for the projects, with other contributions coming from VRE, CSXT, NS, Amtrak, and FRA. The exact timeframe for these improvements would depend on the availability of funds and the ability to incrementally make the improvements.
53	RIC-002 ***Topic: Cost***	You are in the Tier I study now, the higher review. You are moving to the Tier II study beginning next year. Is there a financial study? Tier II is also environmental?	Any Tier II study would include further refinements in the conceptual capital cost as well as operating revenue and expense. Tier II is an "environmental" study in name, but it would also include the financial study of a project.
54	RIC-003 ***Topic: Cost***	Can we get information from you about the financial study?	From a program level document, the financial portions of the study are the conceptual capital cost of improvements and projected estimates of operating revenues and expenses. These are included in the Tier I EIS.
55	RIC-004 ***Topic: Cost***	(Financial Study) We will start hearing more about that in Tier II?	See response to comment number 53 RIC-002 above.
56	ROA-001 ***Topic: Cost***	How much will this cost each citizen?	The cost would be funded from federal and state funds as a portion of the overall tax revenues generated by each government entity. Some form of bond funding has also been proposed. The individual cost to each citizen as a portion of the total taxes paid by that citizen cannot be determined at this time.

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57	ROA-014 ***Topic: Cost***	The line from Norlina to Weldon - the collateral damage that is going to be done is going to be much more expensive than the construction costs. You say you are going to consolidate or close crossing and there is an awfully lot of lake property and other property along the north side of what the existing railroad is. If you are talking about the existing right of way. If you go closing these crossings then you are going to cut off a lot of subdivisions and potential for subdivisions in this area. I think that is going to be very expensive. It is going to greatly exceed, I believe, the cost of the construction itself. It makes sense to follow the existing lines that you have in place, I think, from Norlina, I mean from Weldon on through Wilson and across. I think the crossing from Norlina to South Hills going across the lake that bridge is going to be mighty expensive to put in. CSX is supposedly closed it because it was unsafe. I don't think that you can put a high-speed train on a track that was unsafe when they took it up and stopped using it. So I think that is going to be an expensive proposition for you.	Construction costs are a quantifiable element of any study. Collateral damage is a matter of perspective. The consolidation/closing of crossings is based on the current use of existing crossings. No existing residences would be left isolated from access to a highway right-of-way (i.e. some form of access would be provided). Future subdivisions or developments would have to successfully negotiate with the existing railroad right-of-way owner for cross-access. The necessary improvements to the bridge across Lake Gaston was a factor in the development of conceptual capital costs for the alternatives that include this segment.
58	SAN-003 ***Topic: Cost***	Cost comparison on regional basis or national basis?	The purpose of this study is to compare costs associated with the options available for this corridor, including the option of doing nothing or "no-build". A cost comparison to regional or national projects of a similar nature would not assist in determining the preferred alternative, including the no-build alternative.
59	SPR-003 ***Topic: Cost***	Concerned about limited funds available for transportation projects in VA. SEHSR will serve a limited number of Virginians directly (their own trips) and indirectly (less crowded roads and airways). With big ticket transportation projects currently underway (Springfield interchange, Wilson Bridge), others looming (I-81 corridor, metro to Dulles) and increasingly limited state revenues, I wonder if this is the most effective use	The concern that created the "big-ticket" highway projects is the same concern driving this project, including overcrowded highways and airport terminals causing travel delays. The most effective use of scarce funds is to fund a program that provides the best alternative to resolve the concerns. That is the purpose of this study.

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		of scarce funds.	
60	SPR-004 ***Topic: Cost***	The cost of commuting maybe a concern for citizens residing in certain areas of the alternative routes.	The fare for the proposed SEHSR service is planned to be competitively priced to make it attractive to potential riders. It should be noted that this is a proposed intercity passenger rail project rather that a commuter or transit project.
61	SPR-005 ***Topic: Cost***	How much federal funding is in the works?	Congress has not specified the level of federal funding for the SEHSR as of the publication of this document
62	SPR-006 ***Topic: Cost***	Although we haven't talked about funding yet for this part, was the northern section – was there federal money for the D.C. to Boston?	Federal funds were appropriated for the construction and operation of the Northeast High Speed Passenger Rail Service.
63	SPR-018 ***Topic: Cost***	How are the net operating income was derived? Are non ticket revenue items included?	The net operating income or loss is the result of subtracting annual operating expenses from annual ticket revenues. Expected revenues are also included from non-ticket items including food and beverage services.
64	WIL-008 ***Topic: Cost***	what are the expectations if known for local share of the contribution to the overall project	See response to comment number 49 HEN-002.
65	WIN-003 ***Topic: Cost***	Cost/Funding should be 75% from RR and the rest from Winston-Salem.	The exact funding ratio for the proposed SEHSR has not been determined. Cost and funding scenarios would be refined during the next phases of project development
241	WIN-243 ***Topic: Cost***	(D) the US Treasury Dept. had over two trillion dollars in surplus, until the 9/11 disaster, for a source of money for this work,	Thank you for your comment. See response 65 WIN-003 above
66	WIN-267 ***Topic: Cost***	The future potential growth of ridership will be higher by including Winston-Salem rather than by passing the city. The projected decrease in revenues appears overstated. A 30,000 drop in ridership shows a $5.1 million drop in revenues. How much are you valuing each rider? This would amount to close to $150,000 per ticket.	Table 2.17 indicates a reduction in ridership of approximately 40,000 with an increase in revenue of approximately $2 million. The only "drop" occurs in net operating income with a reduction of approximately $1 million. The increased expenses of adding the mileage and stop to service Winston-Salem reduce net operating income.
		Topic: Cultural Resources	
67	AGE-001 ***Topic: Cultural Resources***	We recommend that a Memorandum of Agreement be completed for the project in order to outline procedures for dealing with cultural resource issues	Section 106 of the National Historic Preservation Act requires Federal agencies to take into account the effects of their undertakings on historic properties. The NCDOT and the VDRPT would identify historic

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			properties potentially affected by the undertaking, assess its effects, and seek ways to avoid, minimize or mitigate any adverse effects on historic properties. In the Tier I DEIS, the assessment of impacts to historic properties is at a very broad level. During any subsequent Tier II evaluation, a more detailed alignment would be studied, and field surveys and studies would be completed to identify and determine the eligibility of historic properties in the area of potential effects. If deemed necessary, a Memorandum of Agreement would be completed for any Tier II documentation.
68	AGE-011 ***Topic: Cultural Resources***	Table 4.31: Please indicate in the table the buffer width used for this calculation.	The study buffer width of 1500 feet is mentioned in the second paragraph, second sentence on page 4-92.
69	AGE-013 ***Topic: Cultural Resources***	The alternative using the "S" railway corridor that traverses Dinwiddie County, VA may adversely impact cultural landscape features on certain nationally significant Civil War battlefields in the County. The 1993 report to Congress by the Civil War Sites Advisory Commission identified nineteen class A or B battlefields in Dinwiddie County that deserve preservation. As far as we can tell from the maps provided, the "S" railway corridor would pass through a portion of the Hatcher's Run battlefield. There are other lands in question where three additional Civil War battles have occurred that may be impacted by the proposed railway corridor. Although the battlefield sites are not yet on the National Register of Historic Places, they are probably eligible for inclusion and should be preserved for posterity. An alternative route for this high-speed rail corridor is preferred.	In the Tier I DEIS, the assessment of impacts to historic properties is at a very broad level. During any subsequent Tier II evaluation, a more detailed alignment would be studied, and field surveys and studies would be completed to identify and determine the eligibility of historic properties in the area of potential effects. The determination of eligibility for inclusion on the National Register of Historic Places for the Civil War properties referenced will be made during any subsequent Tier II study process.
70	RAL-009 ***Topic: Cultural Resources***	I've got concerns about the historical area of Wake Forest, Youngsville, Franklinton, and that area. I know now that when CSX comes through, they still go faster than they are supposed to sometimes so everything shakes and rattles. I know that the historic	Once a specific alignment for the proposed SEHSR has been identified during any Tier II studies a more detailed analysis would be done of potential noise and vibration impacts and the need for and nature of possible mitigation measures would

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		area downtown, the residential area will not be able to withstand. I don't think any speeds that are more than what they have now because of the buildings are rather old. They have been preserved and taken care of but that's for what it is now. I know that it a dead-end line now. I know there is just one track. I know when we built our house everywhere we asked in town, several people said this track can barely withstand what goes through it now. It had been fixed but you don't have to worry about any high-speed coming through or anything.	be identified. At this high level Tier I study we cannot determine any specific impacts. Your concerns about potential vibration impacts these areas has been noted.
71	RAL-015 ***Topic: Cultural Resources***	The Railroad House Historical Association and the Triangle Land Conservancy write to call attention to significant natural areas and Conservancy properties that segment 20 and 21 of the SEHSR may impact.	In the Tier I DEIS, the assessment of impacts to historic properties is at a very broad level. During any subsequent Tier II evaluation, a more detailed alignment would be studied, and field surveys and studies would be completed to identify and determine the eligibility of historic properties in the area of potential effects. The determination of eligibility of properties for inclusion on the National Register of Historic Places would be made during any subsequent Tier II study process.
72	SPR-007 ***Topic: Cultural Resources***	I'm interested in the cultural resource impacts. Need to improve contacts between the communities in NC and VA.	In the Tier I DEIS, the assessment of impacts to historic properties is at a very broad level. During any subsequent Tier II evaluation, a more detailed alignment would be studied, and field surveys and studies would be completed to identify and determine the eligibility of historic properties in the area of potential effects. Contacts with local preservation commissions and planners will occur at that time. The determination of eligibility of properties for inclusion on the National Register of Historic Places would be made during any subsequent Tier II study process.
		Topic: Design	
73	AGE-011 ***Topic: Design***	The document is not clear at all about the required width expansions to existing rights-of'-way. Basic information such as what present R-O-W could accommodate (for an	Because the incremental approach utilizes the existing infrastructure to the maximum extent practicable, the cross section and associated right of way width would vary greatly over

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		additional track) is lacking. Some cross-sectional diagrams with widths would certainly help.	the entire corridor. It is anticipated the right of way width would typically vary from 100 to 200 feet. In some areas where commuter, freight, and passenger rail coexist, six or more tracks may be required. In other areas as few as two lines would be adequate. For the most part, additional right-of-way would only be needed to accommodate necessary curve straightening.
74	AGE-012 ***Topic: Design***	Even though Alternative C is shown as having the fastest average travel time between Washington, DC and Charlotte of 6.20 hours, I don't understand why it is only .03 of an hour faster than Alternative A, the current preferred alternative and the alternative closest to Alternative C. From Petersburg to Charlotte, Alternative A has potentially up to three more stops than does Alternative C. How much time does it take for only one stop? Alternative C is also 20 miles shorter in length than Alternative A. Taking these things into consideration, I would think that Alternative C should be more likely .30 of an hour faster rather than .03 of an hour.	ALT A and ALT C both use the S Line north of Raleigh to Richmond, as well as the same route between Richmond and Washington DC, the divergence in ALT A and ALT C's routes occurs only between Raleigh and Charlotte. Between Washington DC and Richmond VA it is assumed both ALT A and ALT C trains will make an average of two stops with no difference in travel times between the Alternatives. Between Richmond VA and Raleigh NC it is assumed both ALT A and ALT C trains will stop in Petersburg and two of the four daily frequencies will also stop in Henderson NC producing no difference in travel times between the Alternatives. This changes dramatically in Raleigh. ALT A trains proceed west over the NCRR with potential stops in seven intermediate communities. There will be eight daily one way frequencies over this 174 mile NCRR route segment. It is assumed for estimation purposes that two express trains will stop only in Durham and Greensboro, while the other six trains will make a maximum of four intermediate stops with each en route community being served at least three times a day in each direction. ALT C trains travel between Raleigh and Charlotte over a 154 mile segment of CSXT and ACWR. For planning purposes it is assumed that three trains stop at Cary and Sanford, and three trains make a

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			stop at one but not the other community. Two trains would run nonstop between Raleigh and Charlotte. The two ALT A express trains cover the distance between Raleigh and Charlotte in two hours 10 minutes with the multistop trains taking two hours twenty minutes for the journey. On ALT C, the two nonstop trains between Raleigh and Charlotte take one hour 52 minutes, the three one stop frequencies take one hour 57 minutes, and the three two stop trains take two hours two minutes. Unlike the two minute average spread in travel times between ALT A and ALT C shown in Table 2.17 there is in fact, a 28 minute difference in travel times between the fastest trains in ALT C and the slowest trains in ALT A between Raleigh and Charlotte. The time difference between the fastest trains on each route is 18 minutes and the difference for the multistop trains varies from 18 to 23 minutes. The revenue, ridership and operating cost forecasts were derived using these schedule patterns developed by the consultants in January 2000, and not the average trip times shown in Table 2.17.
75	DUR-015 ***Topic: Design***	How fast will the train be going when it goes through downtown Durham? This is a critical issue as it relates to the Tier II study and needs to be studied as it impacts downtown Durham.	It is important to understand the difference between projected speed and operating speed. Projected speed is the speed attainable based on existing or proposed track and safety improvements. Operating speed is the actual speed at which the train functions. The projected speeds through Durham vary depending on location, track geometry (curve speed), and crossing safety. For the purpose of the comparison required for this study, projected speeds were evaluated. Also a decisive factor for speeds through Durham is the high probability of most trains stopping

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			there, with the commensurate slowing and startup.
236	DUR-016 ***Topic: Design***	How will the train intersections be designed at Blackwell Street and Duke Street? Will the designs allow for pedestrians and vehicle safety, and complement the linkage among our downtown districts (American Tobacco/Brightleaf/Inside the Loop, etc.)? It is absolutely critical that these key downtown intersections allow easy pedestrian and car movement between the distinct downtown districts North and South of the railroad tracks.	Specific intersection design elements are too detailed for a program level study, but will be taken into consideration during the appropriate Tier II studies.
76	DUR-019 ***Topic: Design***	Will SEHSR have room for bikes?	Cycling on railroad rights-of-way is an on-going safety and liability concern. With high speed rail having a maximum speed of 110 mph, cycling on the right-of-way used by the SEHSR would be prohibited. Accommodating the storage of bicycles on the train can provide service for cyclists using the SEHSR.
77	FRE-006 ***Topic: Design***	What, if any, train control system will be used on the Virginia-NC corridor? Will most of the trains run faster than 79mph within VA and NC?	A specific train control system has not been identified by this study. The selection of this system would occur through negotiations between all parties operating within the corridor. Only the high speed passenger trains are expected to operate at speeds higher than 79 mph. However, since the tracks would be constructed for the higher speed passenger service, other trains that can operate safely at speeds greater than 79 mph may be allowed to operate at those speeds.
78	GRE-011 ***Topic: Design***	The route from DC to Charlotte must be properly banked to allow for continuous high speeds. Major problem exists with current DC to Boston high speed service where the bullet train does not maintain high speeds but has curves that reduce speed to 15-20mph in sections.	All of the alternatives have curves that require reducing speed below the maximum. The issue of "banking" the curves is a function of the maximum speed attainable at the rate of curvature. Conceptual designs for the purpose of estimating conceptual capital cost included the cost of curve improvements to support both high speed and freight services.
79	HEN-008 ***Topic: Design***	I own property adjacent to the existing track and the only means I have to get to my property is to access the track at the Union Chapel Methodist Church.	Existing access across railroad right-of-way would either be improved to provide greater safety at that crossing or the state would have to

