5. THE VIRGINIA RAIL SYSTEM

5.1. FRA Requirements

This Chapter of the VSRP presents information related to Virginia's entire rail system as required by 49 CFR § 266.15 (c)(2) and 49 CFR § 266.15 (c)(6). The data required by the section is presented differently than stated in the requirement, to conform to the methodology used in the VTrans2035 documents. Virginia's VTrans2035 methodology uses corridors connecting portions of Virginia and the surrounding states to define needs and programs. For the rail system, these corridors mirror the Class I high density freight lines.

The requirement of 49 CFR § 266.15 (c)(2) is fulfilled by the Official State Railroad Map that is presented at a reduced scale in Figure 5-2.

The data required by 49 CFR § 266.15 (c)(2)(i) is presented in figures 5-5 Class I Railroads and 5-10 Shortline Railroads.

The data required by 49 CFR § 266.15 (c)(2)(ii) is presented in figures 5-8 and 5-9 that depict the tonnage within Virginia and the tonnage passing through Virginia.

The data required by 49 CFR § 266.15 (c)(2)(iii) is presented in figure 5-13 Passenger routes in Virginia.

The final requirement of 49 CFR § 266.15 (c)(2) is fulfilled by the narratives presented throughout this chapter discussion the transportation corridor, the passenger service, the Class 1 freight activity, and the Shortline Railroad profiles.

49 CFR § 266.15 (c)(6) requires, to the extent that the data is available to Virginia, detailed information about specific lines. Virginia's grant methodology has been developed to minimize the proprietary commercial data collected from the railroads, and replaced it with performance reporting criteria and specific performance commitments as a part of each grant provided. The grant monies are recoverable to Virginia if the performance is not met. This methodology requires the railroad to report only funding specific information, while shielding the overall commercial information such as revenues and costs. Therefore, some items requested by this section are not available to Virginia. 49 CFR § 266.15 (c)(6)(iv) requests data for the preceding three years. Under the Virginia grant program agreements, the performance metrics attached to each grant look forward as a guarantee of future performance and do not look back historically.

The data required by 49 CFR § 266.15 (c)(6)(i) is aggregated and presented in Figure 5-8 Freight Railroad Traffic in Virginia.

The data required by 49 CFR § 266.15 (c)(6)(iii) is presented in section 5.5 for each shortline and in Appendix C Statewide Shortline Railroad Improvement Program Technical Memorandum.

Summary of the Virginia Rail System
In 2007, Virginia celebrated its 400th anniversary. Founded as a trading colony, freight and passenger movements remain a critical part of the Commonwealth's economy. To accommodate the movement of goods and people, Virginia hosts one of the nation's leading port facility complexes in Hampton Roads; two national freight railroads (NS and CSX) and 9 shortline railroads; four major international airports that also handle cargo; and some of the nation's most heavily used truck corridors, I-95 and I-81. A summary of railroad owners, classification and rail mileage in Virginia is shown in Figure 5-1

Railroad Classification / Name	Miles Operated in Virginia	
	Excluding Trackage Rights	Including Trackage Rights
Class I RR		
Norfolk Southern	2,020	2,100
CSX	850	1,051
Shortline RR (Class III)		
Bay Coast Railway	68	68
Buckingham Branch	273	273
Chesapeake and Albemarle	29	29
Chesapeake Western	43	43
Commonwealth Railway	17	17
Norfolk & Portsmouth Beltline	36	63
North Carolina and Virginia	4	4
Shenandoah Valley	25	25
Winchester & Western	17	17
Total	**3,380**	**3,688**

Figure 5-1. Rail Mileage in Virginia

Virginia's rail system dates from the 1800's and has evolved continuously since then. Today, it consists of more than 3,200 miles of private track (excluding trackage rights), most of which are operated by two Class I railroads – the Norfolk Southern Corporation (2,020 miles) and CSX (850 miles). Major lines run north-south and east-west, and important rail lines converge at key nodes: Norfolk, Richmond, Lynchburg, Roanoke, and Alexandria. The Commonwealth of Virginia's rail system is operated by 11 freight railroads and two passenger railroads. Of the 11 freight railroads, two are Class I national railroads (line-haul freight railroads exceeding $319.3 million in annual operating revenue). The remaining 9 freight railroads are Class III (shortline) railroads (line-haul carriers with annual revenues less than $25 million), two of which are primarily switching railroads serving marine terminals and industrial facilities. There are no Class II Railroads in Virginia. Two passenger systems - Amtrak and the VRE – utilize this private freight railroad system.

Figure 5-2 is an excerpt from the Official State Rail Map indicating the various freight and passenger lines in the state. Since this map was published, the Virginia Southern Railroad has been acquired by the Buckingham Branch Railroad. A detailed copy of the entire map with enlargements of major urban areas, track ownership identification, and passenger service routes can be downloaded from DRPT's website (www.drpt.virginia.gov). Figure 5-3 depicts the existing rail system in terms of the number of tracks, as well as major siding and rail yard facilities. As can be seen in Figure 5-3, much of the rail system is single track. Single track railroads are natural bottlenecks, and operate similar to a one-lane highway that must accommodate two-way traffic. Just as cars would need to stop and take turns proceeding on a stretch of single-lane highway, trains must stop and take turns at siding locations to allow other trains to pass. This type of operation requires careful dispatching procedures for safety reasons, and can cause significant capacity constraints and on-time performance delays.

Rail freight data discussed in this report was obtained primarily from the *Virginia Statewide Multimodal Freight Study, Phase I, Final Report, April 2008* prepared for the VDOT Multimodal Transportation Planning Office.

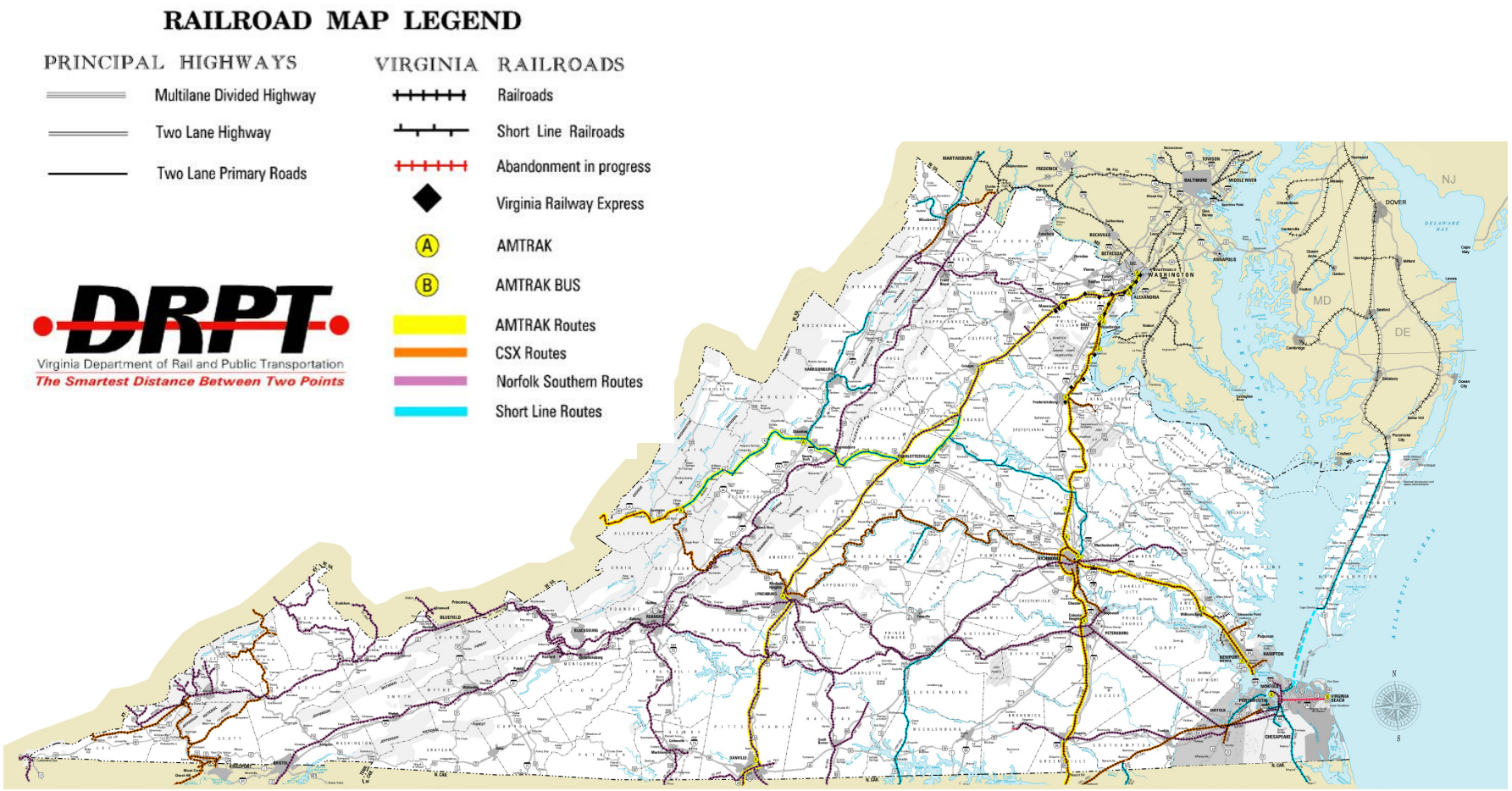

Figure 5-2. Official State Rail Map (2007)

