

6

Tier 1 Decisions To Be Made

6.1 Introduction

As mentioned previously in Chapter 1, *NEPA Tiering Process, the Process Streamlining Agreement Between the Virginia Department of Transportation and the Federal Highway Administration on the Interstate 81 Corridor National Environmental Policy Act Process* defines the decisions to be made and the approvals to be granted at specific milestones of the tiered environmental process. Upon completion of the Tier 1 study, decisions will be made on:

- The improvement concepts for highway and rail facilities;
- Advancing I-81 as a toll pilot facility under Section 1216(b) of the Transportation Equity Act for the 21st Century (TEA-21);
- Projects with independent utility and logical termini to be studied in Tier 2;
- The types of Tier 2 NEPA document(s);
- The location of the corridor for studying alignments in Tier 2; and
- Possible purchase of certain right-of-way parcels on a case-by-case basis.

In addition to these decisions, the Tier 1 DEIS documents existing and future needs along the corridor.

The following sections of this chapter discuss the decisions to be made at the conclusion of the Tier 1 NEPA process. These decisions will be made with consideration to the information presented or referenced in this Tier 1 Draft EIS.

6.2 Improvement Concepts

Improvement concepts that were considered include the No-Build Concept and various “Build” concepts, including various combinations of Transportation Systems Management, highway improvement concepts (*i.e.*, non-separated highway facility concepts and separated facility concepts), and rail improvement concepts. If one or more “Build” concepts (or portions of “Build” concepts) are advanced into Tier 2, subsequent Tier 2 NEPA documents prepared for individual, independent projects would address site-specific details before design and location decisions could be made.

6.3 Tolls

Section 1216(b) of the Transportation Equity Act for the 21st Century (TEA-21) established a toll pilot program to allow conversion of a free Interstate highway into a toll facility. One of the Tier 1 decisions to be made is whether to advance I-81 as a toll pilot facility under Section 1216(b). If appropriate, FHWA could grant provisional approval to VDOT for tolling I-81 at the conclusion of Tier 1.

It is important to note that a decision is not being made on the toll rate in Tier 1. Different toll rates were studied in conjunction with the “Build” concepts in order to examine the diversions from I-81 that may occur if tolls were implemented. Changes in the required lane configuration that would result from these different toll rates were also studied. The effects of the range of toll scenarios support informed decision-making on any concepts to be advanced. If one or more of the “Build” concepts (or portions of “Build” concepts) are advanced into Tier 2, the effects of various toll rates would again also be studied in Tier 2. It is also important to note that tolls could not be implemented until the completion of the Tier 2 NEPA process for a particular Section of Independent Utility (see below).

6.4 I-81 Sections of Independent Utility and Tier 2 NEPA Documentation

A practical approach to improving I-81 throughout Virginia is to break the entire corridor into sections and undertake more detailed environmental studies on a series of projects that are consistent with the overall purpose and need in this Tier 1 EIS. Based upon traffic exchanges and service demands, each section is independent, useful, and stands on its own merits within the framework of this Tier 1 EIS. Each of these sections is referred to as a Section of Independent Utility (SIU). The SIUs apply to the roadway portion of all the “Build” concepts.

The process of defining these sections involves identifying or framing projects that meet a number of principles and criteria. A FHWA memorandum, dated November 5, 1993,

provides information to guide the establishment of logical termini for proposed actions. It refers to concepts and objectives contained in existing regulations. Three general principles are outlined in the FHWA regulations that are to be used to frame or define a project. To ensure meaningful evaluation of alternatives, and to avoid commitments to related transportation improvements before they are fully evaluated, each SIU to be evaluated in an environmental document shall:

1. Connect logical termini and be of sufficient length to address environmental matters on a broad scope;
2. Have independent utility or independent significance, *i.e.*, be usable and be a reasonable expenditure even if no additional transportation improvements in the area are made; and
3. Not restrict consideration of alternatives for other reasonably foreseeable transportation improvements.

