

Railroad and Regional Characteristics

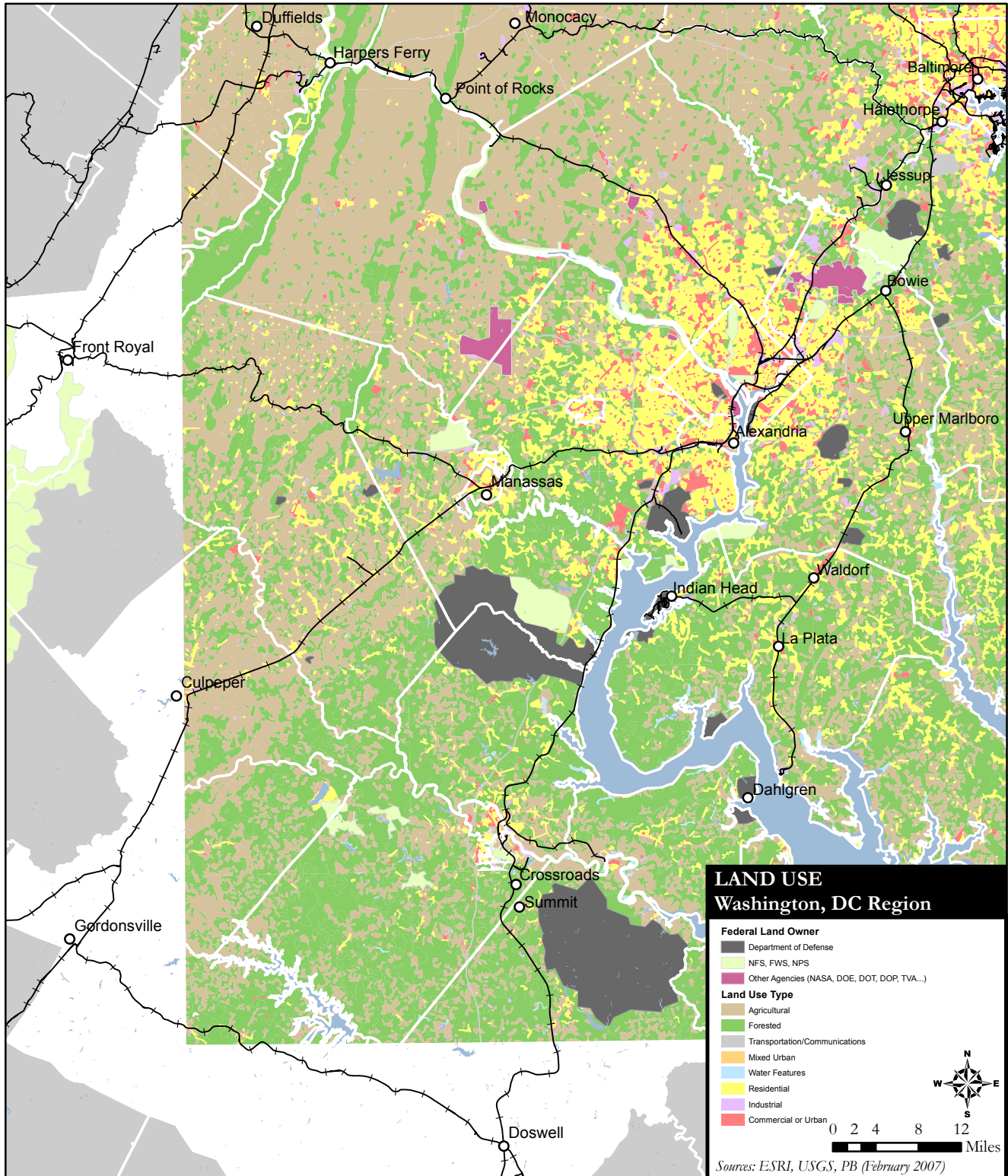


Figure 2-22. Study Area Land Use

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of the study area.

Present transportation and communication land uses could provide potential locations for new transportation facilities because this land may already be publicly owned, avoiding the need to acquire private land. A new freight railroad alignment could minimize cost and disruption by co-locating with a utility or transportation corridor. USGS and individual county land use data identified four potential corridors of transportation and communication land uses:

- A utility corridor running east-west through King George County, presently used by power lines.
- A corridor near Dulles International Airport through Montgomery, Loudoun, and Prince William Counties that has been considered for a highway in the past.
- The Maryland State Route 32 segment and power line right-of-way that runs between the Amtrak Northeast Corridor and the CSX Mainline near the Pope’s Creek Branch.
- The Maryland State Route 32 segment that runs between Jessup and the CSX Old Main Line.

Military Installations

As the seat of the federal government, the Washington region is home to many important defense installations. As shown in Figure 2-22, the existing CSX freight railroad passes through or close to the Pentagon, Fort Belvoir, and Marine Corps Base, Quantico.

Due to the number of military installations in the region, a realigned railroad would most likely pass near at least one facility. Other nearby facilities include Fort Meade and Naval Surface Warfare Center, Indian Head Division in Maryland, Fort A.P. Hill, Naval Surface Warfare Center, Dahlgren Division in Virginia, and Bolling Air Force Base in the District.

