

U.S. DEPARTMENT OF TRANSPORTATION
CORRIDORS OF THE FUTURE PROGRAM PROPOSAL
~ THE SOUTHEAST I-95 CORRIDOR ~
PROPOSED BY CSX CORPORATION
OCTOBER 23, 2006

INTRODUCTION

On October 17, 2006, the United States Census Bureau announced the arrival of the 300 millionth American, with a prediction that the 400 millionth American would arrive in a mere 37 years. Fully half of those 100 million new Americans are expected to live within 50 miles of the coast.¹ That population surge will trigger unprecedented economic growth and development, straining the nation's transportation infrastructure and emphasizing the need to put facilities in place today. We respectfully think that the answer is a stronger rail network. And the work must begin today.

In light of this prediction, CSX is pleased to nominate the I-95 Corridor between Washington, DC and Florida for Corridor of the Future designation under the U.S. Department of Transportation Corridors of the Future Program (CFP). The 1,200 mile Washington to Miami segment of CSX's I-95 Rail Corridor (the Corridor) serves five states (Virginia, North Carolina, South Carolina, Georgia and Florida) and the District of Columbia (See Figure 1).

This document identifies why CFP designation for the Corridor is sound public policy. It will promote freight and passenger rail efficiencies, best in class and continuously improving safety and environmental practices, responsible economic growth and development, and a stronger national rail transportation infrastructure. This designation will also relieve the growing congestion caused by increased freight and passenger rail volume on the Corridor as well as the congestion on route I-95 between Washington and Miami.

CSX CORRIDOR OPERATIONS

CSX Corporation (CSX Corp.) owns CSX Transportation (CSXT), the largest rail network in the Eastern United States. CSXT operates a 21,000 mile freight rail network across 23 states and the District of Columbia. CSX Corp. also owns CSX Intermodal (CSXI), which is the nation's only stand-alone nationwide integrated intermodal business.

The most significant growth and anticipated growth in demand for intercity, regional and local passenger rail service is occurring between Washington, DC and Miami, Florida.

¹ Source: The Center for Environment and Population

Figure 1



The 1,200 mile² Corridor serves urban, industrial and rural areas along the Eastern Seaboard. It is characterized by congested urban regions on each end (Washington, DC and Miami), and regional population centers such as Raleigh, Savannah, Jacksonville, and Orlando in between. Further, the corridor serves major public and private port facilities along its length, including: Norfolk, Wilmington, Charleston, Savannah, Jacksonville and Miami.

On Interstate-95, high volumes of car and truck traffic are the norm; this is the principal highway connecting the densely-populated Northeast and the increasingly-populated Southeast.

In order to keep up with and prepare for an increase in demand for freight rail traffic, CSX is investing in its rail infrastructure. In 2006 alone, CSX is investing \$1.4 billion in capital improvements to its network. In the Southeast, CSX is planning to build a new Integrated Logistics Center (ILC) in Winter Haven, FL. This ILC will be the first of its kind in the region and will handle intermodal (container and trailer traffic) and automotive shipments which will help to streamline operations along this 15-terminal route.

CSX'S VISION FOR THE FUTURE

CSX believes that the Corridor can be an iconic CFP example that will successfully demonstrate how well-planned comprehensive investment in rail infrastructure can support economic development and further national transportation goals.

The physical configuration of the Corridor must be modified in order to address three major challenges for the future: 1) both passenger and freight trains will have the potential to travel faster; 2) both passenger and freight trains will have greater reliability and recoverability; and 3) there will be more passenger and freight train volume on the line.

CSX believes that customer and consumer demand will require the unimpeded movement of 110 mile per hour passenger trains and freight trains operating at 50 to 70 miles per hour. Fast passenger service should be physically separated from freight operations and both passenger and freight lines should be sealed.

Even at current speeds and volumes, efficiently, effectively and safely balancing freight and passenger trains in the Corridor is a challenge. Currently, CSX serves more than 2,300 industrial customers in the five-state region and the District of Columbia. Not only do customers expect their shipments to arrive on-time but many depend on Just-In-Time (JIT) service. These goods share the rails with commuter and passenger trains that seek to adhere to equally-rigorous schedules.

