CHAPTER 1. PURPOSE AND NEED FOR ACTION

Introduction

1.1 WHAT IS THE I-73 PROJECT?

I-73 is a national highway project that will provide a transportation corridor from Michigan to South Carolina. The national I-73 project will start at Sault Ste. Marie, Michigan and go through portions of Ohio, West Virginia, Virginia, and North Carolina before terminating near the Myrtle Beach, South Carolina area (refer to Figure 1-1).

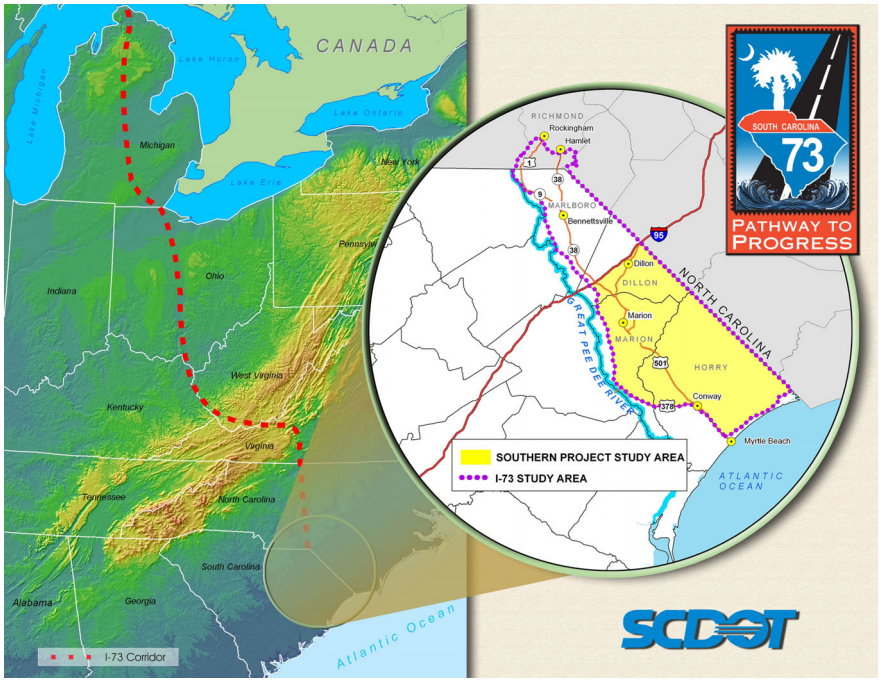


Figure 1-1. Interstate 73 Corridor

Currently, Michigan has upgraded existing roads to interstate standards and has one 50-mile segment left to construct, 20 miles of which have received funding to finish design and begin purchasing right-of-way. Ohio has existing roadways that would duplicate the I-73 Corridor; therefore, Ohio has decided not to build a new facility and instead is addressing individual congestion issues along the existing roadways. West Virginia has completed a small portion of I-73, also known as the King Coal Highway and Tolsia Highway, and is waiting on additional funding prior to completing the I-73 Corridor project. Virginia has completed a Final Environmental Impact Statement (FEIS) for its portion of I-73 that was signed by the Federal Highway Administration (FHWA) on December 1, 2006. FHWA signed a Record of Decision (ROD) for the I-73 FEIS in Virginia on March 30, 2007, allowing the final design process to begin for the project. The Virginia Department of Transportation is currently re-signing the portion of the roadway on existing alignment and will proceed with construction of new alignment when funding becomes available.[1] North Carolina has also completed portions of I-73 by the redesignation of existing roads as an interstate facility. The North Carolina Department of Transportation is currently completing environmental analyses, planning phases, and right-of-way acquisitions for its portion of I-73.

EIS Project Evaluation

Although the national I-73 project extends from Michigan to South Carolina, this EIS only evaluates the portion in South Carolina from I-95 to the Myrtle Beach area.

[1] VDOT Website, I-73 Project Webpage, http://www.virginiadot.org/news/newsrelease.asp?ID=SAL-07-127 (April 16, 2007).

This Environmental Impact Statement (EIS) has been prepared to evaluate and document the potential benefits and impacts that would result from the construction of I-73 from I-95 to the Myrtle Beach area in South Carolina. In addition to this EIS, there are 10 Technical Memoranda prepared in conjunction with the Draft EIS that provide supporting documentation and are hereby incorporated by reference into this EIS. These Technical Memoranda include the following:

- *Alternative Development Technical Memorandum;*
- *Community Impact Analysis Technical Memorandum;*
- *Cultural Resources Technical Memorandum;*
- *Hazardous Material Technical Memorandum;*
- *Hurricane Evacuation Analysis Technical Memorandum;*
- *Indirect and Cumulative Technical Memorandum;*
- *Noise Technical Memorandum;*
- *Public Involvement Technical Memorandum;*
- *Traffic Technical Memorandum; and,*
- *Natural Resources Technical Memorandum.*

1.1.1 Where is the project located?

The portion of the project to be analyzed in this EIS is located in the northeastern corner of South Carolina extending from I-95 to the Myrtle Beach region. The project study area, shown in Figure 1-2, extends southeast from I-95, and is bounded to the northeast by the North Carolina/South Carolina state line, to the southeast by U.S. Route 17, and to the southwest by the eastern edge of the Great Pee Dee River floodplain, U.S. Route 378, and U.S. Route 501. A separate EIS is being prepared to analyze the portion of I-73 extending from I-95 to the vicinity of Hamlet, North Carolina.

1.1.2 What would the I-73 facility be like?

The proposed I-73 facility would be a high-speed, divided, fully controlled access roadway that would require interchanges for access. Existing access to properties would be maintained by the use of frontage roads. Existing traffic patterns would be maintained by providing overpasses for east and west traffic flow. Rest areas would be constructed on each side of the facility, in the vicinity of Mullins, to serve travelers.

Two typical sections were developed to accommodate the number of lanes needed for the future traffic volumes, as well as a multimodal corridor. Figure 1-3 (refer to page 1-4) represents the interim design, which is proposed to be constructed initially and would accommodate two lanes of traffic in each direction. In the future, when traffic volumes increase to a point that additional lanes are necessary in order to maintain an acceptable level of service, an additional lane in each direction could be added to the median. This ultimate design would accommodate three lanes of traffic in each direction, (refer to Figure 1-4, page 1-5). An approximately 400-foot right-of-way would be acquired in the vicinity of frontage roads so that additional right-of-way would not be required when the ultimate design was needed. Where frontage roads are not required, an approximately 300-foot right-of-way would be adequate.