Fort Meade is home to one of the nation’s largest army installations as well as the National Security Agency/Central Security Service (NSA/CSS), one of the nation’s most important intelligence agencies. Because of the 2005 Base Realignment and Closure



Figure 2-23. Utility Corridor Near Bowie

Present transportation and communication land uses could provide potential locations for new transportation facilities because this land may already be publicly owned, avoiding the need to acquire private land.

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(BRAC) recommendations, approximately 5,000 additional employees and 5,000 family members will be relocated to Fort Meade by 2010. To the south, Fort Belvoir faces an even larger change; the BRAC moves will add approximately 22,000 employees by 2011.

Some of the nearby military installations contain inactive rail spurs that, under certain circumstances, could be part of a new freight railroad alignment. Such a spur runs from the Potomac River at Indian Head east to the CSX Pope's Creek Branch. Similarly, a government-owned railroad runs southeast through Fort Belvoir from the CSX mainline. Though the study intended to avoid sensitive military installations, it recognized that some might actually offer a safe and direct railroad right-of-way.

Emergency Response Capabilities

Emergency responders perform specific tasks that assist people, protect property, and help recover from a disaster. They can perform many tasks related to the safety and security of railroad infrastructure including:

- Controlling access to railroad infrastructure by enforcing parking restrictions and patrolling the alignment (police and sheriff departments)
- Becoming involved in public awareness campaigns related to railroad security (police and sheriff departments)
- Helping recover from a TIH release or other explosion on the railroad network by stopping hazmat flow, treating victims, and/or managing evacuations (fire, police, and sheriff departments, EMS, and hospitals)

The location and preparedness of the Washington, DC region's emergency responders has a direct effect on the safety and security of the region. Therefore, the study inventoried the emergency response capabilities along the existing and possible future freight rail lines. Figure 2-24 shows their locations. This inventory showed that all the emergency responders in the Washington, DC region meet emergency planning and training requirements.

Training

Training affects how an emergency responder performs during an incident. There are five levels of hazmat training for responders to a hazardous materials spill or leak: awareness, operations, technician, specialist, and on-scene incident commander. All fire and emergency medical service departments and law enforcement personnel in the Washington, DC region are trained to the Awareness Level, which is knowing how to identify and report a hazmat incident. All fire department and emergency medical personnel receive additional training, which qualifies them to function at the Operations Level. At the Operations Level, first responders are able to apply defensive measures to confine or divert the flow of a hazardous material. Within the study region, several fire and emergency medical service departments operate hazmat units that have personnel trained to the Technical Level, which allows the employment of offensive measures to stop a spill or leak at its source. Three hazmat units trained personnel to the Specialist Level, while only one fire and emergency medical service department has trained personnel to the on-scene incident commander level.

Because of mutual aid agreements as members of MWCOG or because of their location within the Washington, DC region, local jurisdictions' fire departments and emergency medical services are able to request resources personnel with advanced training that may not be available within their own department. For example, Virginia, through the Virginia Department of Emergency Management (VDOEM), has partnered with hazmat units from fire and emergency medical service departments throughout the state to form Regional Hazardous Material Response Teams (RHMRT). When activated through mutual aid agreements, the teams provide all the municipalities within their designated region with hazmat response capabilities and state-level VDOEM resources. The Northern Virginia RHMRT is the City of Alexandria's Fire Department. Should a release be beyond their technical capability, additional technical assistance is available from private-industry experts and state and federal governments, if requested.