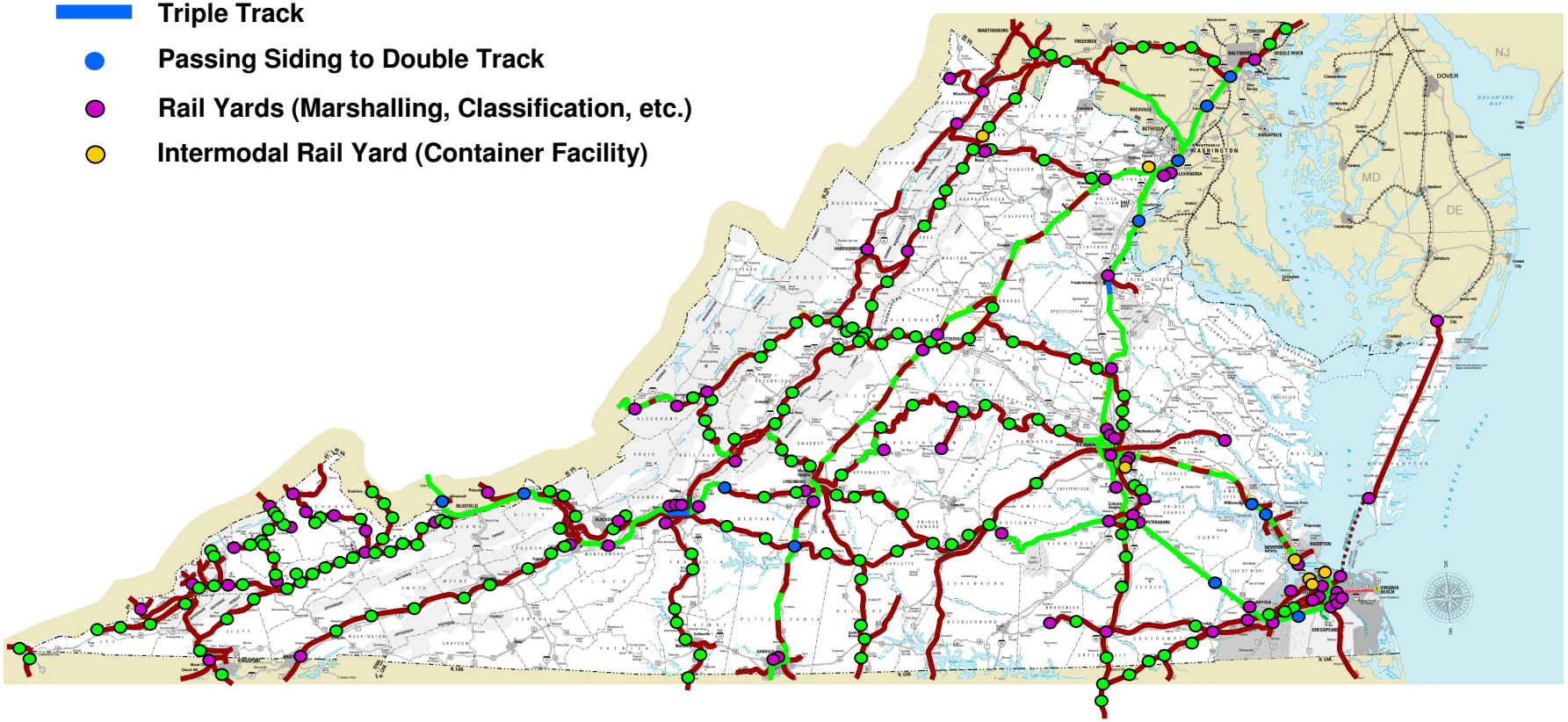

Figure 5-3. Rail Track System

5.2. Rail Services and Railcar Types

Virginia's rail network is almost entirely privately owned, as are the terminals and "rolling stock" (locomotives and railcars) moving over the system. Virginia's rail freight traffic as illustrated in (Figure 5-4) can be generally classified as:

- Unit Trains (long trains of 7,500 to 10,000 feet consisting of a single commodity, like coal). On a tonnage basis, coal accounts for more than two-thirds of all Virginia rail freight traffic. Most of this is moving east-west, between the coalfields of Appalachia and Hampton Roads, or between the coalfields and Tennessee/North Carolina. About one-half of the coal moving over Virginia's rail system is through traffic.
- General Merchandise Trains (carload trains of varying lengths, consisting of different commodities and car types, such as tank cars, hopper cars, flatcars, or traditional boxcars). Carload traffic (agricultural products, chemicals, paper, lumber, food, etc.) represents more than 25 percent of Virginia tonnage, and moves primarily in the north-south direction, paralleling I-95 and I-81. Like coal, about half of this is through traffic.
- Intermodal/Auto Trains (long trains of 6,000 to 13,000 feet consisting of specialized railcars designed to carry intermodal shipping containers or automobiles). Intermodal containers represent around 19 percent of Virginia's rail freight traffic on a per-unit basis, but only three percent on a per-ton basis, because containers tend to carry lower weight, higher value commodities. Intermodal traffic moves both north-south and east-west over Virginia's rail network. Around one-half is moving between Virginia origins and destinations (Virginia Port Authority facilities and other intermodal terminals) and Illinois, where it may interchange with the western Class I carriers. The remainder consists mostly of through traffic in the Florida-New Jersey and Illinois-North Carolina corridors.

Figure 5-4. Examples of Unit Coal Train, Merchandise, and Double-Stack Intermodal Rail Services
(Photos courtesy of Jeff Hawkins)

5.3. Class I Railroads (NS and CSX)

Through various agreements, the Class I railroads operate throughout the U.S. The two main Class I railroads operating in Virginia are Norfolk Southern (NS) and CSX Transportation. Norfolk Southern's corporate headquarters is located in Norfolk. Figure 5-5 depicts the NS and CSX freight lines in Virginia. Interconnectivity of the overall East Coast rail system is shown in Figure 4-3, with system maps for NS and CSX shown in Figures 5-6 and 5-7 respectively. The vast majority of Virginia's freight rail track infrastructure is in the possession of the two Class I railroads, NS (approximately 60 percent) and CSX (approximately 25 percent) – the remaining 15 percent consists of shortline railroads.

Virginia's freight rail network is comprised of tracks, bridges, sidings, and terminals. The Class I network includes approximately 3,380 miles of privately owned and operated track. Both freight railroads offer major east-west connections between Hampton Roads and West Virginia/Kentucky/Tennessee. The majority of Virginia's freight rail network within the national network runs roughly north-south, while the major lines for Virginia tonnage run east-west. NS and CSX are rail lines eligible for assistance under CFR Sec. 266.7.

5.3.1. Norfolk Southern

Norfolk Southern's north-south mainlines in Virginia are known as the Crescent Corridor. One segment runs from Alexandria to Danville, and then south to Atlanta via Greensboro and Charlotte, North Carolina, and Spartanburg, South Carolina (the Piedmont line). The second mainline segment parallels I-81 between Front Royal and Bristol, Virginia (the Shenandoah line), and serves the Commonwealth's Virginia Inland Port (VIP) near Front Royal. The principal train types on the Crescent Corridor are intermodal, general merchandise, and auto trains.

A heavily used line, known as the Heartland Corridor, runs from the Ports of Hampton Roads to the West Virginia border in Southwest Virginia, and then to Midwest markets in Ohio, Illinois and other states. The Heartland Corridor is the primary intermodal train corridor connecting the Ports of Hampton Roads to national markets, and is currently being improved to handle double-stack intermodal trains. The line with the heaviest use is the Coal Corridor which carries unit trains of coal from the Appalachian coalfields to the NS Coal Marine Terminal at Lamberts Point in Norfolk. The Coal Corridor is a dual line section consisting of the former Virginia Line and the Norfolk and Western Line from the coalfields to Abilene, Virginia, where both lines merge to continue eastward to Norfolk.

5.3.2. CSX Transportation

CSX's north-south mainline in Virginia is known as the National Gateway Corridor and runs from Alexandria to Richmond, and then further south via Petersburg and Emporia, generally paralleling I-95. At Weldon, just below the Virginia – North Carolina border, the mainline has an eastward extension to the Ports of Hampton Roads. The National Gateway Corridor is the primary intermodal train corridor connecting the Ports of Hampton Roads to national markets, and is currently being improved to handle double-stack intermodal trains. The CSX line with the heaviest use is the Coal Corridor which carries unit trains of coal from the Appalachian coalfields through Richmond and down the Peninsula to CSX's Coal Marine Terminal in Newport News.