Improving the entire Corridor is a significant undertaking. Sealed high-speed passenger service will require adjacent freight tracks through industrial areas. Higher density industrial areas may require freight tracks on both sides of passenger tracks, while low density passenger rail service areas may require only single passenger tracks with sidings. Certain locations along the Corridor, such as industrial areas and urban commuter territories, may require additional infrastructure.

² The 1,200 mile I-95 Corridor is made up of multiple routes. The route from Washington to Miami via Richmond, Rocky Mount, Florence, Charleston, Savannah, and Jacksonville is approximately 1,200 miles in length. The route from Raleigh to Savannah via Columbia is approximately 350 miles in length. Thus the total corridor contains approximately 1550 route miles.

Regardless of the mix and background of rail traffic, CSX believes that the program must plan and provide for substantial growth of both passenger and freight services along the Corridor and the addition of new freight customers along the route. CSX believes that this planning should be holistic, and anticipate heightened growth and demand in the Corridor for a generation or more.

PASSENGER TRAIN SERVICE

CSX recognizes that in fast-growing regions on its network, such as the Southeast, passenger rail can serve an important role in strengthening communities, reducing congestion and aiding urban renewal and revitalization. CSX seeks to work constructively with municipalities and passenger rail operators to ensure that passenger service on CSXT's privately-owned lines can occur safely, effectively and efficiently.

The Federal Railroad Administration (FRA) requires that trains operating faster than 79 MPH have engine cab signals or automatic train stop features integrated into the signal and communication systems supporting the service. For added safety, CSXT policy requires that passenger trains operating at speeds higher than 90 MPH must use a separate and sealed rail corridor. The sealed corridor concept is discussed in the section on Safety below. Further, given the heightened freight and passenger volumes anticipated in the Corridor, it is likely that a separate dispatching system could be considered for a separate and lengthy section of passenger track.

Today, CSXT shares its track with the primary passenger rail operators in the corridor: Amtrak, the Virginia Railway Express (VRE), and South Florida Regional Transportation Agency (SFRTA formerly Tri-Rail). In addition, commuter operations in the Orlando area are planned for 2010.

Amtrak operates an average of eighteen daily trains south of Washington to and from destinations on this Corridor. Eight of these trains operate to and from destinations in Virginia, two in North Carolina, two in Georgia, and six in Florida, including the Auto Train. Excluding the Northeast Corridor service to and from Richmond, approximately 160,000 riders used Amtrak in the Corridor in July 2006. The majority of these riders were passengers on Amtrak's Florida, North Carolina and Newport News routes. Over 6,800 additional monthly passengers use the twice-daily round trip Amtrak Northeast Corridor trains connecting Richmond's Staples Mill Road Station with Washington, DC's Union Station.

Passenger volume on VRE commuter trains between Washington, DC and Fredericksburg, VA and on SFRTA commuter trains between Mangonia (West Palm Beach) and Miami, FL exceed volumes on Amtrak intercity trains in the region.

CSX is working to keep up with the forecasted increase in demand for passenger rail service in the Corridor. It is improving both passenger and freight rail service on the Corridor by:

- Partnering with the Florida Department of Transportation (FDOT) and the Orlando transit providers on the creation of an approximately 60-mile commuter rail service between DeLand and Poinciana, bracketing Orlando;
- Working with FDOT and SFRTA to turn over dispatch and maintenance on the 74-mile line between Mangonia (West Palm Beach) and Miami, as well as working with FDOT and Miami-Dade County for the extension of commuter rail from MIA to Homestead;
- Identifying, in cooperation with the Virginia Department of Rail and Public Transportation (VDRPT), Amtrak, VRE and the FRA, significant capacity improvements on the CSXT track that carries passenger traffic. These improvements include a new third track in the 118-mile

Washington-Richmond corridor that will accommodate desired increases in both commuter and intercity passenger rail service;