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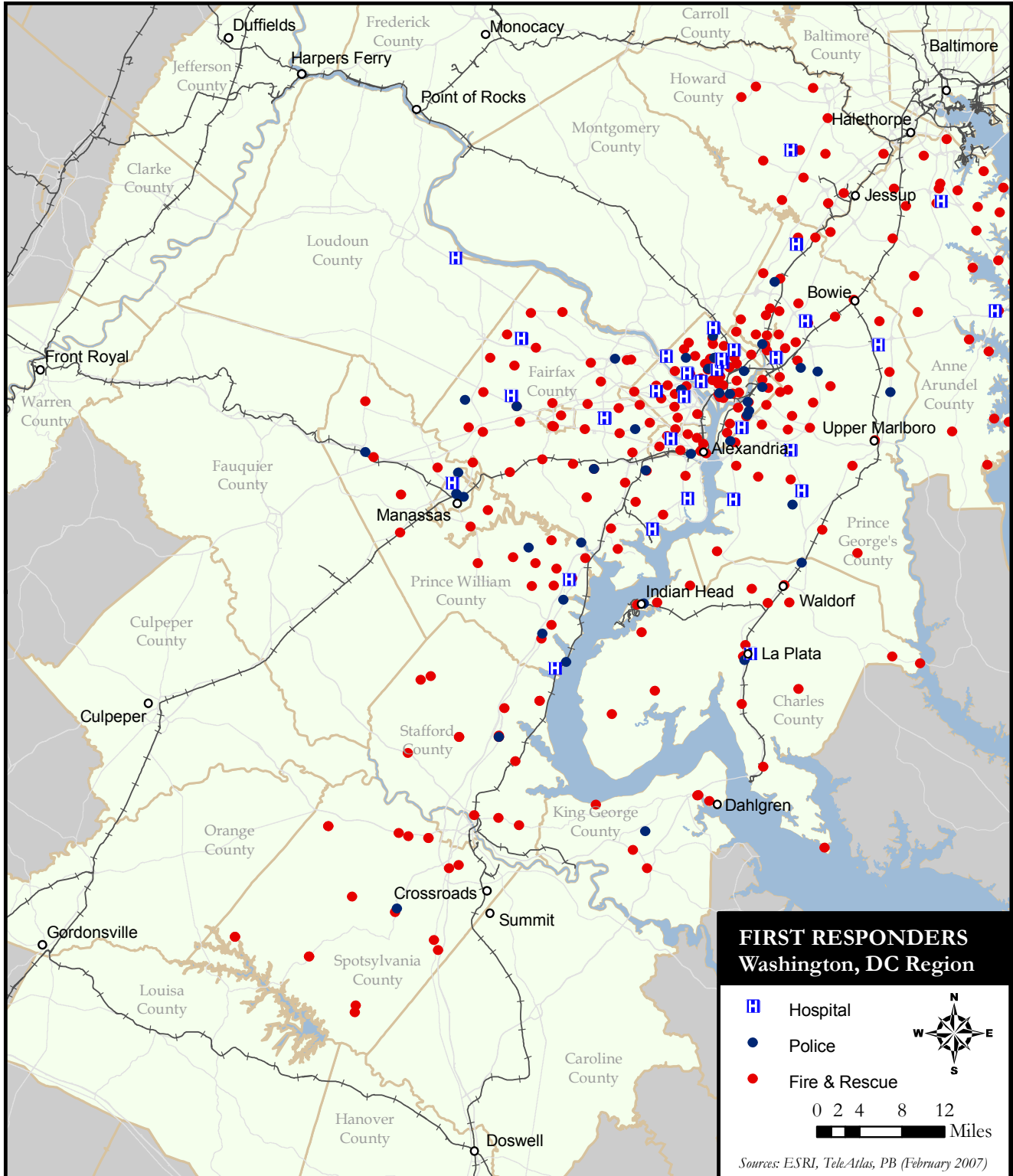


Figure 2-24. Locations of First Responders

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Emergency Response Regulations

In general, Occupational Safety and Health Administration (OSHA) regulations do not extend to state or local governments. However, the provisions of the OSHA regulations may extend to state and local government employees if legislated at the state level. Virginia and Maryland require hazmat teams to comply with the provisions of 29 CFR 1910.120: Hazardous Materials Operations. Although the District of Columbia Fire Department does not fall under OSHA regulations, they fall under the provisions of EPA 40 CFR 311, Section 126(f) of the Superfund Amendments Reauthorization Act of 1986. These requirements are identical to those of OSHA.

Regulations at 29 CFR 1910.120 establish procedures and requirements for emergency response to a hazardous materials incident. They require:

- Development of an emergency response plan and implementation of special procedures, including an incident command system
- Emergency responders to be competent in the duties and functions that they are expected to perform
- Chemical protective clothing and equipment that meet minimum requirement and are properly used and maintained
- Removal and disposal of hazardous material after the emergency response is completed

While OSHA regulations provide standards that must be met, the National Fire Protection Association (NFPA) 472, Standard on Professional Competence of Responders to Hazardous Material Incidents, details the specific knowledge that first responders must have to be considered competent to provide varying levels of response to a hazmat incident.

The Emergency Planning and Community Right-to-Know Act of 1986 (EPCRA) establishes requirements for federal, state, and local governments and industry regarding emergency planning and Community Right-to-Know reporting on hazardous and toxic chemicals. Governments are required to develop emergency response plans that:

- Identify facilities and transportation routes of extremely hazardous substances
- Describe emergency response procedures
- Designate a community coordinator to implement the plan
- Outline emergency notification procedures
- Describe how to determine the probable affected area and population by releases
- Describe local emergency equipment and facility and the persons responsible for them
- Outline evacuation plans
- Provide a training program for emergency responder, including schedules
- Provide methods and schedule for exercising emergency response plans

Because all of jurisdictions and state and local emergency responders within the study area fall under emergency planning requirements of EPCRA and the training provisions of OSHA or the EPA, no realignment route would have a particular advantage over another from an emergency response viewpoint. Therefore, emergency response capability was not a factor used to develop or evaluate potential railroad realignments.

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Identification of Potential Railroad Corridors

As the first step in identifying potential rail corridors that bypass the Washington, DC Monumental Core, the study examined existing railroad rights-of-way in the region as well as highway and utility corridors that could potentially accommodate a rail line. Corridors that have been the subject of past or ongoing transportation system improvements also were considered. Based on the existing characteristics and issues previously identified in this section, a comprehensive set of potential corridors for realigning the freight railroad were developed.

The study examined the locations and conditions of the railroads in and around the Washington, DC region and how they are used by CSX, NS, Amtrak, and commuter services. Each potential corridor had to connect CSX routes in Richmond, Virginia and Baltimore, Maryland, bypassing the District’s Monumental Core.