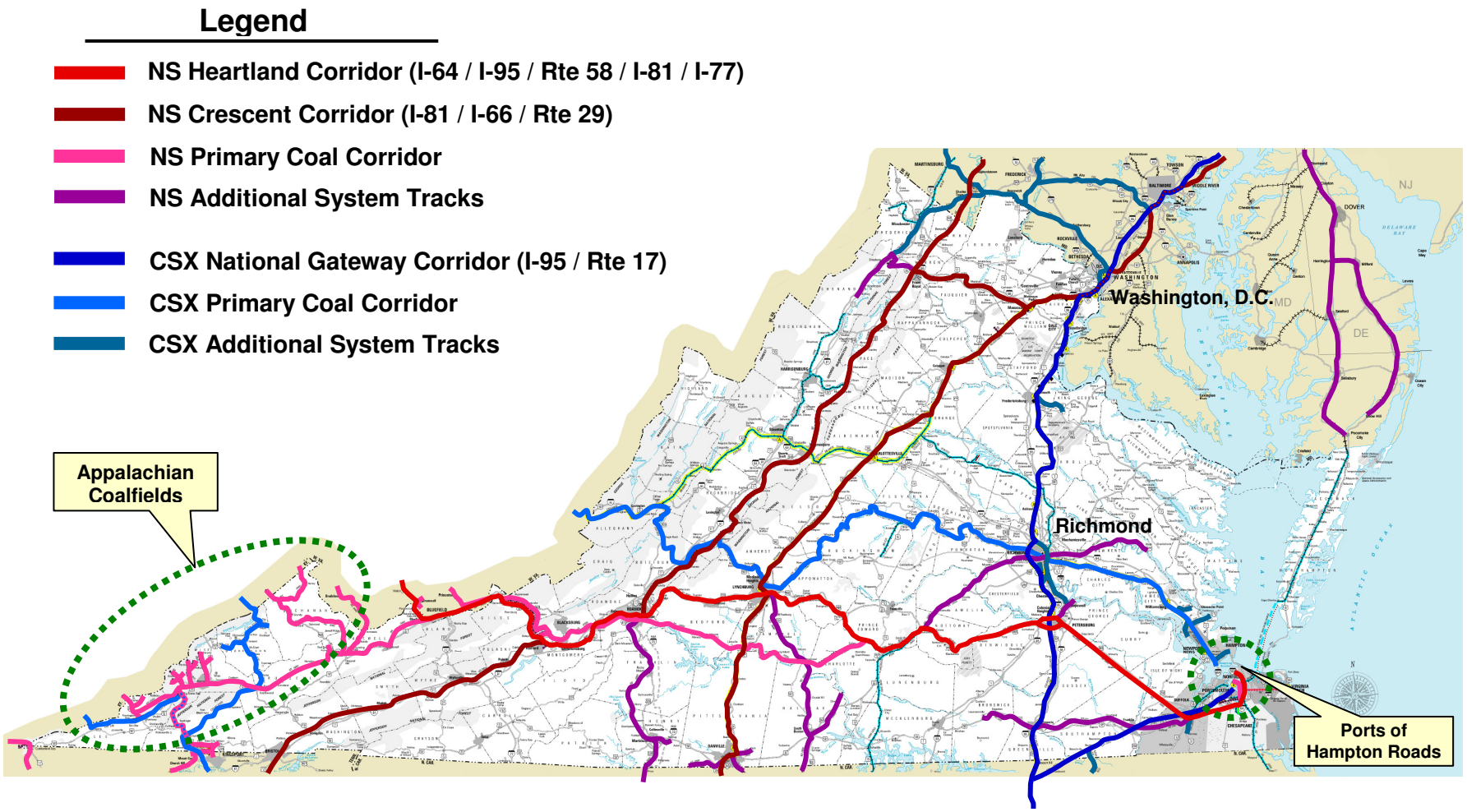

Figure 5-5. Class I Railroads in Virginia (NS and CSX)
(Non-highlighted rail lines represent shortline railroads)

Figure 5-6. Norfolk Southern System Map
(Source: NS)

Figure 5-7. CSX Transportation System Map
(Source: CSX)

5.4. Virginia Rail Freight Tonnage

According to the most recent data from the Association of American Railroads (2006) there were a total of 2,372,056 carloads of freight carried in Virginia with a total tonnage of 174,934,786 tons carried. The largest commodity carried by tonnage was coal as depicted in Figure 5-8. According to the most recent data available from the USDOT (2004), Virginia's multimodal transportation system handled around 915 million tons of freight worth more than $2.1 trillion. This includes freight carried by trucking, rail, air, domestic water, and international water. It also includes freight moving inbound to, outbound from, within, and through the Commonwealth. On the basis of tonnage, trucking handled approximately 74 percent, followed by rail at 20 percent (183 million tons), water at 6 percent, and air at less than 1 percent. On the basis of value, trucking handled approximately 94 percent, rail handled approximately 4 percent, and air and water handled approximately 2 percent.

The *Virginia Statewide Multimodal Freight Study, Phase I*, utilized a national freight database known as TRANSEARCH, which included a set of rail network flow maps, based on model assignments and freight data from 2004. Discussions with Virginia's railroads indicate that actual routings are somewhat different; but adjustment of the TRANSEARCH routings was not possible in the study. For present purposes, however, review of TRANSEARCH rail flow maps supports some interesting observations. Figure 5-9 below suggests that for existing Virginia-based tonnage (moving inbound, outbound, or within the Commonwealth), the highest volume flows are east-west, and focused on the Ports of Hampton Roads; coal represents a large share of current rail tonnage in this corridor, as well as intermodal movements on the Heartland Corridor. The north-south movement of Virginia rail traffic is a lesser share of rail business.

Rail tonnage that has both an origin and a destination outside of Virginia, but is passing through Virginia along the way, shows – like trucking – a very different distribution. TRANSEARCH data shown in Figure 5-10 suggests that pass-through traffic is primarily utilizing the north-south network. Again, it should be noted that the route assignments may be adjusted by future analysis. North-south rail movements should increase significantly as major rail choke points on the I-95 (CSX National Gateway) and I-81 (NS Crescent Corridor) are removed and system improvements are completed in Virginia and adjacent states.

Tons Originating in Virginia (2006)			**Tons Terminating in Virginia (2006)**		
Type	**Tons**	**%**		**Tons**	**%**
Coal	31,218,728	65	Coal	36,459,246	58
Nonmetallic Minerals	8,239,788	17	Nonmetallic Minerals	7,452,189	12
Glass & Stone Products	1,653,068	3	Chemicals	3,043,512	5
Lumber & Wood Products	1,009,060	2	Farm Products	2,874,655	5
Containers & All Other Mixed Freight	6,067,364	13	Waste & Scrap	2,768,468	4
			Containers & All Other Mixed Freight	9,956,437	16
Total	**48,188,088**	100	**Total**	**62,554,507**	100

Figure 5-8. Freight Railroad Traffic in Virginia
(Source: Association of American Railroads)

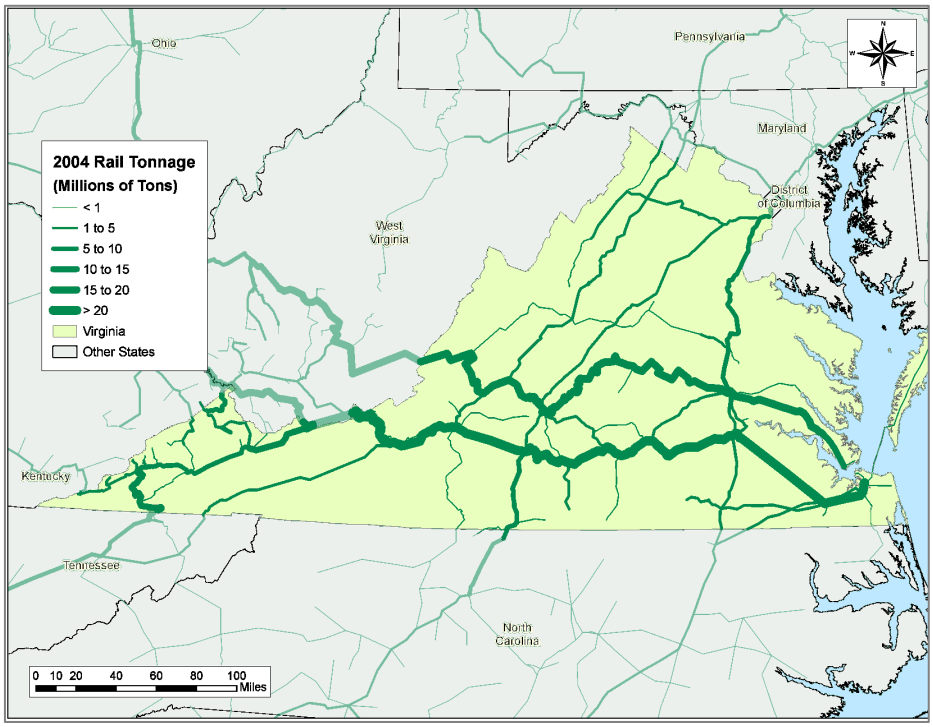

Figure 5-9. Virginia Rail Tonnage - Inbound, Outbound and Internal (2004)

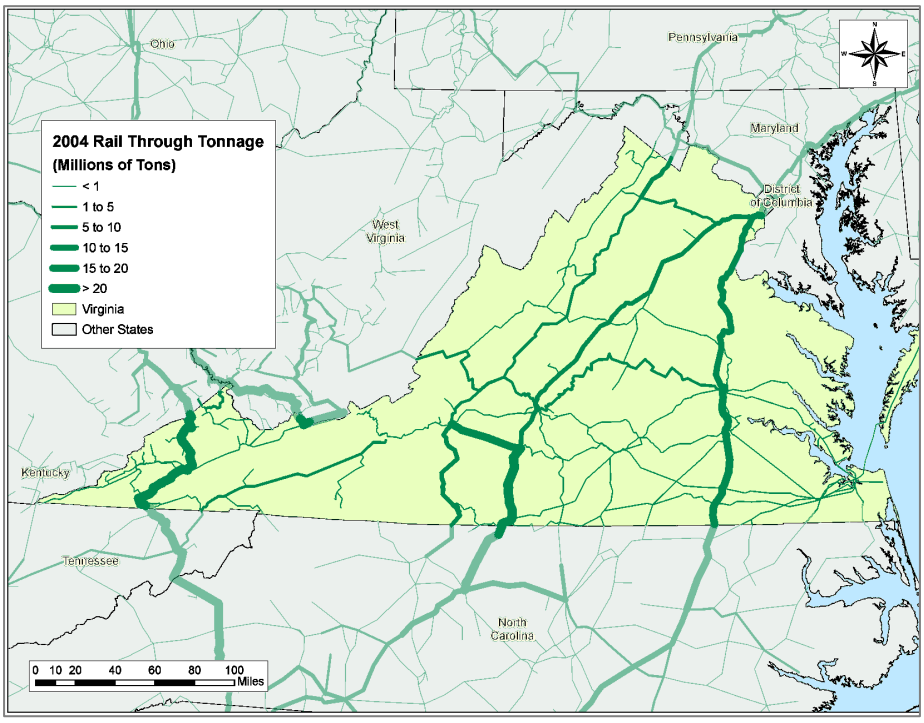

Figure 5-10. Rail Tonnage Passing Through Virginia (2004)

5.5. Shortline Railroads

Shortlines have become a critical component of the rail industry and produce benefits to shippers and local communities trying to support economic development to industries. Shortlines act as the originating and terminating railroads for approximately one-third of all rail shipments. It is critical that shortline tracks adequately handle 286,000 pound capacity railcars and container shipments in order to interface with the Class I railroads.

In Virginia the shortlines comprise of nine railroads with 675 route miles, of which 510 miles occur within the state (the remaining miles extend into adjacent states). Figure 5-11 provides the locations of the shortline system in the Commonwealth, and Figure 5-12 provides a list of the number of carloads carried in 2007 by the shortline operators. Shortlines often serve as the first or last link in the business to business delivery by providing the intensive switching operations that are not profitable for the Class I railroads.

