

Rappahannock-Rapidan Regional Rail Study

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Executive Summary

Located in Virginia's Northern Piedmont, the Rappahannock-Rapidan Region is comprised of the counties of Culpeper, Fauquier, Madison, Orange and Rappahannock and their respective towns. Although largely rural in character, the region is currently experiencing population growth, residential and commercial development and the associated changes in transportation patterns and traffic congestion. The main north-south corridors, U.S. Route 29 and U.S. Route 17, have seen a steady increase in vehicular and commercial traffic over the past several years. The region has experienced growth in through traffic between Northern Virginia and Charlottesville, and both Route 17 and Route 29 have become popular alternatives to the heavily traveled interstates located east and west of the Rappahannock-Rapidan region. Additionally, a growing number of the region's residents commute out of the region for work, with the highest numbers heading to the Washington, D.C. metro area via routes 28 and 29, and Interstate 66. In lesser numbers, commuters also travel southward to Charlottesville, and eastward to the Richmond and Fredericksburg metropolitan areas.

While the region's roadways continue to experience greater use, the opportunity to explore rail transportation is an important step for the Rappahannock-Rapidan region. With its ability to carry high-capacity numbers of passengers and freight, rail provides the benefit of carrying a large number of people and goods while alleviating some of the pressures on other modes of transportation. Rail transportation offers increased capacity for both freight (compared to tractor-trailers) and passenger rail (compared to van pools and car pools). Furthermore, rail is a popular means of intermediate-level travel (500 miles or less) and remains popular with users who cannot drive or do not have access to a vehicle.

The purpose of this Rappahannock-Rapidan Regional Commission Regional Rail Study is to identify existing rail assets within the region, provide background information on current rail initiatives affecting the region and suggest possible future means of utilizing rail transportation to benefit the Rappahannock-Rapidan Region and its residents. Long-term transportation planning in the region should reflect a multi-modal system that can enable residents, commuters, and visitors to travel within the region in a timely and efficient manner. Rail travel would provide the region with the ability to connect its growing population with urban centers to the north and south, as well as bring visitors into the region from those same areas.

Introduction

The popularity of rail transportation, for both freight and passenger traffic, has seen an increase in the past few decades as a result of new technologies in the rail industry, as well as federal and state-level funding initiatives, including ISTEA, TEA-21 and SAFETEA-LU. As a result of this renewed interest in passenger rail as a means of short and long-distance travel and partially in response to heavily-traveled and often crowded roadways, the public has voiced increasing support for a greater number of alternative travel options. The desire for rail to be a viable and cost-effective mode of transport for long-distance and commuter travel has grown exponentially as the growth patterns of suburbs and exurbs have allowed workers to live increasing distances from their jobs. In the United States, there are several regional rail systems centered around large cities. Several states operate statewide rail services that provide intra-state travel and connections with regional systems and Amtrak. Internationally, many areas of Europe and Asia – urban, suburban, and rural alike – rely heavily on rail transport for passenger travel.

For classification purposes, passenger trains are often grouped into three distinct categories – commuter, regional and long-distance trains.

The function of commuter trains is to transport passengers to/from an urban hub, with the primary purpose of taking them from home to work, and vice versa. Typically, travel time for commuter trains is between 1 to 2 hours. Commuter trains are most often run by transportation commissions, as is the case with the Virginia Railway Express (VRE), which functions as a joint partnership between the Portomac and Rappahannock Transportation Commission (PRTC) and the Northern Virginia Transportation Commission (NVTC), offering service to commuters in the Northern Virginia area.

Regional trains connect and cover a larger area than commuter trains do, usually in the range of several hundred miles. In general, regional trains offer fewer stops than do commuter trains.

Long-distance trains are usually thought of as trains that provide service for routes over 500 miles in distance.

Most trackage used by passenger trains in the United States is owned by private, for-profit companies who draw their main revenues from freight transportation. Norfolk Southern Corporation and CSX Transportation currently own all of the trackage in the Rappahannock-Rapidan Region, as well as a majority of the trackage within the Commonwealth of Virginia. A portion of the CSX-owned track is leased to, and operated by, the Buckingham Branch Railroad. In Virginia, Amtrak and VRE routes run over privately-owned trackage, with contracts between the passenger train operators and private freight companies negotiated for use of said trackage. Additionally, the passenger train operators must work with the freight companies to determine scheduling, maintenance/improvement costs and measures, liability, and right-of-way.

Obviously, one of the main keys to developing and implementing a successful rail system in any region is cooperation and communication between several parties, including the track owners, potential passenger rail operators, and local, state and federal officials. Collaborative efforts at developing rail projects within and around the Rappahannock-Rapidan Region have already started in many cases, and this study aims to document those efforts, as well as provide information for developing rail services in the region.

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Current Rail Studies and Initiatives

There are several studies of rail transportation and services currently underway or recently completed that were considered in the development of the Rappahannock-Rapidan Regional Rail Study. These studies range from statewide initiatives, such as the TransDominion Express (TDX), other Planning District level studies in Virginia, as well as studies that extend across state boundaries, such as the Southeast High-Speed Rail Project (SEHSR).

TransDominion Express Study: The Virginia Department of Rail and Public Transportation (DRPT) released the Bristol Rail Passenger Study in 1998. The study made several recommendations with the development of passenger rail connections between Washington, D.C., Richmond and Southwestern Virginia the most prevalent among them. The study also found that the TDX would decrease traffic congestion on highways, reduce air pollution, increase safety, and stimulate tourism and commerce in addition to providing an alternative to automobile transportation throughout the Commonwealth. More information is available at <http://www.tdxinfo.org>. Figure 2 below shows a map of the suggested route from the TDX study.