Some of the existing rail alignments are suitable for mainline freight traffic with relatively little additional investment. Many of these alignments, however, would require significant upgrading and/or expansion to meet mainline design standards—such as converting from a single-track to a double-track configuration, straightening curves, increasing vertical clearances, and eliminating roadway grade crossings.

The identification of potential railroad corridors also included the consideration of freight terminals, yards, and security, environmental, and social considerations. Some of these factors were used more in later stages of the study to screen and refine alternative alignments. As a starting point, Figure 2-25 shows major environmental and social constraints and opportunities within the potential corridors.

The potential railroad route segments were organized into three basic corridors in which a new freight line could be developed. These include:

- Western corridors, entailing a crossing of the Potomac River upstream (west) of Washington, DC.
- Central corridors, generally following the existing CSX freight main line, except for rerouting around the Washington, DC Monumental Core via a new crossing of the Potomac River in the vicinity of Alexandria and Arlington, Virginia.
- Eastern corridors, entailing a new rail crossing of the Potomac River downstream (southeast) of Washington, DC and Alexandria and tying into the existing CSX Pope’s Creek Branch line.

Each corridor would provide a possible route for north-south and west-south CSX freight traffic.

WESTERN CORRIDORS

The western corridors would involve crossing the Potomac River in one of two ways: either using the existing NS railroad bridge south of Hagerstown, Maryland, or via a new bridge crossing between Loudoun/Fairfax Counties in Virginia and Montgomery County, Maryland. Either option would intercept the east-west CSX main line in Maryland, providing connections to the west and eastward to Baltimore for CSX freight traffic.

The western possibilities include several existing railroad segments as well as potential new railroad rights-of-way. It is possible to develop a western corridor route that entirely uses existing rail lines. Such a route would be less difficult to implement than those involving acquisition of new right-of-way, but the resulting route would be long and circuitous. Other western corridor routes could be more direct, but these would require new railroad rights-of-way in Prince William, Fairfax and Loudoun Counties in Virginia, and Montgomery and/or Howard Counties in Maryland.

Western Existing—CSX Piedmont Subdivision

This segment of existing railroad is part of a CSX-owned branch line that connects Richmond and Charlottesville, Virginia. The segment of interest to

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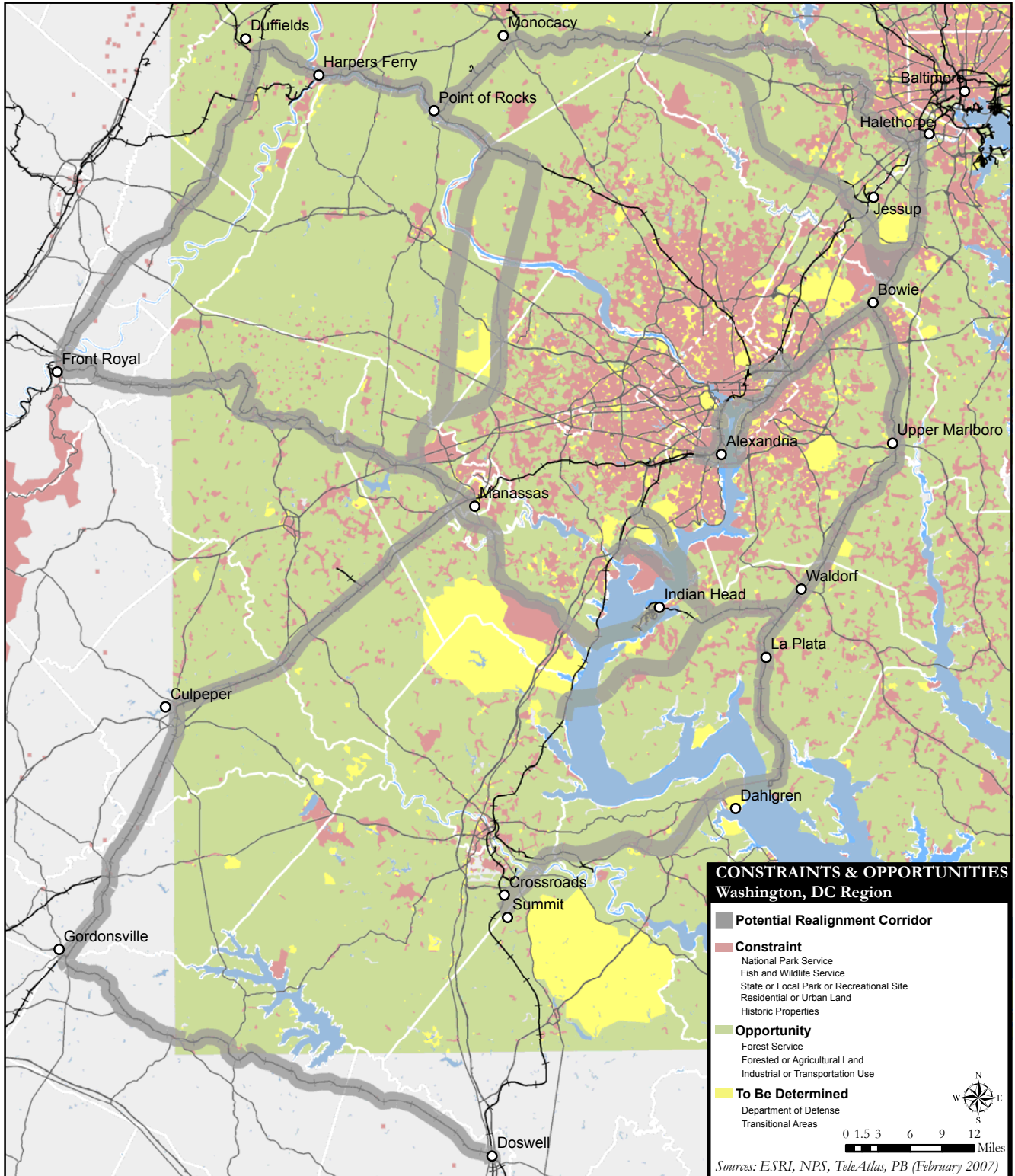