Many of the shortlines were built over 100 years ago using the then standard lighter weight rail sections and cinders or limited ballast, and in many cases have experienced track settlement and, consequently, operational problems due to postponement of regular maintenance (i.e., deferred maintenance). Many of the lines were previously owned by some of the major Class I railroads who divested them as a result of low traffic volumes or declining revenues.

Maintenance of a railroad is a costly continual operation and the smaller Class III shortline railroads are constrained by the financial challenges of balancing operations and track maintenance. The combination of deferred maintenance and the trend towards the use of newer and heavier 286,000 pound railcars have created a need to invest in shortline infrastructure.

Over the past decade, the industry has generally moved from railcars with a weight and capacity equaling 256,000 pound cars, to 263,000 pound cars, to the current standard of 286,000 pound railcars for transporting heavy bulk materials, like coal, grain and lumber. Portions of the Class I system have even been designed for 315,000 pound railcars. Studies have shown that the 286,000 pound railcars can operate on rail section weighing as little as 90 pounds per yard if all the other track components are in good shape with tight rail joints. Given the typically poor soil conditions for Virginia, it is more cost effective to install a heavier weight rail section to better distribute the loads to the soil, and to protect the investment to the rail infrastructure.

All of Virginia's shortlines are classified by the Federal Railroad Administration (FRA) as Class III railroads (line-haul carriers with annual revenues less than $25 million).

The Deepwater Terminal Railroad, operated by the City of Richmond, has no official FRA designation but provides freight movements between the Port of Richmond and the Class I carriers. A brief description of the existing shortline railroads is presented after the figures.

Existing FRA Class III Shortline RR System

Bay Coast Railway (BCR)
Buckingham Branch (BB)
Chesapeake and Albemarle (CA)
Chesapeake and Western (CHW)
Commonwealth Railway (CWRY)
Norfolk and Portsmouth Beltline (NPBL)
North Carolina and Virginia (NCVA)
Shenandoah Valley (SV)
Winchester and Western (WW)

Unclassified by the FRA
Deepwater Terminal Railroad (DWT)

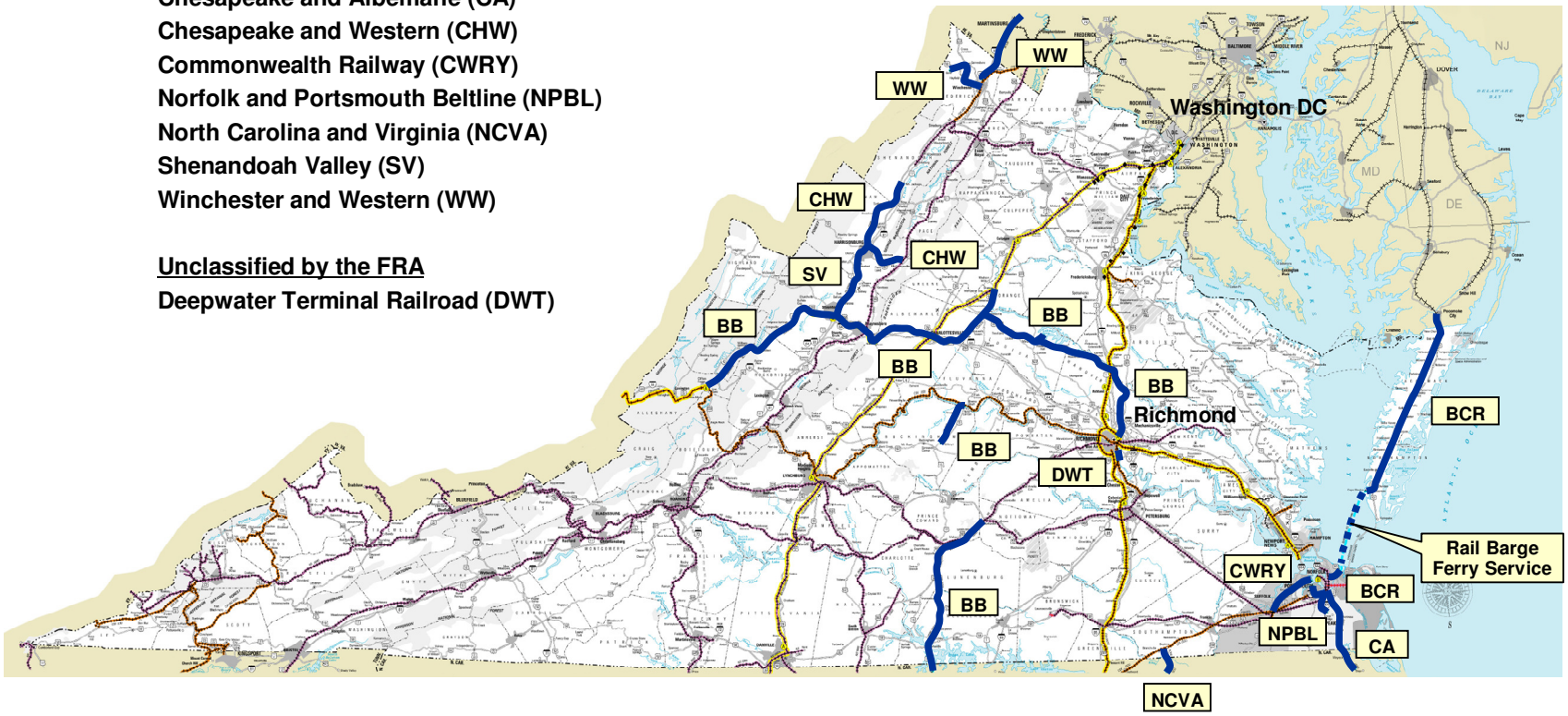

Figure 5-11. Shortline Railroad System

Commodity	Bay Coast Railroad	Buckingham Branch Railroad	Chesapeake & Albemarle Railroad	Chesapeake Western Railroad	Commonwealth Railway, Inc. *	Norfolk & Portsmouth Beltline	North Carolina & Virginia Railroad	Shenandoah Valley Railroad	Winchester & Western Railroad Co.	Deepwater Terminal Railroad **
Base Metals							X		X	X
Milled Grain Products	X	X	X	X		X	X	X		
Gravel and Crushed Stone	X		X						X	X
Plastic and Rubber		X					X		X	X
Wood Products	X	X	X				X	X		X
Waste and Scrap							X	X		X
Misc. Manufactured Products			X							X
Nonmetallic Minerals		X				X				
Paper	X	X					X		X	X
Basic Chemicals	X				X		X			X
Transportation Equipment	X	X								X
Metallic Ore & Concentrates		X								
Machinery							X			X
argo – Not Otherwise pecified	X	X	X		X	X	X	X	X	X
TOTALS	1,909	546,766	6,329	N/A	839	25,841	23,974	1,305	6,277	393

* Does not include containerized cargo from the new APM Terminal in Portsmouth which opened in late 2007 and will generate many new carloads in the future (as will the future VPA Craney Island Marine Terminal to open in 2017).

** DWT is not classified by FRA.

Figure 5-12. Shortline Railroads – Summary of Annual Carloads (2007)

5.5.1. Bay Coast Railway (BCR)

BCR operates the former Eastern Shore Railroad line. Bay Coast Railway operations began on October 1, 1981 over the former Virginia and Maryland line from Pocomoke City, Maryland, to Norfolk, Virginia. This north-south route on the Delmarva Peninsula was originally established in 1884 and is still the most direct route between the Northeast and Norfolk, Virginia. The rail line is unique in its ability to handle special over-height rail shipments – shipments that cannot be accommodated on the NS and CSX mainland corridors because of tunnel and bridge restrictions (particularly in urban city areas). The Bay Coast Railway consists of 68 miles of FRA Class III mainline and a 26 mile car float (ferry) operation from Cape Charles to Little Creek, Virginia. The Bay Coast Railway uses a rail ferry service to span the 26 mile water route across the Chesapeake Bay between Cape Charles and Norfolk, Virginia. A tug boat is used to move a barge (car float) having a 25 railcar capacity. This float operation is one of only two remaining in the Eastern United States and is the longest water route in the country. This car operation has been in continuous service since April 1885.

The Bay Coast Railway interchanges with the Norfolk Southern Railway and the Norfolk and Portsmouth Belt Line Railroad in Norfolk, and the Norfolk Southern Railway in Pocomoke City, Maryland with rail yards in Cape Charles and Little Creek, Virginia.

5.5.2. Buckingham Branch Railroad (BB)

BB is a family owned shortline railroad operating 273 miles of historic and strategic track in Central Virginia. The Bryant family owns and operates a 17.3 mile long line between Dillwyn and Bremo, Virginia and is also known as the Buckingham Division. The Buckingham Branch Railroad also leases and operates a 200 mile long line of railroad from Richmond to Clifton Forge, Virginia. This line is known as the Richmond Alleghany Division, and is further divided into the North Mountain, Washington & Piedmont Subdivisions. The company's headquarters is in Dillwyn, Virginia in the former Chesapeake and Ohio Railroad (C&O) station, a historic landmark in the community.

The Buckingham Branch Railroad is primarily a freight railroad and receives freight cars from CSX Transportation at Strathmore on the Buckingham Division and at Doswell and Clifton Forge. It also receives railcars from Norfolk Southern at Charlottesville, Orange and Waynesboro on the Richmond Alleghany Division. The Shenandoah Valley Railroad also interchanges freight cars with the BB at Staunton.

Outbound freight on the Buckingham Division consists mainly of wood chips, lumber, crushed slate and Kyanite ore. Inbound freight includes fertilizer and road salt. The Richmond Alleghany Division carries both inbound and outbound products also including; plastic pellets for film production, lumber & gypsum board for local building suppliers, coal for a university steam plant and newsprint for Richmond Newspapers.

CSX uses the Richmond Alleghany Division to move unit trains of empty coal cars between Richmond and Clifton Forge. Amtrak operates the Cardinal passenger train route between Orange and Clifton Forge three days a week, providing local station service at Charlottesville, Staunton, and Clifton Forge. CSX also originates unit rock trains that operate on the line between Verdon and Richmond. BB is eligible for assistance under CFR Sec 266.7

The Virginia Southern Division of the BB is a 75 mile line that runs from Burkeville, Virginia to Oxford, North Carolina. The portion of the line between Clarksville, Virginia and Oxford, North Carolina has not been in use for more than a decade and is overgrown with vegetation.