- Cooperating with the City of Richmond, Amtrak and FRA to develop a plan for expanded Northeast Corridor service to the downtown Richmond Main Street Station. One of the primary goals of this effort is to identify passenger train storage and turning facilities that serve passenger needs without impeding or interfering with CSXT freight operations;
- Conducting, in partnership with VDRPT, a capacity analysis of the congested Richmond Terminal centered on CSXT's Acca Yard to identify needed infrastructure improvements that will support more efficient and expanded freight and Amtrak corridor service between Washington, DC and Richmond. As part of this study, DRPT and CSXT are modeling train operations in the Corridor between Baltimore, MD and Rocky Mount, NC;
- Expanding the I-95 corridor modeling effort southward from Rocky Mount to Florence, SC as a means of identifying capacity constraints. CSXT is working with the North Carolina Department of Transportation (NCDOT) to identify both the constraints and the infrastructure needed to overcome them in the North Carolina portion of the Corridor;
- CSX is currently engaged in completing another capacity modeling effort on the remaining portion of the I-95 Corridor south of Florence for use in this study; and,
- Examining the numerous studies on passenger rail service conducted by transit agencies and Metropolitan Planning Organizations (MPOs) throughout the Corridor to identify opportunities, potential "best practices" and logistical challenges. An American Public Transit Association report issued in January 2006 identified 31 urban areas in the Corridor exploring commuter rail options.

CSXT is working closely with municipalities to identify and solve future challenges. As part of this process, CSXT examines each potential passenger rail proposal to ensure that it will not compromise its safety or ability to handle growing traffic demands or compromise the company's primary business objective – freight rail transportation.

CSXT, like other Class I railroads, owns and maintains the property over which its trains operate. Therefore, it requires compensation from governmental interests for the right-of-way and capacity utilized by passenger operations, as well as for the costs associated with any additional precautions necessary to ensure safe passenger service.

CSXT also needs to ensure it does not bear the inherent liability associated with passenger rail service. As such, it will consider passenger rail proposals only when such proposals completely offset any additional liability borne by the company.

FREIGHT GROWTH

The U.S. Department of Transportation forecasts that by 2020 overall freight tonnage hauled in the United States will have grown by 70% from 1998 levels.³ Coal and intermodal growth for Southeast Georgia and Florida will match the population growth in those areas. In 2005, CSXT reported over 220,000 carloads of freight originating and over 630,000 carloads of freight terminating with shippers along the Corridor. Additionally, CSX Intermodal reported 300,000 units originating and 340,000 units

³ US DOT, FHWA "Freight Analysis Framework: National Summary 1998, 2010, 2020" Oct. 2002

terminating along the Corridor. With an average of one rail car equating to between two and four trucks, these totals represent as many as 3.2 million trucks traveling along the highways of the five states and the District of Columbia comprising the I-95 Corridor. Furthermore, recent forecasts predict that import – export port traffic will increase at a rate of 7% per year for the next ten years, which will increase the demand for freight rail service to and from ports along the East Coast. This corridor represents key land transportation infrastructure for the United States’ growing import – export economy. With the growth of ports and containerization of commodities, CSX anticipates longer trains with higher frequencies.

CSX must find ways to meet new customer demand. Rail-served industries will locate a new plant or make a sizeable investment to an existing one when the investors can be assured of reliable, cost-effective rail service. In the same spirit, ports plan for, and realize growth when, they are assured of inland transportation solutions. A good example of customer-driven growth is Winter Haven, FL where CSX will work with private partners and cooperate with public partners to develop an Integrated Logistics Center (ILC) for intermodal and automobile shipments proximate to distribution centers. These centers improve transportation efficiency and cost effectiveness of the logistics chain helping land use planning and generating jobs.

DEVELOPING THE CORRIDOR

In order to develop the Corridor to its full potential capacity for safe freight and passenger rail service, CSX will work with key individuals at the federal, state and local levels to build consensus around the vision articulated within this application. At the same time, CSXT will identify and prioritize the most effective Corridor improvements. The next step would entail identifying historic chokepoints along the Corridor and potential solutions. During this process, CSXT would note locations that present occasional or seasonal capacity problems.