Since 1998, additional studies have been completed under direction of DRPT as to the feasibility of moving forward with implementation of the TDX, including an Amtrak study (2000), a Woodside Consulting Group study (2002), completed at the request of DRPT and Norfolk Southern and a 2005 DRPT study. The most recent update to the TDX reports is included in House Document 2 to the 2007 Virginia General Assembly. This report states that many questions remain unanswered regarding the cost and benefit of TDX implementation and that a comprehensive strategy must be developed to advance the decision-making process regarding the implementation of TDX. This strategy must include updated costs and must address five key issues:

1. What is the public benefit of the services?
2. What should the governance structure be? Who will oversee such a project?
3. How will TDX be operated?
4. How will capital and operating expenses be funded?
5. Can operating and cost-sharing agreements be reached?

DRPT director Matthew Tucker, in a letter to the General Assembly introducing the document, writes:

The ridership and subsidy performance estimates contained in this study do not by themselves justify a decision to implement TDX service on the basis of reduced congestion. Any decision to advance TDX and make investments of

public money will be based on other factors not evaluated in this report, such as the potential for economic development, tourism, and improved mobility options. Additionally, any investment should only be made after further analysis of public and private benefits garnered by both the Commonwealth and Norfolk Southern Railway Company along with the execution of an agreement that provides for appropriate sharing of costs and benefits.

State and Interstate Rail Projects and Studies: There are currently several projects designed to enhance rail transportation within the Commonwealth of Virginia. DRPT is currently funding improvements to high-priority sections of CSX-owned trackage within the Washington, D.C. – Richmond corridor. This is expected to allow increased Virginia Railway Express (VRE) commuter service and Amtrak intercity service and increase capacity for both passenger and freight trains. There are also ongoing studies to determine ways of improving rail travel through Richmond and along the Richmond – Hampton Roads corridor.

The Southeast High-Speed Rail Project (SEHSR) is a joint effort between the DRPT and North Carolina Department of Transportation. The main goal is to connect the Washington, D.C. area and the Northeastern population centers with cities south of Washington, including Richmond, Raleigh and Charlotte. Virginia and North Carolina are currently working on a Tier II Environmental Impact Statement (EIS) for the section of the corridor between Richmond – Main Street Station and Raleigh, NC. This document is scheduled to be completed in late 2009.

Rappahannock-Rapidan Regional Commission (RRRC) Studies: The Regional Commission has completed several studies and reports dealing with transit and land use issues within the region. Completed in January 2006, *Transit-Oriented Development in the Rappahannock-Rapidan Region* focuses on mixed land-use development centered around regional transit stops. Several of the jurisdictions within the region are also currently discussing the role of rail transportation within their communities.

RRRC Rural Transportation Technical Committee (RTC)/Regional Long Range Transportation Initiative: The RRRC Rural Transportation Technical Committee consists of area planners, agency representatives and other stakeholders involved in planning for the region's growing transportation and transit network. The RTC is holding ongoing discussions about the future of rail transportation in the region and the effects of incorporating commuter and passenger rail operations into the region's planning efforts.

I-81 Freight Diversion: The Virginia Department of Rail and Public Transportation has previously completed several studies relating to the diversion of freight (tractor-trailer) cargo from I-81 to alternate rail corridors in Virginia, including the 2003 *Northeast-Southwest-Midwest Corridor Marketing Study*.

A study of I-81 Truck-Rail Diversions is being conducted by DRPT as part of the Office of Intermodalism's Virginia Statewide Multimodal Freight Study. This study of the potential for I-81 truck rail diversion is consistent with the intent of Virginia General

Assembly House Bill 1581 and includes five major elements: 1) review and summary of prior work efforts by VDOT, NS, and consultant team members; 2) coordination with NS (which is conducting an internal study) to ensure that such work addresses the issue areas of HB 1581; 3) independent review and validation of NS study findings; 4) public benefits evaluation; and 5) identification of unresolved issues requiring further investigation. This study is expected to be completed by July 2007.

Other PDC Activities: Several other Planning Districts throughout the Commonwealth have completed rail studies recently, including Richmond Regional, Hampton Roads and Thomas Jefferson PDC. The Thomas Jefferson PDC's 2004 *Rail Conceptual Study* holds some important connections with this Rappahannock-Rapidan Rail study, particularly on the Richmond-to-Charlottesville corridor. Attention should also be given to studies completed by the Northern Virginia PDC and associated organizations to the north.

Existing Rail Services

Amtrak: Currently, Amtrak (National Railroad Passenger Corporation) operates two routes that travel through, and stop in, the Rappahannock-Rapidan region. The *Cardinal Route* runs from New York to Chicago via Washington, D.C., Cincinnati and Indianapolis three times per week and stops in Culpeper. Likewise, the *Crescent Route* runs from New York to New Orleans via Washington, D.C. and Atlanta daily, but only stops in Culpeper with prior notification to the conductor. Reserved seats on these trains are for intercity travelers, rather than commuting passengers. (See figures 6 & 7 below).