Figure 2-25. Realignment Constraints and Opportunities

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this study starts at a junction with the CSX RF&P Subdivision at Doswell and runs westward for 50 miles to Gordonsville. From the rail junction at Gordonsville, the route would head northward an additional 9.1 miles to Orange, Virginia, where the CSX Piedmont Subdivision connects with the NS Piedmont mainline. To be usable as a freight mainline, the CSX Piedmont Subdivision would require installation of railroad signaling and would need to be expanded from a single-track to a double-track configuration. The line passes through the middle of several towns, including Mineral, Louisa, Gordonsville and Orange, where the railroad would require either grade separation or improved grade-crossing protection.

Western Existing—NS Piedmont Division Mainline

The NS north-south mainline between Orange and Manassas, Virginia offers a route to the west of and roughly parallel to the CSX RF&P Subdivision. This segment is 52 miles long and was originally was double track for its entire length, although the existing configuration contains approximately 28 miles of single track. This alignment is relatively straight and flat, and it is equipped with modern railroad signaling and traffic control. Major highway crossings are grade-separated, though several minor streets cross the rail line at grade crossings. The largest town the line runs through is Culpeper, Virginia. Reinstalling double track on this segment would increase the capacity of the line sufficiently to allow its use for both NS and CSX through traffic.

Western Existing—NS B Line

The 50-mile long railroad between Manassas and Front Royal was built in 1854 as a minor branch line to serve the local industries and farms in the Shenandoah Valley. Known as the B Line, it was never intended for passenger traffic or dense mainline freight operations. As a result of railroad mergers and the increasing difficulty of moving freight trains through Washington and on Amtrak's Northeast Corridor, NS now operates most of its north-south through freight trains via the B Line. The present physical characteristics

of the rail line pose several significant obstacles to expansion of freight service and the introduction of passenger service:

- The line is single track, which restricts the capacity of the line
- The line is unsignalled or “dark,” which restricts both speed and capacity
- The line is slow speed, with a maximum authorized speed of 45 mph and slower speed limits at locations with sharp curves
- There are 15 at-grade roadway crossings between Manassas and Haymarket, which increase exposure for grade crossing accidents as train movements increase. The most problematic of these are the sharply skewed crossing of U.S. Route 29 at Gainesville and the crossing of Nokesville Road (State Route 28) west of Manassas, both of which are proposed for elimination but not fully funded.
- Existing right-of-way is too narrow to accommodate a multiple-track railroad

At its eastern end, the B Line passes through one of the fastest-growing suburban areas of the Washington, DC region. As a result of this growth, the easternmost 11 miles of the B Line have been targeted by VRE and Prince William County for an expansion of commuter rail to the communities of Gainesville and Haymarket. The VRE project would invest approximately \$100 million or more to extend the NS signal and traffic control system and double-track this section of the B Line. This project currently is entering a phase of conceptual engineering and environmental feasibility analysis. The western section of the B Line traverses hilly terrain that would make full double-tracking expensive and difficult to accomplish.

Western Existing—NS Shenandoah Line

From Front Royal (Riverton Jct.), the NS north-south mainline continues northward on the Shenandoah Line. The predominantly single-track line passes through the towns of Berryville and Charles Town, West Virginia. The NS Shenandoah Line crosses the CSX east-west mainline (Cumberland Subdivision) at Shenandoah Jct., 36 miles north of Front Royal. A track connection used to exist between the two

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railroads at this location, but the tracks were recently removed and the connection has been eliminated. The track connection would need to be restored or reconstructed on a new alignment to enable CSX freight trains using the western bypass corridor to move onto the CSX mainline in either an eastbound or westbound direction at this location.

Western New—Prince William County

A direct rail link between the CSX RF&P Subdivision near Dumfries, Virginia and the NS mainline at Manassas provides an alternative western corridor routing to the CSX Piedmont Subdivision and the NS Piedmont Mainline previously described. This alignment would contain a new double-track railroad on new right-of-way. The alignment generally lies within Prince William County and follows the path of VA Route 234. The highway, which is the major arterial linking the western and eastern halves of Prince William County, has been widened in segments and is planned for further widening in the future. Over the past several years, transit has been proposed in this corridor. Presumably, a railroad right-of-way could be created in the corridor that meets railroad engineering criteria for curves and grades. Property would need to be acquired for this right-of-way, which would likely affect multiple subdivisions and development projects along the corridor.