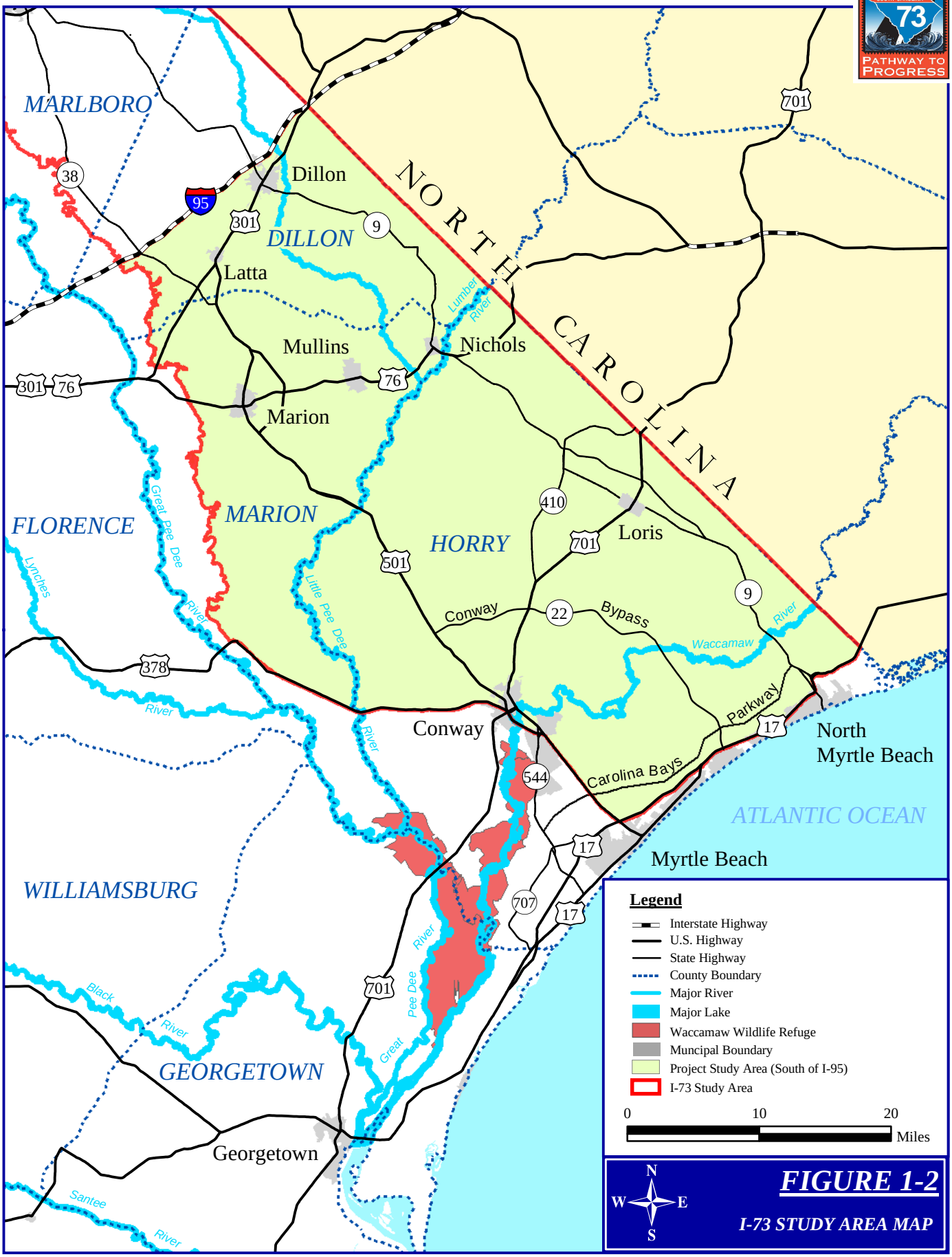


FIGURE 1-2

I-73 STUDY AREA MAP

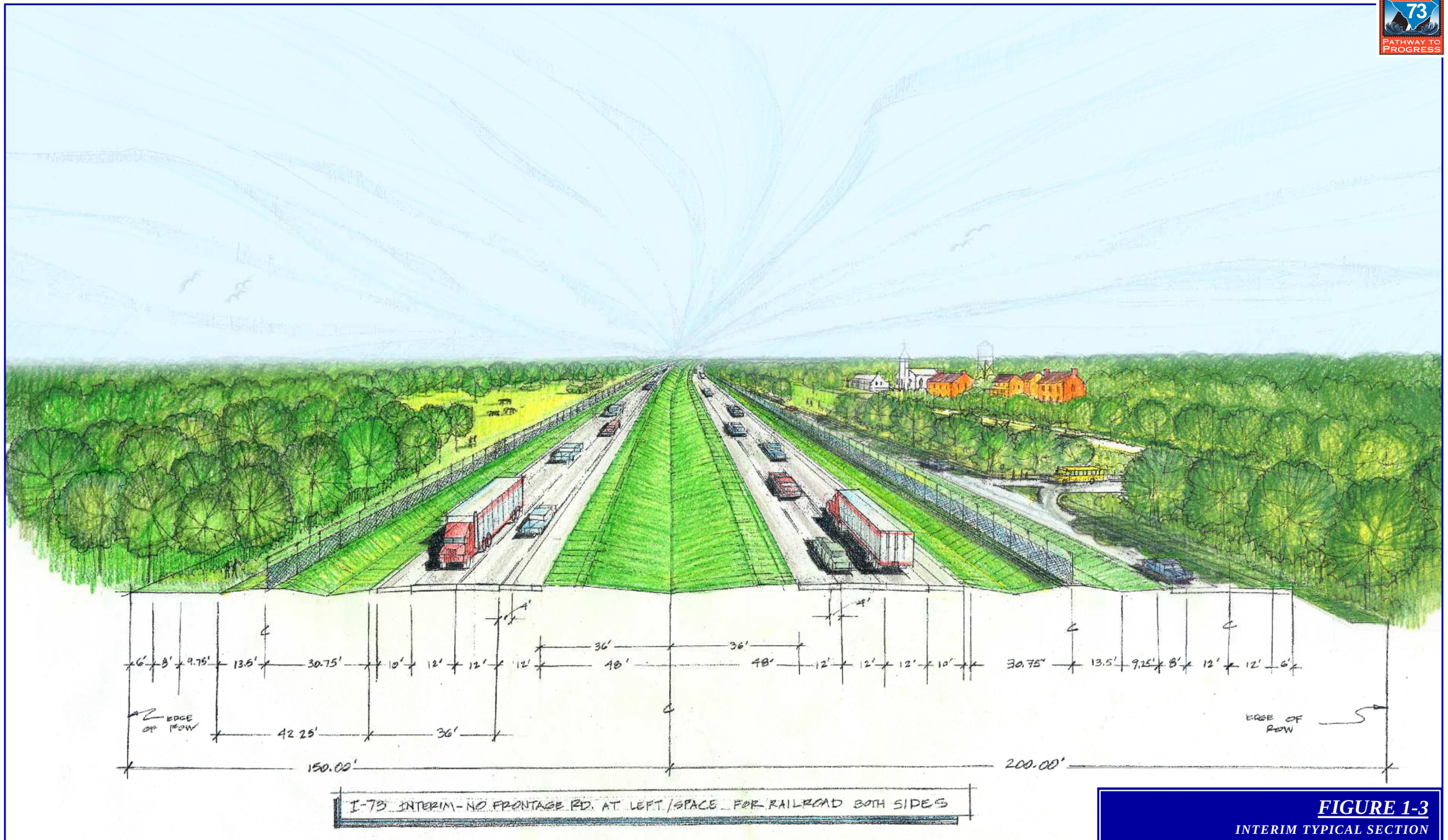


FIGURE 1-3
INTERIM TYPICAL SECTION
FRONTAGE ROAD ON ONE SIDE
SPACE FOR RAILROADS ON BOTH SIDES

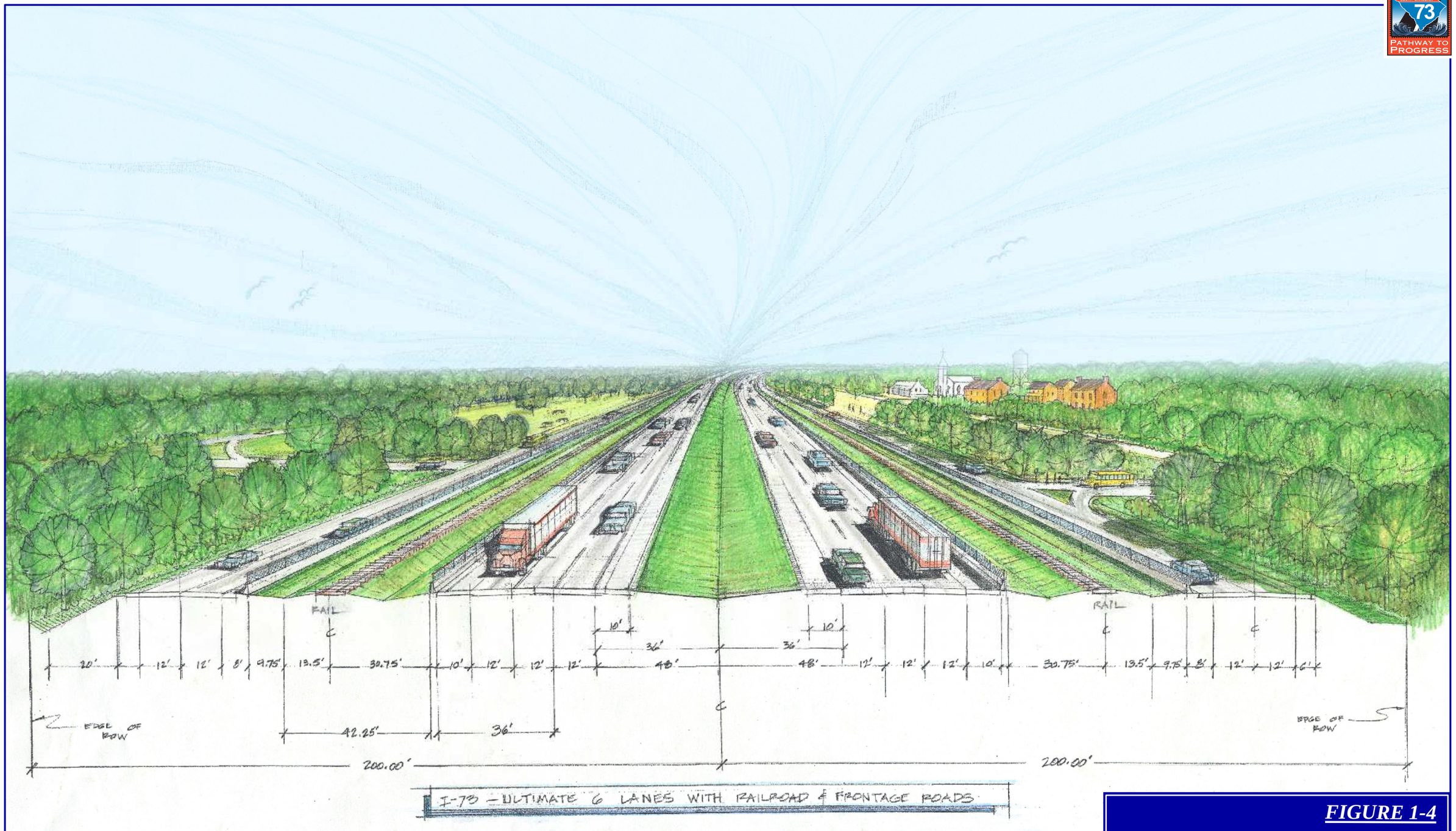


FIGURE 1-4

ULTIMATE TYPICAL SECTION WITH RAILROAD AND FRONTAGE ROADS

1.1.3 Why was the project initiated?

The I-73 Corridor was identified as a High Priority Corridor by the U.S. Congress in the *Intermodal Surface Transportation Efficiency Act of 1991* (ISTEA). Congress designated high priority corridors as those that would provide the most efficient way of integrating regions, linking major population centers of the country, providing opportunities for increased economic growth, and serving the travel and commerce needs of the nation. The corridors that Congress designated were to be included in the National Highway System. Congress wanted the FHWA, along with the states, to develop long-range plans and feasibility studies for these corridors, and focus federal funds towards these areas for road construction. The proposed project is the South Carolina segment of the I-73/I-74 High Priority Corridor and is currently listed as number five on the National Highway System High Priority Corridors list.[2]

A corridor feasibility study was started in 1994 after ISTEA was approved and identified the I-73/I-74 Corridor as a high priority. This study evaluated upgrading existing roads starting at the North Carolina state line at U.S. Route 1 in Marlboro County, going through Dillon, Marion, Horry, Georgetown, or possibly Williamsburg and Berkeley Counties, and ending on the U.S. Route 17 Corridor near the city of Charleston, South Carolina (S.C.), in Charleston County.[3]

The *Transportation Equity Act* (TEA-21), enacted in by Congress in 1998, built on what ISTEA had established by continuing and improving the current programs, while establishing new initiatives. TEA-21 shortened the I-73/I-74 High Priority Corridor by changing its terminus from Charleston, S.C., to the general vicinity of Myrtle Beach, Conway, and Georgetown, S.C.

A second feasibility study was completed by the South Carolina Department of Transportation (SCDOT) for I-73 in South Carolina in June of 2003. The study was completed in response to the change of the I-73 terminus from Charleston, S.C., to the Myrtle Beach, S.C., area in TEA-21. The study cited the needs of fulfilling congressional intent and providing an interstate link to the Grand Strand area along with the benefits of improved hurricane evacuation, improved capacity for vehicular and freight movement in the area, and support of population and economic growth as reasons for building I-73. The feasibility study recognized that there had been some improvements to roads in the project study area; however, the improved roads were predicted to have capacity problems along some segments in 2025, based on traffic modeling. Future traffic projections indicated that I-73 would divert traffic from existing roadways, thereby improving capacity and reducing traffic congestion.[4]

The *Safe, Accountable, Flexible, Efficient Transportation Equity Act: A Legacy for Users* (SAFETEA-LU) was passed by Congress and signed into law on August 10, 2005. SAFETEA-LU acknowledges the prior purpose for, and designation of, I-73 as a High Priority Corridor along with designating it as a project of "national and regional significance" (23 U.S.C. §101(2005)). In addition, SAFETEA-LU provides substantial funding for the I-73 project in South Carolina.

[2] 23 U.S.C. §1105(c) (1991, as amended through P.L. 109-59).
[3] SCDOT, *I-73 Feasibility Study* (April 1997).
[4] SCDOT, *I-73 Feasibility Study* (June 2003).

At the State level, Concurrent Resolution H 3320 by the S.C. General Assembly states "that the members of the General Assembly express their collective belief and desire that the Department of Transportation should consider its next interstate project as one that provides the Pee Dee Region with access to the interstate system."[5] Both Congress and the S.C. General Assembly have appropriated money to SCDOT to study the potential corridor for the proposed I-73. On February 11, 2005, an agreement was reached to jointly perform the environmental studies for I-73 in the vicinity of Rockingham, North Carolina to Myrtle Beach and to extend S.C. Route 31 (Carolina Bays Parkway) from S.C. Route 9 to connect with I-74 in North Carolina.