A major need identified in the study of I-81 improvements is to address growth in traffic volumes on I-81. "Breakpoints" in traffic, therefore, were the basis for the determination of the logical termini of an SIU. Identifying the termini of SIUs on this basis would mean that congestion would not merely be moved to the next section of the highway. One method to determine a logical breakpoint is to identify substantial differences (*i.e.*, 20 percent or greater) when comparing the predicted (2035) traffic volumes on I-81 on one side of an interchange to the predicted traffic volumes on I-81 on the other side of an interchange. Another method of determining a logical breakpoint is to identify where the predicted traffic volumes on I-81 interchange ramps were substantial (*i.e.*, a total of 3,200 vehicles on all the ramps), even though the predicted traffic volumes on I-81 on either side of the interchange may not be substantially different. Predicted traffic volumes along I-81 between interchanges and on interchange ramps are included in the *I-81 Corridor Improvement Study Transportation Technical Report*.

As explained in the previous paragraph, the logical breakpoints in traffic used to identify the termini of the SIUs were based on future No-Build traffic volumes. These logical termini are not related to the various roadway cross sections that were used to compose the Minimum Width and the Maximum Width templates (as discussed in Chapter 5, *Environmental Consequences*) in that these termini do not necessarily coincide with the locations where there would be a proposed change from one roadway cross section to another. The potential roadway cross sections may transcend the locations of the logical termini. The precise roadway configuration would be determined in Tier 2, based on traffic projections or other factors, when detailed site-specific information is developed.

The following interchanges met one or both definitions of a traffic breakpoint and are, therefore, logical termini:

- Exit 72 (I-77) near Wytheville;
- Exit 81 (I-77) near Wytheville;
- Exit 118 (U.S. Route 460) near Christiansburg;
- Exit 144 (I-581) in Roanoke County;
- Exit 221 (I-64) near Staunton;
- Exit 247 (U.S. Route 33) in Harrisonburg; and
- Exit 300 (I-66) in Warren County.

Although these logical termini involve interchange connections, the terminal interchange would be included as a whole interchange in one of the adjoining SIUs.

Eight individual SIUs have been identified for subsequent refinement of the improvements and for processing of the environmental documents (see Table 6.2-1 and Figure 6-1, Chapter 8, *Figures*). Smaller independent projects (for example, truck climbing lanes, bridge replacements, or interchange improvements) within these SIUs may be identified subsequent to the completion of Tier 1. Some of these projects may include Transportation System Management improvements.

Federal regulations regarding the application of NEPA provide project sponsors with three different types of documents for complying with NEPA. The determination of the appropriate type of NEPA document to be used for each individual SIU depends on the nature of the improvements and the significance of the impacts of the improvements. Three types of NEPA documents are available – Categorical Exclusion (CE), Environmental Assessment (EA), and Environmental Impact Statement (EIS). These documents are defined as follows:

- **Categorical Exclusion (CE)** – Categorical exclusions are categories of actions that individually or cumulatively do not have a significant effect on the environment and for which neither an Environmental Assessment or Environmental Impact Statement is required.
- **Environmental Assessment (EA)** – An EA is a concise document designed to provide sufficient information and analysis for a Federal agency to determine the environmental impacts of an action and whether to prepare an EIS or a Finding of No Significant Impact (FONSI). EAs are prepared when the significance of the impacts is unknown.



- Environmental Impact Statement (EIS)** – An EIS is a detailed written statement required when there is a proposal for a major Federal action significantly affecting the quality of the human environment.

This Tier 1 EIS provides information on the nature of the “Build” concepts, and the potential impacts associated with those concepts. The significance of the actual impacts of individual projects is currently unknown. If in Tier 1, one or more of the “Build” concepts (or portions of “Build” concepts) are advanced into Tier 2, environmental assessments (EAs) or categorical exclusion documents (CEs) are proposed as the type of Tier 2 NEPA document for each SIU. In accordance with 23 CFR 771.117(d), CEs could only be prepared if it is clear that the environmental effects of the action would not be significant. The EAs or CEs would be the means through which the detailed analyses associated with Tier 2 would be conducted. For any smaller independent projects within the SIUs, CEs may be prepared. Based on the detailed information in the EAs or CEs, informed decisions would be made on the significance of the impacts. Depending on the nature of the impacts, the EAs or CEs may evaluate in detail one “Build” alternative.

The SIUs listed in Table 6.2-1 only apply to highway improvements associated with the “Build” concepts.