The alignment would be approximately 20 miles long and would shorten the rail trip between Doswell and Manassas by about 20 miles. However, this alignment would be both difficult and expensive to construct. This new railroad would skirt north of Prince William Forest Park, traversing difficult terrain that would increase the cost of railroad development on a per-mile basis. In addition, the new railroad would pass through urban, mostly low-density residential areas that would likely require other railroad infrastructure such as walls and fencing for public safety and security, mitigation of impacts, and grade-separated road crossings.

Western New—Loudoun, Fairfax and Montgomery Counties

A second potential new rail corridor west of the District was identified that would link Manassas, Virginia and Point of Rocks, Maryland. The potential corridor would entail a new crossing of the Potomac River east of Point of Rocks. As with the previous alignment segment, this route would require construction of a new rail line on new right-of-way, at a relatively high cost compared with the expansion of existing rail rights-of-way. Though this general corridor has been considered for highway construction in the past, there are no active plans for highway development nor any major rights-of-way reserved for transportation facilities.

As an alternative for using the B Line, Shenandoah Line, and CSX South Leg in the two corridor alternatives described above, a new railroad between the B Line just west of Manassas and the CSX Metropolitan Subdivision east of its junction with the Old Main Line could be constructed. The new double-track railroad would go around the Manassas National Battlefield Park to the west and follow a north-south alignment that could run along either side of Dulles International Airport. The required new railroad bridge across the Potomac River would cross over the C&O Canal Park, which parallels the river. The new railroad line through Loudoun County, Fairfax County, and Montgomery County would cross urban areas, increasing the cost of construction. A railroad on this alignment would also require walls, fencing, grade-separated roadway crossings, and other provisions for public safety and freight security and to reduce community impacts.

Old Main Line Expansion

The Old Main Line is a direct route for connecting any of the possible western corridors to the existing CSX mainline at Baltimore. The alternative corridors previously described end at the junction of the CSX West Leg and the Old Main Line. In order for CSX south-northeast and west-northeast freight traffic to reach Baltimore without having to go through northeast Washington, DC, all the western corridor

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alternatives would include expansion of the Old Main Line involving conversion of its single track to a full double-track configuration. To improve travel time through this corridor, vertical and horizontal alignments would have to be adjusted. In addition, the line would be made to accommodate double-stack trains to meet intermodal freight requirements. Expanding the Old Main Line so that it can accommodate all CSX south-northeast and west-northeast freight traffic would be extremely expensive, comparable to developing a new railroad.

Howard County Overland Route

As an alternative to expanding the entire length of the Old Main Line, a new double-track railroad could be built from the Old Main Line in Mount Airy, Maryland to the Capital Subdivision in Jessup, the location of a major car unloading facility for auto carrier trains. From Jessup, this alternative corridor would utilize the Capital Subdivision to Baltimore. As for all the new railroad corridors described above, developing a new railroad through Howard County would be comparatively expensive because of hilly or difficult terrain and because of urban development along portions of the alignment.

CENTRAL CORRIDORS

The central corridors are clustered in Alexandria, Arlington, and Southwest and Southeast Washington, DC. They provide alternative connections between the CSX RF&P Subdivision to the south and the CSX Alexandria Extension to the north, which joins the CSX east-west mainline at Hyattsville, Maryland. Each of these alignments would allow the removal of rail freight traffic from the Long Bridge, the Virginia Avenue tunnel, and the rail line passing through the Southwest federal district of Washington, DC.

Central Yards

This alternative central corridor would provide a secure, double-track railroad tunnel that would extend from Potomac Yard in Arlington to the vicinity of Benning Yard in Northeast Washington, DC. The tunnel would pass beneath the north end of Reagan National Airport and the cross the Potomac and

Anacostia Rivers, reaching the east bank south of Poplar Point. This crossing would run south of the potential locations for a future utility tunnel to control combined sewer overflows. The freight line would remain in a secure tunnel on the east bank of the river and proceed northward, generally following the alignment of the Shepherd Industrial Track and DC Route 295 (Kenilworth Avenue), passing beneath the Washington Metro Green Line tunnel as it approaches the Anacostia Station. The northerly tunnel portal could be located within the CSX Benning Yard, or the line could continue in tunnel to the DC-MD line to permit development at the Benning Yard site. This alternative would be costly but would provide for a secure freight railroad passage underneath the most populated area of the region.

Central Alexandria North

This alternative central corridor would diverge from the RF&P Subdivision on the north side of Alexandria and utilize the right-of-way of the Slater's Lane Branch, which is a single-track industrial spur that runs eastward to the Potomac River. Similar to Central Yards, this corridor would cross the George Washington Memorial Parkway and pass beneath the Potomac River in a tunnel, surfacing on the east side of the river within the right-of-way of the Shepherd Industrial Track. Because the Shepherd Industrial Track right-of-way appears not to be available for use, new right-of-way would need to be created to provide for a double-track railroad along the east bank of the Potomac and Anacostia Rivers to Benning Yard, the point at which the industrial track joins the CSX mainline. The tunnel in this alternative would be substantially shorter than in the first alternative, and therefore, much less costly. However, the new railroad through a largely urban area would substantially increase the cost and impacts in this alternative.

