



Freight Railroad Realignment



Feasibility Study Summary



April 2007



“Since September 11, 2001, the Metropolitan Washington Council of Governments has worked with government, private sector, and community leaders to ensure the safety and security of the Washington area. This study is an important first step to begin a dialogue on this sensitive issue.”

David Robertson
Executive Director, COG

“I was relieved to finally get hazmat protection through the House but the NCPC options are far away the best long term recommendations for the region.”

Eleanor Holmes Norton
Congresswoman (D-DC)

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The potential threat of an attack on rail lines transporting hazardous materials through the nation’s capital was the impetus behind a nine-month study that explored viable alternative routes for transporting freight by rail. The study, a joint effort between the District Department of Transportation (DDOT) and the National Capital Planning Commission (NCPC), was funded by a \$1 million grant from the Department of Homeland Security’s Urban Area Security Initiative Program.

NCPC took the lead in conducting the study by virtue of its role as the federal government’s central planning agency in the National Capital Region. Local and state jurisdictions in the capital area supported the study, including the following agencies:

- Maryland Department of Transportation
- Virginia Department of Rail and Public Transportation
- Office of the Mayor, District of Columbia
- Metropolitan Washington Council of Governments
- City Council of the District of Columbia

The current north-south freight rail line that runs through the District extends seven miles from Alexandria, Virginia to Hyattsville, Maryland. (See **Figure 1**). It transports freight and hazardous cargo past an estimated 100 thousand federal employees and within four blocks of the U.S. Capitol. Each year more than 22.4 million tons of freight passes over these tracks, which also accommodate more than 100 million passengers.