CSXT would then work with local MPOs to develop land use plans that would identify potential locations for new or expanded rail-served industries. Once these locations were identified, all involved groups would work to ensure that through freight and passenger movements would not be impacted by industry service.

Intermodal and carload transportation changes the way CSX’s customers do business. The overall impact on the transportation infrastructure can be divided into five components: an increase in the volume of transportation; a reduction in logistic costs; increased reliability of service; economies of scale associated with transportation network expansion; and improved accessibility to producing and consuming markets.

MULTIPLE MAIN TRACKS

Safe and efficient passenger and freight rail operations require appropriate track separation, especially in areas where high speed operations are anticipated:

- A track centerline distance between freight and passenger tracks of at least thirty feet in multiple track corridors is needed to allow maintenance to be conducted on one track without impeding train operations on the adjacent track. This separation will strain CSXT’s typical 100-foot rights-of-way; additional rights-of-way may be needed in some areas.
- Operation of passenger trains at higher than current speeds will be constrained by sharper curves; curve realignments may be required at various locations. The Corridor has approximately 530 curves on the A-Line and S-Line routes, which are greater than the one degree typically cited for higher speed passenger operations. Without upgrades, it may not be possible to achieve uniformly-fast service at all locations. CSXT anticipates identifying and prioritizing improvements at locations where the greatest benefit will result from realignment of curves.

- The introduction of high-speed passenger operations will require a wider footprint with appropriate track center, grade and other separations to accommodate additional infrastructure. Also, the passenger rail must elevate above freight rail at appropriate intervals to allow freight trains to transition between sides of the corridor to service freight customers. Additional consideration should be given for future clearance for Intermodal equipment.

As a result of correctly sized lines, terminals and other engineering improvements referenced above, more freight and passengers will be able to move by rail. However, efficient and effective service must be consistent, fluid and reliable. Whether shipping or receiving, businesses rely heavily on rail services, especially businesses depending on JIT deliveries of materials and the shipment of finished goods. In recent years, railroads have been increasing freight volumes and enhancing their infrastructure to support heightened demand. Better infrastructure has led to significant improvements in efficiency – the proposal we are submitting will not only offer significant passenger and commuter capacity and service improvements but will also preserve freights unimpeded ability to grow.

A critical difference between railroads and highways is that when a highway reaches capacity or suffers a major incident, travelers can often take an alternative nearby route. Railroads do not have this option, and therefore, impediments to the flow in service can stop all trains, often in both directions on any corridor. In the past, train breakdowns and minor derailments on the two-track corridor between Washington, DC and Richmond have blocked or seriously delayed CSX, VRE and Amtrak service in both directions. A more robust corridor would reduce the impact of such incidents on both freight and passenger service.

A stronger rail infrastructure will increase service reliability and enable more freight to move by rail, lessening the need for new highway lanes to accommodate truck traffic. One rail car can move the same freight as 2 to 4 trucks with less energy. A single truck uses the highway lane equivalent of 1.5 to 4.5 automobiles - resulting in a potential multiplier effect that could be as large as 18:1 in terms of one rail car of freight capacity freeing an equivalent of highway lane capacity to accommodate 18 automobiles. Average highway lane capacities tend to be in the range of 2,000 vehicles per hour in crowded rush hour conditions. (Table 1 shows freight rail transportation’s potential for alleviating highway congestion)

Table 1 – Trains versus Lanes

	Conversion Range	
	Low-end	High-end
Passenger vehicles traveling in one highway lane per hour	1,800	2,200
Passenger vehicles displaced per truck	1.5	4.5
Truck load capacity per rail car	2	4
Multiplier (space cleared on highway per rail car, in terms of passenger vehicles removed)	3	18
Rail cars needed each day to clear the equivalent of one highway lane	600	122
Trains needed each day to move these rail cars	10	2

Similar benefits occur when more passengers travel by rail, especially in urban areas. Highway lanes added to existing interstate highways in urban areas are extraordinarily expensive to construct and often nearly impossible to build for environmental reasons.