The Virginia Southern Division is located in Keysville, Virginia and interchanges with Norfolk Southern Railway at Burkeville, Virginia. Current customers include; W.D. Barton Pulp Co., Burlington Ind., St. Laurent Forest Products, Mecklenburg Co-Gen, Russel Stover and Spaulding Lumber Co. The Virginia Southern is operated by the North Carolina and Virginia Railroad and is owned by RailAmerica.

5.5.3. Chesapeake and Albemarle Railroad (CA)

CA is a short-line railroad operated by the North Carolina and Virginia Railroad and is owned by RailAmerica. The Chesapeake and Albemarle Railroad started operations on April 2, 1990. They operate on 82 miles of track from Chesapeake, Virginia to Edenton, North Carolina. Chesapeake and Albemarle Railroad is headquartered in Ahoskie, North Carolina and interchanges with both Norfolk Southern Railway at Chesapeake, Virginia and CSX Transportation at Portsmouth, Virginia (via Norfolk & Portsmouth Belt Line). The railroad was part of the now defunct Norfolk Southern Railroad, which continued south crossing the Albemarle Sound and onto Mackeys Ferry and Plymouth.

Current customers include; Albemarle Builders, Albemarle Distribution, Royster Clark, Central Grain, Universal Forest Products, Currituck Grain, Hobbs Implement, Lebanon Agricorp, Lebanon Agricorp, C.A. Perry & Sons, Commercial Ready-Mix, Coastal Ready-Mix, Roberts Bros., Southern States, United Piece & Die, IMC, Vulcan Materials and F.P. Wood & Son.

5.5.4. Chesapeake Western Railroad (CHW)

CHW was an intrastate railroad in west-central Virginia. It extended from Elkton on the South Fork of the Shenandoah River in Rockingham County to Stokesville in Augusta County at the foot of the Allegheny Mountains. At Elkton, it interchanged with the Norfolk and Western Railway. At Harrisonburg it interchanged with the Southern Railway.

Construction began in 1885 in Harrisonburg by the Chesapeake and Western Railroad, and proceeded both east and west. To the west, Bridgewater was the original terminus, but the line was extended to Stokesville by 1901 by the newly reorganized Chesapeake Western Railway. In 1933 the line was cut back to Bridgewater, and later to Dayton. To the east the line reached Elkton by 1896, where the line's main yard and shops were constructed.

In 1938 the line was bought by the line's general manager with the help of Norfolk and Western, which assumed direct control in 1954. In 1943, the Baltimore and Ohio's Valley Road of the Virginia line, which ran between Harrisonburg and Lexington was purchased, though the portion from Staunton to Lexington was promptly taken out of service. Later, a portion of the same line to the north of Harrisonburg as far as Mt. Jackson was added.

The line continues to operate today as the Chesapeake Western Branch of Norfolk Southern, a FRA Class III short-line. A portion of the line south of Harrisonburg to Pleasant Valley is now owned and operated by the Shenandoah Valley Railroad.

5.5.5. Commonwealth Railway, Inc. (CWRY)

CWRY is a short-line railroad operating 16.5 miles of track of the former Norfolk, Franklin and Danville Railway line from Suffolk, to Portsmouth, Virginia. Its local office is in the Wilroy area of Suffolk, Virginia. Commonwealth Railway is owned by Rail Link Inc. headquartered in Jacksonville, Florida. In May 2008, CWRY purchased the remaining interest in the line from Norfolk Southern with funding assistance from DRPT's Rail Enhancement Program.

The Commonwealth Railway is the primary rail carrier to the new APM Terminal in Portsmouth providing double-stack rail service to the new container terminal and the future Craney Island Marine Terminal proposed by the Virginia Port Authority. Existing industries, such as the BASF Chemical plant in the West Norfolk area of Portsmouth are also served by CWRY.

CWRY provides dual Class I railroad access to the marine terminals and industries in Portsmouth, with rail connections to both Norfolk Southern and CSX near Suffolk. CWRY also operates a new rail marshalling yard near Suffolk to assemble intermodal train segments from the APM Terminal into a full unit trains for transit to the hinterlands.

5.5.6. Norfolk & Portsmouth Beltline (NPBL)

NPBL is a shortline railroad that has been operating in Norfolk, Portsmouth and Chesapeake since 1898. The NPBL is owned 57 percent by Norfolk Southern Railway and 43 percent by CSX Transportation. The Belt Line interchanges with Chesapeake and Albemarle Railroad, CSX Transportation, Bay Coast Railroad (formerly the Eastern Shore Railroad) and Norfolk Southern. The Belt Line is a terminal switching company that owns 36 miles of track, (plus 27 miles of trackage rights) and links commerce around the deepwater port from Sewells Point to Portsmouth Marine Terminal and including the Southern Branch of the Elizabeth River. All locomotives are leased from Norfolk Southern.

5.5.7. North Carolina and Virginia Railroad (NCVA)

NCVA is a short-line railroad that started in 1987 on the former Seaboard Coast Line Railroad from Boykins, Virginia to Tunis in Cofield, North Carolina. The North Carolina and Virginia Railroad is headquartered in Ahoskie, North Carolina and interchange with CSX Transportation in Boykins, Virginia.

Current customers include; Ahoskie Fertilizer, Colerain Peanut, Southern States, Georgia-Pacific, Golden Peanut Co., Kerr Plastic, Perdue Farms, Resinall Corp., Rich Square Cotton Gin, Royster Clark and Severn Peanut. The North Carolina and Virginia is owned by RailAmerica.

5.5.8. Shenandoah Valley Railroad (SV)

SV is a privately owned shortline railroad extending northward from Staunton in Augusta County through Rockingham County to Pleasant Valley. The line was originally built by the Baltimore and Ohio Railroad and later purchased in 1942 by the Chesapeake Western Railway. The new short-line was formed in 1993 by several major shippers, and adopted the old historic name which was not in use. The Shenandoah Valley Railroad is operated under contract. The Buckingham Branch RR was the contract operator between 1993 and 2003, and the Bay Coast Railroad (BCR) was the contract operator between April 2003 and August 2006. As of September 1, 2006 the Durbin and Greenbrier Valley Railroad (DGVR) became the contract operator. DGVR operates four excursion trains on scenic routes in nearby West Virginia. The railroad interchanges with the Buckingham Branch Railroad (BB) in Staunton, along with Norfolk Southern in Pleasant Valley, Virginia.

5.5.9. Winchester and Western Railroad Co. (WW)

WW is Virginia's oldest operating shortline. The 54 mile FRA Class III railroad operates between Gore and Winchester, Virginia, and from Winchester, up though the Eastern Panhandle of West Virginia, to Hagerstown, Maryland. The Winchester and Western is exclusively a freight line with connections to CSX Transportation and Norfolk Southern.

The Winchester and Western Railroad has a partnership with H.H. Omps Trucking to transport bulk materials from Omps' facilities in Winchester, VA.

5.5.10. Deepwater Terminal Railroad (DWT)

The Port of Richmond Deepwater Terminal Railroad (DWT) owns approximately four miles of track from downtown Richmond to the Port of Richmond on the west side of the James River. DWT is a terminal and switching shortline railroad served directly by CSX, and indirectly by NS via a switching agreement. DWT extends south between the James River and I-95 within Richmond City limits and primarily serves the Port's imports and exports of containers and miscellaneous bulk cargo.

5.6. Passenger Rail

For nearly two centuries, railroads have been part of Virginia's and the Nation's heritage and history. Trains enabled the development of our major inland cities, settlement of our rural areas, and they opened up the West for expansion. However, trains are not just part of our past, they are a significant part of our present and a critical part of our future for effective passenger and freight rail movements, particularly as energy costs and fuel prices continue to rise.

On a local level, passenger rail is a proven engine of economic development and growth. Studies show that when passenger rail service is introduced into a community, retail establishments flourish, commercial and residential property values increase and people enjoy the transportation choices they are able to make in their daily lives.

On a regional level, passenger trains can provide cost-effective and convenient intermodal connections between communities and other modal choices, such as bus, trolley, light rail, bicycle, airport, and park and ride facilities, and expand economic development opportunities.

On a national level, passenger trains provide an economic means of expanding capacity, transportation options and connectivity, mobility for underserved populations, congestion mitigation, local air quality attainment improvements, and jobs - not just in the railroad industry - but also in secondary support industries which enable and stimulate economic development activity.

On a global level, passenger rail conserves energy, helps reduce greenhouse gas emissions, reduces airborne particulate and toxic emissions, and provides an environmentally benign land use alternative to impermeable asphalt surfaces that contribute to the pollution of our waterways.

Any reliable, safe, on-time and sensible passenger rail transportation network must be cost effective and competitive with alternative modes. With limited and often competing resources, any proposed service improvement scenario must be carefully evaluated.

There are currently two passenger railroads operating in Virginia on approximately 616 miles of track owned primarily by NS and CSX. Collectively, these two passenger railroads, Amtrak and VRE, carried nearly 7.2 million passengers in and through Virginia during 2009. For purposes of terminology, a "boarding" occurs when a passenger initiates a trip at a rail station, and an "alighting" occurs when the passenger steps off the train at their destination station. Every rider therefore makes both a boarding and an alighting during their trip. Ridership is defined as one-half of the total boardings plus alightings occurring at rail stations on the passenger train route.

The following paragraphs summarize the locations and operational characteristics of these two passenger railroads (CFR Sec. 266.15 FRA Requirements for State Rail Plan – [c.2.iii] location of passenger service). Amtrak and VRE are passenger rail services eligible for assistance under CFR Sec 266.7 (CFR Sec. 266.15 FRA Requirements for State Rail Plan – [c.3.i] eligibility of rail lines).