VRE (Virginia Railway Express): Virginia Railway Express is a commuter train service for areas south and west of the Washington, D.C. metropolitan area. Currently, trains run inbound to Washington, D.C. from the Manassas and Fredericksburg areas during morning rush hours, and the reverse during afternoon rush hours. Although VRE does not currently serve the Rappahannock-Rapidan region with a station, the possibility exists for future expansion along the route 28 corridor. (See figure 4 in Maps Section)

Regarding potential expansion to Bealeton, the Operations and Expansion FAQ found on VRE's website (www.vre.org) states: "It is the long range strategic plan of the Virginia Railway Express to expand service to the Bealeton area. We feel that service to the Bealeton area would be a valuable service to the growing constituency in the Fauquier County/Culpeper region. However, plans for expansion currently remain on hold while we address funding related issues for station development, including track improvements and the operational authority necessary to run commuter rail service. This funding issue must be rectified before any service expansion could begin. We are close to completing a joint study with Norfolk Southern on what specific railroad infrastructure issues would need to be addressed should this move forward."

In addition, VRE's Strategic Plan states: "As the Bealeton and Remington area develops, particularly if the development concentrates higher-density residential uses in proximity to rail stations, there will be sufficient demand to support commuter rail service. The overall demand will be lower than in the Gainesville-Haymarket corridor and will take

longer to materialize, so Fauquier service is envisioned as a later phase in the expansion program.”¹

Norfolk Southern-owned trackage: Norfolk Southern Corporation (NS) currently owns a majority of the trackage within the Rappahannock-Rapidan Region. NS operates the Manassas to Front Royal route, today known as the “B Line,” that roughly runs parallel with Interstate 66 and Virginia route 55 between Gainesville and Front Royal. In the region, this track runs through rural sections of northern Fauquier County, through the towns of The Plains, Marshall, Delaplane and Markham.

To the southwest of Manassas, the Piedmont line runs along the Virginia Route 28 corridor through southeastern Fauquier County. At Remington, it turns to follow the U.S. Route 29 corridor through Culpeper County, turning south at the town of Culpeper. From there, it runs to the town of Orange, where it again turns to the southwest and runs to Charlottesville.

CSX-owned trackage: At present, CSX Transportation (CSX) is a major carrier across the Commonwealth, with the CSX-owned line in the Washington, DC to Richmond corridor one of the most important rail corridors for both passengers and freight in Virginia. In the Rappahannock-Rapidan Region, the CSX-owned Washington subdivision runs from the town of Orange south along the route 15 corridor to Gordonsville and then into Charlottesville (outside the PD9 region). Additionally, the trackage running into Gordonsville from the east (from Louisa County, outside the PD9 region) are part of the CSX Piedmont subdivision. As of 2004, CSX Transportation reached an agreement with Buckingham Branch Railroad to lease operations of the CSX-owned Washington, Piedmont and North Mountain (outside the PD9 region) subdivisions to Buckingham Branch for a 20 year period.

Buckingham Branch: As mentioned above, Buckingham Branch Railroad, based in Dillwyn, Virginia, has entered into a 20 year lease of the CSX-owned trackage in the Washington and Piedmont subdivisions. These lines run through the southern portion of the Rappahannock-Rapidan Region and provide access to Richmond and Charlottesville via the town of Gordonsville.

¹ VRE Strategic Plan, 2004-2025, p. 84.

Goals and Objectives

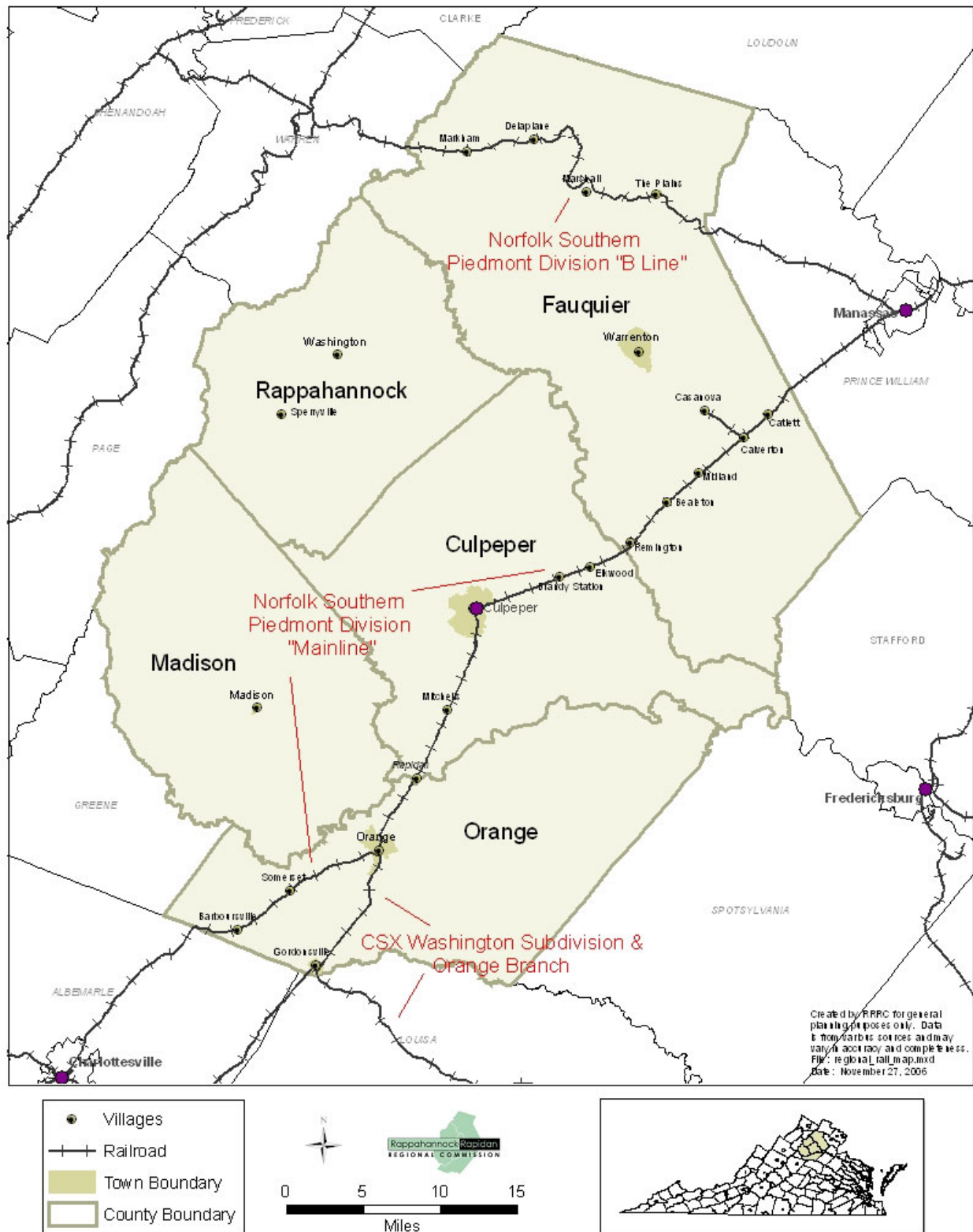
This regional rail study for the Rappahannock-Rapdian Region is intended to be a compilation of passenger rail transportation opportunities and initiatives currently underway or in the planning process. It is meant to provide a basis for future commuter rail initiatives in the region, as well as present a comprehensive look at current rail assets and possible rail developments affecting the region.