Central Alexandria South

The third central corridor would provide a double-track branch from the NS Seminary Yard, passing to the south of the new commercial development along Duke Street and generally following the right-of-way of Interstate 95/495 to a crossing of the Potomac

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River via tunnel or bridge parallel to the Woodrow Wilson Bridge. Despite the extensive redevelopment of the highway corridor to support the reconstruction of the Woodrow Wilson Bridge and widening of the highway, there is no readily available right-of-way within which a rail line could be constructed, resulting in the likelihood that tunnel construction would be required in this corridor. On the east side of the river, the corridor would surface at or connect with a new double-track railroad running along east side of the Anacostia River to Benning Yard. Recent development on the west side of the river and planned development along the east side of the river make the creation of new railroad right-of-way problematic in this area. The cost implications of this alternative would be similar to Central Alexandria North, but it would be more costly if a tunnel option were selected.

EASTERN CORRIDORS

All the eastern alternative corridors would utilize and require expansion of the CSX Pope's Creek Branch. Unlike the western corridor alternatives, there is no option in which an entire alternative corridor would utilize existing railroad right-of-way segments. All eastern alternative corridors would require some construction of new railroad on new right-of-way.

Pope's Creek Branch

The principal opportunity for a new rail freight main line bypassing the District to the east is presented in on the existing Pope's Creek Branch, which runs in a north-south direction from a junction with the Amtrak Northeast Corridor at Bowie, Maryland to the Potomac River at Morgantown, Maryland for 46 miles. The rail line roughly parallels U.S. Route 301; its southern terminus is immediately adjacent to the toll plaza for the Harry W. Nice Memorial Bridge, at the Morgantown power plant of Mirant Energy. The existing line is single track and does not have a signal system. The Pope's Creek Branch passes through or adjacent to several towns and urbanized areas in Charles and Prince George's Counties including La Plata, Waldorf, St. Charles, Upper Marlboro, and Bowie. Several main highways cross the line on bridges, but there are still many existing grade

crossings. The line has relatively gentle grades and is relatively straight for most of its length.

For this line to be usable for main line freight traffic, it would need to be double-tracked, equipped with a modern signal and rail traffic control system, and grade-separated to a greater degree than at present. This incremental investment in an existing rail line, however, would be much less expensive per mile than the construction of a new double-track railroad on an entirely new right-of-way. In some locations, the addition of a second main track could be accomplished within the existing railroad right-of-way. In other locations, acquisition of property along the rail line may be required to widen the right-of-way sufficiently to accommodate a second track. Investment in security fencing and/or walls, along with roadway grade separations, would be undertaken to provide security for the railroad and to help buffer the railroad from neighboring development, particularly in urbanized areas. Two railroad branch lines connect with the Pope's Creek Branch. A rail spur heads east from Brandywine Jct., just north of Waldorf, to serve the Mirant Energy coal-fired power plant at Chalk Point. A second rail spur, the Indian Head Branch, heads westward from a point in between Waldorf and La Plata towards the U.S. Naval Surface Warfare Center at Indian Head.

Indian Head Branch

The Indian Head rail spur heads westward from the Pope's Creek Branch, at MP 34.1 between Waldorf and La Plata, for approximately 12 miles to the U.S. Naval Surface Warfare Center at Indian Head, on the east bank of the Potomac River. The right-of-way and single track rail line are owned by the U.S. Government. Based upon visual inspection in 2006, the line appears to be inactive and wide enough for the addition of a second track. The line runs through mostly rural land, and the western two miles run through the military installation. There are approximately 12 grade crossings along the route. The branch line crosses U.S. 301 at grade just west of its junction with the Pope's Creek Branch. The existing junction is not configured to permit direct train

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service between Indian Head and the Pope’s Creek Branch to the north. Therefore, a short stretch of new alignment, with a grade-separated crossing of U.S. 301, would be needed to create a through freight mainline route.

Eastern Dahlgren

The Dahlgren alignment is one of two possible eastern corridor alternatives that would connect the Pope’s Creek Branch with the CSX RF&P Subdivision. This corridor utilizes the full length of the Pope’s Creek Branch, crosses the Potomac River adjacent to the Harry W. Nice Memorial Bridge, and requires a largely new rail right-of-way in King George and Spotsylvania Counties. This alignment diverges from the RF&P near a point known as Summit, approximately 8 miles south of Fredericksburg and approximately one mile south of the VRE Crossroads Yard. From this location, a new double-track rail freight line would be constructed heading in a northeasterly direction for approximately six miles to a crossing of the Rappahannock River near the town of New Post. Most of the right-of-way southwest of the Rappahannock would follow an electric utility corridor.

Upon crossing the Rappahannock River, the alignment would utilize four miles of an existing CSX branch line, the Dahlgren Branch, which serves a cogeneration plant and industrial park in King George County. The line would be double-tracked, and major roadway crossings would be grade-separated. This branch line used to run all the way to the Potomac River, serving the Naval facility at Dahlgren. The eastern portion was recently abandoned and converted into the Dahlgren Railroad Heritage Trail. The heritage trail is privately owned and is accessible to the public by permit. The new rail right-of-way would parallel the trail for approximately four miles and then diverge onto a new and more direct alignment roughly paralleling VA Route 3 and U.S. Route 301 for the remaining 16 miles to the Potomac River.