5.6.1. Amtrak Intercity Rail

When established in 1971, Amtrak was required to operate a basic system of corridor and long distance routes as designated by the United States Department of Transportation. Amtrak's enabling legislation (Rail Passenger Service Act) provided for states to contract for additional service. Under this provision, known as Section 403(b), the percentage of costs paid by states changed many times. From 1971 to 1995, Amtrak bore the majority of operating losses attributable to state-supported service, since states paid only a percentage of avoidable costs. However, Section 403(b) of the Rail Passenger Service Act was repealed in 1997, and subsequent legislative directives and current funding levels preclude Amtrak from operating additional services unless those services are state-supported. Any expansion of rail passenger service in Virginia would therefore have to be state-supported.

Figure 5-13 depicts the existing Amtrak national passenger service map and Figure 5-14 depicts the existing Amtrak routes serving Virginia. Ridership by station is shown in Figure 5-15 and Figure 5-16 depicts the annual ridership on Amtrak routes between 2000 and 2009. As can be concluded from Figure 5-16, there has been a steady increase in passenger rail usage in Virginia since 2003, averaging about a 5% increase in ridership per year. This has been lower than Amtrak's 12 percent national annual average in ridership increase since 2002. However, recent increases in fuel and energy prices have generated a higher demand for passenger rail that should result in an even higher annual ridership increases than the increases experienced over the past few years.

In 2009, Amtrak operated 20 daily intercity trains and two tri-weekly trains in the Commonwealth with 1,032,253 passengers either boarding or alighting within Virginia (a state ridership of 516,127). Including passengers on the routes from other states that are passing through Virginia, the total ridership was 3,311,759 passengers. Additionally, Amtrak estimates that of the 3.7 million Amtrak passengers who annually use the Washington D.C. Union Station, well over 1 million reside in Virginia.

Amtrak expended $82,559,962 for goods and services in Virginia in FY08. At the end of FY08, Amtrak employed 813 Virginia residents, and the total wages of Amtrak employees living in Virginia were $58,247,567.

According to the FRA's quarterly report dated October 2009, on-time performance for 2009 across the entire Amtrak system was 80 percent, an increase of 9.2 percentage points over the previous year. Amtrak's short distance routes outside of the Northeast Corridor have experienced a 10 percentage-point increase year-over-year for an average endpoint on-time performance of 80.2 percent while long-distance trains have experienced a 20 percentage-point increase during the same period for an average endpoint on-time performance of 74.3 percent. In the Southeast Corridor, the *Palmetto*, *Carolinian*, and *Silver Star* have experienced notable year-over-year improvements to their endpoint on-time performance increases of 16, 20, and 23 percentage points respectively. Overall, however, these three routes are in Amtrak's bottom half for on-time arrivals.

Each host railroad route over which Amtrak travels has the same obligation under federal law to prioritize Amtrak trains. However, each Class I railroad faces different challenges to meeting that obligation. Amtrak delays are usually due to insufficient rail capacity and the need for additional infrastructure investment by freight railroads. Operating models for freight and passenger rail are polar opposites. Freight rail succeeds when demand is greater than capacity. Contrarily, passenger rail succeeds when capacity is greater than demand.

Bridging this operational chasm is critical to resolving the dilemma of on-time performance for passenger rail. According to Amtrak, policymakers and others consider the impact of the constrained national system on the economy and transportation systems, the current scenario hampers growth and their mission to provide reliable service.

Amtrak's ability to efficiently execute operating and capital plans for the future would be greatly enhanced by federal legislation that provides a multi-year funding structure (historically, Amtrak has operated on a year-to-year basis, making consistent implementation of programs difficult), that allows cost sharing with the states and provides for public-private partnerships with Class I railroads to make needed rail improvements that would support improved passenger rail performance and capacity.

Brief descriptions of the eight Amtrak passenger routes that serve Virginia are discussed in the following paragraphs. The on-time performance for each route is presented for each route, and is generally significantly below the 90-95 percent on-time performance goal that DRPT established for all passenger rail service providers to achieve in the Commonwealth.

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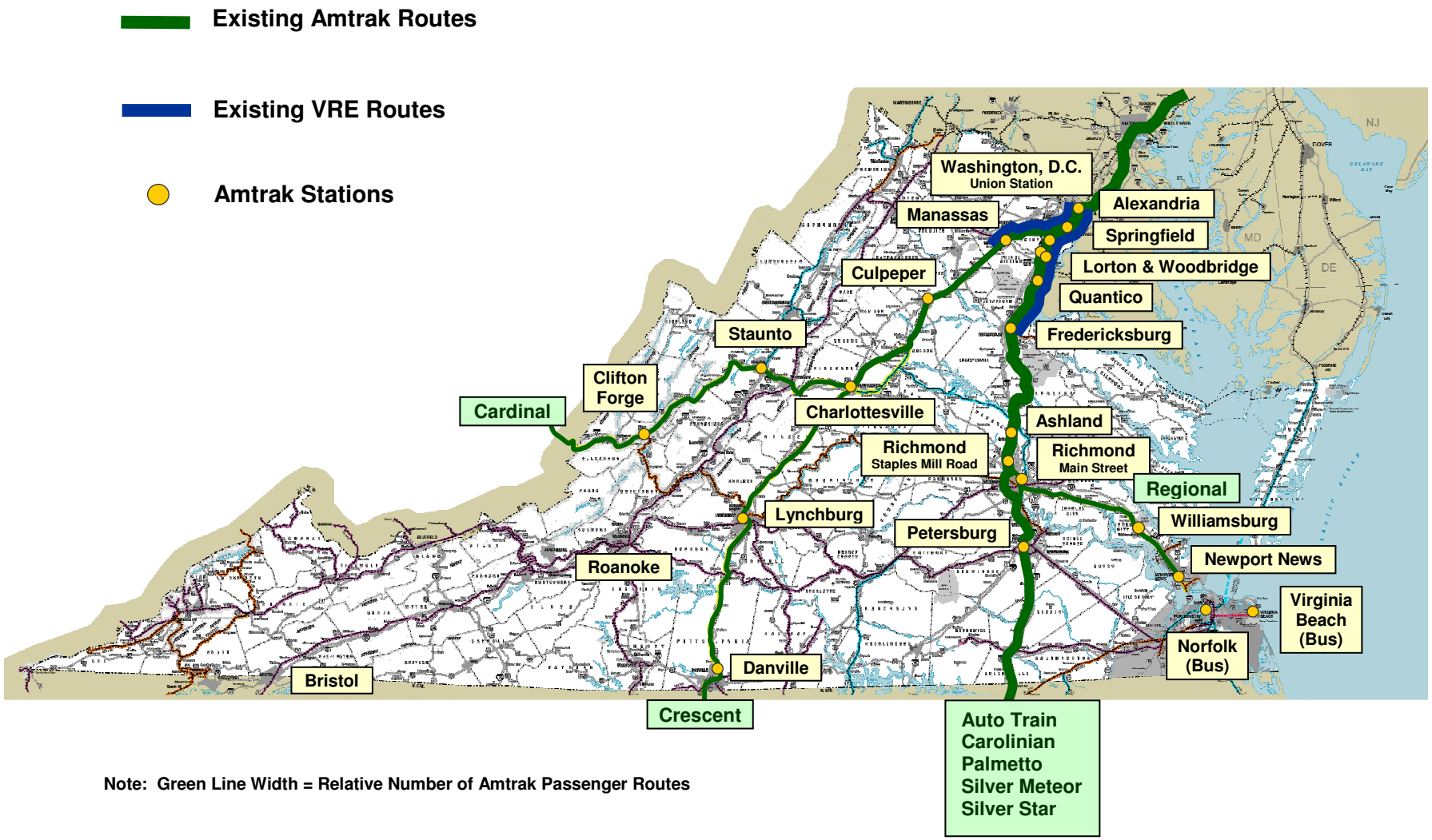
Figure 5-13. Amtrak National Passenger Rail Routes
(Source: Amtrak)



Note: Green Line Width = Relative Number of Amtrak Passenger Routes

Figure 5-14. Passenger Routes Serving Virginia

		Annual Ridership Statistics - Source: Amtrak FY 2009								
		Northeast Corridor	79/80 Carolinian	89/90 Palmetto	91/92 Silver Star	97/98 Silver Meteor	53/52 Auto Train	19/20 Crescent	50/51 Cardinal	TOTALS
	Station	Regional*								
Boardings & Alightings										
	Alexandria	66,033	16,979	10,505	8,683	5,682		8,363	3,125	119,370
	Woodbridge	6,270								6,270
	Quantico	11,573	3,336	56						14,965
	Fredericksburg	33,796	7,646	160						41,602
	Ashland	16,634								16,634
	Richmond (Main St.+ Staples Mill)	184,362	30,967	28,969	16,039	13,271				273,608
	Williamsburg	48,013								48,013
	Newport News	107,306								107,306
	Manassas							6,008	2,694	8,702
	Culpeper							3,460	1,354	4,814
	Charlottesville							33,694	17,535	51,229
	Lynchburg							23,011		23,011
	Danville							5,870		5,870
	Staunton								6,094	6,094
	Clifton Forge								3,703	3,703
	Other Virginia	38,420	5,641	5,056	6,860	3,001	232,644	4,715	4,716	301,053
	Outside Virginia	2,108,685	762,927	619,694	428,490	514,568		900,566	256,343	5,591,273
*Only includes Regional trains operating south of Washington										
	Virginia Boardings & Alightings	512,407	64,569	44,746	31,582	21,954	232,644	85,121	39,221	1,032,244
	Virginia Ridership	256,204	32,285	22,373	15,791	10,977	116,322	42,561	19,611	516,122
	Outside Virginia Boardings & Alightings	2,108,685	762,927	619,694	428,490	514,568	0	900,566	256,343	5,591,273
	Outside Virginia Ridership	1,054,343	381,464	309,847	214,245	257,284	0	450,283	128,172	2,795,637
	Total Route Boardings & Alightings	2,621,092	827,496	664,440	460,072	536,522	232,644	985,687	295,564	6,623,517
	Total Ridership	1,310,546	413,748	332,220	230,036	268,261	116,322	492,844	147,782	3,311,759

Figure 5-15. Annual Amtrak Ridership by Station – Virginia (2009)
(Source: Amtrak)