Taking into account the TDX study, freight diversion efforts from Interstate 81 and current rail transportation in the region, a number of potential ideas have developed. These include commuter rail services in three directions from the region, long-distance and regional rail system improvements and potential station locations and/or improvements that are presented in the following sections.

Regional Rail

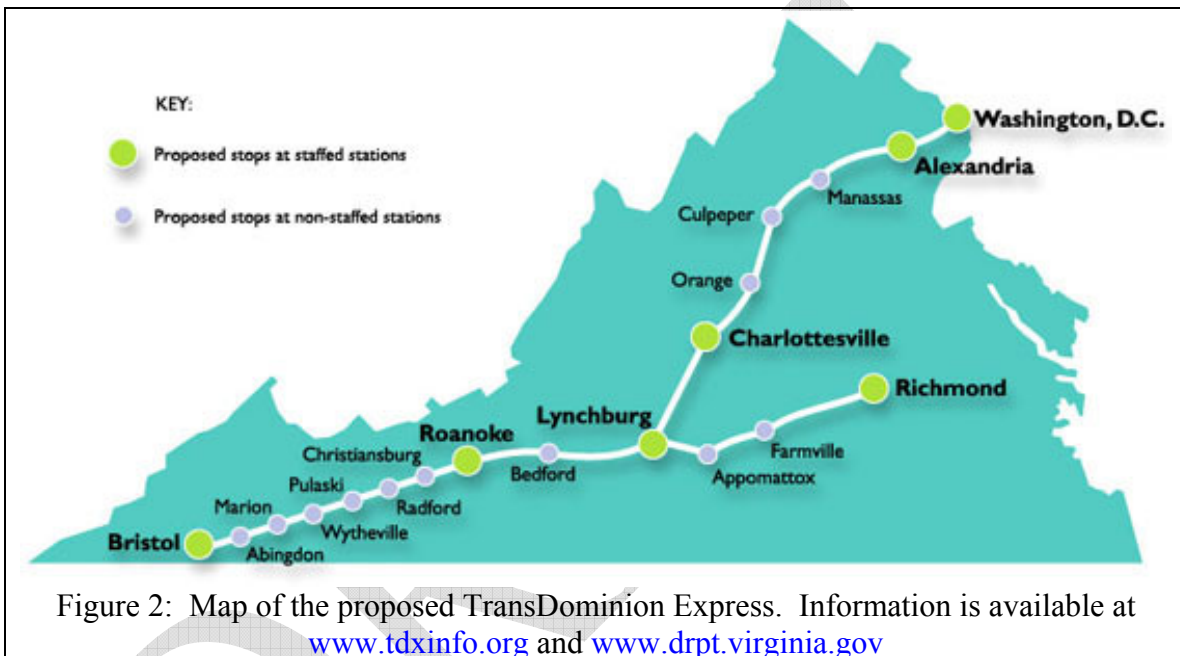
There are two existing routes for rail transportation within the region that can be examined for future passenger rail service. Both routes provide service to Northern Virginia and Washington, D.C. via the Manassas junction in Prince William County. The primary north-south route is on Norfolk Southern-owned trackage (the A-Line) and travels through Fauquier, Culpeper and Orange counties. The Northern Route (B-Line) runs on Norfolk Southern-owned trackage from Manassas to Front Royal and travels through the Rappahannock-Rapidan Region in northern Fauquier County in an east-west direction. For the purposes of this study, the North-South route appears to hold the most opportunity for regional rail connectivity as well as potential for commuter rail use. Figure 1 shows an overview of the various rail corridors with the Rappahannock-Rapidan Region.

Figure 1: Rappahannock-Rapidan Regional Rail Map



North-South Route

The TDX study provided the basis for this regional rail route and there have been no changes made to that route, as there has been little to no change in capacity along the route in the interim period. However, as discussed above, the likelihood of an increase in freight traffic along this route due to I-81 freight diversion, as well as increased freight traffic from Washington, D.C. and the Northeast is high. It is probable that any passenger rail initiatives along this route will require substantial infrastructural upgrades, in the form of additional tracks and improvements to existing trackage.