1.1.4 Who is responsible for this project?

The SCDOT, in partnership with the FHWA, recognizes the need for transportation improvements from I-95 to the Myrtle Beach region. This EIS is being prepared by the SCDOT for the FHWA (Project Team) in accordance with the *National Environmental Policy Act of 1969*, as amended (NEPA); the Council on Environmental Quality (CEQ) regulations implementing NEPA (40 CFR §§1500-1508); and, the FHWA environmental impact and related procedures (23 CFR §771). In addition, this EIS is being prepared to satisfy the requirements of the U.S. Army Corps of Engineers (USACE). The FHWA must have an approved FEIS and signed ROD prior to the final design activities, property acquisition, purchase of construction materials, or commencement of project construction (23 CFR §771.113).

The USACE accepted the invitation of FHWA to be a cooperating agency, which enabled them to have input to ensure that the EIS also met their requirements. The FHWA extended invitations and the following agencies accepted the request to participate as cooperating agencies (refer to Appendix A):

- U.S. Coast Guard (USCG);
- U.S. Department of Agriculture (USDA), Natural Resources Conservation Service (NRCS);
- U.S. Fish and Wildlife Service (USFWS);
- U.S. Environmental Protection Agency (USEPA);
- National Oceanic and Atmospheric Administration, National Marine Fisheries Service (NOAA Fisheries);
- S.C. Department of Archives and History (SCDAH);
- S.C. Department of Commerce (SCDOC);
- S.C. Department of Health and Environmental Control (SCDHEC);
- S.C. Department of Health and Environmental Control, Office of Coastal Resource Management (SCDHEC-OCRM);
- S.C. Department of Natural Resources (SCDNR);

Cooperating Agency

According to the CEQ, a cooperating agency is any agency (including state, local, and tribal governments or agencies) that has legal jurisdiction or special expertise regarding any environmental impact from the project. The full definition can be found in 40 CFR §1508.5, and the cooperating agency process is described in §1501.6.

[5] South Carolina Legislature Website, Legislation Webpage, http://www.scstatehouse.net/cgi-bin/query.exe?first=DOC&querytext=H%203320&category=Legislation&session=ALL&conid=2479514&result_pos=0&keyval=1153320 (December 26, 2006).

- S.C. Emergency Management Division (SCEMD); and
- S.C. Department of Parks, Recreation, and Tourism (SCPRT).

The proposed project will attempt to conserve the natural environment, community values, and cultural resources by minimizing impacts to the natural and human environment. One way this project will seek to conserve the natural environment is by evaluating the use of existing roadways. Avoiding sensitive areas and minimizing impacts will be done to the extent that they can be reasonably accomplished. Meaningful participation from the public, interested stakeholders, and resource agencies has been and will continue to be encouraged to ensure that both natural and human interests are addressed.

Environmental Impacts to be Studied

1.2 WHY STUDY IMPACTS TO THE ENVIRONMENT?

This EIS has been prepared to comply with NEPA. NEPA requires that a detailed analysis be prepared if any federal agency is undertaking a "major federal action significantly affecting the quality of the human environment".[6] In this detailed study, the federal agency must include an assessment of the impacts to the environment from the proposed action and any adverse effects that cannot be avoided should the proposed action be implemented.[7] In addition, the agency must include any alternatives to the proposed action, the relationship between short-term uses of the environment and long-term productivity due to the proposed action, and any irreversible or irretrievable commitment of resources if the proposed action were to occur.[8] The purpose of NEPA documents is to provide the decision makers with the best available information so that agency personnel can make an informed decision about the project. The intent of NEPA is to promote better decision making by federal agencies when they undertake actions that may have effects on the environment.

The CEQ, the regulating agency for NEPA, has developed a set of regulations that provide more detailed information about the implementation of NEPA. These regulations have specific requirements of what should be included in an EIS (40 CFR §1502).

1.2.1 What type of impacts will be evaluated?

There are three types of impacts that may occur when an action takes place: direct impacts, indirect impacts, and cumulative impacts. Each are defined and discussed below. The terms "impact" and "effect" are used interchangeably throughout this document since they share the same meaning according to the CEQ regulations (40 CFR §1508.8).

Direct impacts are defined by the CEQ as impacts, "which are caused by the action and occur at the same time and place" (40 CFR §1508.8(a)). For example, a direct impact to a resource such as wetlands would be a loss of acreage due to the construction of the road.

[6] 42 U.S.C. §4332(C)(2).
[7] 42 U.S.C. §4332(C)(2)(i)-(iii).
[8] 42 U.S.C. §4332(C)(2)(iii)-(v).

Indirect impacts are defined in 40 CFR §1508.8(b) as those impacts "which are caused by the action and are later in time or farther removed in distance, but are still reasonably foreseeable. Indirect effects may include growth inducing effects and other effects related to induced changes in the pattern of land use, population density or growth rate, and related effects on air and water and other natural systems, including ecosystems." An example of an indirect effect would be development by a third party after a new road and interchange have been constructed.

The CEQ defines cumulative impacts in 40 CFR §1508.7 as an "impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions. Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time." An example of a cumulative impact would be loss of habitat from a current project added to changes resulting from past and future projects in the project study area, such as timber harvesting or agricultural practices.

Impacts are analyzed to determine how an alternative may affect resources if it were implemented. Each alternative that is under consideration may have impacts of varying degrees. These variances, or differences, are used by the decision makers to evaluate and compare each alternative.

1.2.2 How are impacts evaluated?

1.2.2.1 How does FHWA evaluate impacts?

FHWA has developed a set of regulations (23 CFR §771) to further guide its agency in applying NEPA and CEQ regulations. In addition, FHWA published Technical Advisory T 6640.8A in 1987 to help further guide the agency in preparation of NEPA documents, as well as *Position Paper: Secondary and Cumulative Impact Assessment in the Highway Project Development Process*[9] for further guidance on indirect and cumulative impacts. Guidance for noise abatement due to construction and highway traffic noise and mitigation of environmental impacts to privately-owned wetlands can be found in 23 CFR §772 and §777, respectively.

FHWA uses the term "secondary" for indirect impacts, and gives it similar meaning as the CEQ regulations. Indirect and cumulative impacts must be addressed when doing a project, especially in terms of the impacts from induced growth (i.e. new businesses, industry, residences). FHWA must incorporate indirect and cumulative impacts from induced growth, but is not responsible for mitigating actions that are beyond its control.[10] This requires FHWA to evaluate the possibility of induced growth; however, FHWA is not responsible for mitigating for the growth since a third party would be performing the action.

[9] FHWA. (April 1992). HEP-32.
[10] *DOT v. Public Citizen,* 541 U.S. 752, 124 S. Ct. 2204 (2004).

1.2.2.2 How does USACE evaluate impacts?

The USACE evaluates the direct, indirect, and cumulative impacts of a proposed project upon waters of the United States and how these impacts would affect the interests of the public. Each factor is weighted based on the importance and relevance of the factor in relation to the proposed project. In addition, comments from Federal, state, and local agencies, especially those who have special expertise, and from the public are evaluated and given appropriate weighting. The USACE balances the public interest factors, weighing the benefits of the proposed project against its detriments. Once this public interest review is completed, a final decision is made on the application. A permit application would be approved unless the proposed project was found to be contrary to the public interest.

USACE's Public Interest Factors

Conservation	Economics
Aesthetics	Wetlands
General Concerns	Floodplains
Flood Hazards	Land Use
Historic Properties	Recreation
Fish & Wildlife	Navigation
Energy Needs	Safety
Water Quality	Mineral Needs
Food & Fiber Production	
Shore Erosion & Accretion	
Water Supply & Conservation	
Property Ownership	
Needs & Welfare of the People	

1.2.2.3 How does SCDHEC and SCDHEC-OCRM evaluate impacts?

SCDHEC considers four main issues when evaluating impacts. According to the SCDHEC publication entitled *A Brief Guide to Wetland Regulations in South Carolina*, these include whether the activity is water dependent, the intended purpose of the activity, whether there are feasible alternatives to the activity, and all potential water quality impacts associated with the project.

The SCDHEC-OCRM office will review and evaluate the proposed project for consistency with the Coastal Zone Management Program. SCDHEC-OCRM generally will not provide its approval unless there is no feasible alternative or an overriding public interest can be demonstrated and any substantial environmental impacts are minimized.

Purpose and Need

1.3 WHAT IS THE PURPOSE OF THE PROJECT?

The purpose of the proposed project is to provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner.

1.4 WHY DO WE NEED THE PROJECT?

The following primary and secondary needs have been identified in connection with the proposed federal action, which are in accordance with FHWA guidelines. The degree to which the project will serve the primary needs will receive greater emphasis than the secondary needs in the alternatives and impacts analysis.

1.4.1 Primary Needs:

- **System Linkage** – Improve national and regional connectivity by providing a direct link between I-95 and the Myrtle Beach region.
- **Economic Development** – Enhance economic opportunities and tourism in South Carolina.

Primary and Secondary Needs

A *Primary Need* is an essential need for the project that must be met.

A *Secondary Need* is a need of lesser importance that may be met indirectly when the project is completed and the primary needs are fulfilled.

1.4.2 Secondary Needs:

- **Hurricane Evacuation** – Facilitate a more effective evacuation of the Myrtle Beach region during emergencies.
- **Relieve Local Traffic Congestion** – Reduce existing traffic congestion on roads accessing the Myrtle Beach region.
- **Multimodal Planning** – Allow for future provision of a multimodal facility within the Interstate Corridor.

1.5 WHAT IS SYSTEM LINKAGE?

I-73 provides an opportunity to address a significant link lacking in the interstate system in South Carolina. Horry County is the most populated county in the State not currently served by an interstate highway. The proposed project would provide a needed connection between the highly popular tourist destination of Myrtle Beach and the interstate system at I-95. It would also provide an interstate link to Marion County.

System Linkage

System linkage will provide a direct interstate link between the interstate system at I-95 and the Myrtle Beach region. This new interstate link will improve tourist access and facilitate the movement of goods to and from South Carolina.

According to the 2006 Myrtle Beach Statistical Abstract, there were an estimated 13.2 million visitors to the area in 2004. Approximately 81 percent of the visitors travel to the area via automobile from within South Carolina; from surrounding states such as North Carolina, Kentucky, New York, Pennsylvania, and Ohio; and from the eastern Canadian provinces. In 2004, the American Automobile Association (AAA) ranked Myrtle Beach fourth in the United States as a driving destination, behind the major metropolitan areas of Orlando, Florida; Anaheim, California; and Las Vegas, Nevada. Myrtle Beach is the only one of these not served by at least one major interstate.[11] I-73 would provide linkage to facilitate the movement of people and goods to and from South Carolina via the interstate highway system.