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		With a HSR, I fear that crossing will be closed and no person adjoining my property has been willing to sell or give me a means to reach an existing state road, which would keep one from having to cross the RR track. Other property owners would be affected in some way.	provide an alternative means of access. Specific highway-railroad closings and the design of alternative access is too detailed for a program level study.
80	HEN-014 ***Topic: Design***	Would RR crossings have the lighted arms to come down at all crossings? Speeds through Henderson?	Crossing safety would be a major design concern for the SEHSR. Improvements to existing highway-railroad at-grade crossings would include grade separations, consolidations/closings, and warning signal installations. These improvements would aid in improving train speed. Specific crossing design will be discussed in the Tier II studies.
81	PET-005 ***Topic: Design***	Owns property that is bounded on the west and north by the old Seaboard Railway bed, and by Stony Creek waterway on the south. He is bounded on the east by land owned by Dinwiddie County, the African Zion Church, and I-85. His only outlet is state route 1401 to US 1.	No existing property interests would be left without access as a result of the project unless appropriate compensation is paid. See response 57 ROA-014.
82	PET-012 ***Topic: Design***	The most disturbing number is grade crossings – over a thousand. That's going to get in the way of speed.	Crossing safety would be a major design concern for the SEHSR. Improvements to existing highway-railroad at-grade crossings would include grade separations, consolidations/closings, and warning signal installations. These improvements would aid in improving train speed.
83	PET-014 ***Topic: Design***	And also if Amtrak is already in existence, will we be using the same tracks in – at 110 mph, at that speed? The tracks that are there now, will they support it?	Design of the SEHSR would include studies of existing facilities to determine whether to use the existing tracks, to refurbish the ties and ballast, to replace the rails, or to completely rebuild the track structure. Specific design of the track structure is too detailed for a program level study.
84	RAL-009 ***Topic: Design***	Will this be stopping at these smaller towns or will they have to use the crossing and make one crossing in each town? Because I know in Wake Forest there is already one or two crossings being closed so now we only have one or two ways to get from	Conceptual designs for this study allowed at least two crossings in each town/community to provide an alternative means of access across the railroad for emergency response. The travel time from one side of town to the other would be a function of

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		one side of town to the other. I know the town of Youngsville has one or two crossings but they will close on of those probably. The town of Franklinton, it goes through the historical part of Franklinton. If you close all of these for safety measures then the town is cut in half. If there is an emergency problem on one side of town and traffic on Highway 98 on Number 1 is so bad, how long is it going to take to get from one side of parts of town to the other side.	time of day, road and intersection capacity, signal timing, travel speed, and motorists yielding to emergency vehicles. These factors will be studied in detail in the engineering and Tier II evaluation phases.
85	RIC-021 ***Topic: Design***	One of your comments during the presentation was that Amtrak service that exists today would still be intact, which would provide shorter routes. And I am curious, the addition of another train, a high speed rail, does that require a whole other set of tracks? Is there already enough track out there that this won't be all new track?	On some segments of the SEHSR freight and high speed passenger rail would operate on the same tracks with adequate passing sidings, and in some segments complete new double tracking or triple tracking may be needed. The need for complete separation of tracks is a function of speed and the requirements of any operating agreements established with the freight railroads, as well as specific requirements that FRA may have.
86	RIC-022 ***Topic: Design***	Will the freight run on a different track than the high speed train? Is it possible to know what NC has decided? (in regards to using separate track for passenger and freight)	See response 85 RIC-021 above.
87	RIC-031 ***Topic: Design***	It would help us to assess the study if we knew what was assumed in the way of engineering parameters for ways and structures. For example: (1) is CWR assumed throughout, (2) is existing special track to remain, (3) is a signal system planned throughout, (4) what changes in existing freight and passenger rail services are assumed, (5) how many stops/stations along the way?	The base assumption for implementation of high speed rail is the shared use of track and facilities by both freight and high speed rail. The conceptual design did assume the use of continuous welded rail (CWR), as well as an appropriate signal system for high speed service . The changes assumed for existing freight and passenger rail services are those changes necessary to add high speed rail service with minimal impact. The exact number of stops/stations varies with each alternative. Alternatives A, B, D, E and J assumed 15 stops. Thirteen stops were assumed for Alternatives C and F. While Alternatives G and H assumed 17 stops.

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88	SPR-012 ***Topic: Design***	Rail line should not serve as a barrier to local walking and bicycling across the rail line.	Conceptual designs of at-grade railroad crossings included pedestrian and cycling safety measures to allow safe passage across railroad right-of-way.
89	SPR-025 ***Topic: Design***	I recommend maximum use of bridges or tunnels, and minimum grade crossings for safety and public perception. Every train-vehicle accident at a grade crossing seems too decrease public support for rail, no matter how unfairly.	Conceptual designs of highway railroad crossings included grade separations where possible, quad gates with flashing lights, and consolidating/closing the remaining crossings where practical.
		Topic: Earth Mineral Resources	
90	AGE-007 ***Topic: Earth Mineral Resources***	NOAA writes to reveal comments after review of the DEIS. The letter warns of possible impacts to geodetic control monuments by the proposed SEHSR.	The NCDOT and the VDRPT would practice avoidance of all geodetic control markers to the maximum extent practicable. The NCDOT and the VDRPT would work with the appropriate agencies to re-establish any geodetic control markers should any be displaced by the project. In any Tier II document, a more detailed alignment would be studied, and a comprehensive analysis of impacts would be conducted.
91	AGE-015 ***Topic: Earth Mineral Resources***	The US geological Survey historical and active mines, quarries, and pits database is very incomplete. The Division of Mineral Resources has field located all mineral resource sites in the eastern two-thirds of Virginia. These locations are digitized and table or map prints could be made available. We would need a map at a scale of at least 1:100,000 of the proposed route to plot the locations. Also, the use of a Web site for geology along the proposed project when more detail geologic data is available is a very weak part of the document.	Thank you for your offer to provide further information. In any Tier II document, a more detailed alignment would be studied, and a comprehensive analysis of impacts would be conducted. The NCDOT and the VDRPT would contact your department regarding the additional mineral resource sites information along this detailed alignment, and the additional information would be included in any Tier II document
92	SPR-008 ***Topic: Earth Mineral Resources***	Route 95 has Stony Creek titanium mine.	In any Tier II document, a more detailed alignment would be studied, and a comprehensive analysis of impacts would be conducted. The NCDOT and the VDRPT would be contacting the Virginia Department Mines, Minerals and Energy- Division of Mineral Resources regarding additional mineral resource sites information along this detailed alignment. It is likely that the *Stoney Creek titanium mine* would be

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			located in this updated information. This information will be included in any Tier II document.
		Topic: Energy	
93	SAL-002 ***Topic: Energy***	I think that if our National Energy Policy depends on petroleum products and if the majority of petroleum products are coming out of the middle east, if things become less stable there, it will further increase the energy effectiveness. I think your study shows that the energy effectiveness of high-speed rail is for superior to the individual automobile	Based on information from the Transportation Energy Data Book, trains are more energy efficient than aircraft or autos on a per mile basis. A typical passenger train driven by a diesel locomotive consumes about 350,000 BTU's of energy per vehicle mile. A typical automobile consumes about 6,500 BTU's of energy per mile. With the higher passenger capacity of the train it is more efficient than a single occupant automobile.
		Topic: Environmental Justice	
94	AGE-011 ***Topic: Environ-mental Justice***	Page 4-69: Conclusions from Minority and Low-Income Population Findings. The first sentence states that the preceding analysis yielded some insights on this issue, but does not list or discuss them. This is illustrative of this kind of finding that could be discussed further in this document and then brought out in a thoughtful summary/comparison or alternatives.	Pages 4-63 to 4-69 provide a discussion of minority and low-income population impacts. In particular, Tables 4.25 and 4.26 and Figures 4.11, 4.12, and 4.13 provide comparisons of minority and low-income populations by study area alternatives. On Page 4-69: Conclusions from Minority and Low-Income Population Findings, the first sentence will be revised to begin with "As seen in the previous sections, ..." to clarify the section.
95	CAR-002 ***Topic: Environ-mental Justice***	Our position as it relates to SEHSR is "let's get it done", yet we want to be assured that the African American and Latino-American communities are not overlooked. The lack of involvement by these communities usually has us relegated to being reactionary at most. With this situation, we hope to be more proactive by asking you and your colleagues for inclusion.	In order to help identify issues, concerns, and desired outcomes for a given community or underrepresented group, environmental justice focused interviews were conducted with community leaders in each of the 26 locations of the 2000 public workshops. Individuals cited representing over 150,000 constituents within the study area, and in several cases represented more than one constituency group. Some examples of represented organizations include: Central Virginia Housing Coalition, La Movidita Radio, City of Raleigh Human Relations Commission, Emporia Department of Social Services, NAACP, and the National Organization for the Advancement of

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			Hispanics. Community leaders provided input on major community concerns and support of high speed rail, community involvement in similar projects, and public participation history and recommendations. These types of activities would be expanded in any Tier II environmental analyses to continue outreach to underrepresented groups. Also refer to response provided for comment number 155 CAR-001.
96	CAR-006 ***Topic: Environmental Justice***	My only concern is that the African-American and Hispanic-American receive equal and fair representation and benefit of the proposed rail system. I ask that these amenities have inclusion in the decision-making process as well as the construction, maintenance, and administration of this wonderful idea.	Refer to responses provided for comment numbers 95 CAR-002 and 155 CAR-001.
97	WIL-015 ***Topic: Environmental Justice***	Strongly favor alternatives G, H, and J. The A-line is the most cost effective. Upgrading the A-line would enable faster runs on Amtrak's profitable NY to FL routes. Eastern NC has extremely poor air service. There is a large minority population in eastern NC that has strong cultural and family ties to the Northeast Corridor.	A review of the net operating contribution across all alternatives shows those alternatives using the A-line have the following net operating contribution: $20.06 million (Alt. G), $13.57 million (Alt. H), and $4.09 million (Alt. J). In contrast, Alternatives A and B have a $26.34 million and $25.27 million net operating contribution, respectively. Similar results are found when conceptual capital cost is reviewed. The costs are higher for Alternatives using the A-line ($2.752 -- $2.957 billion) than for Alt. A ($2.611 billion) and Alt. B ($2.720). In addition, the information used to model projected ridership takes into consideration ridership connections beyond the SEHSR corridor to the Northeast Corridor, based on historic and demographic Amtrak data. Projected annual SEHSR ridership in 2025 is higher for Alternatives A (1.76 million) and B (1.79 million) than for Alternatives using the A-line (1.31-1.67 million). The SEHSR project does not displace current Amtrak service. Any station that currently has Amtrak (conventional) service would continue to receive that

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			service.
		Errata	
98	AGE-011 ***Topic:*** ***Errata***	All the tables and figures in this document need to be updated and reviewed for clarity, completeness. EPA found several examples of tables or figures lacking legends or with incomplete legends or the tables with out-of-date data.	All tables and figures will be reviewed and updated as appropriate and as available data permits. Figure and table changes will be reported in the errata sheets for the document. Please note when the DEIS was developed the most recent and available data was used. Most notably, 2000 Census data has not yet been formally released and is therefore not available for use in this document. The 2000 census data will be used for Tier II documentation. In addition with such a large study area, developing maps and graphics at a scale that would show the entire area in a report size format was difficult and explains why there are numerous 11 x 17 fold out graphics, which still present limitations for depicting this large study area.
99	AGE-011 ***Topic:*** ***Errata***	It is stated that the Tier 1 FEIS may not identify a preferred alternative (page 2-43). This seems to be an impediment to overall decision-making for the project. We suggest that adequate deliberations occur with public input fully considered, now, in order to move to Tier 2 with a preferred corridor and other technical aspects decided. CEQ prescribes that a preferred alternative be defined by the FEIS.	At the time of the writing of the DEIS it was not certain that there would be enough comparative differences between alternatives to indicate a preferred alternative. As the process continued through the DEIS public hearing stage, comments received by the public demonstrated more of a preference for some alternatives over others. This public input, combined with the technical analysis led to a decision to identify a recommended alternative for study in the FEIS. The final Recommendation Report was published in March of 2002 and was signed by the Secretaries of Transportation for both VA and NC.
100	AGE-011 ***Topic:*** ***Errata***	Tables 4.36 and 4.36 (two) are confusing.	There is an error in the table numbering. The second table 4-36 on page 4-105 should be table 4-37 and the title should be changed to "Areas of High Engineering Complexity by SEHSR Alternatives". Table 4-36 is correctly titled. The areas of environmental and engineering complexity were two indices we developed to provide an order of magnitude indicator of the level of difficulty related to avoiding

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			or mitigating potential environmental impacts and of designing and constructing the proposed alternatives. This error will be corrected through the use of errata sheets.
101	SPR-016 ***Topic: Errata***	Map #3 – identify what S-line is.	This comment is in reference to the public hearing maps that were used at the DEIS hearings and that were on display at the 18 viewing sites for the DEIS document. All of the names for the railroad rights of way were listed on the map in their shorthand (acronym) format. The S-line refers to the former Seaboard Airline railroad that is now the CSXT-S-line.
		Topic: Hazardous Materials	
102	AGE-011 ***Topic: Hazardous Materials***	Table 4.11 does not contain any Virginia data, please explain.	The Virginia data table 4.11 was inadvertently omitted. It will be added just prior to the NC Data Table 4.11.
103	AGE-011 ***Topic: Hazardous Materials***	Having defined numerous sensitive aquatic/water supply resources along the alternative routes. there should be an assessment of diesel fuel spill risks and a comparison of the pollution risks of fuel spillage with the electric traction locomotive alternative.	A discussion of emergency response procedures for handling dangerous goods/hazardous materials incidents has been added to the document. It will be located just prior to Table 4.1 in the DEIS.
104	STA-005 ***Topic: Hazardous Materials***	Our other concern is hazardous waste being transported in the future.	A discussion of emergency response procedures for handling dangerous goods/hazardous materials incidents has been added to the document. It will be located just prior to Table 4.1 in the DEIS.
		Topic: Infrastructure	
105	AGE-011 ***Topic: Infrastructure***	It would be inappropriate to consider such a mass transit project without considering the other modal entities and infrastructure necessary to get riders to and from the stations. It appears as though both States are committed to doing such facilities improvements. We would suggest that a competitive evaluation factor should be incorporated in the process that identifies which communities along the alternative alignments are most ready/likely to accept rail service based on their capital investments.	One of the goals of the incremental approach is to provide service at all existing stations along the high speed route, Our public involvement process revealed strong support from local officials at all existing stop locations, and both VA and NC are actively investing in all present station locations.