As shown in Figure 2, the TransDominion Express would directly connect the Rappahannock-Rapidan Region with areas to both the north and south. Rail travel to and from the Washington, D.C. metro area, as well as Charlottesville, Lynchburg and points in Southwest Virginia would be possible. Additionally, Lynchburg is a junction for several rail lines to points further south, such as Charlotte, Atlanta and New Orleans, along the old Southern Railway line and today's Amtrak Crescent line route.

While a statewide rail initiative such as the TDX only proposes to make stops at the Culpeper and Orange stations within the region, there are several other stations that may be considered in a regional rail transportation plan. Traveling south on the line from Manassas, trains pass through the towns of Catlett, Calverton, Bealeton and Remington in Fauquier County, Elkwood and Brandy Station in Culpeper County before entering the town of Culpeper. South from Culpeper, the route travels through Mitchells and Rapidan before entering the town of Orange.

At Orange, trains have the option of two different tracks to get to Charlottesville. Norfolk Southern's Washington District continues along the route 20 corridor past Montpelier, Somerset and Barboursville and into Albemarle County. At Barboursville, it leaves the route 20 corridor and runs roughly equidistant between Routes 20 and 29 into Charlottesville. Amtrak's Crescent Line runs on this track daily, as do 10-20 Norfolk Southern freight trains, depending upon need. Due to the high number of trains already utilizing this route, it is well-maintained and would be the shorter of the two routes from Orange to Charlottesville (compared to the CSX route below).

As previously referenced, the Buckingham Branch Railroad operates the CSX-owned Washington Subdivision and Orange branch between Orange and Charlottesville. This route travels southward to Gordonsville before entering Louisa and Albemarle counties. At Gordonsville, CSX also has a junction with its Piedmont subdivision, which provides access to Richmond via Doswell (See figure 3 for a map of the Gordonsville area). At present, Amtrak's Cardinal line utilizes this track from Orange to Charlottesville three times a week, while there are 5-10 freight trains daily. According to FRA class guidelines, this track is equipped for lower speeds than the Norfolk Southern track, thus increasing travel times. However, with fewer freight trains on this route, as well as the potential of an additional station at Gordonsville, there are several benefits as well.

East-West Route

As a regional transportation route, the east-west Norfolk Southern "B Line" does not offer the same service to populated areas of the Rappahannock-Rapidan region as does the NS Piedmont main line discussed above. The "B line" runs from Manassas through Gainesville and Haymarket in Prince William County before heading into Fauquier County. In Fauquier County, the line travels through The Plains, Marshall, Delaplane and Markham before heading westward to Front Royal and Edinburg (outside the planning district area).

Once in Front Royal, the line junctions with the Shenandoah Valley line, which north to south along the Valley. Further west in Edinburg, lines also run north-south. The north bound line heads to Winchester, while the southbound line is intact, but out of service. For regional transportation purposes, the east-west route of the Piedmont B-Line does not hold the same possibilities as the mainline, due to limited population centers and destinations. This line will receive greater attention in the commuter rail section of this study.

Commuter Rail

The Rappahannock-Rapidan Region is home to a large number of residents who commute outside of the region for work, as evidenced in the 2003 *Rappahannock-Rapidan Regional Labor Force Survey* (http://www.rrregion.org/pdf/PD9_FINAL_FULL_REPORT.pdf). Almost all of these commuters utilize private vehicles for their commutes, while there is a growing use of commuter van pools, car pools and ride sharing as roads within and beyond the region see heavier use every day. Additionally, many of these commuters may also utilize several forms of transportation on their commutes, including rail transportation in the form of the Virginia Railway Express, which operates commuter lines from Fredericksburg to the south and Broad Run (west of Manassas) to the west of Washington, D.C., as well as the Metro subway operated by WMATA (Washington Metro Area Transit Association).

The benefits to developing a commuter rail transportation service in the region are numerous. First and foremost, commuter rail provides efficient and fast access from home to work and vice versa. In an area where many citizens travel long distances for work, such as the Rappahannock-Rapidan Region, commuter rail can help ease traffic issues. Commuter rail also works well in conjunction with other rail transport services, as the commuter trains essentially function to go one direction in the morning and the opposite direction in the evening, allowing for minimal conflict with freight trains and long-distance passenger trains.

Commuter Rail to Washington, D.C. – Norfolk Southern Piedmont Mainline

As the recipient of the greatest number of out-commuters from the Rappahannock-Rapidan region, the Washington, D.C. and northern Virginia area offers the greatest opportunity for commuter rail service to and from the region. The Virginia Railway Express already services a large number of commuters to the south and west of the nation's capital, and many area commuters presently take advantage of the VRE's services in Fredericksburg and Manassas. For the purposes of this study, there are two rail lines that offer opportunities for commuter rail service, both of which branch out from the Manassas junction. VRE has already commenced studies and plans for the eventual expansion of its services along both routes as the population continues to grow in those areas.