For example, VRE serves nearly 16,000 riders per day on the 85-mile two-line system (CSX: Washington to Fredericksburg and Norfolk Southern: Alexandria to Manassas). This service accounts for the equivalent of a rush hour lane of traffic on severely congested I-95 and I-66 in *each* direction. Constructing additional lanes on the two interstate highways in each direction over the 85-mile VRE

corridors to accommodate those riders would cost, using conservative estimates, from \$5 million to \$15 million per lane mile, for a total of approximately \$1.7 billion (85-mile VRE corridors * 2 lanes (one in each direction) * \$10 million per lane mile = \$1.7 billion).

Expenditures for transportation are borne directly by users as well as by public and private agencies that support the infrastructure. Rail improvements, as part of a balanced transportation investment, can help public agencies achieve the greatest impact for their construction and maintenance dollars.

REDUCING CONGESTION SAVES TIME AND MONEY

Over 75 percent of U.S. domestic freight tonnage is currently carried by trucks – a significant source of traffic congestion. In fact, truck traffic on urban highways, such as I-95, has grown more than twice as much as passenger traffic between 1993 and 2001.⁴ The problem is most acute in urban areas with high value economic activities and freeways at (or beyond) capacity during peak periods. On most freeways, an estimated 30 percent to 60 percent of the capacity is actually used by trucks. Also, truck-related accidents generate serious traffic congestion because they involve more significant lane blockages or closures. The costs associated with congestion are high and only increasing. Congestion cost the U.S. \$63 billion in 2003 through 3.7 billion hours of delay and 2.3 billion gallons of fuel consumed.⁵

Freight rail combined with proper grade separation provides a solution to traffic congestion and improved reliability. A single intermodal truck to double-stack train to truck movement can remove as many as 200 trucks off the nation's major interstate highways. Additionally, rail investments that lower passenger travel times and increase reliability for passenger trains can generate demand from commuters who may opt for rail instead of the highway. Commuters who switch to trains save time and increase their productivity.

SAFETY

Trains are much safer than cars and trucks for both people and freight. The U.S. freight railroads are currently operating at record safety levels and are aiming at continued improvements. When compared with cars and trucks, freight and passenger trains have a lower accident rate. Similar to congestion relief, people who normally would have driven but instead decide to travel by train reduce the potential for highway accidents for themselves and continuing highway users.

The Corridor currently has over 1,700 at-grade highway rail crossings. If passenger trains are to operate in excess of 90 MPH over grade crossings, then the Corridor must be "sealed" (e.g. all crossings must be grade separated or four-quadrant gates must be used to prevent accidental intrusion of a vehicle).

ENVIRONMENT

Trucks predominantly use diesel fuels, a major source of NOx (an ozone precursor) and the primary mobile source of particulate matter. Personal vehicles also generate air and noise pollution and have significant impact on health and property values in urban areas.

In other words, rail solutions offer a cleaner environmental alternative to cars and trucks and support U.S. energy independence. They use dramatically less fuel and emit less pollution per ton mile. Rail moves at least three tons for every ton of freight transported by truck per gallon of diesel fuel.

⁴ The Hudson Institute

⁵ The Texas Transportation Institute

CONSTRUCTION SCHEDULE

The construction schedule for this project will ultimately be dependent upon funding levels, timing and the execution of agreements between the diverse stakeholders within the five states, the District of Columbia, and the multiple transit and commuter rail agencies who would benefit from enhancements to the Corridor. Given recent history in transportation construction, CSX envisions that it will take ten to twenty years to develop, design, permit and construct the full program of improvements in the 1,200-mile corridor. However, phased improvements, especially in the major urban portions of the corridor, would result in an earlier realization of interim benefits as the remaining portions of the corridor come into place.

FINANCING

Achieving national transportation goals through the creation of an I-95 Corridor of the Future will require a significant investment. This investment will need to provide for the purchase of additional property and/or rights-of-way for expanded facility and capacity and the construction of additional infrastructure to accommodate high speed passenger service and growing freight service. A project of this size will require innovative financing alternatives and equitable allocation of on-going operating and maintenance costs.