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106	AGE-017 ***Topic: Infrastructure***	It is also important that any needed subsidiary features such as stations, parking lots, maintenance facilities, etc. be considered as you evaluate the alternatives. Those features may ultimately involve greater potential impacts to wetlands and other resources than the rail line itself.	Existing stations would be used to the greatest extent possible, thereby minimizing potential impacts to wetlands and other resources. See response to comment number 105 AGE-011 above.
107	CAR-010 ***Topic: Infrastructure***	Issues of importance include facilities for unboxed bicycles, bicycle access to stations, and bicycle storage at stations would be a plus. The biggest obstacle to increased public usage of bicycling transportation is perception of safety. This can easily and inexpensively be remedied through visible support and encouragement – signage, bike lanes, racks, public-service announcements. Please include support for cycling in your plans and publications	Cycling facilities at stations will be considered during the design of specific stations. Station locations were not identified for this study. Therefore, specific design criteria for station amenities and signage were not addressed, and would be too detailed for a program level study. These items will be noted and considered in the design phase. See response 76 DUR-014.
108	DUR-018 ***Topic: Infrastructure***	Adequate parking facilities must accompany each stop. Stops should also have local dining and shopping close by.	Station locations were not identified for this study. Therefore, specific design criteria for station amenities and signage were not addressed, and would be too detailed for a program level study.
109	RIC-020 ***Topic: Infrastructure***	You mentioned that it wouldn't affect Amtrak's current route or routing. Does that mean that there's going to be a substantial amount of new track; or is there already enough track there to share between the two uses here?	Existing passenger rail service shares existing tracks with freight rail service. The addition of any service to existing track would require some additional track construction. The amount of new track would be based on actual and projected use by freight, existing passenger rail and high speed passenger rail services.
110	RIC-027 ***Topic: Infrastructure***	Are the consultants looking at the Acca to the Main Street Station?	Main Street Station in Richmond, VA has been identified as the potential station location for the SEHSR. Service to this station would proceed from ACCA Yard through Richmond to Main Street Station.
111	RIC-028 ***Topic: Infrastructure***	Would this substantial upgrading be required south of Main Street Station?	Improvements to the existing bridge and tracks south of Main Street Station would be required to accommodate the additional train traffic.
112	SPR-018 ***Topic: Infrastructure***	would like to see the proposed SEHSR integrated with the other HSR corridors as well as other modes of transportation.	The SEHSR would provide through service to the northeast by connecting with the Northeast High Speed Passenger Rail. Future high speed rail corridors have already

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			been designated from Raleigh, NC south to Columbia, SC, Savannah, GA, and Jacksonville, FL, and from Charlotte, NC southwest to Atlanta, GA, Birmingham, AL, and New Orleans, LA. These corridors connect to other corridors at Jacksonville, FL and New Orleans, LA.
113	SPR-029 ***Topic: Infrastructure***	Third track is necessary between Richmond and DC because of CSX traffic.	Existing train traffic between Richmond, VA and Washington, D.C. includes freight service by CSX and NS, Amtrak, and VRE. The existing track structure is at or above capacity. Therefore, the need for a third track is to improve the quality and timeliness of all existing services. This improvement has independent utility from the SEHSR project and falls under other studies by VDRPT
114	SPR-031 ***Topic: Infrastructure***	Reopen the downtown Richmond station.	See response to comment number 110 RIC-027 above.
115	SPR-033 ***Topic: Infrastructure***	Work on making improvements to existing lines between now and SEHSR completion.	Improvements to existing tracks and stations are the basis for the incremental approach. Both VA and NC are upgrading or installing crossing improvements, signal systems, and passing sidings as initial phases of these improvements.
116	SPR-034 ***Topic: Infrastructure***	Trains should accommodate unboxed bicycles and stations include secure bicycle storage (parking) facilities.	See response to comment number 107 CAR-010 above.
117	SPR-044 ***Topic: Infrastructure***	Are you going to have ample parking, or are you supposed to find another way to get to the train?	See response to comment number 108 DUR-018 above.
		Topic: Land Use	
118	AGE-011 ***Topic: Land Use***	No table for the Category 2 land use could be found.	See response to comment number 132 AGE-011, Topic: Noise/Vibration
119	RIC-018 ***Topic: Land Use***	Are there any ongoing efforts to preserve the ROW of the old Seaboard Line south of Petersburg?	Both states (NC and VA) have a policy to protect the S-line right of way south of Petersburg. Since the tracks have been removed from the S-line section south of Petersburg all the way to Norlina, small sections of the right of way have been sold to private owners and have been developed. Other development in the area has encroached on the right of way or exists in close proximity to the right of way. For the most part, the

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			right of way is intact.
120	SPR-035 ***Topic: Land Use***	Corridor is needed and appropriate for long-distance (pedestrian and bike) trails that should be integrated with rail service. The DC to Fredericksburg, VA segment is aligned with the Potomac Heritage National Scenic Trail. The DC to Raleigh, NC segment is aligned with the East Coast Greenway. Land acquisition and project engineering should incorporate plans for paved shared use trails making for a multi-modal travel corridor. Trails along active rail lines are physically and operationally feasible and might improve track maintenance.	At this early point in the design of the proposed service (conceptual engineering only), the level of design detail reflecting other modes such as bike and pedestrian has yet to be developed. These issues would be appropriately addressed during Tier II studies.
		Topic: Natural Resources	
121	AGE-005 ***Topic: Natural Resources***	FEMA suggests coordination with the Floodplain Management Officer of the appropriate community to assure that the project meets the requirements of their floodplain management ordinance.	This in depth coordination is more appropriate for the next phase, Tier II, of the project. During Tier II, as a detailed alternative is identified, the designated community Floodplain Management Officers would be contacted and each community's floodplain requirements would be addressed.
122	AGE-011 ***Topic: Natural Resources***	Table ES-3; Please indicate what unit the wetland impacts are in; acres, hectares, or number of wetland crossings.	The correct units (acres) are indicated on errata sheet.
123	AGE-011 ***Topic: Natural Resources***	Table 4.38 has some conflicting data, such as Alt. J with far less floodplain impacts but high wetland impacts.	There is not necessarily a relationship between the number of floodplains impacted and the acreage wetland impacts. Also, not all rural communities participate in FEMA's floodplain mapping program, therefore at some locations floodplain impacts may be underrepresented.
124	AGE-011 ***Topic: Natural Resources***	The Tier 1 DEIS makes clear that the alternatives will cross many state and federal Scenic Rivers. The document does not clearly identify the magnitude of disturbance associated with these crossings. For example, it cannot be determined if new bridges, replacement bridges or refurbished bridges will be required at the Scenic River crossings. This is a potentially important issue that may have some bearing on which alternative is chosen. EPA suggests a more	The study corridors for this Tier I document cover a six-mile wide area along the entire 500-mile length. It is currently unknown where any river would be crossed and no location specific designs have been prepared. Analysis of the magnitude of disturbance at Scenic River crossing is not possible at this time. The potential impacts to Scenic Rivers would be identified and analyzed during the Tier II studies.

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		detailed analysis of this issue in the Final Tier 1 document.	
125	AGE-017 ***Topic: Natural Resources***	As you continue to develop the project, regardless of the alternative, measures to avoid and minimize impacts to wetlands should be incorporated wherever practicable. In addition, you should be developing concepts for compensating for unavoidable impacts to wetlands, since obtaining such compensation can be difficult in certain parts of VA due to the availability of suitable sites.	Incorporating measures to avoid and minimize wetland impacts is of great importance. If this process proceeds to Tier II documentation, these factors along with concepts for compensation would be addressed. See page 4-10 for a discussion on wetland mitigation measures including avoidance, minimization and compensation.
126	AGE-017 ***Topic: Natural Resources***	At the current level of detail, it is difficult to ascertain the extent of impacts to streams. While the number of river crossings are identified for each alternative, the number of small stream crossings is not.	Due to the 6 mile width of the study corridors and inequitable level of small stream mapping available along the 500-mile project length, it was decided to only quantify river crossings. The number of rivers crossed by each alternative should be indicative of its potential surface water impacts. If a preferred corridor is approved and detailed design alternatives are identified for Tier II studies, intensive small stream mapping would be completed and the impacts would be quantified.
127	PET-002 ***Topic: Natural Resources***	The number of at grade crossings and wetlands are high.	Yes, the number of crossings included in the Tier I DEIS was incorrectly counted (they included both existing crossings, and all crossings on the conceptual design, thus double counting most crossings. The new numbers for crossings are recorded in the errata sheets, and are approximately half the original number. The number of existing at-grade crossings is based on field observations of actual crossings during reconnaissance of the study corridors. There may be some variation in the totals done for the future detailed studies due to the inaccessibility of some private crossings or newly constructed public crossings. Existing crossings listed in tables include all known crossings along the study corridor in both North Carolina and Virginia. Conceptual crossings listed in tables reflect upgrades, consolidations and closures of existing crossings.

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			The number of crossings has been changed in Table 4.38 to reflect only the total number of existing crossings. The wetland acreages were calculated by looking at a 600' wide corridor. Actual construction corridors are likely to be under 100', thus the area of wetland impacts presented in this Tier I document are potentially six times greater than the final anticipated wetland impacts. No avoidance or minimization of impacts have been completed at this time. When more detailed alternatives are identified during Tier II evaluations, measures to avoid and minimize impacts to wetlands would further reduce the potential wetland acreage impacted.
128	RAL-007 ***Topic: Natural Resources***	I would also raise the issue of the Cape Fear Shiner which is a protected species, federally endangered species, which has its habitat or one of its few habitats in the reaches of he deep river which will be where the site will pass.	See page 4-45 for a discussion on the Cape Fear Shiner.
129	SAL-008 ***Topic: Natural Resources***	Mr. Max Merrill, a conservation planner with The Land Trust for Central NC, offers a letter of concern for the environmental impacts of running the HSR through the southern route.	After a comprehensive analysis of the DEIS and the comments received on it, NCDOT and VDRPT have identified Alternative A (NCRR & S-line), modified with passenger connectivity to Winston-Salem (Alternative B) as the alternative that best meets the project's purpose and need while minimizing environmental impacts. The southern alternative is not recommended at this time.
130	WIL-008 ***Topic: Natural Resources***	looking at the wetland mitigation I'm certain that now is premature but in future evaluations, I would like to go on record as saying I'm really very curious to see what mitigation strategies or replacements would be offered because based on the scenarios projected, there is some implications that may come to bear in Johnston County.	We recognize the importance of incorporating measures to avoid and minimize wetland impacts. To be conservative, the wetland impacts presented in this Tier I document are potentially six times greater than final anticipated wetland impacts. If we move into Tier II, avoidance, minimization and concepts for compensation would be addressed. After a comprehensive analysis of the DEIS and the comments received

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			on it, NCDOT and VDRPT have identified Alternative A (NCRR & S-line), modified with passenger connectivity to Winston-Salem (Alternative B) as the alternative that best meets the project's purpose and need while minimizing environmental impacts. The southern alternative through Johnston County is not recommended at this time.
		Topic: Noise/Vibration	
131	AGE-011 ***Topic: Noise/ Vibration***	Table 4.14: where is the data on residential receptors? Related to this issue; explain how the number of sensitive receptors be so low when residential displacements are in the 300-400 range. Table 4.20: explain why the number of sensitive noise receptors is so much higher in the 100-150 buffer widths than with the wider buffer widths. It seems that the wider the buffer the more receptors that would be found, If this has to do with diminishing sound levels as distance from the tracks increases, please explain this.	See response to comment number 132 AGE-011 under Noise/Vibration. Note the listing of sensitive receptors does not include residential (category 2) as explained in the response to comment number 132 AGE-011. Table 4.14 has been modified in the errata to include a footnote that states category 2 land uses are not included. The residential displacements are those dwellings that fall under the footprint of the conceptual alignment which is based on a 300' right-of-way, these dwellings would be removed and thus not be considered as receptors. The numbers in Table 4.20 do not reflect historic properties (properties on the National Register List or the Study List, these properties were included in Table ES-3 listing of Category 3 sensitive receptors) and are not cumulative. The properties listed for each new category represent the increment over the previous in that bandwidth. Note the level of potential noise impact is related to the type of land use, the noise source as well as the distance from that source. Table 4.20 has been modified through errata to note that totals are not cumulative and potential historic, and residential receptors are not included.
132	AGE-011 ***Topic: Noise/ Vibration***	Based on the Tier 1 document, it appears that noise and vibration are likely to be the central NEPA issues to be addressed. Yet from the document	Noise and vibration potential is minimized on the routes using the rural ACWR corridor (Alternatives C, J and F) however, this also avoids

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		it cannot be determined which, if any, alternative performs best or worst in this regard. For example, there is no information about how many homes are within a certain distance from each alternative. This information is given for sensitive receptors, but not for homes.	serving over half the population of North Carolina which lives within 30 miles of the I-85 corridor (the NCRR corridor utilized by alternatives A, B, D, E, G and H). The rural southern routing would also fail to fully meet the project purpose and need in areas related to diversions from highway and air travel, overall energy savings, overall air quality improvements and increased mobility options for the elderly and disadvantaged. It should be noted that all alternatives that utilize routings where portions of track were previously removed (Alternatives A, B, C, D, E, F) have the potential to introduce new noise and vibration for buildings built within the last 15-30 years in close proximity to the tracks. Due to the program level of this document, and the fact that this document is looking at 6 mile wide study areas versus specific alignments, as well as the lack of current aerial photography for the entire study area, and the size of the study area being considered (over 1200 miles of existing rail rights-of-way), it was not deemed appropriate to run a detailed noise model or to identify individual residential receptors (Category II receptors) for the Tier I analysis. Other detailed studies of similar projects proved helpful in considering the potential for significant new noise or vibration impacts. Studies performed for the Chicago to St. Louis High Speed Rail matched the conditions of the Tier I SEHSR EIS in a number of important areas, mainly: -eight new passenger round trips daily, mixed with existing freight use -fossil fuel locomotives -train sets composed of 2 locomotives with 6 cars -max speed over most of the route at 110 mph (with a short

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			section of 125 mph) -a mixture of continuous welded rail and some jointed rail (mainly on special sections such as crossovers and switches) -a mixture of urban and rural sections over several hundred miles of corridor Using the assessment methods described in the FRA and FTA manuals, the Chicago to St. Louis study calculated existing and future noise estimates for receptors located within 250 feet of the track centerline, and accounted for the projected change in train volume and operating speeds throughout the corridor for both passenger and freight trains. The appropriate FRA and FTA manuals were also used for analyzing potential vibration impacts. The noise study identified 3498 residential receptors and 71 institutional receptors within 250 feet of the track centerline. The three major sources of rail noise were: 1) the steel wheel on steel rail interaction; 2) engine noise from fossil fuel locomotives; and 3) horn sounding at crossings. As train speeds exceed 80 mph the major source of noise was the interaction of the steel wheels on steel rail. The study found that there were increases in noise levels associated with all build alternatives over the no-build alternative. However, these increases were all less than 2.4 dBA, with the exception of a 3.5 dBA at one location, and the overall exposure at that one receptor was less that 60 dBA. Changes of 3 dBA or less are generally not severe, and total resulting noise levels less than 60 dBA are not often considered significant. Thus, even with over 3500 receptors there were no new noise impacts, and likewise there were no new vibration impacts. Because of the similarity in project

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			conditions between the Chicago to St. Louis project and the SEHSR project, it is anticipated that similar findings will exist along the SEHSR corridor when the Tier II detailed studies are performed. This conclusion supports the use of the NCRR corridor (alternatives A, B, D, E, G and H) where the overall purpose and need of the project is best met. Best management practices will also be applied for both noise and vibration during the Tier II studies in order to help minimize the increases in noise and vibration throughout the project corridor. Examples of such practices include grade separations were practicable, use of continuous welded rail, trenching, berming, noise walls, ballast mats, etc., as well as design features of the actual train sets.
133	AGE-011 ***Topic: Noise/ Vibration***	If this level of detail is available on this criterion, why is there not similar detail on the noise (and air quality) impacts? (This refers to previous comment, which says "The extent of residential relocations defined in Table 4.38 is notable and needs explanation since the assumption is that the SEHSR would occupy existing ROW. ")	See response to comment number 131 AGE-011. Section 4.3.1.5 of the DEIS provides a detailed description of how the residential relocations were determined and why these would be needed even though we are proposing on implementing the SEHSR service within existing railroad rights-of-way to the extent practicable. An errata has been prepared to add a sentence to Section 4.10 proceeding Table 4.38, which directs the reader to refer back to the appropriate impact section for details on each impact area featured in the table.
134	AGE-011 ***Topic: Noise/ Vibration***	Noise impacts are likely to become an important issue. The noise associated with both increased freight traffic and passenger train traffic may need to be considered if the proposed new tracks will be utilized by both forms of traffic. The discussion regarding noise impacts does not provide any impact information directly relevant to the SEHSR project (chapter 4). It is not possible to separate the noise impacts information for affected receptors from that for vibration impacts.	Based upon the program level nature of this study, no monitoring of existing noise levels was undertaken, nor were any noise models run to determine future noise levels with the proposed SEHSR train operations with or without freight. This was outside the scope of this study and these types of more detailed noise analysis would be conducted during any Tier II environmental analysis. At this point in the study, we were seeking a fairly high level criteria to indicate the potential magnitude of possible noise and vibration impacts

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			to determine if there were differences between the alternatives under consideration.
135	DUR-004 ***Topic: Noise/ Vibration***	Noise and vibration is a big concern for my family. My house is close to the tracks now.	The extent of possible noise and vibration impact would greatly depend upon the distance of your house from the train operations, the nature of the construction of your house, how fast the train is going, soil conditions as well as other factors. If the proposed action proceeds to Tier II studies, a more in-depth analysis of these impacts would be determined for a more specific alignment that may or may not be near your house. If you are on the alignment chosen for implementation of high speed rail, the potential environmental impacts including noise and vibration to sensitive receptors such as your house will be studied in detail in Tier II documentation. At that time potential mitigation will be explored.
136	PET-003 ***Topic: Noise/ Vibration***	My question is about Lincoln Street crossing in Petersburg, VA. Will a wall be built for homeowners near the train track? Two homes are only 150 ft. from the track. What about the noise and vibration?	At this point in the study, we are at a very general level, and the need for and location of potential walls to mitigate noise impacts has yet to be determined. During any potential Tier II studies, a more in-depth analysis of these impacts would be determined for a more specific alignment that may or may not be near your house. You have been included on the project mailing list and will receive information as the study progresses. You can continue to be involved and determine if you are on the alignment for implementation of high speed rail.
137	STA-002 ***Topic: Noise/ Vibration***	I am concerned about the noise level.	See response to comment number 135 DUR-004. Also note that preferred alternative does not impact this area.
138	STA-005 ***Topic: Noise/ Vibration***	We live within 50 feet of the current RR track. It's currently used for loading mainly RR cars. This is very noisy, especially at 2:30AM. My house is close enough that it vibrates it when the train goes by. So I am very concerned about HSR and property impacts. Our yard runs along the track. We are against HSR going	See response to comment number 135 DUR- 004. Also note that preferred alternative does not impact this area.