Table 6.4-1 Sections of Independent Utility (SIU)

SIU Termini			SIU Length (Miles)
From	To		
1. Tennessee state line	Exit 72 (I-77) near Wytheville		72
2. Exit 72 (I-77) near Wytheville	Exit 81 (I-77) near Wytheville		9
3. Exit 81 (I-77) near Wytheville	Exit 118 (U.S. Route 460) near Christiansburg		37
4. Exit 118 (U.S. Route 460) near Christiansburg	Exit 143 (I-581) in Roanoke County		25
5. Exit 143 (I-581) in Roanoke County	Exit 221 (I-64) near Staunton		78
6. Exit 221 (I-64) near Staunton	Exit 247 (U.S. Route 33) in Harrisonburg		26
7. Exit 247 (U.S. Route 33) in Harrisonburg	Exit 300 (I-66) in Warren County		53
8. Exit 300 (I-66) in Warren County	West Virginia state line		25

Some of the “Build” concepts involve potential improvements to I-81 and potential improvements to privately owned rail facilities. The Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users (SAFETEA-LU) includes designated funding as well as a number of general freight finance provisions that offer possible funding mechanisms to improve privately-owned rail facilities. Any improvements



to such railroads as well as the construction sequence for those improvements are at the discretion of Norfolk Southern.

As previously discussed in Chapter 3, *Improvement Concepts*, because of the varying traffic demands, improvements with a variable number of travel lanes address the needs of I-81 most efficiently because they would not provide more travel lanes than are needed. Table 6.2-2 indicates the sections of I-81 within each SIU where one or more lanes are needed.

The number of miles on I-81 that need more than one additional lane in each direction would be reduced if the concepts included the application of tolls or improvements to rail facilities. Furthermore, there are several potential multi-lane solutions, such as general purpose lanes or separated truck lanes, for those sections of I-81 where one additional lane would not provide traffic operations in 2035 that meet the level of service standard. For those sections of I-81 that need more than one lane in each direction, decisions on the number of lanes and type of improvements to be constructed would be made at the conclusion of Tier 2, when site-specific information is available, if a "Build" concept (or portion of a "Build" concept) is advanced..



Table 6.4-2 Additional General Purpose Lane Requirements in Sections of Independent Utility

SIU Termini		Number of Additional General Purpose Lanes Needed ¹	
From	To	Northbound	Southbound
1. Tennessee state line	Exit 72 (I-77) near Wytheville	No lanes from Milepost 0 to Exit 3 One lane from Exit 3 to Exit 5 No lanes from Exit 5 to Exit 7 Two lanes from Exit 7 to Exit 19 One lane from Exit 19 to Exit 72	No lanes from Milepost 0 to Exit 7 One lane from Exit 7 to Exit 10 Two lanes from Exit 10 to Exit 17 One lane from Exit 17 to Exit 72
2. Exit 72 (I-77) near Wytheville	Exit 81 (I-77) near Wytheville	One lane from Exit 72 to Exit 81	One lane from Exit 72 to Exit 81
3. Exit 81 (I-77) near Wytheville	Exit 118 (U.S. Route 460) near Christiansburg	Two lanes from Exit 81 to Exit 118	One lane from Exit 81 to Exit 84 Two lanes from Exit 84 to Exit 86 One lane from Exit 86 to Exit 89 Two lanes from Exit 89 to Exit 96 One lane from Exit 96 to Exit 101 Two lanes from Exit 101 to Exit 105 One lane from Exit 105 to Exit 109 Two lanes from Exit 109 to Exit 114 One lane from Exit 114 to Exit 118
4. Exit 118 (U.S. Route 460) near Christiansburg	Exit 143 (I-581) in Roanoke County	Two lanes from Exit 118 to Exit 143	Two lanes from Exit 118 to Exit 143
5. Exit 143 (I-581) in Roanoke County	Exit 221 (I-64) near Staunton	Two lanes from Exit 143 to Exit 162 One lane from Exit 162 to Exit 168 Two lanes from Exit 168 to Exit 221	Two lanes from Exit 143 to Exit 156 One lane from Exit 156 to Exit 167 Two lanes from Exit 167 to Exit 168 One lane from Exit 168 to Exit 191 Two lanes from Exit 191 to Exit 221
6. Exit 221 (I-64) near Staunton	Exit 247 (U.S. Route 33) in Harrisonburg	Two lanes from Exit 221 to Exit 243 One lane from Exit 243 to Exit 245 Two lanes from Exit 245 to Exit 247	Two lanes from Exit 221 to Exit 243 One lane from Exit 243 to Exit 247
7. Exit 247 (U.S. Route 33) in Harrisonburg	Exit 300 (I-66) in Warren County	One lane from Exit 247 to Exit 251 Two lanes from Exit 251 to Exit 257 One lane from Exit 257 to Exit 269 Two lanes from Exit 269 to Exit 273 One lane from Exit 273 to Exit 279 Two lanes from Exit 279 to Exit 300	One lane from Exit 247 to Exit 251 Two lanes from Exit 251 to Exit 264 One lane from Exit 264 to Exit 277 Two lanes from Exit 277 to Exit 300
8. Exit 300 (I-66) in Warren County	West Virginia state line	Two lanes from Exit 300 to Exit 310 One lane from Exit 310 to Exit 313 Two lanes from Exit 313 to Milepost 325	Two lanes from Exit 300 to Exit 310 One lane from Exit 310 to Exit 313 Two lanes from Exit 313 to Milepost 325