The alternative corridors developed for I-73 would extend south from I-95 and end at S.C. Route 22. Currently, S.C. Route 22 is a four-lane divided highway extending 29 miles between U.S. Route 501 near Conway to

[11] AAA, *AAA Travel Agency Sales Strong for 2004; Cruises, European Destinations Once Again Top Agent's List,* (May 19, 2004).

U.S. Route 17 in North Myrtle Beach. By utilizing approximately 24 miles of S.C. Route 22, an estimated 500 million dollars would be saved, as well as minimizing potential impacts to human and environmental resources along another route. The interchange of these two roads would be such that the traffic on I-73 would continue smoothly onto S.C. Route 22. It would not be apparent to motorists that they had left I-73 and moved onto S.C. Route 22.

The portion of S.C. Route 22 from the intersection of I-73 all the way to its eastern terminus at U.S. Route 17 would be incorporated into I-73. It is a fully controlled access roadway and would otherwise meet interstate design standards except that the paved portion of the road shoulders is too narrow. This would require additional paving of the road shoulders. However, the footprint of the roadway would not change, thus no additional direct impacts would result.

The current roads between Myrtle Beach and I-95, such as U.S. Route 501, U.S. Route 378, and S.C. Route 9 are used heavily during the tourist season (which runs from April to September). U.S. Route 501 is the main road used between I-95 and the Myrtle Beach region in the project study area (refer to Figure 1-2, page 1-3).

1.6 HOW COULD THIS PROJECT AFFECT ECONOMIC DEVELOPMENT?

The project study area is located in the northeast portion of South Carolina, including the Pee Dee and Waccamaw Regions. The project study area encompasses portions of Dillon, Horry, and Marion Counties. With the exception of Horry County, which has experienced rapid growth, the project study area has grown at a moderate rate over the last several decades. The proposed action is needed in order to provide opportunities for economic development within the region in hopes of bringing needed jobs.

SAFETEA-LU identifies selection factors that are used to determine where to focus federal resources with regard to highway projects, several of which are focused on economic development in regions. One selection factor is to determine if the project would allow regional integration to spur economic development and growth, especially in areas that are not adequately served by existing roads (23 U.S.C. §101 (2005)). This project would provide better integration of the study area with the United States and Canada to facilitate easier movement of goods and people. Other selection factors of SAFETEA-LU focus on more efficient movement of commercial freight through a corridor (23 U.S.C. §101 (2005)). As discussed in Section 1.7, the current roadways through the project study area experience frequent stop and go situations and heavy congestion. This project would provide another corridor for moving goods to and from the project study area, which would reduce the travel and delivery times for commercial freight.

1.6.1 Who lives in Dillon, Horry, and Marion Counties, and what population characteristics shape these counties?

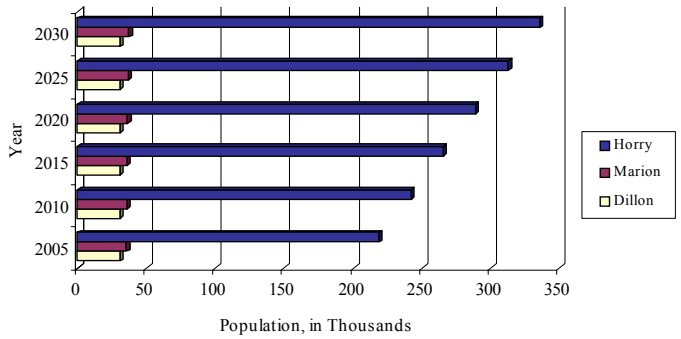
Population growth in Marion and Dillon Counties has been moderate over the past four decades, while Horry County has experienced significant population growth since 1970 (Table 1.1, refer to page 1-13).

Table 1.1
County Population Growth
Total Population, in Thousands
Interstate 73 FEIS: I-95 to the Myrtle Beach Region

	1970	1980	1990	2000	% Change
Dillon	28.84	31.08	29.11	30.72	**6.5%**
Horry	69.99	101.41	144.05	196.63	**180.9%**
Marion	30.27	34.18	33.90	35.46	**17.1%**

Source: United States Census Bureau, Census of Population, 1970-2000.

Chart 1.1
County Population Growth Forecasts, 2005 to 2030

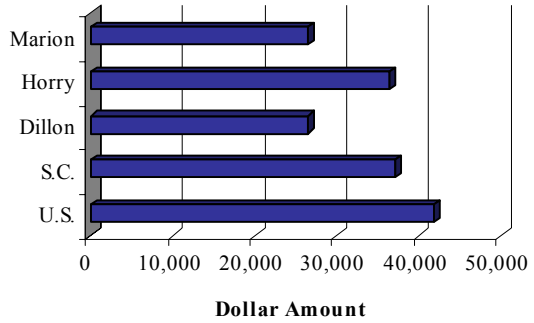


Source: South Carolina Budget and Control Board, Office of Research and Statistics. South Carolina Statistical Abstract 2005.

Chart 1.1, provides population forecasts through year 2030 based on 2000 U.S. Census data. It is anticipated that Horry County would continue to experience high population growth, especially when compared to Dillon and Marion Counties. According to the 2005 South Carolina Statistical Abstract,[12] Dillon County is expected to have a population growth of 1.1 percent, while Marion County is forecasted to have population growth of 5.8 percent between 2005 and 2030. Horry County is expected to have a population increase of 53.4 percent between 2005 and 2030.

The Cities of Dillon, Marion, and Conway are the County seats of Dillon, Marion, and Horry Counties, respectively. The Cities of Dillon and Marion serve as population centers for their respective counties, while the City of Myrtle Beach is Horry County's population center. The demographic composition of the population centers and county seats are shown in Table 1.2.

Chart 1.2
2000 Median Household Income



Source: U.S. Census Bureau American Fact Finder Census 2000 Demographic Profile Highlights.

Of the three counties, Dillon and Marion had lower median household incomes than those of the rest of the state as well as the United States in 2000.[13] They averaged $10,500 below the median household income of the State of South Carolina and $15,416 below that of the nation (refer to Chart 1.2).[14]

[12] S.C. Budget and Control Board, Office of Research and Statistics, *South Carolina Statistical Abstract 2005.*
[13] U.S. Census Bureau 2000, http://quickfacts.census.gov (April 25, 2007).
[14] *Ibid.*

Table 1.2 Demographic Composition of County Seats and Population Centers with Greater than 2000 People Interstate 73 FEIS: I-95 to the Myrtle Beach Region			
Community	**2000 Population**	**% Non-White**	**% White**
Dillon County			
Dillon (County Seat)	6,316	46.6%	53.4%
Latta	1,410	42.3%	57.7%
Horry County			
Conway (County Seat)	11,788	45.1%	54.9%
Myrtle Beach	22,759	20.8%	79.2%
N. Myrtle Beach	10,974	6.6%	93.4%
Loris	2,079	44.4%	55.6%
Marion County			
Marion (County Seat)	7,042	68.2%	31.8%
Mullins	5,029	62.7%	37.3%

Source: Census 2000 Population, Demographic and Housing Information, Population by Race and Hispanic or Latino Origin for Places in South Carolina.

1.6.2 What are some of the social and housing characteristics of Dillon, Horry, and Marion Counties?

Table 1.3 provides information on the social characteristics of Dillon, Horry, and Marion Counties. The populations of the three counties are similar in terms of their median age, the percentage of the population older than 65 years, and average household size. The Counties of Dillon and Marion, as compared to Horry County, have higher percentages of households with no vehicle and no phone service. In addition, Dillon and Marion Counties have more than twice the percentage of the population with less than a ninth grade education level when compared to Horry County.[15]

Table 1.3 County Demographic Characteristics Interstate 73 FEIS: I-95 to the Myrtle Beach Region				
	Dillon	**Horry**	**Marion**	**S.C.**
Median Age	34	38	32	35
Population over 65	12%	15%	13%	12%
Average household size	2.7	2.3	2.6	2.5
No vehicle	15%	7%	16%	9%
No phone service	10%	3%	9%	4%
Population w/ less than 9th grade education	11%	5%	11%	8%

Source: US Census Bureau American Fact Finder Census 2000 Demographic Profile Highlights

[15] U.S. Census Bureau 2000, http://factfinder.census.gov (April 25, 2007).

Table 1.4 provides information on the housing characteristics of Dillon, Horry, and Marion Counties. All of the counties are similar in terms of owner-occupied housing. Dillon and Marion Counties are similar in many housing characteristics including the median value of homes, the number of homes built before 1979, and the number of owners that have lived in their homes for more than 10 years. Seventy-five percent of homes in Horry County were built within the last 26 years and 72 percent of the population have lived in their homes for less than ten years. These figures reflect the growth occurring in Horry County.

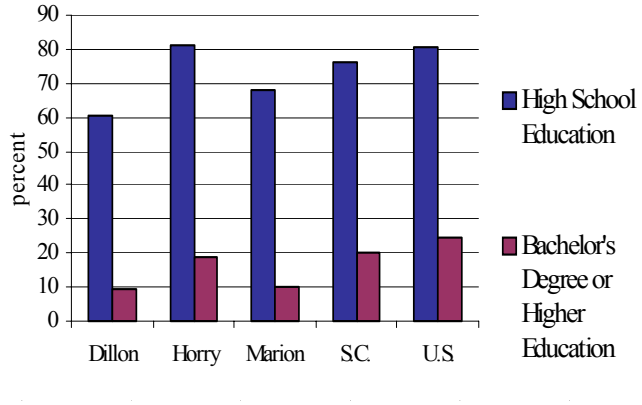
Table 1.4
Housing Characteristics of Counties in the Project Study Area
Interstate 73 FEIS: I-95 to the Myrtle Beach Region

	Dillon	Horry	Marion	S.C.
Owner occupied	72%	73%	74%	72%
Median value of homes	$60,700	$119,700	$63,500	$94,900
Homes built before 1979	59%	25%	61%	54%
Owner lived in homes more than 10 years	44%	28%	44%	37%
Mobile homes	33%	20%	30%	20%
Single family structures	57%	45%	61%	62%

Source: U.S. Census Bureau American Fact Finder Census 2000 Demographic Profile Highlights.

The median value of homes in Horry County was significantly higher than those in Dillon and Marion Counties. Dillon and Marion Counties have approximately the same percentages of housing structures as mobile homes and single family structures, while Horry County had a lower amount of both types, which can be attributed to more multi-family units located in the county.

Chart 1.3
Education Levels of Dillon, Horry, and Marion Counties



Source: U.S. Census Bureau American Fact Finder Census 2000 Demographic Profile Highlights.