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		through Star.	
		Topic: Other	
139	AGE-003 ***Topic: Other***	NCDWQ (North Carolina Department of Water Quality) does not have single preferred alternative, but would like alternatives B, E, or H studied in detail	See the comprehensive analysis in chapter 1 of this document for why E and H were eliminated. DWQ recommended B based on service to the heavily urbanized piedmont corridor of NC, and Alternative A also serves this corridor.
140	AGE-011 ***Topic: Other***	As set forth below, EPA rates the SEHSR Tier 1 DEIS as EC-2 (Environmental Concerns-Insufficient Information). This rating is based on the conclusion that, although the impacts from this proposal are likely not substantive, the document does not fully explore some key areas of potential impact to the human and natural environment.	The Tier I DEIS for the SEHSR project is a program level document, which has included a high level of analysis of potential environmental impacts to facilitate a decision on the best of the 9 study areas that were considered for possible implementation of high speed rail. Based on this purpose, potential impacts were generally identified to provide information to comparatively evaluate the 9 study area alternatives. Only limited fieldwork was done, and existing and secondary data sources were heavily relied upon to create the database for the comparative analysis. In addition a great deal of previous study has already been conducted in the corridor and an extensive public involvement effort was conducted to get public input and issues. The large study area was more conducive to this more general approach. During potential Tier II studies, more detailed examination would be made of all potential impacts within a specified alignment identified within the recommended study area. At that time all needed fieldwork, on-site surveys, mapping and primary data would be developed to facilitate the identification, analysis and assessment of potential impacts. Mitigation measures and measures to minimize harm would also be developed. Thus this more extensive analysis you refer to would be conducted as part of the next phase of the project development if the decision is made to move forward on the proposed project.

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141	AGE-016 ***Topic: Other***	Based on the information available at this time, including information provided in documents, meetings and public hearings attended by my staff regarding the subject project, we concur that either Alternative A or B are the alternatives that should be carried forward for further analysis.	See response to comment number 139 AGE-003.
237	GRE-020 ***Topic: Other***	Please provide: compare projected NOI (Net Operating Income) on the two A vs. B.	In order to determine relative economic viability (between the different study areas), alternatives were examined based on the potential net operating contribution and the conceptual capital cost. Net Operating Contribution is the revenue generated less the operating expenses for each routing. Conceptual costs were based on using current cost factors applied to a conceptual engineering design (approx. 5-10% engineering level) with a 60% contingency added. The net operating contribution is comparative only, and not intended to predict actual future revenue, which would be dependent upon future operating conditions and requirements. The capital cost efficiency factor is the net operating contribution divided by the conceptual capital cost and multiplied by 1000. This gives a form of a benefit/cost ratio for comparison between the different alternatives. Both alternatives A and B have 2025 net operating contributions of almost $25 million (in year 2000 dollars) and capital efficiency factors of almost $10 million. These factors are slightly higher for Alternative A when compared to Alternative B.
142	PET-009 ***Topic: Other***	You noted that there were copies of the EIS at – where did you say, at local locations? I note on here one was Chesterfield, and the other one was at a planning district office.	The Tier I DEIS and a set of maps were made available at over 18 locations through out the study area. These locations were in cities where the public hearings were held. In Petersburg this included the Crater Planning District (1964 Wakefield Street-Petersburg, VA) and the Chesterfield County Transportation department (9901 Lori Road-Chesterfield, VA). In addition, at the

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			Petersburg hearing the Director of Public works requested a copy for the City offices. This copy was forwarded to the City as requested.
143	STA-014 ***Topic: Other***	I am concerned about the amount of travel of the SEHSR. (in the area around Star, NC)	A number of people at the Star Hearing expressed concern about the increase in train traffic that would occur should the SEHSR proposed service use the southern route (the ACWR RR right of way), which passes through Star. NCDOT and VDRPT have identified Alternative A (NCRR & S-line), modified with passenger connectivity to Winston-Salem (Alternative B) as the alternative that best meets the project's purpose and need while minimizing environmental impacts (hereafter termed "Alternative A-Plus"). This alternative could be studied further during potential Tier II environmental documentation efforts. The southern route is not recommended for further study at this point in time.
144	CAR-008 ***Topic: Other***	Once the HSR service starts, how many trains will be in service on a daily basis? What type of trains would serve the southeast?	The travel demand model used for the SEHSR Tier I DEIS assumed four daily round trips between Charlotte, Raleigh, Richmond, Washington, and New York, and four daily round trips between Charlotte and Raleigh, for a total of eight daily round trips between Charlotte and Raleigh. For the analysis, each train is assumed to consist of two diesel locomotives, five coaches, and one cafe-lounge car.
145	DUR-023 ***Topic: Other***	If the train goes through downtown Durham, how often will it stop? Has your initial estimate of 6 to 8 stops changed? If so, why?	At this point in the study the exact station stops and schedules have not been finalized. We have made some assumptions about potential station stops and schedules for the purposes of developing ridership estimates. Exact station locations would be determined as a part of any Tier II analyses. Our assumption is that this question refers to the number of trains that will daily stop in Durham, since there would only be one stop location in a given town. For purposes of our model, six to eight trains stopped in Durham depending on the day of the week.

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146	HEN-020 ***Topic: Other***	When would this project start? Completed?	Right now it is estimated that the proposed SEHSR service could actually be in service by 2010. This assumes that a build alternative would be chosen through the NEPA process, the needed funding would be in place when needed and that the service would be developed using the proposed incremental approach, which allows for the continued development of the service following a program of planned incremental improvements over time.
147	PET-011 ***Topic: Other***	Who would operate it once it is completed? And where does Amtrak fit in, if you can address those?	The operator for the proposed project at this point in time could be Amtrak. The proposed service would be put out to bid for interested operators to develop a proposal for offering this service.
148	RAL-012 ***Topic: Other***	Your information on service features seems somewhat vague at this point.	At this point in time and in the development of the proposed SEHSR, we are at a very early planning level of detail. Thus we have developed conceptual, generalized operating scenarios for the purposes of assessing potential impacts, possible operating and capital cost and potential revenues. These early figures would be refined if we move into the next phase (Tier II) of development when a specific alignment and potential station areas would be identified.
149	ROA-008 ***Topic: Other***	Stops should be in the areas where there is the most likely ridership. Project objectives need to be prioritized.	At this point in the study, exact station stops have not been identified. We have made some assumptions about potential station stops for the purposes of developing ridership estimates. These assumptions are based upon locating the service to provide access to the highest potential ridership. Project objectives have been clearly stated in Chapter 1 of the DEIS –Purpose and Need. They have not been prioritized.
150	SPR-028 ***Topic: Other***	Particular attention and importance should be placed on inter-modal services when developing station locations such as rail/local regional bus lines/DC Metro rail – air carrier; and in all cases, long term vehicle	There is already a great deal of attention being paid to inter-modal connectivity with inter-modal stations and centers being developed by local communities along the potential SEHSR alignments in Charlotte,

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		parking at reasonable rates. Inter-connectivity between transportation modes should be a very high priority in planning this system.	Greensboro and Raleigh Durham, NC. Some of the potential station stop sites in Virginia are being renovated such as the historic Main Street Station in downtown Richmond.
151	SPR-041 ***Topic: Other***	In this briefing I haven't seen what the general operating mode of this system is. In other words, how many trains a day do you run? Do you run two a day or do you run ten a day? This is important.	See the response to comment number 144 CAR-008.
152	WIL-009 ***Topic: Other***	I would like to point out that the expense of this high-speed rail service we do not want to disrupt the freight service that currently exist on this line as well as the future service that we hope to see provided by future industrial development. We would like to call your attention and caution to that. As we all know, Amtrak is highly subsidized and we would like to see that this particular rail section stands on its own and on its own merit through ridership as well as freight.	Both NCDOT and VDRPT have as their goal the efficient operation of both passenger and rail service. It is very likely that any improvements made to existing railroad rights of way as a result of proposed HSR related improvements would upgrade both track and infrastructure conditions thus improving both operating speeds and conditions for passenger and freight trains, increasing capacity while easing congested areas within the right of way. Both NC and VA have active rail improvement programs that involve the rail crossing safety program and various track improvements including double tracking in these rights of way. Chapter 2 of the Tier I DEIS provides and overview of these improvements.
153	WIL-014 ***Topic: Other***	Need to address congestion on route A; a new rail line will do this.	See response to comment number 152 WIL-009.
154	WIN-246 ***Topic: Other***	Meanwhile, our city bus service has already set the standard for being a fiscal liability, as the buses remain 75% empty. Indeed, a dichotomy exists within the DOT in terms of simultaneously advocating expenditures for both roads and bridges, while attempting to bring HSR to our area. And where will the envisioned myriad of passenger's park their cars? Undoubtedly, additional parking fees will prevail, as well, serving to parallel the mercenary concept of a toll road in our state.	It is widely believed in the transportation industry that the future of continued, good mobility for all of our areas must include a variety of travel modes that provide the public with viable options. We must look not only at maintaining our current roadway network, but also at building and enhancing other modes of travel. The USDOT has encouraged the development of other modes through the provision of federal funding grants for the development of HSR and other transit modes. As travel by other modes becomes more available, rail becomes a more

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			efficient and a more feasible way to travel for more people. With any new service we would have to determine the need for passenger parking and identify ways to efficiently and conveniently provide that parking to patrons. Often charging for parking at a rail /transit stop is a disincentive to ridership. Innovation ways to provide parking for transit have been identified across the country including shared parking at shopping centers, shared use parking at churches, schools and other activity centers whose peak usage time may not be the same as the peak use period for the transit service. Specific locations for parking would be identified if needed during any Tier II environmental documentation. It is during this stage of the proposed project when station locations would be tied down and refined operating scenarios and ridership projections would be made.
155	CAR-001 ***Topic: Other***	My main concern is making sure there is enough support in the public's mind for the creation of such an enjoyable mode of transportation. I don't believe the simple announcing of its existence is sufficient to develop the ridership needed to survive. I hope to see more promotion of the advantages of rail travel in the public arena.	SEHSR public involvement activities have been and would continue to be the presentation of factual information and collection of public and agency comments about the environmental and operational impacts of the alternatives under study. SEHSR public involvement activities would continue as the project moves into Tier II documentation. It would build upon the current public involvement program, which is described in Chapter 5 of the DEIS. • Public feedback recorded at workshops, through the project hotline, mail-in comment forms, and in community leadership interviews.
156	HEN-013 ***Topic: Other***	Will all the support for the projects received in mailings also be considered?	All comments received on the Tier I DEIS have been considered in the analysis of study area alternatives. At each hearing, the public was provided the opportunity to give comments on the Tier I DEIS verbally, in writing, to a certified court reporter, or by mail within 10 days of the public hearing date. A total of 784

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			comments were received as a result of the Tier I DEIS public hearing process. Public comments were reviewed and analyzed to determine the public's preferences of study area alternatives. Thirty-nine comments expressed a study area alternative preference, favoring Study Area Alternatives A and B. About 83 percent of the comments on the DEIS were favorably disposed to the overall proposed SEHSR project. Only one percent of the commenting public opposed the project.
157	PET-010 ***Topic: Other***	Is there a possibility one (copy of the DEIS) could be at the city?	The DEIS was made available to the public and other interested parties at 18 locations, coinciding with public hearing sites. In Petersburg, the DEIS is available for review at the Crater Planning District Commission, 1964 Wakefield Street, Petersburg, VA. An additional copy was provided to Petersburg City so that the DEIS could also be viewed at a city office.
158	RIC-023 ***Topic: Other***	At the equivalent hearing here in Richmond a year ago, more or less, I commented about the need to consider Hampton Roads. And I know that if I – if I read it correctly, there was no opportunity for Hampton Roads' participation in this process, say for the possibility that they might come to Emporia or Petersburg. Is Hampton Roads, which is a defined corridor, part of this process?	The US Department of Transportation designated the Southeast High Speed Rail (SEHSR) corridor in 1992. The designation identified Washington, DC, Richmond, VA, Raleigh, NC, and Charlotte, NC as the major urban areas to be connected. The SEHSR corridor has been extended to include Hampton Roads VA, as well as South Carolina, Georgia, Florida, and would connect the Northeast Corridor, the southeast, and the gulf coast. For the purpose of this Environmental Impact Statement, nine SEHSR Study Area Alternatives along the 500-mile corridor from Washington DC through Richmond, CA and Raleigh, NC to Charlotte, NC, were selected for review. High speed rail service to Hampton Roads is being considered under a separate study being undertaken by the state of Virginia .
159	SAN-002 ***Topic: Other***	Where would we get most of opposition?	A total of 784 comments were received as a result of the Tier I DEIS public hearing process. A review of these comments shows 650

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			comments expressing support for SEHSR, 11 comments expressing opposition, and 123 comments expressing neither support nor opposition. Of the 11 comments expressing opposition to SEHSR, the distribution is as follows: Winston-Salem, NC (1); Henderson, NC (2); Roanoke Rapids, NC (1); Durham, NC (1); and Star, NC (6). In addition, 39 comments from the DEIS public hearings expressed a preference for or against a specific study alternative. (Some of these comments expressed preferences for and/or against multiple study area alternatives.) Four alternatives had one comment each of preference against them expressed: Alternative C, Alternative H, Alternative J, and Alternative F.
160	AGE-011 ***Topic: Other***	The cumulative impacts of both the SEHSR and the freight traffic usage of the corridors is a key analysis, which was not addressed in this document.	The cumulative impacts of passenger and freight use of the corridor were generally addressed because this is a program level document. The issue is discussed in various locations through out the Tier I DEIS including Chapter 1 on Purpose and Need. The extent of the joint activity level is described in detail in section 2.4.1 of Chapter 2 (Description of Study Area Segments) and also in section 4.3.1.6 (Transportation Impacts) of Chapter 4. These potential impacts would be more thoroughly addressed in the Tier II documentation when we have a more specific alignment identified and when operating scenarios have been refined including more information from the interfacing with the freight operators during that project phase.
161	SPR-038 ***Topic: Other***	Is there really that much traffic between Charlotte and D.C. to necessitate something like this?	The future of continued, good mobility must include a variety of travel modes that provide the public with viable options. We must look at maintaining our current roadway network, as well as building and enhancing other modes of travel. The USDOT has encouraged the development of other modes through the provision of federal funding