The first commuter route into northern Virginia to be considered is along the Route 28 corridor in Fauquier County and the Route 29 corridor in Culpeper County. Currently, VRE offers services to the Broad Run station in Prince William County. However, in the 2004 *VRE Strategic Plan*, it is noted that “[T]he rail corridor through Fauquier corridor represents a smaller market [in contrast to the Gainesville-Haymarket corridor] and there is less evidence of current development. There are, however, strong growth prospects . . . in the Bealeton-Remington zone, and there is excellent station area development potential.”² Further, it is noted that “Because of the potential for transit-oriented

² VRE Strategic Plan, Phase II Report, 2004, p. 81.

development in Remington, this is likely to be the preferred terminus for VRE service extended in Fauquier County.”³ That report did not study the feasibility of extending service to Culpeper and further south, but did note that any additional VRE extensions would have to revisit earlier plans by VRE, VDOT and DRPT.

Expanding upon the aforementioned VRE Strategic Plan, which does not include any reference to services south of Remington, there are several locations that may be suitable for commuter rail service within the Route 28 and Route 29 corridors within the region. As referenced, VRE and DRPT have not studied or recommended commuter rail service south of Remington, and any expansion in that direction would require, at minimum, extensive additional study of the capital and operating costs and detailed market analysis before any planning for such services could move forward.

The growth along the suggested corridor has already created heavier traffic on Route 28 in Fauquier County, as well as Route 29 in Fauquier and Culpeper counties. Route 28 is a two-lane corridor, where rail transportation could greatly ease traffic pressures in the future. From the current station at Broad Run, there is approximately 48 miles of track to the town of Orange crossing within this commuter rail route. Potential commuter rail locations are shown in table 1 below.

Potential Station Location	Railroad Milemarker	Station to Station distance (mi.)
Catlett*	43.3	---
Calverton*	46.0	2.7
Midland*	50.4	4.4
Bealeton (Lucky Hill)*	53.2	2.8
Remington*	56.0	2.8
Elkwood	58.4	2.4
Brandy Station	60.9	2.5
Culpeper	67.4	6.5
Rapidan	80.0	12.6
Orange	84.7	4.7
*Denotes stations currently in VRE’s Strategic Plan. Other stations do not reflect current studies by either VRE or DRPT.		

Table 1: Potential Commuter Rail Stops (Norfolk Southern Piedmont Mainline); source: <http://www.mainline.railfan.net/guide/wasd.html>, November 20, 2006.

As shown in table 1, the station to station distances are a very manageable distance from Culpeper northward. With several possible commuter stations in the route 28 corridor, it will be necessary to select stations far enough apart to avoid losing the speed advantage that a commuter train would provide. With that in mind, Bealeton or Remington would be the better choices for stations, as they currently are the centers for growth in the

³ VRE Strategic Plan, Phase II Report, 2004, p. 82.

corridor and are located within a growth area in Fauquier County. Similarly, the town of Culpeper offers the possibility of transit-oriented development around its depot and the downtown area. The distance between Culpeper and Rapidan is longer, as there is currently less population in that area, but there are several other possibilities between those two stations for additional stops. Figure 3 shows the rail corridor from Culpeper to the north, while figure 4 shows the rail routes south of Culpeper in Orange County.

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**Rappahannock-Rapidan Rail Study
Route 28 Corridor/
VRE Commuter Rail Expansion**

Remington Area Zoning
 Commercial
 Industrial
 Residential

Culpeper Zoning
 Commercial
 Industrial
 Residential

Remington Area Zoning
 Commercial
 Industrial
 Residential

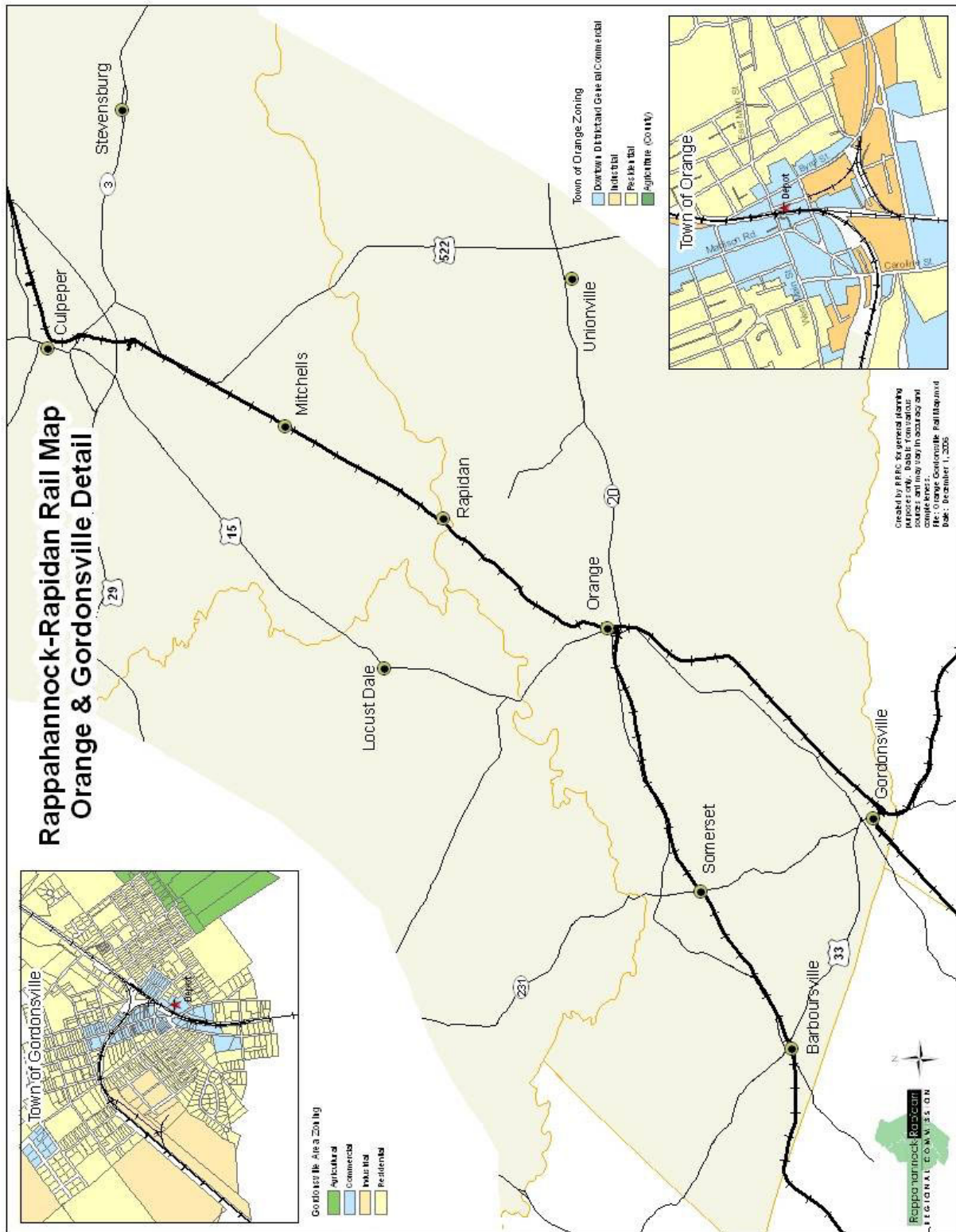
Culpeper Zoning
 Commercial
 Industrial
 Residential