According to the 2000 U.S. Census, of the three counties that encompass the project study area, Horry County had the highest percentage (81.1 percent) of people 25 or older with a high school education. This percentage was higher than that of the United States, which was 80.4 percent and that of South Carolina, which was 76.3 percent. Dillon County had 60.7 percent of people 25 or older in their county with a high school education, while Marion County had 68 percent. The percentage of people 25 and older who had a bachelor's degree or higher in the three counties was lower than both South Carolina (20.4 percent) and the United States (24.4 percent) (Chart 1.3). Horry County had 18.7 percent of its population 25 and older with a bachelor's degree or higher, while Marion County had 10.2 percent and Dillon County had 9.2 percent in 2000.[16]

[16] U.S. Census Bureau 2000, http://quickfacts.census.gov (April 25, 2007).

1.6.3 What are the employment characteristics in Dillon, Horry, and Marion Counties?

1.6.3.1 What job training opportunities are available in the three counties?

Table 1.5 presents some of the public job training and adult education options available in Dillon, Marion, and Horry Counties. Each county has a number of educational centers for adults to receive job training, adult literacy programming, resume/interview preparation and other career training. Both Dillon and Horry counties have 2-year technical colleges and Horry County has Coastal Carolina University, the only 4-year college in the region.[17]

Table 1.5
County Job Training/Adult Education Options
Interstate 73 FEIS: I-95 to the Myrtle Beach Region

County	Name	Type
Dillon	Dillon One-Stop Workforce Center	Job Training
	The Center for Accelerated Technical Training	Job Training
	Dillon Technology Center	Technology Center
	Northeastern Technical College	Technical College
	Dillon County Technology Center-Adult Education	Adult Education
Horry	South Carolina Academy for Nurse Aide Training	Job Training
	Horry County One-Stop Workforce Center	Job Training
	The Career Center	Job Training
	Horry -Georgetown Technical College at Conway	Technical College
	Coastal Carolina University	4-Year College
Marion	Marion County One-Stop Workforce Center	Job Training
	Marion County Technical Education Center	Technology Center
	Clemson Cooperative Extension Service of Marion	Adult Education
	Marion County Adult Education Center	Adult Education

Source: South Carolina Employment Security Commission. 2006 College and Technical School Information.

1.6.3.2 How has employment changed in the three counties?

Employment opportunities in the three-county area are primarily located in Horry County, with Dillon and Marion Counties having a lower number of jobs and experiencing some losses since 2000. This decline in employment during the 2000-2004 timeframe was attributed to plant closures and layoffs in

[17] S.C. Employment Security Commission, *College and Technical School Info* (March 28, 2006).

certain industries such as those related to textiles, plastics, and foods/candy production, and the retail sector as well. These operations were either moved off-shore to less expensive markets (e.g., to South America or Asia), consolidated operations with other South Carolina locations, or simply downsized. As shown in Table 1.6, only Horry County has experienced positive job growth since 2000.

Table 1.6
Total Employment, by County
Interstate 73 FEIS: I-95 to the Myrtle Beach Region

	2002	2003	2004	2005	2006	5-yr Average	% Change
Dillon	11,920	12,020	11,740	12,340	12,090	12,022	1.4%
Horry	100,620	105,880	109,840	115,060	122,650	110,810	18%
Marion	12,470	12,490	12,360	11,970	11,890	12,236	-4.7%
Three-county Total	**125,010**	**130,390**	**133,940**	**139,370**	**146,630**	**135,068**	**14.7%**

Source: South Carolina Employment Security Commission, "Labor Force and Employment Data, 2002-2006".

1.6.3.3 What are the employment characteristics for the three counties?

County employment characteristics for Dillon and Marion Counties are quite similar in terms of the top employment sectors. Manufacturing, retail trade, educational, health care and food service employ a vast majority of both Counties' labor forces. Not surprisingly, Horry County's tourism sector drives its economy with accommodation and food services, retail trade, and professional services employing many of the county's citizens (see Charts 1.4 to 1.6).[18]

Table 1.7 (refer to page 1-19) lists the top employers located in Dillon, Horry, and Marion Counties. According to the 2000 U.S. Census data, the primary industries in Dillon and Marion Counties include manufacturing, educational/health/social services, and retail trade. Primary industries in Horry County include construction, retail trade, educational/health/social services, and the service industry.

Agriculture is also an important part of the economic base within the three counties. For example in 2002, Dillon County ranked 4th in the state and 34th in the United States for total value of tobacco sales; Horry County ranked 1st in the state and 5th in the nation for total value of tobacco sales; and Marion County ranked 3rd in the state and 28th in the country for total value of tobacco sales.[19]

1.6.4 What are the unemployment rates and poverty levels in Dillon, Horry, and Marion Counties?

Unemployment rates reflect the total employment trends observed previously in Table 1.6. With a three-county region unemployment rate of roughly 9.8 percent, the region's unemployment is much higher than

[18] S.C. Employment Security Commission, Quarterly Census of Employment and Wages by County, (Second Quarter 2005).
[19] USDA, 2002 Census of Agriculture County Profiles.

Chart 1.4
Dillon County Employment, by Industry

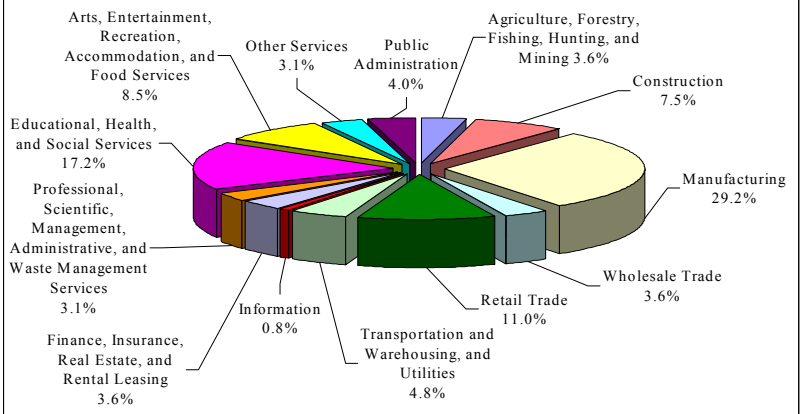


Chart 1.5
Horry County Employment, by Industry

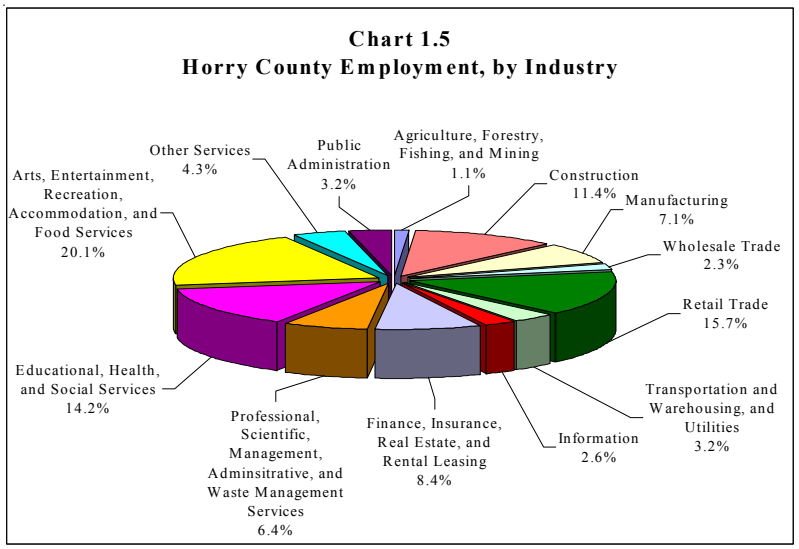


Chart 1.6
Marion County Employment, by Industry

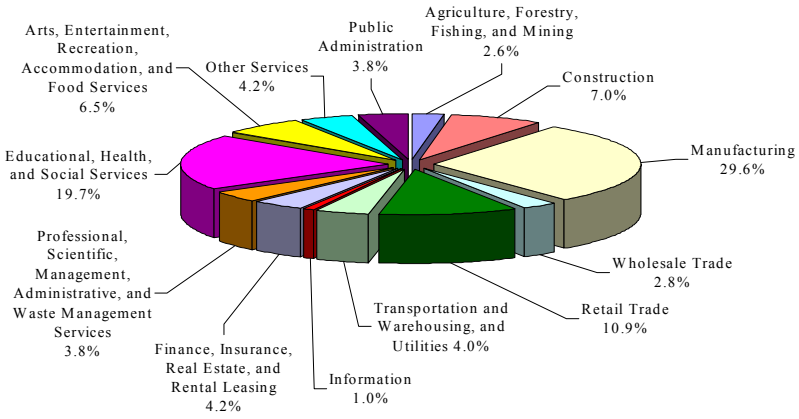


Table 1.7
Top Employers by County
Interstate 73 FEIS: I-95 to Myrtle Beach Region

Employer	No. of Employees	Product
Dillon County		
Perdue Farms	1050	Poultry processing
Dillon Yarn	423	Synthetic yarn
South of the Border	450	Tourism
Wix Corporation	374	Oil and air filters
McLeod Health	320	Medical care
Franco Manufacturers	300	Kitchen accessories distribution
Harbor Freight Tools	240	Tool distribution
Horry County		
Horry County Department of Education	4000	Education
Burroughs & Chapin Co.	2214	Real Estate & Development
Wal-Mart Associates Inc.	1792	Customer service
Horry County Gov.	1470	Government
AVX-Conway	1380	Electronic Components
Conway Hospital Inc.	1000	Health Care
Grand Strand Regional Medical Center	1000	Health Care
Myrtle Beach National	960	Golf Course Management
Marion County		
Arvin Meritor	734	Automotive components
Bluementhal Mill, Inc.	770	Woven damask jacquard
Beneteau USA, Inc.	245	Sailboats
Sara Lee Hosiery	210	Women's hosiery
Precision Southeast	210	Plastic parts molding
SOPAKCO	200	Military rations packaging
Datwyler Rubber & Plastics	143	Plastic and rubber moldings
SLI Lighting	105	Light bulbs

Source: US Census Bureau, American Fact Finder Census 2000 Demographic Profile Highlights

South Carolina's state average of 6.7 percent and the national average of 5.1 percent (refer to Table 1.8). Dillon and Marion Counties have two of the higher unemployment rates in South Carolina.

According to the U.S. Census Bureau, a county is considered poor if more than 20 percent of its population is below the poverty line. According to 2000 poverty estimates calculated by the U.S. Census Bureau,[20] both Dillon (24.2 percent) and Marion Counties (23.2 percent) have in excess of 20 percent of their populations living below the federal poverty threshold. Horry County has only 12 percent of its population living below the poverty line. The state percentage of 14.1 percent is also lower than both Dillon and Marion Counties.

[20] U.S. Census Bureau 2000, *http://quickfacts.census.gov* (April 25, 2007).