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	Topic: Other		grants for the development of HSR and other transit modes. As travel by non-highway modes becomes more available, and as air quality problems increase, rail becomes a more efficient and effective way to travel for more people. In addition, existing rail traffic congestion in the Washington DC to Charlotte corridor is one of the reasons for some of the current planned improvements by both VA and NC. All of the 9 Study area alternatives examined in the Tier I DEIS are projected to carry over 1 million passengers per year by 2025. Under current rail passenger service, annual rail ridership along the corridor connecting Washington, DC with Charlotte, NC is projected to grow from its current level of 418,000, to 498,000 in 2015 and to 543,000 in 2025 or slightly more than one percent per year. The proposed SEHSR program addresses the existing rail passenger service problems by improving travel times and increasing capacity, while providing a safer and more efficient mode of travel as compared with the private motor vehicle. 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, ridership in the I-95 corridor would triple by 2015. The proposed SEHSR service would reduce travel time from Washington, DC to Charlotte from the current ten hours to an estimated six to seven and one half hours. The proposed SEHSR service is anticipated to impact the travel corridor by diverting trips from auto and air, and by producing some induced travel (additional trips that individuals would not otherwise make), thus improving overall mobility within the travel corridor. The proposed service could divert over 1,000,000 passenger trips

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			from air and auto by 2015. These diversion numbers illustrate the proposed SEHSR program's role in the creation of a balanced transportation system.
		Topic: Ridership	
162	AGE-011 ***Topic: Ridership***	The data tables regarding typical diversion rates are difficult to interpret (page 1-12). Table 1.1 defines auto and air passenger diversions and the total ridership anticipated in 2015 and 2025. How many auto trips are eliminated by this diversion? In addition, the documents indicates that over 1,000,000 passenger trips would be diverted from air and automobile. These numbers sound large, but are they really when compared to an interstate which may be carrying 60-80 thousand vehicles per day?	Table 1.1 presents a lot of information in a short hand format. The Build Alternative refers to the proposed SEHSR alternatives which are represented by one ridership number from the 9 alternatives, in this case the highest ridership number of the 9 alternatives. The 1999 ridership number is blank for the alternatives because the SEHSR service did not exist in 1999. The 1999 ridership number for the No Build is the 1999 ridership on conventional passenger rail service in the corridor. The additional ridership number column refers to additional rail ridership beyond the 2015 and 2025 projected ridership levels. This additional ridership includes induced trips (additional trips that individuals might not otherwise make), and those trips diverted from auto and air. In 2015 those trips diverted from auto are estimates at 779,500; in 2025 auto diverted trips are estimates at 899,300. Diverted trips form auto and air were provided because congestion and capacity problems exist for both roadway and the air travel networks, which could be improved by the implementation of the proposed HSR service. In comparison to the number of vehicles carried on the interstate, the 1 million passengers diverted is not a large number, however any reduction in the number of trips on the network should be of benefit. In addition, diverted trips means travelers are trying rail transit for some of their trip making needs, which could lead to increased rail ridership if the experience is successful and more future trips might be taken on rail.

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163	AGE-012 ***Topic: Ridership***	As stated in my previous comments, I do not believe that Alternative C has been given equal consideration in the annual ridership totals. I believe that the totals for the other alternatives contain the projected numbers for riders who will be getting on and off the anticipated local stops between Petersburg and Raleigh and also between Raleigh and Charlotte. These would be those riders who have the option of traveling by high-speed rail or by the EIRPS. And, to some extent, the numbers for riders north of Petersburg whose destinations are somewhere between Petersburg and Raleigh and to a lesser extent between Raleigh and Charlotte would also be included. Either these numbers should be factored out of the totals for the other alternatives or factored into the total for Alternative C. If my assumption on annual ridership is true, then the amount for net operating income will also increase for Alternative C and become more in line with the other alternatives. Even though it may be explained in the Draft Tier I EIS and I missed it, I will point out that whereas the annual ridership for Alternative A is currently shown as about 28% more than ridership for Alternative C, the net operating income for Alternative A is now shown being 100% more than the net operating income for Alternative C. Wouldn't this mean that the difference in the ridership totals had to represent riders north of Petersburg, who would be paying a higher fare, rather than riders south of Petersburg mentioned in the previous paragraph?	In Table 2.17 (page 2-45), the line entitled "Year 2025 Ticket Revenue" this figure includes revenues for all trains that are projected to be operating between North Carolina and Virginia in 2025 and then adds SEHSR revenue by route alternative to that total. This is done so that all connecting revenue on other trains is also captured. This type of analysis, however, tends to dilute the differences between options and often includes revenues from passengers who never board an SEHSR train. The same is true for the "Year 2025 Ridership." The figure includes all passengers on all trains operating between North Carolina and Virginia in 2025, which once again minimizes the differences between route alternatives because SEHSR ridership is only part of the total forecasted patronage for all trains. The comparisons between Alternatives A and C, once the statistics for all the other NC/VA trains are removed, are more marked than before. There is 33% greater ridership and 27% greater revenue generated on Alternative A than on Alternative C. When all other trains are removed, Alternative C's inability to generate equivalent levels of ridership and revenue owing to its lack of intermediate points (Durham, Burlington, Greensboro, High Point and Salisbury) becomes more pronounced. When the total revenues of Alternative A (ticket plus food/beverage of $103,330,500) and the total revenues of Alternative C (ticket plus food/beverage of $81,658,000) are debited for each alternative's operating costs (Alternative A: $80,833,000 vs. Alternative C: $74,745,000) it becomes apparent that for an eight percent increase in operating costs,

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			Alternative A produces revenues that are 27% percent greater than Alternative C and ridership that is 33% higher. This efficiency in operation is why Alternative A produces a net income of $22,497,000 as compared to a net income for Alternative C of $6,913,500.
164	AGE-012 ***Topic: Ridership***	I recommend that Table 2.17 be revisited to assure the accuracy and equal consideration and comparison of all factors for all alternatives. In my opinion, the totals for Alternative C are potentially understated for annual ridership, net operating income, and trip diversions. Additionally, there may be a greater difference in average travel time separating Alternative C and the next closest alternative. This exhibit plays an important part in the selection of the preferred alternative.	Unlike the two minute average spread in travel times between Alternative A and Alternative C shown in Table 2.17 there is in fact, a 28 minute difference in travel times between the fastest trains in Alternative C and the slowest trains in Alternative A between Raleigh and Charlotte. The time difference between the fastest trains on each route is 18 minutes and the difference for the multistop trains varies from 18 to 23 minutes. The revenue, ridership and operating cost forecasts were derived using these schedule patterns developed by the consultants in January 2000, and not the average trip times shown in Table 2.17. While the travel times between Raleigh and Charlotte vary measurably between Alternative A and Alternative C, Alternative A boards more passengers and generates more revenues than Alternative C because of its significantly larger population base. Bypassing large communities such as Durham, Burlington, Greensboro and High Point in exchange for a stop at Sanford NC, puts Alternative C at a distinct disadvantage in generating ridership and revenues when compared to Alternative A.
165	AGE-012 ***Topic: Ridership***	I would also like to point out when considering cumulative impacts, the numbers for Alternative C improves. By this, I mean when considering ridership north of the study area (DC). If my starting point is in Boston or New	Since Alternative A and Alternative C both use the S-Line north of Raleigh to Richmond, as well as the same route between Richmond and Washington DC, the divergence in Alternative A and Alternative C's

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		York, and I know that the train I get on will have possibly no stops south of Petersburg before I get to Raleigh, or only one stop (Raleigh) before I get to Charlotte, I'll take that train verses one that may have three or more stops.	routes occurs only between Raleigh and Charlotte. Between Washington DC and Richmond VA it is assumed both Alternative A and Alternative C trains would make an average of two stops with no difference in travel times between the Alternatives. Between Richmond VA and Raleigh NC it is assumed both Alternative A and Alternative C trains would stop in Petersburg and two of the four daily frequencies would also stop in Henderson NC producing no difference in travel times between the Alternatives. This changes dramatically in Raleigh. Alternative A trains precede west over the NCRR with potential stops in seven intermediate communities (for our modeling purposes). There would be eight daily one-way frequencies over this 174-mile NCRR route segment. It is assumed for estimation purposes that two express trains would stop only in Durham and Greensboro, while the other six trains would make a maximum of four intermediate stops with each en route community being served at least three times a day in each direction.
166	AGE-012 ***Topic: Ridership***	If this was true and Alternative C was that much faster than all of the other alternatives, there would be additional ridership, more net operating income, and more trip diversions for Alternative C.	While the travel times between Raleigh and Charlotte vary measurably between Alternative A and Alternative C, Alternative A boards more passengers and generates more revenues than Alternative C because of its significantly larger population base. Bypassing large communities such as Durham, Burlington, Greensboro and High Point in exchange for a stop at Sanford NC, puts Alternative C at a distinct disadvantage in generating ridership and revenues when compared to Alternative A.
167	AGE-012 ***Topic: Ridership***	Some factoring may also be needed for the net operating income on Alternative C. The trip diversion totals are particularly confusing to me. The	The fact that the percentage increase in ridership between Alternative A and Alternative C is substantially higher than the percentage increase

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		total for Alternative C is significantly lower than for the other alternatives. Yet, if I am a current, or potentially, new rider north of Petersburg, and my destination was to at least Raleigh, Alternative C would be chosen. It is the shortest and it has the fewest stops, potentially only one south of Petersburg. It seems to me that for the current totals to be accurate, the majority of trip diversions would have to come south of Petersburg. In my opinion, the majority of trip diversions will come from north of Petersburg (Richmond, DC, etc.). So, I would think that Alternative C would have the highest total for trip diversion rather than the lowest.	in revenue between the two options demonstrates that intermediate point ridership is greater on Alternative A than Alternative C and that Alternative C must rely more heavily on end point travel between Raleigh and Charlotte for riders and revenues. Similarly the trip diversions attributed to Alternative C are less than for Alternative A because Alternative C's route has a smaller population base, serves no significant en route communities between Raleigh and Charlotte and therefore has less potential to cause changes in modal choices.
168	AGE-012 ***Topic: Ridership***	Table 2.17 in the Draft Tier I EIS shows the operational and physical characteristics summary information for the study area alternatives. The numbers for Alternative C are unusually low for annual ridership, net operating income, and trip diversions, when compared to the others. These are three important categories in determining the preferred alternative. The only reason for these differences I can come up with is the additional riderships that would be picked up by all of the other alternatives on the EIRPS lines south of Petersburg that Alternative C has separated from and I don't believe that would explain it fully.	Bypassing large communities such as Durham, Burlington, Greensboro and High Point puts Alternative C at a distinct disadvantage in generating ridership and revenues when compared to Alternative A, as well as all of the other alternatives that do not use the southern route of the ACWR. In addition, there is a 28 minute difference in travel times between the fastest trains in Alternative C and the slowest trains in Alternative A between Raleigh and Charlotte. The time difference between the fastest trains on each route is 18 minutes and the difference for the multistop trains varies from 18 to 23 minutes. The revenue, ridership and operating cost forecasts were derived using these schedule patterns and not the average trip times shown in Table 2.17.
169	DUR-025 ***Topic: Ridership***	In your calculations of annual trip diversions, are you estimating only trips between Charlotte and DC or does it include stops in between?	It does include trips in between Charlotte and Washington.
170	GRE-004 ***Topic: Ridership***	If I want to build a transit system designed for maximum use/ridership, I would follow the current interstate highway system. Following the interstates and the local major thoroughfares opens the commuter to	While use of the interstate system initially appears to present some potential advantages, it also presents some very serious challenges, primary of which is where in the interstate right of way do we place

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	Topic: Ridership	more of a door-to-door type of transit far more effective than following the existing RR corridors. ... If you personally want to travel from your office in Raleigh to Charlotte, will you really want to get on a HSR that goes through downtown Burlington, then Gibsonville, and Whitsett just to name a few towns in our area? What are the risks in terms of down time/delays from at grade accidents, traffic congestion, and little point to point capability. What is the convenience factor of going through such destinations? Selling the cost issue to the public is tricky, I concede, but what about a rail system that follows RR tracks and never gets to high speed? Who is going to patronize such a system? How much is it going to cost to elevate or build on the surface a whole new set of tracks to handle an Acela or a mag lev train? You may as well compare that to taking advantage of the highway corridors to understand the differences. What about automation vs. having to man each train? How does that cost compare? What about 30 year operating numbers? At the end of the day, I am extremely concerned that if we follow the path of the current rails, and if we decide to use surface rail whether regular or high speed, or if we decide the whole high speed line must be elevated and we still follow the current rail lines, we end up with a system costing far more over a 30 year period of operation as compared to a monorail system built from the outset along the highway corridors and major thorough fares. Again, ridership is the key to this, nothing more, nothing less. I have a map showing such a system for the triad area that incorporates a high speed line from Raleigh to Greensboro, and on to Charlotte, using the interstate ROW for much of the NC route. I also have on the same map a triad regional system that breaks off from and ties back into the NC line. I think you would find the layout compelling. The goal of either	the transit line. If it is in the median it needs to be elevated, which will increase the cost of construction and also pose significant issues with interstate bridges and overpasses. Safe transfer of passengers to the stations, and the location of parking are also significant issues. If the system is at grade along the side of the interstate, it will potentially have to be grade separated at each interchange or entrance and exit, and access questions are challenging Stations must be logically placed to give riders convenient enough access to make the system attractive to use, and there must be sufficient interstate right of way for the placement of transit. It may not be accurate to assume that all of the land adjacent to the highway is publicly owned and available for use at low or no cost. Both the interstate and the railroad rights-of-way have the advantage of being established travel corridors. In addition a number of the small towns, such as those you mention in your letter actually grew up around and because of the railroad. Some of these towns are interested in having rail service reinstated because of the potential economic benefits. We are not always in the position of having to build a whole new set of tracks. In some cases we would be improving existing tracks, straightening curves or adding a second track. We do not have 30-year operating costs and some of the other extensive cost information you discuss in your comments. This is an early planning study with a 20-year plan horizon. We have completed a conceptual engineering effort (approximately 10% engineering). We also do not have a specific alignment chosen at this point. We would need a lot greater level of engineering detail in order to develop

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	Topic: Ridership	of my two lines is to maximize ridership. Using the current path of the rail lines will do very little to promote ridership. I therefore am curious as to why you are seriously studying such a line. Can you explain? And to that end, I am offering you a copy of my map laying out the NC/triad area lines for your study. Please let me know if you are interested. As I said, I think you will find the map compelling in terms of potential ridership, 30 year operating costs, increased public confidence in mass transit as an alternative to the car, safety, etc.	the kind of cost numbers you reference. We are not aware of any long distance, urban, commuter line haul monorail systems with which to evaluate your proposed concept. Our initial ridership and revenue projections are strong and most of the proposed alternatives with the exception of a few segments generally serve the population centers. Census data from 1990 to 1999 shows that the metropolitan areas along the proposed SEHSR corridor experienced rapid population growth. The Washington, DC-MD-VA-WV Metropolitan Statistical Area (MSA) grew 12.2%, the Richmond-Petersburg, VA MSA grew 111.1%, the Raleigh-Durham-Chapel Hill, NC MSA grew 28.8%, the Greensboro-Winston-Salem-High Point, NC MSA grew 12.3%, and the Charlotte-Gastonia-Rock Hill, NC-SC MSA grew 22.0% during that period. The population within the Richmond to Washington portion of the study area is expected to grow from about 2.8 million in 1990 to more than 3.5 million in 2014. Approximately one-half of North Carolina's population lies within the "Piedmont Crescent" corridor between Raleigh and Charlotte. In addition, the population in the Piedmont Crescent is expected to grow over one-third in the next 20 years and by over 50% in the next 30 years. The population within the North Carolina urban corridor represented by Raleigh-Durham-Chapel Hill, Greensboro-High Point-Winston Salem, and Charlotte-Kannapolis is expected to increase by 36 percent between 1990 and 2010. Thus the population centers in the region should be well served by the proposed SEHSR alternatives.
171	GRE-010 ***Topic: Ridership***	For this project to be viable, the route must run through Greensboro (and maybe Winston-Salem) in order to	Six of the nine SEHSR alternatives under consideration serve the Piedmont Triad area. Of those six all