¹ Separated Lane Concepts would also be evaluated for those sections of I-81 that require more than one lane.

6.5 Potential Corridors on New Location

There are two locations along I-81 where the impacts from the potential I-81 improvement concepts, especially displacements, may rise to the level where a corridor on new location may be prudent. These sections are the I-77 overlap section near Wytheville (Milepost 72 to 81 within SIU #2) and a section in Harrisonburg (Milepost 243 to 251 within SIU #6 and #7). At these locations, FHWA and VDOT propose to evaluate corridors on new location, as well as widening the existing facility, if one or more of the “Build” concepts (or portions of “Build” concepts) are advanced into Tier 2.

The geographic extent of the general locations of the potential new location corridors and the environmental resources within these general locations are depicted on Figures 6-2 and 6-3 (Chapter 8, *Figures*). There is no discussion of the specific social, economic, or environmental impacts from potential corridors on new location in this Tier 1 Draft EIS. If, in Tier 1, one or more of the “Build” concepts (or portions of “Build” concepts) are advanced into Tier 2, the specific location of corridors in these general locations and the specific highway alignments within those corridors would be studied in Tier 2 and their impacts would be evaluated in detail. The Tier 2 NEPA process may also result in other areas where corridors on new location would be evaluated. In accordance with 23 CFR 771.115, corridors on new location would likely be evaluated in an EIS.

In the I-77 overlap area, the general location of a potential corridor on new location extends approximately three miles on either side of I-81 from approximately Milepost 72 to approximately Milepost 81. The land adjacent to the I-81 mainline and its interchanges is developed. The remaining land in this proposed general location is generally agricultural or forested. The Fort Chiswell Site and the Fort Chiswell Mansion are both near Exit 81 (the eastern I-81/I-77 interchange). There is also designated threatened and endangered species habitat near this interchange. Other noteworthy features in this general location include Lick Mountain (south of I-81) and Wythe County Progress Park, a proposed industrial park (north of I-81).

The geographic extent of the general location of a potential corridor on new location in the Harrisonburg section of I-81 extends approximately two miles east and west of I-81 from approximately Milepost 243 to approximately Milepost 251. The City of Harrisonburg lies mostly west of I-81 between Exits 245 and 247 and this is an area that is heavily developed. In this general location of a potential corridor on new location, there are several designated threatened and endangered species habitats east of I-81, an Agricultural/Forestral District west of I-81 west of Exit 243, areas of wetlands on either side of I-81, and scattered areas of prime farmland. Other noteworthy features in this area outside the City of Harrisonburg are listed below in Table 6.5-1.



Table 6.5-1 Noteworthy Features

Feature	Location
Pleasant Valley Elementary School	East of I-81 near Exit 243
Ramblewood Fields Softball Complex	East of I-81 between Exits 243 and 245
Purcell Park	West of I-81 near Exit 245
James Madison University	East and west of I-81, north of Exit 245

6.6 Possible Purchase of Right of Way Parcels

This Tier 1 DEIS provides information to support decisions on hardship acquisitions or protective purchases of specific right-of-way parcels in the future on a case-by-case basis.



This page intentionally left blank