1.6.5 How would this project benefit the recruitment of new businesses to the three-county area?

Table 1.8
Unemployment Rates, 2006
Interstate 73 FEIS: I-95 to the Myrtle Beach Region

	2006 Unemployment Rate
Dillon	9.5%
Horry	5.4%
Marion	12.2%
Three-County Average	**9.0%**
State Average	**6.5%**
National Average	**4.6%**

Source: South Carolina Employment Security Commission, "Labor Force and Employment Data, 2006"

Having an interstate would provide opportunities to recruit new businesses and industry by virtue of being linked and having proximity to the interstate system. Although the presence of an interstate is not enough to generate new jobs, it is one of the key factors that industries and businesses seek when siting a facility. According to an industry magazine specializing in evaluating future locations for companies, "whether a company is setting up a manufacturing facility, distribution center, (or) retail outlet…it is absolutely critical that the location it chooses be supported by a robust transportation infrastructure. Regardless of the specific type of facility, it will need to be able to quickly and economically move raw materials, supplies, and finished products in and out... Not having the transportation infrastructure you require, however, will almost always get a location removed from your list of possibilities."[21]

Certainly an interstate alone does not necessarily lead to economic growth, but the improved access and mobility from I-73 would provide the Pee Dee Region with enhanced development opportunities. The presence of an interstate is a necessary component of the ability to attract new businesses to an area. Local city and county governments, along with non-governmental organizations, would have the ultimate responsibility of recruiting new businesses and industries to their areas. However, having this interstate would be an added advantage to attract a company to locate in these counties.

It is also anticipated that the construction of a new interstate facility would stimulate the development of tertiary services in close proximity to the corridor. Convenience services such as restaurants, gas stations, and accommodations would provide additional employment and income to the neighboring communities. Opportunities for development of tourist-friendly establishments and recreational facilities would likely increase with an interstate connecting the Myrtle Beach region to I-95 and the interstate highway system.

1.6.6 Would this project benefit travel and tourism in the three-county area?

Travel and tourism are the largest employer and the fourth largest generator of gross state product in South Carolina, respectively.[22] In 2005, tourists spent $8.5 billion in South Carolina, approximately 32 percent of it in Horry County.[23] Sales tax paid by visitors was over $253 million (11.4 percent of total sales tax collections), and overall state and local government revenues generated by tourism were over $1 billion.[24]

[21] Bill King and Michael Keating, Expansion Management, "2005 Logistics Quotient: The Top Logistics Metros in the United States," http://www.expansionmanagement.com (September 14, 2005).
[22] S.C. Budget and Control Board, *South Carolina Statistical Abstract 2005.*
[23] SCPRT, *The Economic Impact of Domestic Travel Expenditures of South Carolina Counties in 2005* (August 2006).
[24] S.C. Budget and Control Board, *South Carolina Statistical Abstract 2005.*

According to the Myrtle Beach Area Statistical Abstract, the majority of visitors are attracted to the area by the beach, shopping, and numerous golf courses.[25] Economic development in the Myrtle Beach region is anticipated to continue and the interstate would help to accommodate this growth and increase tourism.

Tourism is based on the concept of a location being a desirable vacation destination. The Atlantic Ocean, as well as an abundance of golf courses, leads to the attractiveness of the Myrtle Beach region as a destination of choice. The Travel Channel named Myrtle Beach as one of America's Best Beaches for 2003-2004, and named it as one of the Best Family Beaches due to the multitude of activities for all ages.[26] In addition, VacationSpots.com named Myrtle Beach the Top Beach Spot in 2005 and it was named a favorite travel destination by readers of Southern Living magazine in 2005.[27] Along with being a top beach destination, the Myrtle Beach area has received numerous awards as a top golf destination. In fact, Myrtle Beach is ninth on Golf Digest's list of the 50 Greatest Golf Destinations in the World (based on a survey of 700 low-handicapped golfers), and received the 2005 Golfers' Choice Bronze Award for Best Travel Destination by the Toronto Sun (based on a survey of more than 200,000 readers).[28]

Reaching the destination with efficiency and ease is a part of the overall vacation experience. American Automobile Association, along with the American Highway Users Alliance and The Road Information Program, released a study in 2005 locating the top summer traffic bottlenecks in the country. These bottlenecks were based on information from the FHWA, state departments of transportation, and the travel and tourism industry. The drive between I-95 and the Myrtle Beach area on U.S. Route 501 was listed as 23rd in the top 25 for vacation travel delays and congestion.[29] The proposed project would enable tourists to access the area more efficiently and provide a high-speed access route to the region.

1.7 HOW WOULD THIS PROJECT AFFECT HURRICANE EVACUATION?

Hurricane evacuation is a concern for the Myrtle Beach region due to the dramatic increase in the resident population and coinciding tourist and hurricane seasons. The Saffir-Simpson Hurricane Scale is used by the National Hurricane Center and the SCEMD to rate the intensity of the hurricane on a scale of one to five. The wind speed is the primary determining factor when rating a hurricane, with Category One hurricanes having the lowest wind speeds and Category Five hurricanes having the highest wind speeds.

Saffir-Simpson Hurricane Scale

Category One – 74 to 95 mph winds
Category Two – 96 to 110 mph winds
Category Three – 111 to 130 mph winds
Category Four – 131-155 mph winds
Category Five – More than 155 mph winds

[25] Myrtle Beach Area Chamber of Commerce, *Statistical Abstract for the Myrtle Beach Area of South Carolina, 17th ed.,* (April 2006).
[26] *Ibid.*
[27] Myrtle Beach Area Convention and Visitors Bureau, *Myrtle Beach Area Accolades* (March 21, 2006).
[28] *Ibid.*
[29] AAA, *Are We There Yet? A Report on Summer Traffic Bottlenecks amd Steps Needed to Ensure That Our Favorite Vacation Destinations Remain Accessible,* (June 30, 2005).

The region is currently served by three designated hurricane evacuation routes that connect U.S. Route 17 to I-95: S.C. Route 9; U.S. Route 501; and U.S. Route 521 (refer to Figure 1-5). In addition, U.S. Route 378, designated as a hurricane evacuation route, connects to U.S. Route 501 in Conway.

Figure 1-5: Northern Coastal Conglomerate

Horry County had a permanent population of 196,629 people in 2000.[30] According to SCPRT, Horry County's resident population, combined with its tourists, equated to an average population per day of 296,809. In the event of a natural or man-made threat, Horry County would need to evacuate both the resident and tourist populations. Approximately 300,000 people attempting to leave an area via the current evacuation routes would cause a strain on the existing facilities. The addition of a four-lane interstate system would help reduce the time for evacuation.

The 2003 *South Carolina Hurricane Plan,* completed by SCEMD, contains evacuation estimates for the Northern Coastal Conglomerate that encompasses Clarendon, Darlington, Dillon, Florence, Georgetown, Horry, Lee, Marion, Marlboro, Sumter, and Williamsburg counties, and in turn, the project study area.[31] As stated in the 2003 Plan:

> *Clearance times generally fall below 24 hours…however, due to the limited road network and the large numbers of tourists and permanent residents who would have to evacuate in the northern conglomerate, times could potentially exceed 26 hours for a Category 4-5 hurricane, high tourist occupancy scenario.*

Within the Northern Coastal Conglomerate, two major bottlenecks occur on U.S. Route 501. One bottleneck occurs on U.S. Route 501 between U.S. Route 17 Bypass and Conway that causes an increase in evacuation time. Lane reversal is feasible on a portion of U.S. Route 501; however, it results in negligible clearance time reductions because the other major bottleneck that controls clearance time on this road (U.S. Route 501 at Aynor) is "upstream" of the reversal area.[32] The proposed project would provide a four-lane controlled-access interstate

Evacuation Clearance Time

Evacuation clearance time is the amount of time that passes between the first evacuating vehicle entering the road network and ends when the last vehicle has reached an assumed point of safety, in this case, I-95. It does not account for the time any one vehicle spends traveling on the road network to reach the point of safety.

[30] S.C. Budget and Control Board, *South Carolina Statistical Abstract 2005.*
[31] SCEMD, *The South Carolina Hurricane Plan.* (June 2003).
[32] *Ibid.*

facility on which the lanes could be reversed, as opposed to U.S. Route 501, which is not a controlled-access facility. This would easily provide a more efficient evacuation route than is currently in place and is anticipated to relieve pressure on other evacuation routes currently running at capacity.[33]

A study was completed to analyze what impacts the I-73 Corridor would have to the efficiency of evacuating residents and tourists from the Myrtle Beach area during the threat of a hurricane coinciding with high tourist occupancy rates.[34] The same model used by SCEMD to study hurricane evacuation scenarios was used to perform this analysis. The study looked at evacuation times for 2005 along U.S. Route 501, as it is the primary evacuation route for the largest number of people in the region, it has the greatest bottlenecks, and it would be the most relieved if I-73 were constructed. The study compared evacuation times for the year 2005 and the year 2030 with and without I-73, and if lanes were reversed on I-73, including the Conway Bypass (S.C. Route 22) section. Table 1.9 reflects current and projected 2030 evacuation times (in hours) by storm category along U.S. Route 501, S.C. Route 9, and on I-73 if it is constructed.[35] The times for the different hurricane categories are presented due to the increasing numbers of persons evacuated by category zones. The higher the category of storm, then the larger the evacuation area and the more traffic on evacuation routes.

Table 1.9
Evacuation Clearance Times on U.S. Route 501, S.C. Route 9 and I-73 by Hurricane Category (in hours)
Interstate 73 FEIS: I-95 to the Myrtle Beach Region

	Category 1-2	Category 3	Category 4-5
Evacuation times on U.S. Route 501			
2005 Base Year	16	21	24.2
2030 without I-73 Constructed	24	32	37.4
2030 with I-73 Constructed	16.7	22.6	26.5
2030 with I-73 Constructed & Lane Reversal on I-73	13.8	18.9	22.4
Evacuation times on S.C. Route 9			
2005 Base Year	9.8	11.6	13.4
2030 without I-73 Constructed	11.2	13.2	15.5
2030 with I-73 Constructed	9	10.8	12.6
2030 with I-73 Constructed & Lane Reversal on I-73	7.9	9.5	11.2
Evacuation times on Interstate 73			
2030 with I-73 Constructed	19.5	25	29
2030 with I-73 Constructed & Lane Reversal on I-73	12.6	16	18.9

[33] SCDOT, *I-73 Environmental Impact Statement Hurricane Evacuation Analysis.* (December 2005).
[34] *Ibid.*
[35] *Ibid.*

Clearance Time Reductions

This project would reduce clearance times along U.S. Route 501 by over 10 hours, allowing the Myrtle Beach Region to evacuate faster in emergency situations.