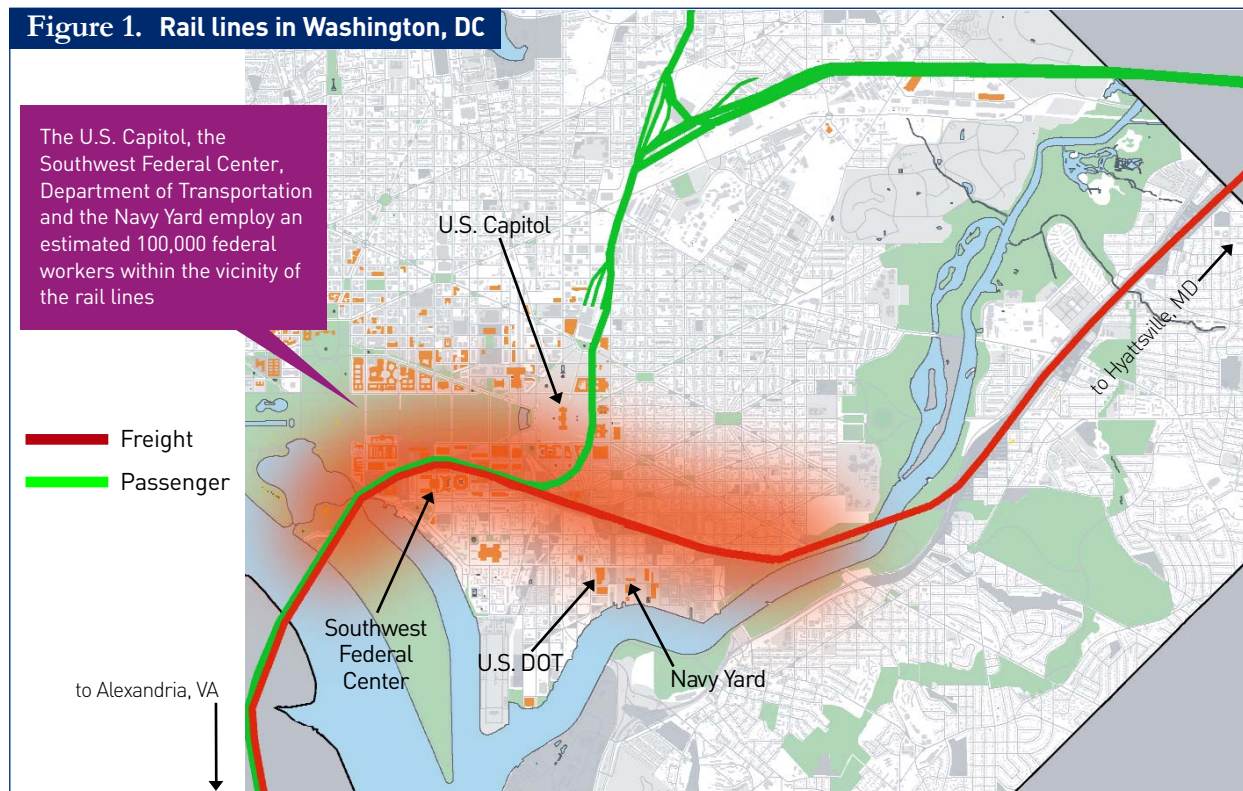
Seven Routes Studied

The study initially identified seven alternative corridors (See **Figure 2**). Many factors were studied, including location of population and employment centers, topographical and environmental issues, potential Potomac River rail crossing locations, and redevelopment opportunities offered by new alignments and adjacent lands. Based on the initial analysis, three corridors were selected for further study.

The primary focus of this effort was to eliminate the security risk triggered by the rail line’s proximity to high profile targets in the nation’s capital. In addition to eliminating the security risk, a freight rail realignment would also improve public access to the Anacostia River; accommodate state of the art railroad infrastructure; and support the anticipated growth of passenger and freight traffic in the Washington, DC region of the East Coast rail corridor.

Three Lines Identified

An initial benefit/cost analysis was performed on three of the seven alternative corridors that were studied. The three alternatives consist of various combinations of existing railroad right-of-way, government land and private land. (See **Figure 3**).



The DC Tunnel alignment would follow the existing line to Potomac Yard in South Arlington where it would go into an eight-mile secure tunnel beneath the District. It would emerge near the District/Maryland border and connect with the existing route for CSX south-northeast freight traffic.

The Indian Head and Dahlgren alignments, 69 miles and 93 miles respectively, would provide an eastern bypass around the District including a new Potomac River railroad bridge that makes use of the existing Pope's Creek Branch paralleling U.S. Route 301.

Significant Costs Associated with All Three Routes

Preliminary construction cost estimates are \$5.3 billion for the DC Tunnel alternative, \$4.3 billion for the Indian Head alternative, and \$4.7 billion for the Dahlgren alternative.

The Indian Head alternative would have the lowest capital cost and the best benefit/cost ratio. Both Indian Head and Dahlgren alternatives would perform better on these measures than the DC Tunnel alternative.

All three routes would reduce proximity of hazardous freight traffic to dense population and employment centers.

Additional Benefits Identified

In addition to addressing the security threat, any realignment alternative also would improve capacity and efficiency of commuter and Amtrak services along the East Coast, as well as safety and mobility on regional roadways. Each alternative would eliminate freight rail bottlenecks in DC, thereby improving rail capacity and efficiency. All of the alignments also would create redevelopment opportunities in the District of Columbia.

Costs and Benefits

	GOAL	MEASURE	DC Tunnel	Indian Head	Dahlgren	Existing
BENEFIT/COST	Maximize benefits and minimize capital costs	Capital Cost (\$ billion)	\$4.7-5.3	\$3.2-4.2	\$3.5-4.7	
		Benefit/Cost Ratio*	1.72	2.41	2.19	
SECURITY	Minimize proximity to population and employment concentrations	Residents within 800 feet of rail alignment in 2030	75,368	34,146	26,061	95,000
		Employees within 800 feet of rail alignment in 2030	104,697	16,963	14,873	174,000

*A benefit/cost ratio of 1.0 is considered the threshold of economically justified projects