CSXT owns and maintains the property over which its trains operate on the I-95 corridor. However, as is the case with the National Highway System, construction of the Corridor could be funded by a combination of public and private entities. The cost may then be amortized and recovered through the collection of user fees of some form over time. Historically, railroads have used some form of investment by third parties and repayment over time for rolling stock, cars and locomotives, but not for rights-of-way or corridors.

A Comprehensive Development Agreement (CDA) is one example of an innovative financing alternative that has recently begun to be used to develop toll highways; similar concepts are beginning to emerge for railroad facilities. A CDA is an agreement between a developer or other private entity or consortium, and an institution which engages in long-term contracts and commitments (e.g. a state or transit district). A CDA provides large up-front investments in return for the right to operate a facility for a long period, usually greater than 50 years. This is just one example of the many financing alternatives for such a significant project.

The Corridor could also be segregated at various locations on the freight and passenger tracks, with separate financing, operating and cost accounting for each section. Additionally, intercity passenger and commuter passenger would possibly fund rights-of-way, passenger facilities and operations separately (or pay for use separately) while still realizing the synergy of an overall Corridor of the Future.

Actual construction costs for the Corridor cannot be accurately estimated at this early stage without carefully modeling all proposed operations and infrastructure needs. However, using order of magnitude estimates based on recent major rail program developments, CSX foresees costs ranging from \$12 billion to \$20 billion in today's dollars. Much of the variability of costs is tied to the need to purchase new rights-of-way and to construct a separate operating passenger rail system including signaling, dispatching, communications and supportive infrastructure.

ECONOMIC DEVELOPMENT AND BENEFITS

Improvements to the Corridor would benefit many millions of people. Rail improvements produce both short-term economic impacts (during the construction phase) and longer-term impacts (during the operation phase) in terms of business output, employment and tax revenue. Beyond the well-established and measured economic impacts, rail improvements generate other positive effects on industries and the community at-large. (See Table 2)

Rail infrastructure investments generate jobs and tax revenue. Railroad projects are expensive and can generate millions of dollars in core national industrial sectors through the sourcing of materials. Construction jobs can revitalize local economies in the short run; and in the long-run, especially with additional intermodal facilities and logistics centers, thousands of permanent high skill/high wage jobs can be created with large multiplier effects for the local tax base and businesses. According to a recent study, a single intermodal center in Illinois is projected to create more than 8,000 new jobs and generate as much as \$27 million in property tax revenue to local governments.

Table 2 – Economic Benefits of Improvements to Rail Service and Infrastructure

<i>Beneficiary</i>	<i>Type of Benefit</i>					
	Improved Freight Operations	Economic Development	Time Savings	Out-of-Pocket	Safety, Security and Emergency	Environmental
Highway Passengers			Congestion Relief	Reduction in Vehicle Operating Costs	Reduced Accident Cost	
New Rail Passengers				Reduced Transportation Costs	Reduced Accident Cost	
Existing Rail Passengers			Travel Time Savings		Reduced Accident Cost	
General Public		Job Generation and Increased Income		Shipping Cost Reduction	Safety and Security Improvements	Environmental Improvements (Air & Noise Pollution)
Public Sector		Increased Tax Base		Reduced Hwy Cost		
Private Sector/CSX	Reduced Inventory Costs				Reduced Accident Cost	

PREPARING FOR THE FUTURE

A clear vision of the Southeast I-95/CSX Corridor of the Future can be used as a catalyst for mobilizing a broad and diverse spectrum of interests in the region. Support for this vital investment would assure continued environmentally-friendly and efficient economic growth in a corridor that is currently home to millions of people with more arriving each day.

It is critical that our nation prepares for the next 100 million people predicted to arrive in our country – many of whom will live near the coasts. The history of CSX and this great nation are uniquely entwined, and we would be proud to support the U.S. Department of Transportation Corridors of the Future Program in leading this endeavor.