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		attract ridership. It is inconceivable that 1.2 million people would be bypassed.	would serve Greensboro directly and three would serve Winston-Salem directly.
172	GRE-020 ***Topic: Ridership***	Please provide: Impact as a percentage of the proposed system on highway & air travel projected out to 2025	The proposed SEHSR service is anticipated to impact the travel corridor by diverting trips from auto and air, and by producing some induced travel (additional trips that individuals would not otherwise make), thus improving overall mobility within the travel corridor. By 2025, the proposed SEHSR service is projected to divert up to 779,500 trips from the highway and 278,700 from air and result in up to 52,950 induced trips.
173	GRE-020 ***Topic: Ridership***	Please provide: impact of true high speed and elevated rail along the interstates would have on highway and road travel to 2025	See response to comment number 170 GRE-020. We have no information on elevated rail along the interstate system.
174	RAL-014 ***Topic: Ridership***	The plans should be flexible enough to provide high frequency service – at or near the levels of the northeast corridor. Conservative ridership estimates are fine for this process, but the capital expenses and operating expenses should be at a higher level of frequency.	Your comment is noted. The proposed SEHSR is being designed to connect with the Northeast corridor to provide a high level of train service for the east coast. While the SEHSR is being proposed for incremental development, the goal is the provision of a viable, attractive modal travel option to help create a balanced transportation system. The expense of providing service frequencies comparable to those of the NEC would be premature for the service being proposed and studied for the SEHSR corridor.
175	ROA-013 ***Topic: Ridership***	Why don't the railroads concentrate more on developing the freight traffic rather than the passenger traffic. If we could develop a rail system that took over even 50% of the freight that now travels by trucks on the highway then our highways would be back where they used to be for the passenger cars.	We cannot speak for the railroads nor do we know their specific long term plans for action. The concept for the development of passenger rail service is not being sponsored by the railroads. The proposed Southeast High Speed Rail (SEHSR) project is part of a plan by USDOT to develop a nationwide high speed rail network. Authorization for a program of national high speed rail corridors was included in the Intermodal Surface Transportation Efficiency Act of 1991 (ISTEA-PL102-240, Section 1036) and continued in the Transportation

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			Equity Act for the 21st Century (PL 105-178, Section 7201). ISTEA stated, "It is the policy of the United States to develop a National Intermodal Transportation System that is economically efficient and environmentally sound, provides the foundation for the Nation to compete in the global economy and will move people and goods in an energy efficient manner." The high speed rail corridor program was established by ISTEA as one component of this intermodal system. In 1992, the USDOT designated the SEHSR Corridor one of five original national high speed rail corridors. Further extensions to the corridor added connections south into South Carolina, Georgia, and Florida.
176	ROA-024 ***Topic: Ridership***	Will stops be prioritized according to ridership or trip diversions?	Not necessarily, although the level of projected ridership at a station is a factor to be considered in the development and location of stations.
177	ROA-030 ***Topic: Ridership***	Is ridership or travel time a higher priority?	The evaluation criteria were not ranked. However in order for a proposed service like SEHSR to be successful it must offer some sort of travel time-savings in order for people to consider using it for their travel needs. Thus travel time-savings is an important factor to be considered.
178	SPR-018 ***Topic: Ridership***	When discussing diversions from auto to rail and air to rail, why not also consider rail to rail diversions that may add to ridership numbers	If SEHSR were implemented, it would not serve all of the same locations as conventional rail. Any station that currently has Amtrak (conventional) service would continue to receive that service. Thus the markets or geographic areas being served by the two services may not be the same. The plan is to develop a network of passenger rail service that would be complementary, not competitive. For example if I traveled from Washington DC to do business in the Raleigh/Durham area, ideally I could take high speed rail to Raleigh/Durham and transfer to the

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			planned regional rail system to get around the area. Thus the rail to rail trips should not be diverted, they should be transfers.
179	SPR-026 ***Topic: Ridership***	Air travel is best for long distance, but rail travel is best for the 170-200 mile range.	One of the premises for the high speed rail service concept is that it can serve the 100-300 mile trip more effectively than the airlines. A number of people that participated in the SEHSR public involvement program expressed their frustrations with both the cost and the difficulties of trying to use air travel for trips of this nature. Most of the air trips in this distance range required a transfer/plane change and out of direction travel, as well as long security delays. Connections were difficult and expensive. Air travel also may involve a long trip by auto to get to an airport that would provide the service. For example USAir is stopping all service out of the Wilson/Rocky Mount airport, requiring residents to commute to the Raleigh Durham airport (50 to 70 miles away) in order to get a flight to a location that might be 300 miles away and require a change of planes.
180	SPR-037 ***Topic: Ridership***	Writes a follow up letter on 11/12/01 to his letter on 10/17/01. In the letter he applies a gravity model to estimate ridership and a revenue-to-cost ratio.	The ridership and revenue forecasts (October 2000) for the SEHSR alternatives were developed using information assembled for the *SEHSR Study and Market Demand Analysis (KPMG-*1996) the *Piedmont High Speed Corridor Ridership and Revenue Potential Study Phase I- Raleigh to Charlotte* Corridor (PHSC- by KPMG November 1996). Complete documentation of the inputs is contained in these reports. The zone system, travel data, and existing service characteristics for rail and other modes from these studies were used in the analysis of improvements in the SEHSR corridor. The spreadsheet model used in this analysis (Mr. Tennyson's) represents a modified version of the model used in the PHSC study. This demand

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			forecasting model is based on coefficients describing sensitivities to travel cost, travel time, frequency and other modal characteristics in the corridor. These coefficients were originally developed using the database created for SEHSR. The model used for this study was revalidated to match Amtrak 1999 fiscal year ridership on its southeast train services. This model also addresses markets within Virginia and the Northeast Corridor, which are also served by the southeast trains. In addition, time of day schedule sensitivity improvements to the model included in the 1998 analysis of extending the Piedmont train to Atlanta was retained. These appropriately discount the market for middle of the night departures on the Crescent, and Silver trains.
181	SPR-039 ***Topic: Ridership***	Is there any way we can know if the count that you've talked about is based on airline fares, or bus fares, or in between Amtrak fares. I wondered if the fares were based on airline fares, bus fares, Amtrak fares, or something in between.	The ridership and revenue projections were based upon Amtrak fares.
182	SPR-039 ***Topic: Ridership***	You mentioned travel locally – because of the passenger count it doesn't mean anything – if everybody traveled Winston-Salem to Greensboro, you would have nothing even if it is a big number. So is there any way we could get passenger miles? The passenger count is sort of meaningless, because you don't know if it is a short trip, 27 miles, or a 300 mile trip, which makes a big difference in the income.	Passenger miles were not generated as a part of the ridership projections developed for this study. However, both through trips (trips with an origin or destination in the corridor) and local trips (between points in the corridor) were included in the counts.
183	SPR-040 ***Topic: Ridership***	On the ridership – it's sort of a related question – of the little bit of work I was involved in with Amtrak and putting their ACELA program in place, one of the things that some of the people directly involved in that said was a criteria for substituting ground for air was sort of a three hour – the ability to make a day trip essentially between the two cities, a day business trip, granted more than eight hours, but	The proposed SEHSR program addresses the existing rail passenger service problems by improving travel times and increasing capacity, while providing a safer and more efficient mode of travel as compared with the private motor vehicle. It could serve as a more attractive alternative to automobile, air and bus intercity travel between Washington, DC and Charlotte. The Washington, D.C. to

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		you know, attend a meeting – you know, get on a train in the morning, attend a meeting, and get on a train back home at night. And clearly, Washington to Charlotte would fail that test very clearly. You know, maybe Richmond to Raleigh would probably pass. Was that taken into account with the ridership presumption and the diversion from air?	Richmond, Virginia Passenger Rail Study found that if travel times between Washington and Richmond could be reduced to 90 minutes, ridership in the I-95 corridor would triple by 2015. The proposed SEHSR service would reduce travel time from Washington, DC to Charlotte from the current ten hours to an estimated six to seven and one half hours. The proposed SEHSR service is anticipated to impact the travel corridor by diverting trips from auto and air, and by producing some induced travel (additional trips that individuals would not otherwise make), thus improving overall mobility within the travel corridor.
184	SPR-045 ***Topic: Ridership***	Passenger counts are meaningless. We need to know passenger miles and/or fare revenue.	See response to comment number182 SPR-039
185	WIL-011 ***Topic: Ridership***	Ridership: I question the route between Raleigh, Henderson and Richmond that has projected higher ridership than Raleigh, Rocky Mount and Richmond route. Please explain assumptions in traffic model. The model does not seem to reflect reality of route 2 because route 2 has higher concentrations of and serves more people.	There is more population on the A line in NC than on the S line, however the S line is a faster connection between the population centers of NC and the Northeast corridor, thus generating more overall riders, and longer average trips with their associated higher profit margins.
186	WIN-266 ***Topic: Ridership***	The 2000 census reveals that the Greensboro-Winston-Salem-High Point metropolitan statistical area is the 37th largest in the US, with a population of over 1.25 million residents. The Piedmont Triad MSA is larger than Raleigh-Durham, ranked 41st with a population of 1.19 million residents, and Richmond-Petersburg, ranked 51st with a population of 997,000 residents. Greensboro-Winston-Salem-High Point follows Charlotte (ranked 34th), New Orleans (ranked 35th), Salt Lake City (ranked 36th) and is ranked ahead of Austin, TX (38th), Nashville (39th) and Providence (40th). One would never skip a New Orleans, Salt Lake City, Austin or Nashville in a high speed rail corridor. It would be a travesty to skip	See response to comment number 171 GRE-010.

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		the Piedmont Triad Region.	
		Topic: Safety	
187	AGE-018 ***Topic: Safety***	Safety: All train operations on CSX property must be conducted with a paramount commitment to safety. To that end, we believe that any mixed passenger-freight train operations should not operate at speeds exceeding 90 mph on tracks owned by CSX. Separate and dedicated lines could achieve higher speeds. We also believe that the elimination of grade crossings is a major issue that needs to be addressed in a comprehensive manner prior to the initiation of high speed service.	The SEHSR shares this commitment to safety. With proper SEHSR investment in signaling, communications, passing sidings, and additional tracks, mixed freight and high speed passenger rail service (to 110 mph maximum) can share tracks. Cooperation and commitment to safety by all parties would be required for safe operation of all services. Elimination of highway-railroad at-grade crossing hazards is essential to safe high speed rail operations. Conceptual capital improvements for the SEHSR grade-separates highway-railroad crossings where possible, installs quad gates, or consolidates/closes at-grade crossings. Most crossings are upgraded in the conceptual capital improvements.
188	DUR-002 ***Topic: Safety***	A high speed rail through downtown Durham raises concerns about safety...	The conceptual capital improvements to the high speed rail corridor provide safe access across railroad right-of-way. Impacts to specific properties cannot be determined in a program level study.
189	DUR-004 ***Topic: Safety***	My house is close to the tracks now. With HSR running 110mph it is not safe for me or my family.	Thank you for your comment. During the Tier II studies all planning efforts will be made to provide a safe transportation system both for the riders and for those located near the system.
190	DUR-017 ***Topic: Safety***	In light of safety concerns, will the Tier II study determine the method by which the trains will come through downtown? At grade? Via a tunnel? Via a "ditch" like in Gastonia, NC?	Any Tier II study would provide further detail of highway-railroad crossings and associated improvements. Specific construction methods cannot be determined in a program level study.
191	RAL-007 ***Topic: Safety***	there are going to be some problems if you try to cross over the track when a train is coming	The SEHSR conceptual capital improvements limit these problems by grade separating crossings, by installing quad gates to limit access to crossings, or by consolidating/closing at-grade crossings. See response 189 DUR-004

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192	RIC-016 ***Topic: Safety***	One of the biggest safety concerns in our community with rail is establishing a secure crossing, properly handling the crossing for traffic flow in the areas of the most accidents, I believe. What does HSR require in terms of upgrades of these crossings to be as safe as they can be, and has it been considered in this study and how it affects different economic areas throughout the corridor?	Crossing protection improvements would be based on existing and projected highway traffic volumes as well as existing and projected railroad traffic volumes. These volumes would determine the requirement for grade separations, quad gates, crossing consolidations, or crossing closings. These improvements have been incorporated in this study. Economic impacts are a function of development and labor more than crossing safety. These impacts also vary with the type and variety of development in very small segments along the corridor.
193	ROA-017 ***Topic: Safety***	Have safety measures been re-evaluated due to the September 11th tragedy?	Amtrak, along with all other modes of transportation, has been analyzing their safety systems since the tragedy of September 11. This process will continue for the foreseeable future.
194	ROA-018 ***Topic: Safety***	The increased rail speed will be further jeopardizing our safety. Things should be slowing down rather than speeding up.	Thank you for your comment. During the Tier II studies all planning efforts will be made to provide a safe transportation system both for the riders and for those located near the system.
195	SPR-025 ***Topic: Safety***	I recommend maximum use of bridges or tunnels, and minimum grade crossings for safety and public perception. Every train-vehicle accident at a grade crossing seems too decrease public support for rail, no matter how unfairly.	Conceptual designs of highway railroad crossings included grade separations where possible, quad gates with flashing lights, and consolidating/closing the remaining crossings where practical.
196	STA-005 ***Topic: Safety***	We are also concerned about safety because Montgomery County has had a lot of train derailments.	Thank you for your comment. During the Tier II studies all planning efforts will be made to provide a safe transportation system both for the riders and for those located near the system. See Chapter 1 of this document for further comments on safety of rail versus highway travel.
197	STA-012 ***Topic: Safety***	I am concerned about the safety of my children.	The safety of individuals or families is not a factor of train speed. It is the responsibility of individuals to respect and yield right-of-way to all trains.
198	STA-013 ***Topic: Safety***	The I-85 corridor is too busy, congested.	Thank you for your comment.
		Topic: Schedule	

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199	RIC-029	Once these things get into place for the high speed from DC to Richmond, what is the time frame?	It is estimated that the proposed SEHSR service could actually be in service by 2010. This assumes that the needed funding would be in place when needed and that the service would be developed using the proposed incremental approach, which allows for the continued development of the service following a program of planned incremental improvements over time.
		Topic: Socio-economic	
200	AGE-011 ***Topic: Socio-economic***	Table 4.24: Explain how population density was measured. Is it persons per square mile or kilometer? Moreover the 5000 plus or minus number for average population density seems very high for what is a largely rural corridor.	In reviewing this comment, a calculation error was found that resulted from incorrectly including the northern segment with all other segments for study area alternative data comparisons. The northern segment is common to all study area alternatives and was originally separated out from the other route segment data. A revised Table 4.24 has been prepared. Since the error had a proportional effect on each study area, changes to Table 4.24 do not alter any conclusions or findings presented in the DEIS. The methodology for determining average population density is explained below. Average population density is measured in population of the 300-foot buffer (150 feet from each side of the center line of the existing or proposed railway) per square mile. To determine average population density, the following steps were followed in the GIS analysis for each study area alternative: 1. Geocode the SEHSR route combinations. 2. Calculate a 300-foot buffer impact area by route combination. 3. Identify the 1990 Census Block Group (CBG) data sets that intersect the impact areas. [Note: The CBG was
	Topic: Socio-economic		