A new double-track railroad trestle would cross the Potomac River parallel to the existing Harry W. Nice

Memorial Bridge, which would connect the new railroad in King George’s county with the southern terminus of Pope’s Creek Branch. The railroad trestle would have a movable bridge, most likely a lift span, at the point where the rail line crosses the main river channel. A fixed span would not be possible due to requirements for bridge height and railroad grades.

The total length of the Dahlgren corridor in Virginia is approximately 30 miles, six of which follow the utility right-of-way, four miles utilize the active portion of the Dahlgren Branch, four miles parallel the abandoned portion of the Dahlgren Branch that now have been converted to a trail, and the remaining 16 miles are on a new alignment approximately parallel to VA Route 3 and U.S. Route 301.

Eastern Indian Head Corridors

The study identified a set of possible corridor options that would cross the Potomac River further north than Dahlgren and tie into the Indian Head Branch, which then would connect with the Pope’s Creek Branch at Waldorf. These options all entail new rail right-of-way construction in Charles County, Maryland, but they minimize the extent of new rail construction on the west side of the river, since the RF&P line runs close to the river in this area. These options retain through freight traffic over a greater portion of the RF&P Subdivision but reduce the total mileage of required rail line upgrades and new railroad. The alternative alignments are described below, from south to north. They all entail a trestle and movable bridge crossing of the river.

Southern Alignment—Arkendale Crossing

From a location south of Quantico, Virginia, near Widewater and Arkendale, a new double-track railroad bridge would branch from the RF&P Subdivision and cross the Potomac River. From the east side of the river, a new double-track railroad would be oriented in a southwest-northeast alignment and run for approximately seven miles through predominantly rural parts of Charles County over rolling terrain, to a connection with the Indian Head Branch east of the Naval Surface Warfare Center.

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Possum Point Crossing

This crossing would span from the north side of Quantico, near the Possum Point power plant, east to within the limits of the Naval Surface Warfare Center, connecting with the Indian Head Branch. While physically feasible, the mainline freight railroad would be located within the military installation.

Mason Neck Crossing

Another option would cross the river at Mason Neck, largely through parkland, from the RF&P Line. The river crossing would be somewhat longer than other Indian Head options. On the east bank, a new two-mile long rail alignment would be constructed to meet the Indian Head Branch midway between Indian Head and Waldorf. This overall rail route would be approximately 12 miles longer than the southernmost route.

Northern Alignment—Fort Belvoir Crossing

The most northerly crossing location considered was at Fort Belvoir, which has a military rail spur from the RF&P Line through the military base. Though physically feasible, this alignment would traverse a growing military installation. This corridor is also near and visible from Mount Vernon.

New Freight Right-of-Way, Bowie to Jessup

At Bowie, the northern end of the Pope's Creek Branch connects to the Amtrak Northeast Corridor. In order for the Pope's Creek Branch to be useful as a freight main line, the line would need to connect with the CSX Capital Subdivision. The potential eastern corridors assume such a connection.

To avoid the need to reconstruct bridges and take property in the historic village of Bowie, the proposed right-of-way would bypass Bowie by utilizing two miles of an electric utility corridor to provide a more direct connection between the Pope's Creek Branch and the Northeast Corridor right-of-way. The double-track freight line would meet and run parallel with the Amtrak Northeast Corridor from the vicinity of the Bowie State MARC station to a point in between where the Corridor crosses the Patuxent and Little

Patuxent Rivers. Freight trains on the new freight line would not utilize the existing Amtrak tracks, but instead would be on new dedicated tracks within or parallel to the right-of-way.

A rail siding and single-track connection would be constructed between the freight line and the Amtrak line near Bowie State to permit NS or CSX freight trains to utilize the freight bypass route around the District and then switch to the Northeast Corridor. This would preserve both railroads' trackage rights on the Corridor, even though the primary freight route is expected to continue to be via the CSX Capital Subdivision.

As the Amtrak line dips in elevation to cross the two river valleys, the freight line would remain at a higher elevation on a viaduct structure and cross over the Amtrak line. The freight line then would head westward in the direction of Jessup, on a new right-of-way over land that is federally owned and part of the Patuxent National Wildlife Refuge. Issues associated with the potential impact of railroad construction and operation in the wildlife refuge would need to be analyzed and addressed. The railroad could possibly follow a utility line that crosses the refuge. A more northerly alternative alignment would run approximately parallel to MD Route 32, along the southern edge of Fort George G. Meade. Before an optimal alignment for this section railroad could be developed, more information would need to be acquired on the development plans for this portion of the fort.

The new rail alignment would cross MD Route 295 near its interchange with MD Route 198 and join the CSX Capital Subdivision at Savage, Maryland, just south of the CSX automobile yard facility at Jessup. A full "wye" connection would be built at Savage to permit freight trains from the freight bypass line to operate either northward towards Baltimore or westward via Washington, DC and the CSX Metropolitan Subdivision.