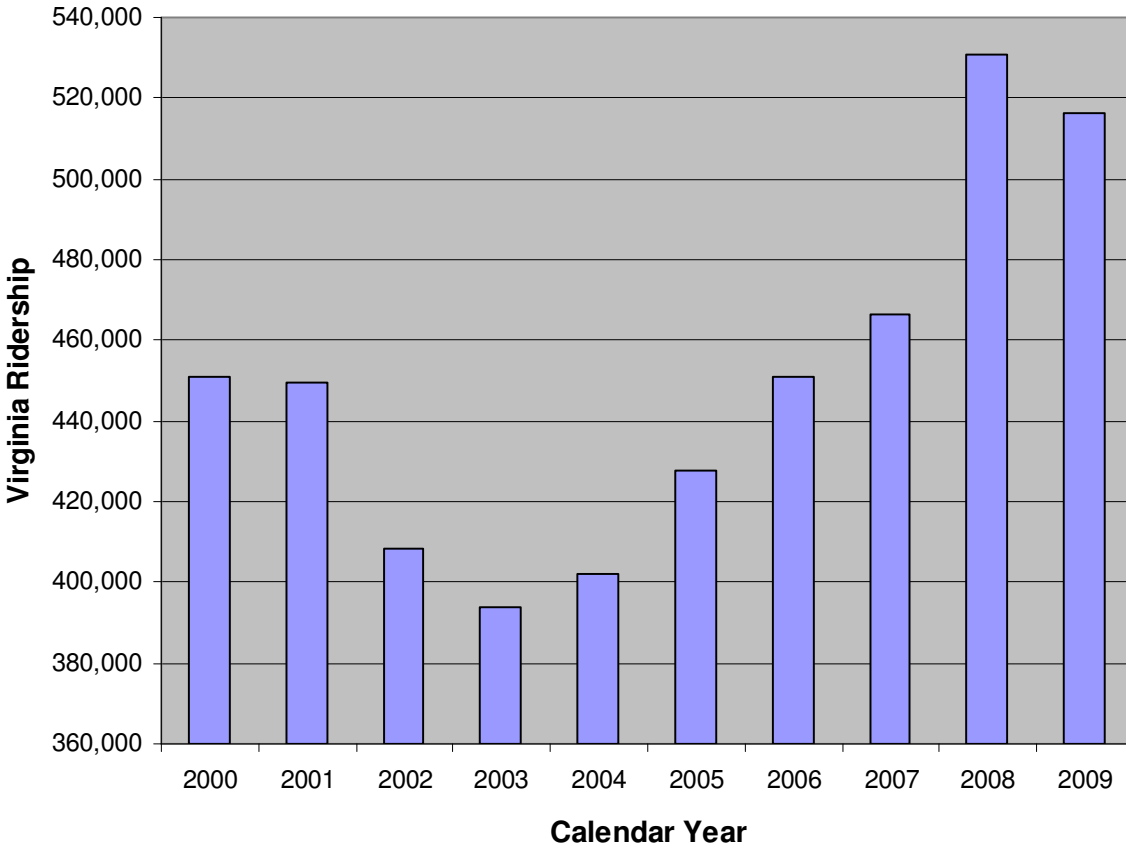


Figure 5-16. Amtrak Annual Virginia Ridership (2000 – 2009)
(Source: Amtrak)

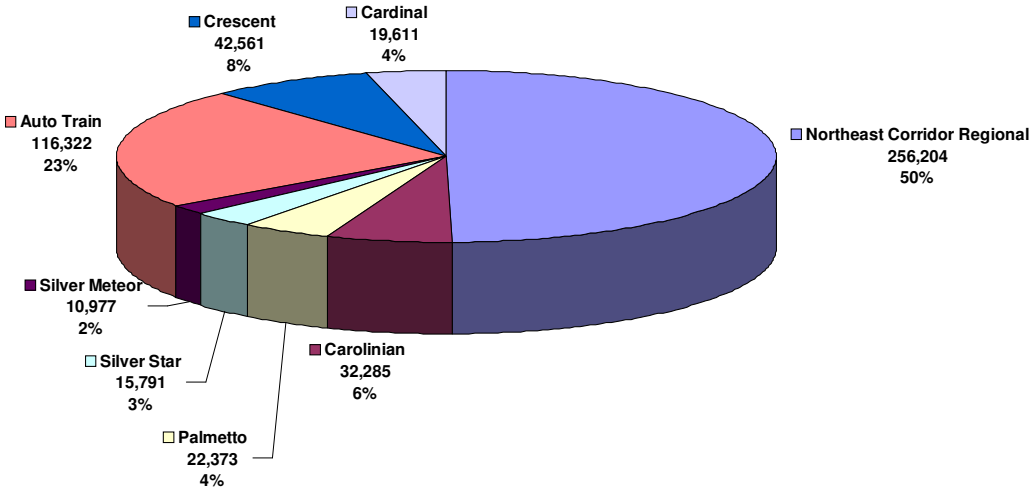


Figure 5-17. Amtrak - Virginia Ridership
Virginia Routes (Commonwealth passengers only = 516,122)

5.6.1.1. Northeast Corridor Regional Route

This route provides daily passenger rail service from Newport News to Boston. Amtrak station stops in Virginia include Newport News, Williamsburg, Richmond (Main Street), Richmond (Staples Mill), Ashland, Fredericksburg, Quantico, Woodbridge, Springfield, Alexandria, and Washington, D.C. Service is provided on CSX tracks. Currently there are 4 daily round trips to Richmond with two continuing to Newport News. Annual ridership in 2009 was 256,204 passengers from Virginia, and a total ridership of 1,310,546 passengers including out-of-state passengers. On-time performance for FY2009 was 81.6 percent. This regional service (which includes the I-95 and I-64 transportation corridors) carried approximately 50 percent of all Amtrak passengers in Virginia in 2009 as depicted in Figure 5-17.

5.6.1.2. Carolinian Route (Train 79/80)

This route provides daily passenger rail service from Charlotte, NC to New York City. Amtrak station stops in Virginia include Petersburg, Richmond (Staples Mill), Fredericksburg, Quantico, Alexandria, and Washington, D.C. Service is provided on a combination of NS, CSX, and Amtrak tracks. Annual ridership in 2009 was 32,285 passengers from Virginia, and a total ridership of 413748 passengers including out-of-state passengers. On-time performance for FY2009 was 55.4 percent. This rail service is part of the I-95 transportation corridor.

5.6.1.3. Palmetto Route (Train 89/90)

This route provides daily passenger rail service from Savannah, GA to New York City. Amtrak station stops in Virginia include Petersburg, Richmond (Staples Mill), Alexandria, and Washington, D.C. Service is provided on a combination of CSX and Amtrak tracks. Annual ridership in 2009 was 22,373 passengers from Virginia, and a total ridership of 332,220 passengers including out-of-state passengers. On-time performance for FY2009 was 64.1 percent. This rail service is part of the I-95 transportation corridor.

5.6.1.4. Silver Star Route (Train 91/92)

This route provides daily passenger rail service from Miami and Tampa, FL to New York City. Amtrak station stops in Virginia include Petersburg, Richmond (Staples Mill), Alexandria, and Washington, D.C. Service is provided on a combination of CSX and Amtrak tracks. Annual ridership in 2009 was 15,791 passengers from Virginia, and a total ridership of 230,036 passengers including out-of-state passengers. On-time performance for FY2009 was 66.9 percent. This rail service is part of the I-95 transportation corridor.

5.6.1.5. Silver Meteor Route (Train 97/98)

This route provides daily passenger rail service from Miami, FL to New York City. Amtrak station stops in Virginia include Petersburg, Richmond (Staples Mill), Alexandria, and Washington, D.C. Service is provided on a combination of CSX and Amtrak tracks. Annual ridership in 2009 was 10,997 passengers from Virginia, and a total ridership of 268,261 passengers including out-of-state passengers. On-time performance for FY2009 was 69.2 percent. This rail service is part of the I-95 transportation corridor.

5.6.1.6. Auto Train Route (Train 53/52)

This route provides direct daily passenger rail service and automobile transfers between Lorton, VA and Sanford, FL (no station stops in between). Service is provided on CSX tracks. Annual ridership in 2009 was 116,322 passengers from Virginia, and a total ridership of 217,822 passengers including out-of-state passengers. On-time performance for FY2009 was 87.5.2 percent. This rail service is part of the I-95 transportation corridor.

5.6.1.7. Crescent Route (Train 19/20)

This route provides daily passenger rail service from New Orleans to New York City. Amtrak station stops in Virginia include Danville, Lynchburg, Charlottesville, Culpeper, Manassas, Alexandria, and Washington, D.C. Service is provided on a combination of NS and Amtrak tracks. Annual ridership in 2009 was 42,561 passengers from Virginia, and a total ridership of 492,844 passengers including out-of-state passengers. On-time performance for FY2009 was 84.1 percent. This rail service is part of the I-81 and Route 29 transportation corridors.

5.6.1.8. Cardinal Route (Train 50/51)

This route provides passenger rail service three times a week from Chicago to New York City. Amtrak station stops in Virginia include Clifton Forge, Staunton, Charlottesville, Culpeper, Manassas, and Washington, D.C. Service is provided on a combination of NS, CSX, BB and Amtrak tracks. Annual ridership in 2009 was 19,611 passengers from Virginia, and a total ridership of 147,782 passengers including out-of-state passengers. On-time performance for FY2009 was 51.3 percent (see Figure 5-18). This rail service is part of the I-81 and Route 29 transportation corridors.