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			used because the resolution of these data sets is commensurate with the overall Tier I study objectives. Moreover, the Census Data is comprehensive, demographic, primary source data and is readily available for all segments of the study area by Census Block (for race and ethnicity) and for Census Block Group (for income).] 4. Calculate an area ratio for each intersection of CBG and 300-foot buffer – the area of the 300-foot buffer segment through the CBG (sq. miles) divided by the total area of the CBG (sq. miles). 5. Calculate population for each intersection of the CBG and 300-foot buffer – total population of the CBG multiplied by area ratio (#4). 6. Calculate the population density of each intersection of CBG and 300-foot buffer – intersection population (#5) divided by 300-foot buffer impact area (sq. miles) (#2). 7. Calculate average population density – sum all intersection population densities (#6) and divide by the number of intersections. High population densities can be a result of small area. For example, in one study alternative, the areas of CBG and 300-foot buffer intersections range from 0.000016 to 0.449941 sq. miles. When the estimated populations of intersections are divided by these small numbers, larger population densities can result. In addition, the Northern segment (the former RF&P line and S-line from Washington, DC to Centralia, VA) is common to all alternatives. When considered separately from other route segments, the population density of

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			the Northern segment 300-ft buffer is 3,385 persons per sq. mile, 57-140% greater than the other segment buffers (when excluding the Northern segment).
201	AGE-011 ***Topic: Socio-economic***	The extent of residential relocations defined in Table 4.38 is notable and needs explanation since the assumption is that the SEHSR would occupy existing ROW.	Residential relocations were estimated at a broad level based upon conceptual engineering results and assumptions. This information was used to provide input to the development of order of magnitude capital cost estimates for the alternatives. Section 4.3.1.5 of the DEIS provides a detailed description of how the residential relocations were determined. Right of way acquisitions could result from realigning curves to obtain/maintain the maximum operating speed of the proposed high speed passenger train set. In sections of the corridor where natural and man-made features pose constraints, preserving these features could require a new location for the proposed rail alignment as well as sufficient right-of-way to construct, maintain and improve this new proposed alignment. Curves that are to be realigned are proposed to be shifted "inside" the existing curve to "flatten" the curve for improved travel speed. Depending on the amount of shift for the curve realignment, the impacts on adjoining properties would vary from none where the realignment is contained within the existing right-of-way to residential and/or business relocations where development is "inside" the curve and close to the existing right-of-way. The exact number and types of businesses to be displaced would be researched during any Tier II documentation.
202	CAR-012 ***Topic: Socio-economic***	I would hope that the very long term possible positive impacts to some of the more rural areas would weigh heavily in the final routing decision. I'm not sure how much congestion would be relieved on I-40 for example for	It is anticipated that the construction and operation associated with the proposed SEHSR program would spur economic activity creating additional jobs; and income and sales that generate additional tax

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		everyday commuters; whereas the rural areas would become more attractive to economic development. Alternative H will exacerbate the gulf between the "haves" and "have-nots". Thanks for listening.	revenues for both Virginia and North Carolina. The Southeastern Economic Alliance (SEA), a coalition of thirteen chambers of Commerce from across six Southeastern states, cite that the overall investments in capital and operation expenses in the proposed Southeast corridor improvements are estimated to return $2.54 in benefits for every dollar invested creating a positive impact on the region. The rural communities are expected to share in this benefit. However the evaluation factors used to compare the alternatives were not weighted, but input from the DEIS public hearing and public input received throughout the project has been summarized and considered in the evaluation process.
203	CHA-010 ***Topic: Socio-economic***	What will happen to our businesses. What about noise and vibration.	During the Tier II studies, the specific businesses that would be affected by the SEHSR would be identified and the types of impacts would be determined, including potential noise and vibration impacts and means to mitigate these impacts. If your business would be acquired and you would have to relocate, you would be ensured of fair, consistent and equitable treatment through the Uniform Relocation Assistance and Real Property Acquisition Policies Act of 1970 (Public law 91-646) and the Uniform Relocations Act Amendments of 1987 (Public law 100-17). The Uniform Act contains specific requirements that govern the manner in which a government entity acquires property for public use. The law is designed to ensure just compensation for all acquired properties and minimal impact on the current owners and lessees.
204	CHA-011 ***Topic: Socio-economic***	Am I going to have to move? Will I be compensated for the price of my business? What about noise and vibration?	See Response to comment number 203 CHA-010 above.
205	DUR-002 ***Topic:***	A high speed rail through downtown Durham raises concerns about ...	The potential impacts of a high speed rail through downtown

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	Socio-economic	economic vitality. The high speed rail could divide downtown into two parts. What impact would the rail line have on future development of the American Tobacco property on Brightleaf Square and future development of the Liggett properties along West Main Street. These projects represent significant private and public sector investment, tax base growth and future employment opportunities.	Durham would depend greatly upon the specific alignment, which would be determined during any Tier II studies. We are aware of the concerns from Durham residents based upon their input through the public involvement process. Currently the railroad tracks are a dominant feature of downtown Durham and a detailed assessment of the potential impact of adding high speed rail service would be conducted if that is the alignment identified for the proposed high speed rail service. As a part of any Tier II analysis all proposed and planned developments along the alignment would have to be identified. We would coordinate with the developers and the municipal representatives to develop a design of the HSR service that would compliment and not disturb or damage the goals set forth for Durham. In many cities across the United States rail transit service is being successfully integrated into urban settings and in some cases is proving to be a catalyst for development and redevelopment.
206	DUR-017 ***Topic: Socio-economic***	In light of economic vitality concerns, will the Tier II study determine the method by which the trains will come through downtown? At grade? Via a tunnel? Via a "ditch" like in Gastonia, NC?	See response to comment number 205 DUR-002. The method by which the HSR would serve downtown Durham would be identified during any Tier II studies.
207	HEN-005 ***Topic: Socio-economic***	Please strongly consider routing the future HSR through Henderson. A stop in Henderson would serve many communities and be a great economic benefit. We are located close to Raleigh and have easy access from all directions. Henderson could also serve Southern Virginia, bringing retail sales and taxes to North Carolina.	The exact station stops have not been identified. We have made some assumptions about potential station stops for the purposes of developing ridership estimates. Exact station locations would be determined as a part of any Tier II analysis. During the DEIS public hearings and throughout the public involvement process for the project we have had a lot of feedback from the Henderson area requesting a station. This information has been summarized and used in the evaluation of alternatives conducted in the DEIS. The number and location of station stops have to be carefully planned to allow for good

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			access to the service and to make sure that we can maintain the projected speed of the service. If HSR stops too often it would not be able to reach and maintain the high speed for which it is designed. Due to the public input from the Henderson area we are aware of the potential positive benefits that are anticipated for your area. All of this information would be more carefully examined and supplemented during any Tier II studies.
208	HEN-016 ***Topic: Socio-economic***	Would efforts to enhance commercial development around the local stations be part of this project?	Any enhancement effort would be developed cooperatively with the representatives of the local communities and businesses along the proposed. Any Tier II studies would examine potential opportunities for economic.
209	HEN-020 ***Topic: Socio-economic***	Would this project bring any new jobs to Vance County?	See response to comment number 202 CAR-012 above.
210	PET-013 ***Topic: Socio-economic***	Under your exhibit ES-6, under all the alternatives, there seem to be relocations for residential and business use. But if the railroad is going to be using existing rights-of-way, why do business and residents have to be relocated?	See response to comment number 201 AGE-011.
211	ROA-013 ***Topic: Socio-economic***	(That) while putting passengers on the trains is a great thing, and I love to ride trains, this county depends a great deal on tourism. Tourism is an extremely important aspect of the economy in this county. If we bypass this town (Roanoke Rapids) with high-speed rail, then how much is that traffic (is) the passengers and the people who now drive I-85 and spend the night in Roanoke Rapids? How many of those are going to go zooming by (to) the next stop in Rocky Mount?	At this point in time we are unable to determine the potential impact of the proposed service on tourism in your county. In addition we do not currently have the data needed to determine the impacts if the HSR trains bypassed your city without a stop. We are aware of the concerns and expectations of the people in the Roanoke Rapids area based upon your input to the DEIS Public hearings and the SEHSR ongoing public involvement program. This input has been summarized and included in the evaluation of

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			alternatives. The specific location of stations would be determined as part of any Tier II analysis.
212	ROA-019 ***Topic: Socio-economic***	Encourage a corridor route through Roanoke Rapids/Weldon and Eastern NC. As the most economically stressed area of the state, such a route would be very cost effective.	See response number 211 ROA-013
213	SAL-001 ***Topic: Socio-economic***	The railroad will bisect the Chesson property, which will limit access to the western portion of the tract. Cutting off this access will make the land virtually worthless by land locking the property – as there is no other access to it.	We are aware of the concerns and expectations of the people in the Roanoke Rapids area based upon your input to the DEIS Public hearings and the SEHSR ongoing public involvement program. This input has been summarized and included in the evaluation of alternatives
214	SOU-001 ***Topic: Socio-economic***	What are the "buffer areas" associated with the residential and business relocations?	These relocations were based upon the 200' wide footprint of the conceptual design. Each of the nine Study Area Alternatives would require varying degrees of right of way acquisitions and varying numbers of relocations. The projected right of way impact and projected number of relocations were calculated based on conceptual engineering results and assumptions. Potential relocations were estimated using the USGS quarter quad sheets. Building outlines were used to calculate the square footage of potential business relocations. The exact number and types of businesses to be displaced would be researched during any Tier II analysis once the specific alignment is determined.
215	SPR-002 ***Topic: Socio-economic***	(I am) Concerned vision is lacking regarding Richmond to DC. This has tremendous opportunity to become a commuter line if attractively priced. DC is incredibly expensive to live in, forcing people further out. VRE helps us commute to DC and so should SEHSR.	One of the goals of a program such as the SEHSR is to help create a more balanced transportation system with travel options for passengers. The better and more efficient the options the more likely people are to use the service. Thus making sure that SEHSR works well and in an integrated manner with other existing modes is a part of developing this integrated and balanced

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			transportation system.
216	SPR-010 ***Topic: Socio-economic***	Low impact to public?	The use of existing railroad rights-of-way that are established travel corridors is proposed for the SEHSR service as a means to reduce the potential impacts to adjacent communities.
217	SPR-013 ***Topic: Socio-economic***	As a deaf consumer, I am concerned about the number of deaf home owners whose properties may be impacted.	Your concern is noted. If we move into any Tier II analysis and a specific alignment is identified, we would be able to determine the exact properties affected. As the project development moves forward from that point we would identify the affected property owners. During the right-of-way acquisition phase property owners would be contacted and those with special needs would be paired with staffers that can answer your questions and concerns.
218	STA-003 ***Topic: Socio-economic***	I believe the value of my property will decrease.	Studies conducted on various other rail projects in North America are inconclusive about the impact of transit on adjacent properties. This is due primarily to the fact that there are so many elements that affect property values and it is difficult, at best, to isolate any one factor to attribute any changes in property value. In some situations the presence of a rail line and the significant infrastructure investment it represents has a positive impact on surrounding property values.
219	WIL-008 ***Topic: Socio-economic***	I'm curious to see how this particular effort may help the textile industry in terms of getting products to market or somehow serves a relationship to that industry relative to this public investment.	What this particular impact may be cannot be determined at this point in the study process. However, any investment in the SEHSR would also improve and upgrade the existing rail infrastructure in the railroad rights of way. This would result in better and faster rail service and improve the ability of the freight system to deliver goods.
220	WIN-001 ***Topic: Socio-economic***	Convenient and rapid rail service will help local business.	Positive benefits to local businesses are possible based upon the proposed investment in the SEHSR.
221	WIN-008 ***Topic: Socio-economic***	Much of the area that will likely cause business relocations if the SEHSR comes through Winston-Salem are already undergoing conversion and	See response to comment number 214 SOU-001. Also this kind of information would be taken into consideration when the exact

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		relocation. Winston-Salem State University, R.J. Reynolds, and other area businesses are converting their property, and the business relocations for the SEHSR should be less than might otherwise be expected.	alignment has been determined and details on the precise properties to be acquired would be developed during any Tier II studies.
222	WIN-020 ***Topic: Socio-economic***	Winston-Salem is the fourth largest community in NC. With the population in Northwest NC, Winston-Salem must be in the plan. It is very imperative that we consider these facts and the importance to Northwest NC and Winston-Salem business development, Wake Forest University expansion into the high tech industry, and just plain needs of transportation. People demand that Winston-Salem be given a high priority into the overall game plan.	We are aware of the concerns and expectations of the people in the Winston-Salem area based upon your extensive input to the public hearings and the ongoing public involvement program. This input has been summarized and included in the evaluation of alternatives.
223	WIN-024 ***Topic: Socio-economic***	Winston-Salem is home to one of the top medical centers in the country, top colleges and universities, many businesses and the city and surrounding areas – if left out of the HSR system it would be a huge disservice to the people not only in our area but the entire state.	See response to comment number 222 WIN-020. Medical facilities and colleges and universities are traditionally a good source of activity and therefore have great potential for ridership.
224	WIN-025 ***Topic: Socio-economic***	In favor of high speed rail coming through Winston-Salem, NC to facilitate growth in the biotech field. This would be a stimulus to growth particularly because of our transfer of business between Winston-Salem and Raleigh.	See response to comment number 222 WIN-020.
225	WIN-237 ***Topic: Socio-economic***	Recently this area has suffered a great deal with loss of employment in the textile and other industries. Inclusion of Forsyth County in the plan is vital to the economic viability and development of this area.	See response to comment number 222 WIN-020. The Southeastern Economic Alliance (SEA), a coalition of thirteen chambers of Commerce from across six Southeastern states, cite that the overall, investments in capital and operation expenses in the proposed Southeast corridor improvements are estimated to return $2.54 in benefits for every dollar invested creating a positive impact on the southeast region.
238	WIN-243 ***Topic: Socio-economic***	(A) the time is now to use unemployed people to work and build the needed railroads.	It is anticipated that the construction and operation associated with the proposed SEHSR program would spur economic activity creating additional jobs; and income and sales that generate additional tax

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			revenues for both Virginia and North Carolina. Construction of the proposed SEHSR could potentially create new jobs for individuals to upgrade the roadbed, install signal and safety devices, build frontage/service roads, improve grade crossings, and build bridges to replace grade crossings. Additional jobs, potentially within the Study Area Alternatives, could be created within the manufacturing sector to produce the equipment and devices needed to make these improvements. The extent to which these jobs can and would be filled from the ranks of the unemployed is not known.
226	WIN-343 ***Topic: Socio-economic***	A must for Winston-Salem to regain its top position in industrial leadership that was once noted nationwide. A must to meet the environmental air control state and federal requirements. A must to attract new business, enlarge present business and utilize the vast job market with Forsyth County. To keep and attract the age group 21-38 yrs of age, which is the main request of the most prosperous and successful metropolitan areas.	See comment number 222 WIN-020.
		Topic: Summary	
227	AGE-011 ***Topic: Summary*** ***Topic: Summary***	Notwithstanding the fact that this is a Tier I document, EPA believes that the Tier I EIS could do a better job discussing and ranking each alternative relative to key environmental or social issues.	At the end of each impact assessment section included in Chapter 4 (Environmental Consequences) there is either a conclusions section which identifies which alternative was the best for this particular area, or there is a summary table that presents the results of the analysis of the particular. In some cases this information is specifically called out in a section labeled conclusions /impacts by alternative/comparison of alternatives; in others it is a part of a summary table and still in others it is a part of the closing paragraph in that section. This is the case for the following impact areas: section 4.1.1-water resources, section 4.1.6-mineral resources, section 4.1.7-hazardous materials sites, section

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			4.1.8-air quality, section 4.1.9 noise and vibration, section 4.1.10 energy, section 4.1.11 prime farmland, section 4.2.1 protected species, section 4.2.2 wild and scenic rivers, section 4.3.1.1 community impacts section 4.3.1.2 environmental justice, section 4.3.1.4 land use, section 4.3.1.6 transportation impacts, section 4.3.1.7 utility impacts, section 4.3.1.8 historic and architectural resources, and section 4.6 Section 4(f) and 6 (f) properties. These comprise the majority of the impact areas examined in the document. Some impacts areas such as visual there were virtually no difference between the 9 alternatives. Table 4-38 was included at the end of Chapter 4 to allow a comparative summary of impacts and benefits by alternative. Our approach was to provide general information to facilitate an assessment of impacts that would allow a comparative assessment of the alternatives. We did not want to try and draw conclusions that might not be warranted by the level of information we had available to complete our analysis.
228	AGE-011 ***Topic: Summary***	The Document narrative does not make clear which alternative appears best from an operational stand point, which is potentially the most disruptive to communities or which alternative may be the most impacting to natural resources. A discussion of each alternative in this light would be helpful for decision makers. For example, we suggest that you provide a summary of each alternative in a manner similar to the following: "a review of the information for Alternative A shows that it performs the best from a ridership and net operating income stand point. Further analysis shows that Alternative A has one of the fewest wetlands impacts but has one of the higher impacts to historic properties. It scores moderately in areas of environmental complexity. If	See response to comment number 227 above. Table ES-2 of the Executive Summary of the Tier I DEIS provides a summary of the operational characteristics of the alternatives. A companion report to the Tier I DEIS and the decision document that identifies the recommended alternative and includes this sort of analysis you reference in your comment is the March 2002, Recommendation Report which has been reviewed by the boards of transportation for both NC and VA and has been signed by the Secretaries of Transportation in both states.