If I-73 is constructed, and assuming high tourist occupancy, the time for evacuation along U.S. Route 501 would reduce by 10.9 hours for a Category 4-5 and high tourist occupancy with the addition of traffic evacuating along I-73. If lanes were reversed on I-73 and the Conway Bypass (S.C. Route 22), then the evacuation time would reduce by 15 hours on U.S. Route 501 for a Category 4-5 storm and high tourist occupancy. Evacuation time along S.C. Route 9 would also benefit by decreasing 2.9 hours with I-73 present and by 4.3 hours if lanes were reversed at the Conway Bypass and on I-73.

If I-73 was not built, the evacuation time in 2030 on S.C. Route 9 would be over 15 hours while evacuation time could exceed 37 hours in a worst-case scenario (Category 4-5) on U.S. Route 501. With these clearance times, the decision to evacuate would have to be made early in the hurricane watch period before the National Hurricane Center has reliable data to make predictions concerning storm track or hurricane intensity. This could result in needless evacuations of residents and tourists, which would hurt the region's economy.

I-73 would provide another route for evacuation and reduce clearance times along U.S. Route 501 by over 10 hours. The southbound lanes of I-73 and the Conway Bypass (S.C. Route 22) could also be reversed, allowing more cars to evacuate at the same time.

With lane reversal, evacuation time would be reduced by an additional four hours along U.S. Route 501 and an additional 10 hours on I-73. The potential overall savings in evacuation time could be up to 18 hours in a worst-case scenario (Category 4-5 and high tourist occupancy). Due to the eight Build Alternatives being in close proximity to one another, from a hurricane evacuation standpoint, no appreciable difference would be discerned in attracting different amounts of evacuation traffic from either coastal or inland counties.

1.8 WOULD THE PROJECT RELIEVE LOCAL TRAFFIC CONGESTION?

As discussed in Section 1.5, System Linkage, the vast majority of the visitors to the Myrtle Beach region travel there by automobile. This large number of visitors arriving to the area by vehicle congests the local transportation network. Traffic diverted to I-73 would reduce congestion on local roads. The addition of I-73 would improve the travel efficiency within the three-county (Dillon, Horry, and Marion Counties) study area.

Relieving Traffic Congestion

By providing an interstate link, tourism traffic would be diverted from the regional roadways, in turn relieving traffic congestion on other roads accessing the Myrtle Beach Region.

Based upon the results of the traffic modeling, the average speed of travel of vehicles on the network would increase from slightly less than 52 miles per hour to more than 56 miles per hour, depending upon the Build Alternative. This is a large increase in speed when spread over the number of trips in the network each day. This efficiency is also reflected in the reduction that would occur in 2030 travel times between I-95 and the junction of S.C. Route 22 and U.S. Route 17, an approximately 65

mile distance, of between 15 to 20 minutes. The travel time savings between the No-Build and the Build Alternatives for the peak season, June 1 through August 31, would be as much as 15 to 25 minutes for the 65 mile trip (refer to the *Traffic Technical Memorandum*). Likewise, vehicle hours traveled (VHT) would decrease in the network for all of the Build Alternatives versus the No-build (refer to Chapter 2).

Traffic Model

A traffic model is a numerical program based on existing conditions that enables the user to project current and future traffic volumes.

Safety is a concern on roadways with high congestion and frequent stop and go conditions. Roads in the project area are used by tourist and commercial travelers that are sometimes not familiar with the roads. Added to that is the local traffic, some of which is farm machinery or slow moving vehicles. U.S. Route 501, U.S. Route 378, and S.C. Route 9 all have uncontrolled access, meaning that access is unconstrained to the businesses and residences along them. This results in increased stopping of traffic for vehicles turning off and onto these roads, along with a number of stoplights and signage. In Dillon, Horry, and Marion Counties, a majority of the work force either commutes alone (74 to 79 percent), with a smaller percentage carpooling (14.4 to 18 percent) or taking public transportation (0.5 to 1.3 percent). The average travel time to work for Dillon County and Marion County residents is around 28 minutes, while the average travel time to work for Horry County residents is 23.7 minutes.[36]

An interstate would have controlled access via interchanges and access ramps, have mainly one posted speed (it is anticipated to be 70 miles per hour in rural areas), and would not have frequent stopping due to traffic turning or stoplights/signs. In addition, an interstate would have better safety designs and standards than the current roads in the project area. An interstate would provide relief to the already strained network accessing the region by improving capacity, thereby providing a safer transportation route for tourists and residents.

1.9 HOW WOULD THE PROJECT INCORPORATE MULTIMODAL PLANNING?

Traffic congestion is expected to increase 400 percent on our urban freeways by 2020 in the United States.[37] The USDOT found that in 2003, Americans lost 3.7 billion hours sitting in traffic jams.[38] Traffic congestion is not limited to urban areas, rural roadways leading to popular tourist destinations also experience congestion during peak seasons.[39] One need of the proposed action is to provide a corridor to accommodate a future multimodal facility. By providing for a multimodal facility, future visitors would have the option for using rail to access the region. Although at this point in the planning process a specific multimodal component has not been designated, the goal is to provide a corridor for future rail within the proposed right-of-way corridor. The future rail within the project study area would be limited to a design speed of 79 miles per hour, which is not appreciably different from the proposed design speed of 75 miles per hour for I-73. The future rail project would be required to undergo a separate NEPA analysis and environmental permitting process prior to construction.

[36] U.S. Census Bureau 2000, *http://factfinder.census.gov* (April 25, 2007).
[37] Southeastern Economic Alliance, http://www.southeastalliance.com/faq.html (April 25, 2007).
[38] USDOT Website, http://www.fightgridlocknow.gov/ (April 25, 2007).
[39] Jeff Paniati, Turner-Fairbank Highway Research Center, November/December 2004 Newsletter, "Operational Solutions to Traffic Congestion," http://www.tfhrc.gov/pubrds/04nov/01.htm (April 25, 2007).

Future Transportation Options

The project would proactively plan for future transportation options within the I-73 Corridor.

On October 20, 1992, under ISTEA, the USDOT announced the designation of the Southeast High-Speed Rail (HSR) Corridor connecting Charlotte, North Carolina, Richmond, Virginia, and Washington, D.C. On December 1, 1998, under TEA-21, the Southeast HSR Corridor was extended from Charlotte, North Carolina, through Greenville, South Carolina, and Atlanta, Georgia, to Macon, Georgia; and from Raleigh, North Carolina, through Columbia, South Carolina, and Savannah, Georgia, to Jacksonville, Florida.[40]

HSR, as a mode of transportation, has the potential to provide an efficient, reliable, safe, and an affordable alternative to highway and airport congestion. In order to implement the development of the Southeast HSR Corridor, the Southeastern Economic Alliance was created consisting of 16 cities across six Southeast states. In 1999, the SCDOT Transportation Commission passed a resolution in favor of the Southeast HSR Corridor and supporting extensions of the HSR system to Charleston, South Carolina, and Myrtle Beach, South Carolina.

An EIS was completed for the corridor between Washington, D.C., and Charlotte, North Carolina, in 2002, identifying a preferred route for the rail system. The EIS for the segment from Petersburg, Virginia (and possibly Richmond, Virginia), to Raleigh, North Carolina, is currently underway and should be completed in August 2009.[41] Also, an EIS is currently being prepared for the linking of Hampton Roads and Norfolk, Virginia, area to the Southeast HSR Corridor and is being finalized.[42] A feasibility study for HSR between Charlotte, North Carolina, and Macon, Georgia, was completed in 2004, and found a HSR Corridor between the two locations was practical. The City of Charlotte is also generating funds via a local tax to build portions of their commuter rail system that will likely become part of the HSR.

Since the alignment of the Southeast HSR Corridor could come in close proximity to the ultimate I-73 Corridor, this project seeks to plan for future transit options by preserving a corridor adjacent to the proposed I-73. This rail corridor could provide a connection between the HSR line and the Myrtle Beach region. The future Myrtle Beach monorail, as well as other local transit options such as the Lymo bus system, would provide these travelers with the means to travel locally while visiting the Myrtle Beach region. Again, this I-73 project will only preserve 100 feet for future multimodal accommodations. More detailed analysis is beyond the scope of decisions to be made in this document.

Tolls

1.10 COULD I-73 BE A TOLL ROAD?

Earmark

An Earmark refers to money that has been reserved or set aside for a particular purpose.

Although I-73 has received $90.5 million to date in federal earmarks and an additional $2.5 million in state funding from the S.C. General Assembly, it will not be enough to construct this project.

[40] Federal Railroad Administration Website, http://www.fra.dot.gov/us/content/650 (December 26, 2006).
[41] Southeast Highspeed Rail Organization Website, http://www.sehsr.org/ (November 20, 2007).
[42] *Ibid.*

Traditionally, roadway construction has been financed using the money raised by taxes levied on fuel. The federal government provided the largest share of the money, typically 80 percent, while the state and/or local governments provided the balance. The projected highway needs for South Carolina total more than $59.7 billion over the next twenty years (2005 dollars). The FHWA funding projections for South Carolina over that time are $10.5 billion and state highway funding projections are roughly $8.9 billion.[43] This leaves a projected funding shortfall of over $40 billion dollars.

SCDOT, along with the Metropolitan Planning Organizations (MPO) and Council of Governments (COG), identified interstate improvement and construction projects throughout the state. These needed interstate improvements, which include widening existing interstates, improving existing interchanges, and construction of new interstates, are estimated to cost approximately $10.5 billion (2005 dollars, I-73 is one of the projects listed).

The gap between state roadway construction needs and available funding is not unique to South Carolina. High infrastructure demands nationwide have led to a wide gap between the cost of the needed roadway improvements and the amount of money available for financing projects. This has resulted in a movement toward the use of innovative finance techniques and other methods of project delivery such as the design/build approach, as explained in Section 1.11. In an effort to take advantage of every opportunity to attract the funds necessary for the project, other available means to provide the financing for this project will be explored.

Congress also has recognized this gap and has enacted changes in federal legislation to permit the use of innovative financing. Previous highway bills began addressing innovative financing by permitting the establishment of State Infrastructure Banks (SIB's), which allow the use of federal funds to make loans to projects that require additional funding to advance the projects in a timely manner. South Carolina has the most successful SIB in the country, assisting in the financing of over $3 billion of projects in the state. However, these loans require some form of revenue to pay debt service over the life of the bonds, which are issued by the bank. Loan repayments have included local fees and taxes as well as state truck registration fees, gas tax, and future federal highway funds.

Another useful financing tool has involved the establishment of loan and credit assistance programs under the Transportation Infrastructure Finance and Innovation Act (TIFIA). This program provided the much needed federal loan that allowed construction to begin on the Arthur Ravenel, Jr. Bridge in Charleston. The funds to repay the loan included a combination of future state highway funds, Charleston County funds, and funds from the State Ports Authority.