Scale
 0 2.5 5 7.5 10
 Miles

North Arrow

Map Information
 Created by: PRRC Regional Planning Commission
 Date: November 1, 2006
 This map is for informational purposes only. Data is from various sources and may vary. A survey and complete map is required for final design.

Figure 4: Rail Corridors South of Culpeper



Norfolk Southern B-Line

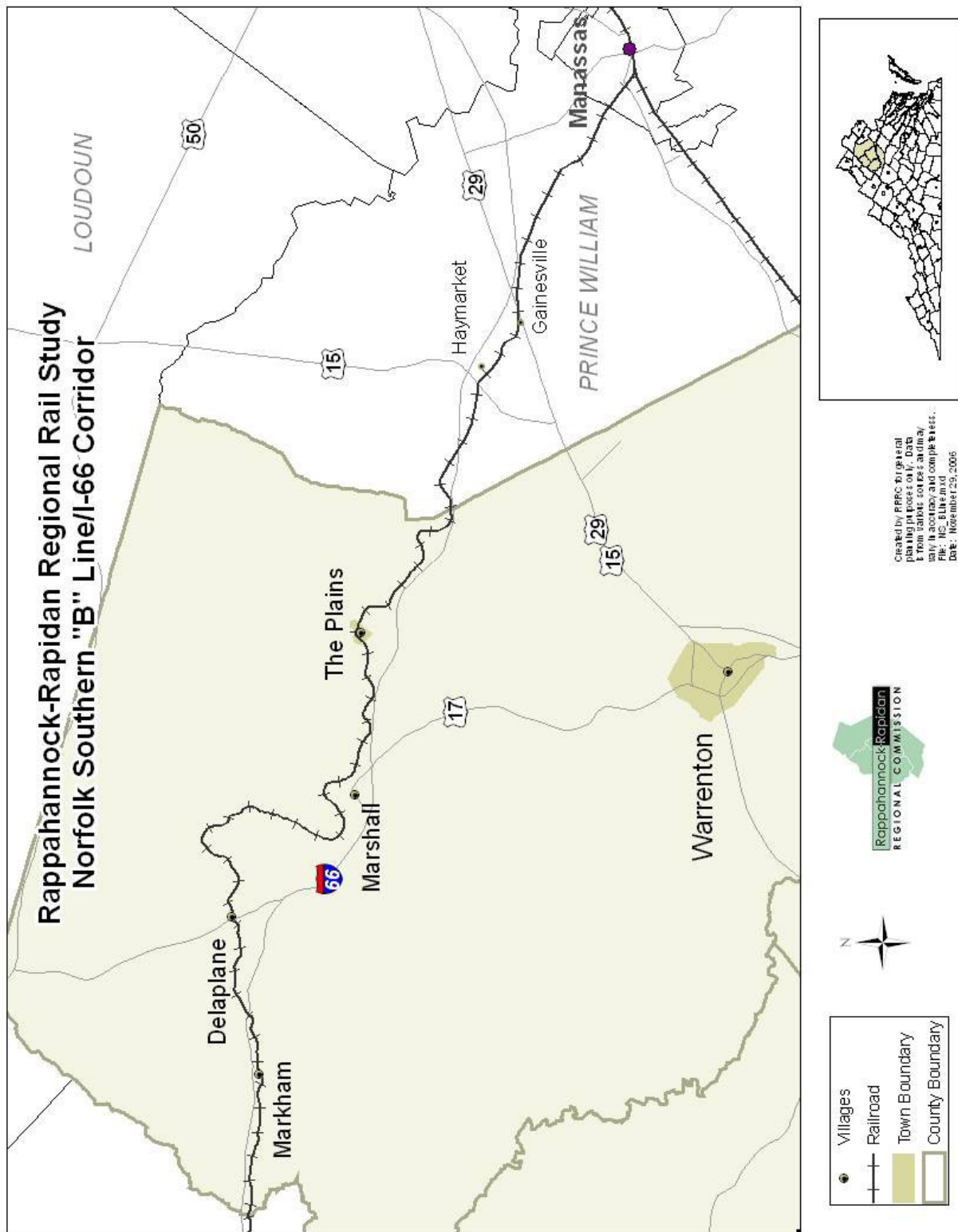
Commuter rail possibilities also exist on the Norfolk Southern B-Line running from Manassas to Front Royal through northern Fauquier County. While the population centers in the Rappahannock-Rapidan Region primarily exist along the Norfolk Southern Mainline corridor, there has been substantial growth west of the region in the Front Royal, Strasburg, and Winchester areas (all part of the Northern Shenandoah Valley PDC). Currently, many commuters in those areas as well as the rural portions of northern Fauquier County utilize Interstate 66 to access northern Virginia and Washington, D.C. At this time, the heaviest traffic occurs inside Prince William County, but the increasing volume is noticeable along the entire corridor. Currently, VRE has included expansion to Gainesville and Haymarket in Prince William County in their strategic plans, but there is no mention of the areas further west in Fauquier County.