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		Alternative A were chosen the following issues would need to be addressed "….	
229	PET-006 ***Topic: Summary***	Page 1 through 35? (Matrices)	Pages 1-35 of the document do contain a number of matrices, which are designed to provide the reader with a tabular summary of the vast material that is presented in the document. The details by which these matrices were developed are included in the chapters of the document.
		Topic: Technology	
230	RIC-025 ***Topic: Technology***	You mentioned the magnetic levitation technology wasn't quite feasible at this point. What is that going to mean for this corridor when that technology does come to be in the next 10 years? Would we be starting over? Is it going to be a higher upgrade?	Magnetic levitation technology (Maglev) feasibility is a combination of cost, system reliability, and integration with existing modes of transportation. The high cost (approximately $39-85 million per route mile), lack of currently operating systems, and the proprietary guideway make its implementation an unlikely solution to the transportation problems in the Southeast Corridor. Any implementation of Maglev would be "starting over" due to the proprietary nature of the guideway system.
231	SPR-021 ***Topic: Technology***	Use existing steel rail technology. The cost for securing ROW for "maglev" is cost prohibitive. Existing "Talgo" technology is excellent. Don't try to reinvent the wheel since the Europeans already have excellent train systems.	Thank you for your comment.
		Topic: Tier II	
232	RIC-002 ***Topic: Tier II*** ***Topic: Tier II***	You are in the Tier I study now, the higher review. You are moving to the Tier II study beginning next year (2002). Tier II is also environmental?	Yes. Following this Tier I FEIS, a determination will be made by the transportation departments of Virginia and North Carolina whether to move forward to implement a high speed rail program through both states. If the decision is made to move forward with a build alternative, the states will work together to develop a final rail plan that is consistent with the Tier I FEIS Record of Decision. This final plan would identify the specific actions needed to fully implement high speed rail in North Carolina and Virginia.

Comment Number		Comment	Response
			Following development of the final rail plan, the appropriate Tier II environmental studies (project level) would be performed for those specific actions. A decision on the type of Tier II environmental documentation to be prepared would also be made at that time. The Tier II studies could include any of the following of three types of environmental documents based upon the proposed action: ▪ Categorical Exclusions (CEs) for actions that do not individually or cumulatively have a significant environmental effect. ▪ Environmental Assessments (EAs) for actions in which the significance of the environmental impact is not clearly established. EAs can lead to the development of EIS documents or a Finding of No Significant Impact (FONSI) ▪ Environmental Impact Statements (EISs) for projects where it is known that the action could have significant environmental effect. USDOT (FHWA and FRA) environmental regulations and procedures [23CFR 771.117 (c and d) and 64 FR 28545] list potential actions that meet the criteria for CE documentation.
	Topic: Tier II		The Tier II studies would be detailed in nature, as appropriate to the action, and would continue the public involvement effort already begun in this first Tier. These detailed environmental analyses will assess the environmental impacts of each action and identify ways to avoid, minimize and mitigate impacts. The state transportation departments and Federal Agencies would use the Tier II studies to determine the exact

Comment Number		Comment	Response
			location and magnitude of each action, such as number of tracks, types of structures, station location and configuration, routing within existing right of way, bypasses, etc. As Tier II documents are completed, the permitting process (as appropriate) would be initiated and completed, and the construction process could proceed.
		Topic: Water Resources	
233	DUR-003 ***Topic: Water Resources***	For water supply occurrences, have you factored in the total populations/projected populations served by the watersheds?	All water-supply watersheds received equal consideration when potential impacts to them were analyzed for this Tier I document. The concern for all water- supply watersheds is to protect their water quality. Impacts to communities and projected community growth are addressed in other sections of the document.
234	GRE-001 ***Topic: Water Resources***	Water quality with regard to the new Randleman Reservoir is a concern that needs to be noted.	The proposed 3000-acre Randleman Reservoir is an on-going project that is planned to serve as a water supply for the City of Greensboro, NC and surrounding communities. The GIS data set used for analysis in this document did not include the watershed area for the Randleman Reservoir. This water-supply watershed was designated in late 1998. During any Tier II evaluation, information regarding this new reservoir would be incorporated into the report. Investigations of the water quality impacts of the SEHSR corridor for the Randleman Reservoir would be included in the subsequent Tier II evaluation. Also, any applicable requirements in the Nutrient Management Strategy for the Randleman Reservoir (15A NCAC 02B .0248 though .0251) would be included.
235	WIN-006 ***Topic: Water Resources***	Winston-Salem draws only a small percentage of its drinking water from Salem Lake and as a policy does not draw any drinking water from the lake when the lake's water level has dropped by 12 inches. Therefore, the City's sensitivity to water consumption from this watershed is very low.	All water-supply watersheds received equal consideration when analyzing for potential water quality impacts for this Tier I document.

APPENDIX

Table 4-8 - 2025 Southeast High Speed Rail/Full Service: Increment Only, 2000 $									
	Alternative A NCRR+S-Line	Alternative B NCRR via Winston-Salem + S-Line	Alternative C ACWR+S-Line	Alternative D NCRR + Weldon	Alternative E NCRR via Winston-Salem + Weldon	Alternative F ACWR + Weldon	Alternative G NCRR+A-Line	Alternative H NCRR via Winston-Salem + A-Line	Alternative J ACWR+A-Line
REVENUES:									
Transportation	98,410,000	100,380,000	77,770,000	90,670,000	93,060,000	86,060,000	72,110,000	88,250,000	68,900,000
Food and Beverage	4,920,000	5,019,000	3,888,500	4,533,500	4,653,000	4,303,000	3,605,500	4,412,500	3,445,000
Mail, Express and Baggage	0	0	0	0	0	0	0	0	0
Total Revenue	103,330,500	105,399,000	81,658,500	95,203,500	97,713,000	90,363,000	75,715,500	92,662,500	72,345,000
EXPENSE:									
Train & Engine Crew Labor	7,895,000	8,764,000	7,881,000	7,955,000	8,893,000	8,000,000	7.955,000	8,993,000	8,000,000
Fuel & Power	6,078,000	6,249,000	5,850,000	6,193,000	6,364,000	6,266,000	5,963,000	6,438,000	6,039,000
On Board Service Labor	4,795,000	4,906,000	4,560,000	4,890,000	5,022,000	4,967,000	4,730,000	5,118,000	4,767,000
Food & Beverage Supplies	5,161,000	5,265,000	4,079,000	4,756,000	4,881,000	4,514,000	3,782,000	4,629,000	3,613,000
Crew Support	1,407,000	1,440,000	1,338,000	1,434,000	1,473,000	1,456,000	1,386,000	1,501,000	1,398,000
Contract Railroad Payments	2,319,000	2,433,000	2,165,000	2,392,000	2,505,000	2,442,000	2,238,000	2,556,000	2,291,000
Contract Railroad Incentives	3,126,000	3,277,000	2,925,000	3,227,000	3,378,000	3,292,000	3,026,000	3,443,000	3,091,000
Maintenance of Way -- NEC	4,431,000	4,431,000	4,431,000	4,431,000	4,431,000	4,431,000	4,431,000	4,431,000	4,431,000
Insurance	5,963,000	6,156,000	5,182,000	6,063,000	6,239,000	6,058,000	5,279,000	6,222,000	5,300,000
Maintenance of Equipment	12,474,000	12,584,000	12,329,000	12,547,000	12,656,000	12,595,000	12,403,000	12,703,000	12,450,000
Marketing and Sales	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000	8,000
Commissions	4,853,000	4,950,000	3,835,000	4,471,000	4,589,000	4,244,000	3,556,000	4,352,000	3,398,000
Station Services	414,000	770,000	461,000	414,000	770,000	414,000	461,000	770,000	461,000
Reservations and Information	3,255,000	3,190,000	2,452,000	3,077,000	3,003,000	3,015,000	2,326,000	2,930,000	2,282,000
Train and Route Expenses	62,179,000	64,423,000	57,496,000	61,858,000	64,212,000	61,702,000	57,544,000	64,094,000	57,529,000
Overhead and G & A	18,654,000	19,327,000	17,249,000	18,557,000	19,264,000	18,511,000	17,263,000	19,228,000	17,259,000
30%									
Total Expenses	80,833,000	83,750,000	74,745,000	80,415,000	83,476,000	80,213,000	74,807,000	83,322,000	74,788,000
Net Operating Income/(Loss)	22,497,000	21,649,000	6,913,500	14,788,500	14,237,000	10,150,000	908,500	9,340,500	(2,443,000)
Train Miles	2,473,240	2,560,840	2,356,440	2,531,640	2,619,240	2,569,600	2,414,840	2,657,200	2,452,800
Passenger Miles (000's)	443,900,000	453,500,000	341,500,000	445,400,000	451,900,000	434,300,000	342,300,000	438,500,000	335,500,000
PM/TM	179	177	145	176	173	169	142	165	137
Revenue/Cost Ratio	127.83%	125.85%	109.25%	118.39%	117.06%	112.65%	101.21%	111.21%	96.73%
Contribution (Loss)/Passenger Mile	$0.0507	$0.0477	$0.0202	$0.0332	$0.0315	$0.0234	$0.0027	$0.0213	($0.0073)
Yield	$0.22	$0.22	$0.23	$0.20	$0.21	$0.20	$0.21	$0.20	$0.21

Source: KPMG Estimates, October 2000 (Note: Data is for 8 SEHSR trains only)

Table ES-2
Operational and Physical Characteristics Summary Information for Study Area Alternatives

Summary Information	A	B	C	D	E	F	G	H	J
Length (route miles)	448	463	428	468	483	448	481	496	461
Average Total Travel Time (Washington, DC to Charlotte, NC)	6.23 hrs.	6.90 hrs.	6.20 hrs.	6.55 hrs.	7.23 hrs.	6.53 hrs.	6.75 hrs.	7.43 hrs.	6.73 hrs.
Annual Ridership in 2025	1,790,600	1,756,700	1,400,900	1,700,700	1,660,600	1,333,300	1,669,700	1,625,000	1,312,000
Net operating contribution or (loss) in year 2025	$26.340 million	$25.270 million	$13.160 million	$18.980 million	18.120 million	$18.30 million	$20.06 million	$13.570 million	$4.090 million
Conceptual Capital Cost* (In Billions of dollars)	$2.611	$2.720	$2.515	$2.711	$2.820	$2.615	$2.848	$2.957	$2.752
Areas of Engineering Complexity (high)**	18	23	25	20	25	27	19	24	26
Potential right of way needs (in acres)	678	731	930	620	674	872	545	598	797
Estimated Relocations									
-Residential dwellings (each)	365	371	220	405	411	260	301	307	156
-Business (square footage)	65,145	110,920	57,374	62,191	107,966	54,420	70,344	116,119	62,573
Annual 2025 Trip Diversions									
-From auto to rail	618,106	601,314	425,066	612,859	591,635	418,400	642,333	616,854	438,444
-From air to rail	320,061	311,365	220,103	242,001	233,620	165,215	171,289	164,494	116,918
Fuel consumption (gal./trip)	403	432.3	383.5	421.2	450.5	401.7	434.2	463.5	414.7
At grade crossings	1,053	1,172	918	1,134	1,254	1,100	1,115	1,235	963

*All monies are in year 2000 dollars. Costs do not include equipment or station improvements.
** The complexity of the engineering required to design or construct the proposed project was based upon conceptual engineering assuming use of the existing railroad rights of way. An area was considered high if it involved considerable realignments or if physical constraints offered major challenges to developing acceptable engineering solutions.
Source: Carter & Burgess, Inc.; KPMG *Ridership and Revenue Report* September 2000: and William Gallagher and Associates.

Note: This chart includes all twelve trains in the Washington, DC to Charlotte, NC corridor (eight SEHSR trains plus existing Amtrak Crescent and three silver service trains).

Table ES-3
Summary of Potential Human/Natural Impacts and Benefits of the Study Area Alternatives

Environmental Information	Buffer width for review	A	B	C	D	E	F	G	H	J
Water Supply Watersheds	6 mi.	27	33	19	28	35	21	27	34	21
Major Rivers (potential crossings)	n/a	29	28	29	31	30	33	29	28	31
Wetlands (NWI & hydric soils in acres)	300 ft.	117.3	115.8	117.0	124.0	122.5	123.7	190.7	189.2	190.4
FEMA 100-year Floodplain crossings	n/a	83	76	44	89	82	50	97	90	58
Mineral Resources (Mines)	0.5 mi	36	37	40	37	38	41	33	34	37
Hazardous Materials Sites	0.5 mi.	412	441	252	427	456	267	454	483	294
Air Quality-Net reduction in NOx emissions (lbs/yr)	n/a	554,889	530,895	279, 065	547,392	517,065	269,540	589,505	553,099	298,179
Annual 2025 Trip Diversions	n/a									
-From auto to rail		865,349	841,840	595,092	858,004	828,290	585,761	899,266	863,596	613,822
-From air to rail		320,061	311,365	220,103	242,001	233,620	165,215	171,289	164,494	116,918
Estimated Relocations										
-Residential dwellings (each)	n/a	365	371	220	405	411	260	301	307	156
-Business (square footage)	n/a	65,145	110,920	57,374	62,191	107,966	54,420	70,344	116,119	62,573
Noise & Vibration Category 9 sensitive receptors	300 ft.	333	342	259	371	371	287	369	372	284
Prime farmland (acres)	6 mi.	37,219	39,360	26,523	45,137	46,992	34,308	57,346	59,134	46,670
Protected Species - # of known populations identified	6 mi.	33	35	45	44	46	56	43	49	51
National Rivers Inventory	6 mi.	11	11	13	10	11	13	12	13	14
Estimated Relocations										
-Residential dwellings (each)	n/a	365	371	220	405	411	260	301	307	156
-Business (square footage)	n/a	65,145	110,920	57,374	62,191	107,966	54,420	70,344	116,119	62,573
Historic Sites										
-National Register Sites	1500 ft.	333	333	304	333	333	304	320	320	211
-Study List Sites	1500 ft.	102	102	58	165	165	121	168	168	124
Parks	500 ft.	14	15	11	14	15	11	15	16	12
Gamelands/Public lands (ac.)	500 ft.	5.7	5.7	14	5.7	15.7	15.3	5.7	5.7	15.3
Areas of Environmental. Complexity (high)*	n/a	6	8	4	5	7	3	7	9	5

*Refers to the level of difficulty required to avoid or minimize environmental impacts in a certain area. High areas of complexity are those that would require creative avoidance and minimization techniques and add to the overall construction effort and would require public agency coordination and involvement.
Source: Carter & Burgess, Inc. 2001, compiled the Resource Group May 2001