The advent of innovative financing tools has generated more interest in the use of tolls as a financing mechanism in many parts of the United States. Until recently tolls were not allowed on Interstate facilities except on new highway bridges or tunnels. A major change occurred as a part of the 1998 highway bill (TEA-21), which established a toll pilot program. This program allowed tolling on up to three existing Interstate facilities to fund needed construction or rehabilitation on interstate highway corridors that could not otherwise be maintained or improved.

[43] SCDOT, *20 Year Needs Analysis* (January 2005).

SAFETEA-LU (passed in 2005) continued this trend by providing states an opportunity to allow tolling on new facilities that use federal funds (Interstate System Construction Toll Pilot Program). This program included the following requirements:

- States or interstate compacts of states may apply;
- Tolling must be the most efficient and economical way to finance the project;
- Automatic toll collection is required (see later discussion of toll collection);
- There may be no requirement to block improvements to competing facilities;
- Revenues may only be used for debt service, reasonable rate of investment of private equity, and for operation and maintenance costs.

The S.C. General Assembly passed Bill H4422 on January 24, 2006, which stated that "the Department of Transportation may impose and collect a toll on the proposed Interstate 73 Corridor upon completion of this highway project. This toll must be used to pay for the cost of planning, right-of-way acquisitions, financing, construction, operation, and other expenses associated with this highway project, and for the removal of the tolls upon payment of all such costs." The FHWA and SCDOT have looked into the possibility of using tolls to pay for part or all of the interstate construction, in accordance with SAFETEA-LU (23 U.S.C. §129 (2005)).

Innovative ways of financing roadway construction are currently being utilized throughout South Carolina, including the issuance of bonds that are paid back over time to pay for the construction of projects. These bonds can be paid back in a variety of ways, such as using future federal funds. Many localities are also joining in funding roads previously funded entirely by the state. One example is the hospitality fees Horry County used to match State Infrastructure Bank funds to construct the Road Improvement and Development Effort (RIDE) program. Several counties have assessed a local option sales tax to assist in meeting highway transportation demands. These include York, Beaufort, Horry, and Charleston Counties. SCDOT has also constructed the first road in the state funded with revenues from tolls (the Cross Island Expressway on Hilton Head Island) and licensed a private entity, the Connector 2000 Association (a 401C(3) corporation), to build and operate a second toll road, the Southern Connector in Greenville County.

A recent innovation in the U.S. has been the sale of a "concession" to a private entity to finance, design, and operate a toll facility. This method provides a private organization the opportunity to obtain a lease to build and/or operate a roadway facility for a period of time. To date, concessionaires have been European and Australian investors who have acquired a portfolio of toll facilities in those countries which are anticipated to provide sizeable returns on investment over a long period (i.e. 75 to 99 years). The stability provided by the portfolio as a whole has attracted large investors, such as pension funds, which heretofore have not been attracted to toll road investment. In most cases the facility is or will be a toll road that provides the long term return on investment.

In some cases the concession has been deemed of such value that the concessionaire has provided the owner an up front payment for the long-term lease. An example of this is the Chicago Skyway, where a private firm paid over $1.8 billion for a 99-year lease to operate the facility. The amount paid for a concession is directly

related to the amount of money anticipated to be generated over the life of the lease. A second example involves the construction of a new facility in Texas. The Trans-Texas Corridor Initiative has resulted in an agreement with a concessionaire giving them the right to finance and construct $6 billion in infrastructure projects (toll roads) in the I-35 Corridor. In return, the concessionaire is paying $1.2 billion for the concession rights. It should be noted that the creation of such a concession often entails restrictions on improvements to competing routes to protect the potential revenue stream for a leased facility.

Project Funding

With the current state and federal funding climate the likelihood is that some type of tolling will have to be used to finance I-73.

The above examples are among only a few throughout the country that provide the opportunity for such a large up front payment to the owner. However, that approach may be applied to construction of I-73.

Based on the above discussion, there appear to be five general approaches to financing I-73:

1. Traditional financing with 80 percent federal and 20 percent state or local funding;
2. Publicly issued bonds backed by future revenue; either from federal funding, toll revenue, local funds or some combination of the two;
3. A combination of 1 and 2;
4. A public/private partnership involving some level of private and public funds; and,
5. Use of the concession approach involving a lease to a private entity in return for the right to finance, design, and build the road.

The last four options will probably involve toll financing. Each of these financing mechanisms is dependent upon the potential future revenues, from either federal allocations, other taxes, or tolls.

The amount of money that can be borrowed is limited by projections of these future revenues. An evaluation of the potential toll revenues, called an investment grade toll study, is a way to project the future revenues. It would be performed by the entity interested in financing the project. The revenue obtained by tolling can vary, depending upon the toll rate, traffic volume, and competing untolled routes. These factors are often interrelated, i.e. the availability of competing routes can affect the traffic volumes on a tolled facility.

The method of tolling can also affect the toll revenues. For example, a "closed system" with a toll required at most entrances and exits along a road would normally generate more money than an "open system" with a limited number of toll booths at specific locations. The closed system would generally involve traditional toll booths where users pay cash by the trip and could also contain electronic toll lanes which accommodate frequent users who can pay tolls electronically. An open system would eliminate cash booths and would require all users to have an electronic toll tag. Clearly this presents a problem on a facility like I-73 which will have a significant number of non-local users. In the future, many anticipate a regional or even national system of electronic toll tags which can be used at all toll facilities in the region or ultimately in the United States. This would make the open system more attractive.

Finally a discount for local traffic, either based upon number of trips per month or use of an electronic transponder, would affect projected revenue.

This EIS was prepared based upon the impacts of a non-tolled highway. This provides a "worst-case" analysis for impact categories that are based upon traffic volumes. Further NEPA analysis would be completed if the facility is tolled in the future. It is anticipated that by tolling the interstate, traffic volumes would decrease. A reduction in traffic volume would be expected to reduce the project's economic benefits, depending upon the amount of the reduction. The percentage of this decrease for I-73 could be between 50 to 70 of the untolled traffic volume, depending upon the toll cost and method of collecting the toll. Once a decision is made on tolling, an investment grade toll study would be anticipated. This study would provide traffic volumes that could be used to re-evaluate project impacts and benefits.

Construction

1.11 HOW WOULD THE ROAD BE CONSTRUCTED?

There are several options for this project to move through construction. It may be completed in phases, such as S.C. Route 31, or all at once like S.C. Route 22. The traditional method is design/bid/build, which involves as a first step the preparation of design construction plans. Right-of-way would be acquired toward the later stages of the roadway design and would generally be obtained before construction commenced. The project would be advertised and construction firms would bid to construct a project for a specific dollar amount. The SCDOT would select a firm based upon these bids.

A second option is the design/build approach, where bidders may be responsible for some portion of the right-of-way purchase and for both designing and building a project. The SCDOT selects one firm based upon factors which may include qualification and experience, time to construct the project, and cost.

If the project should be constructed as a public private partnership (PPP) or as a concession, that entity would be responsible for most or all right-of-way acquisition and would probably use the design/build approach.

Extreme caution must be taken during the design and construction of the proposed project to ensure that a safe facility is provided to the traveling public. A minimum design speed of 45 miles per hour is necessary to be maintained in the construction area in order to minimize undue traffic backups and delays, where appropriate. Traffic congestion could occur, particularly near proposed interchanges and crossovers where new construction would be in the vicinity of existing facilities. Shifting traffic during the various phases of construction may be required and could cause a potential for accidents due to motorists unfamiliarity with the facility as it changes. A conflict between construction traffic, such as large hauling trucks and construction tractors, and the traveling public could increase the risk of accidents and potential fatalities in the work zone area. Construction activity could warrant the placement of more rigid traffic control apparatus, such as temporary concrete barriers that would create an obstacle, but reduce the potential for injury or fatalities should an accident occur.

Temporary detours could be needed as part of maintenance of traffic during construction, particularly at interchanges and crossover locations. Existing facilities could be closed for brief periods of time, as approved by SCDOT. Detours could also be utilized in areas where construction activities would lead to a reduced number of lanes on an existing facility. This would help reduce traffic congestion in the vicinity of construction. Any detours and maintenance of traffic layouts proposed by the contractor would be reviewed and approved by SCDOT. Temporary detours and closures of facilities could lead to more inconveniences for local residents and travelers throughout the areas of construction. Businesses along these roadways could experience a loss of revenue during construction due to the inconvenience placed on customers to access these businesses.

Access roads could be utilized to maintain existing connections that would otherwise be lost due to construction of the project. Measures that could be incorporated to provide maintenance of traffic include temporary lane closures, temporary relocation of roads, or construction of temporary structures. The speed limits in the construction work zone areas should generally be lower than the posted speed limit on the existing facility. The construction of the interchanges may be completed in stages and the contractor would be required to use typical maintenance of traffic layouts or submit site-specific layouts for review. The contractor would also be required to comply with Section 104.07, Maintenance and Maintaining Traffic, 107.06, Sanitary Health and Safety Provisions, and Section 107.09, Public Convenience and Safety of the *South Carolina Highway Department Standard Specifications for Highway Construction.*[44]

1.12 SUMMARY

The purpose of this project is to provide an interstate link between I-95 and the Myrtle Beach region to serve residents, businesses, and tourists while fulfilling congressional intent in an environmentally responsible and community sensitive manner. The I-73 project is listed as a National High Priority Corridor and a project of "national and regional significance" by the U.S. Congress and also is supported by the South Carolina General Assembly.

The project is primarily needed to provide a major link from I-95 to the Myrtle Beach region, which will provide new opportunities for economic growth and development to counties that are at or below the nation's poverty standards. Dillon and Marion Counties have 24.2 percent and 23.2 percent, respectively, of their populations living below the national poverty standard. In addition, both counties have average median household incomes that are $10,500 below that of the state, and $15,400 below that of the nation. The link will also provide an integration of regions and facilitate the movement of residents and tourists into and out of the Dillon, Horry, and Marion Counties. This I-73 Corridor will provide a means of movement between the region and the Midwestern United States and Canada. The project will secondarily fulfill the needs of expediting hurricane evacuation of residents and tourists from the Myrtle Beach region, alleviate traffic congestion on state and local roads between I-95 and the Myrtle Beach region, and provide a corridor for future multimodal transportation. I-73 would provide a new hurricane evacuation route, lowering the evacuation times on other primary evacuation routes in the area, such as U.S. Route 501, by more than ten hours. People traveling through the area will have the option of using a controlled-access highway, which would reduce traffic from local and state roads and

[44] SCDHEC-OCRM, *South Carolina Stormwater Management and Sediment Control Handbook for Land Disturbance Activities* (2003), Appendix E.

relieve some congestion. The Corridor of I-73 will include a right-of-way that would allow for future high speed rail options.

There are several options for financing the roadway, but it seems likely that tolling will be used to pay for at least a portion of I-73. The tolling can be done in a variety of ways, depending upon the revenue needed and type of access for local traffic that is desired.

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