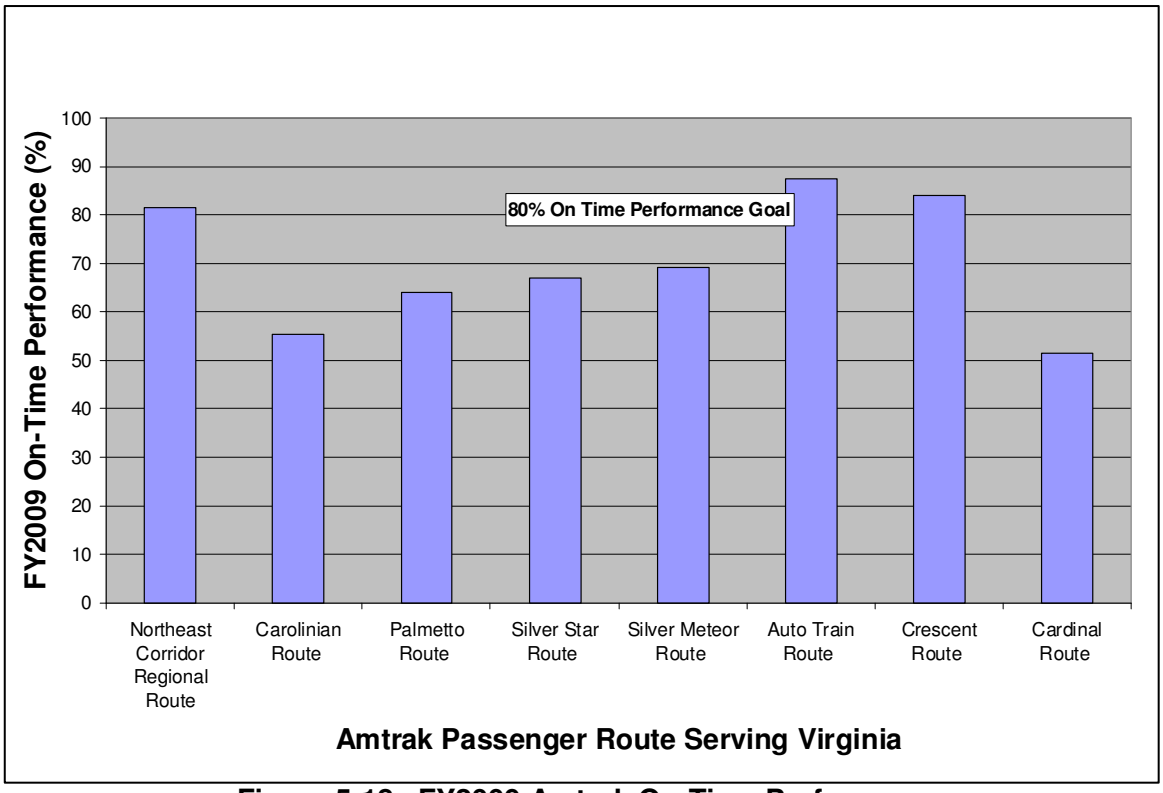


Figure 5-18. FY2009 Amtrak On-Time Performance
(Source: Amtrak)

5.6.2. Virginia Railway Express

The VRE was founded in 1992 with a vision to provide a safe, convenient, energy-efficient public transportation alternative to driving congested highways from the Northern Virginia suburbs to the business districts of Alexandria, Crystal City and Washington, D.C. Each weekday, VRE now operates 31 trains over two branch lines, covering 90 route miles and serves 18 stations in eight Northern Virginia jurisdictions, and carrying upwards of 15,000 passenger trips per day. VRE currently operates with an annual overall on-time performance of between 80 percent and 91 percent. Ridership growth has averaged 16 percent per year and the existing system is currently operating at full capacity (trains, parking areas, etc.). Capacity is a big concern as VRE is expected to double its ridership in the next 20 years. A route map of the VRE system is depicted in Figure 5-19.

In 2008 VRE reported a total ridership of 3,628,563 passengers. This represented an average of 15 trains per day on the Fredericksburg Line with 1,949,829 passengers per year (I-95 corridor); and an average of 16 trains per day on the Manassas Line with 1,678,734 passengers per year (I-66 and Route 29 corridors). VRE operates on NS tracks for the Manassas route, and CSX tracks for the Fredericksburg Route. VRE commuter trains are operated by Amtrak under contract with the Northern Virginia and Potomac and Rappahannock Transportation Commissions. On-time performance for the first five months CY2009 was 91.5 percent.

Organizationally, the Virginia Railway Express is a joint operation undertaken by two commissions – the Northern Virginia Transportation Commission (NVTC) and the Potomac and Rappahannock Transportation Commission – which represent the Northern Virginia counties and municipalities in the service area. Members of both entities sit on the VRE Operations Board, which governs VRE. Daily operations and capital projects are financed from a combination of federal, state and local grants, and through the sale of tickets (often referred to as the fare box revenues).

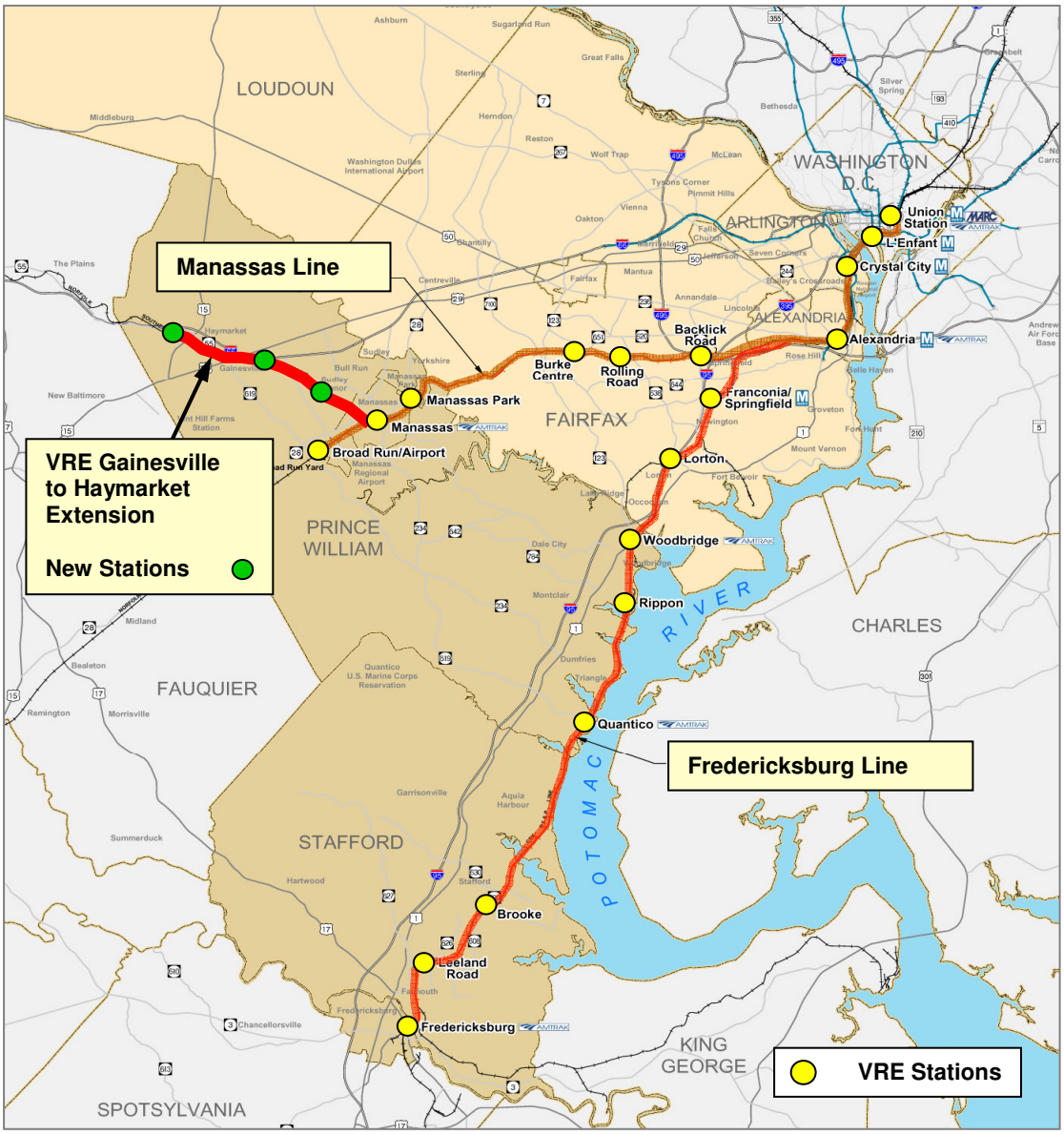


Figure 5-19. VRE System Map
(Source: VRE)

5.6.2.1. VRE Gainesville-Haymarket Extension

According to VRE, the proposed Gainesville-Haymarket would extend VRE commuter rail service for 11 miles between the City of Manassas and Haymarket, located in Prince William County, Virginia. The VRE extension would use an existing railroad right-of-way owned by Norfolk Southern Corporation that currently is used exclusively by freight trains. An extensive upgrade of the rail line will be required to make the line suitable for passenger service.

5.6.3. Excursion Trains and Tourism

Excursion trains contribute to tourism in states where scenic routes or special attractions exist (such as routes along rivers, mountains, “wine” trains, etc.). Often the locomotive is steam-powered and the cars are restored antique parlor cars. The primary purpose of an excursion trip is the passengers experience and enjoyment of this unique means of transportation. As a full-time operation, close ties to an attraction or a museum are often required for excursion trains to survive.

In Virginia, there are no full-time excursion trains, but several shortlines currently provide excursion train opportunities on a limited basis. These include:

- Buckingham Branch Railroad (BB), which in cooperation with the Old Dominion Chapter of the National Railway Historical Society provides a charter excursion service when requested, as well as scheduled spring trips in May, fall excursions in October, and the Santa Train in December. All BB excursion trains operate out of the historic railway station in Dillwyn, Virginia.
- Bay Coast Railway (BCR) operates the former Eastern Shore Railroad line. In June 2008 BCR initiated an excursion train providing Friday and Saturday night dinner trips on its tracks along the eastern shore. The shortline is also considering “pizza trains” and wine tasting excursion trains if the dinner train proves successful.

At present in Virginia, the burden of running a tourist train operation rests solely on the operating entity. Funding for such excursion trains comes primarily from the patrons and not on the Commonwealth or federal government. Liability issues are of paramount importance on such excursion train operations.