There are some drawbacks to extending commuter rail service along the B Line, including capacity and the need for significant infrastructure improvements. The B Line is a major freight corridor for Norfolk Southern and is a key component of the I-81 freight rail corridor. With just a single track in this section, additional rail infrastructure would need to be built, and substantial improvements would be needed on the existing track to provide adequate infrastructure for commuter service. Additional drawbacks to this route are its terrain, as the line passes through Thoroughfare Gap along Broad Run, takes a winding course along Goose Creek for a large portion west of Marshall and crosses Apple Mountain into Warren County. Furthermore, track speeds are often limited due to the winding nature of the B-Line. Potential stations along this route are listed in table 2.

Potential Station Location	Railroad Milemarker	Station to Station Distance (mi.)
Broad Run	15.6	---
The Plains	19.8	4.2
Marshall	24.0	4.2
Delaplane	33.8	9.8
Markham	38.2	4.4

Table 2: Potential Commuter Rail Stops (Norfolk Southern Piedmont B-line); source: <http://www.pacerfarm.org/cgi-bin/sta01.cgi?div=BLI>, January 3, 2007

Figure 5: Norfolk Southern B-Line Rail Corridor



Commuter Rail to Charlottesville, Richmond

The CSX-owned tracks running south from the town of Orange to Gordonsville present commuter transportation prospects as well, as they provide access to both Charlottesville and Richmond. With regard to Richmond and Charlottesville, any plans along this route would have to involve the Buckingham Branch Railroad, which is contracted to operate this line until 2024.

PD10 (Thomas Jefferson PDC) studied potential commuter routes involving the Gordonsville junction in its 2004 *Rail Conceptual Study* and included both Gordonsville and Orange in that study. That study proposed commuter rail service between Staunton and Richmond. Within the PD9 region, the redevelopment of a station in Gordonsville as a regional junction would be necessary for any commuter rail development there, while the trackage would likely require some infrastructure improvements.

The location of Gordonsville along the CSX east-west route between Staunton and Richmond places the town at a midpoint between those two towns, as well as Charlottesville and Richmond. Further, Gordonsville's location within the Rappahannock-Rapidan Region along this rail line places it as a 'gateway' entrance to the region as a whole. Planning for commuter service into and out of Orange County via Gordonsville must include plans to connect to both Charlottesville and Richmond.

Recommendations

Based on the recent studies and current initiatives underway, there are several recommendations that can be made for the future of rail transportation in the Rappahannock-Rapidan Region. In all cases, it will be necessary to take an in-depth look at the costs and feasibility of providing commuter and passenger rail services throughout the region. Additionally, passenger and commuter rail services in the region will rely on trackage that is owned and operated by companies that utilize the corridors for freight rail traffic. As freight traffic is expected to increase significantly, especially with the potential for freight diversion from I-81, the opportunity to use existing tracks for passenger and commuter rail service will be challenging.

Commuter rail service connections with northern Virginia and the Virginia Railway Express should be considered. The growth in population in Fauquier and Culpeper counties, specifically, seems to necessitate a multi-modal approach to transportation, with commuter rail being a viable choice for residents of the region. The Norfolk Southern Piedmont mainline holds promise for serving a large section of the region's population, as it runs through several growth areas in both counties. Continued cooperation and communication between VDOT, DRPT, VRE, Norfolk Southern, Fauquier, Culpeper and Prince William counties will be necessary for any expansion of commuter rail service to the region.

Likewise, the potential for commuter rail service to areas south of the region, including Charlottesville and Richmond, should be examined further. As the population centers from those two metropolitan areas continue to shift, it will be necessary to have plans and infrastructure in place to connect both areas with the Rappahannock-Rapidan Region.

For regional passenger rail, the TransDominion Express initiative holds particular promise for the region. As currently envisioned, the TDX would have stops in both Culpeper and Orange on the TDX route between Washington, DC and Lynchburg. Regional rail connections between the region and the major population centers within and outside the Commonwealth would open many possibilities for economic growth in the region. Amtrak, as the major provider of passenger rail service, will play a key role in the future of passenger rail service in the region, and the Commonwealth as a whole. At the time of this report, there are no major changes in route or frequency for Amtrak's Cardinal and Crescent routes.

Additional Maps

Figures 6 and 7: Amtrak Routes through the Rappahannock-Rapidan region



Figure 6: Amtrak's *Cardinal Route* runs from New York to Chicago three times per week; (source: www.amtrak.com)



Figure 7: Amtrak's *Crescent Route* runs from New York to New Orleans daily (source: www.amtrak.com)