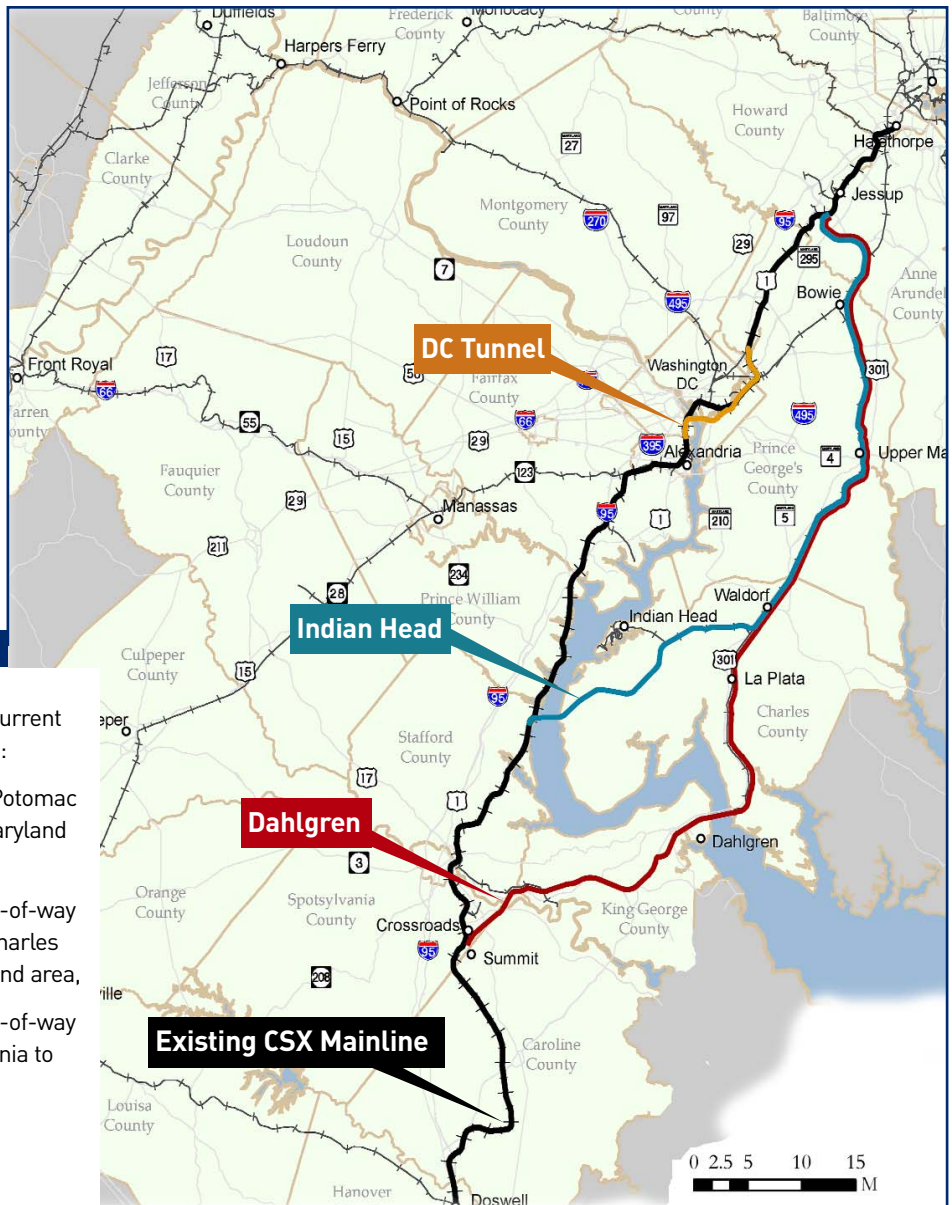


Figure 3. Three Rail Alternatives

Three viable options that were evaluated for realigning current freight traffic by rail through the National Capital Region:


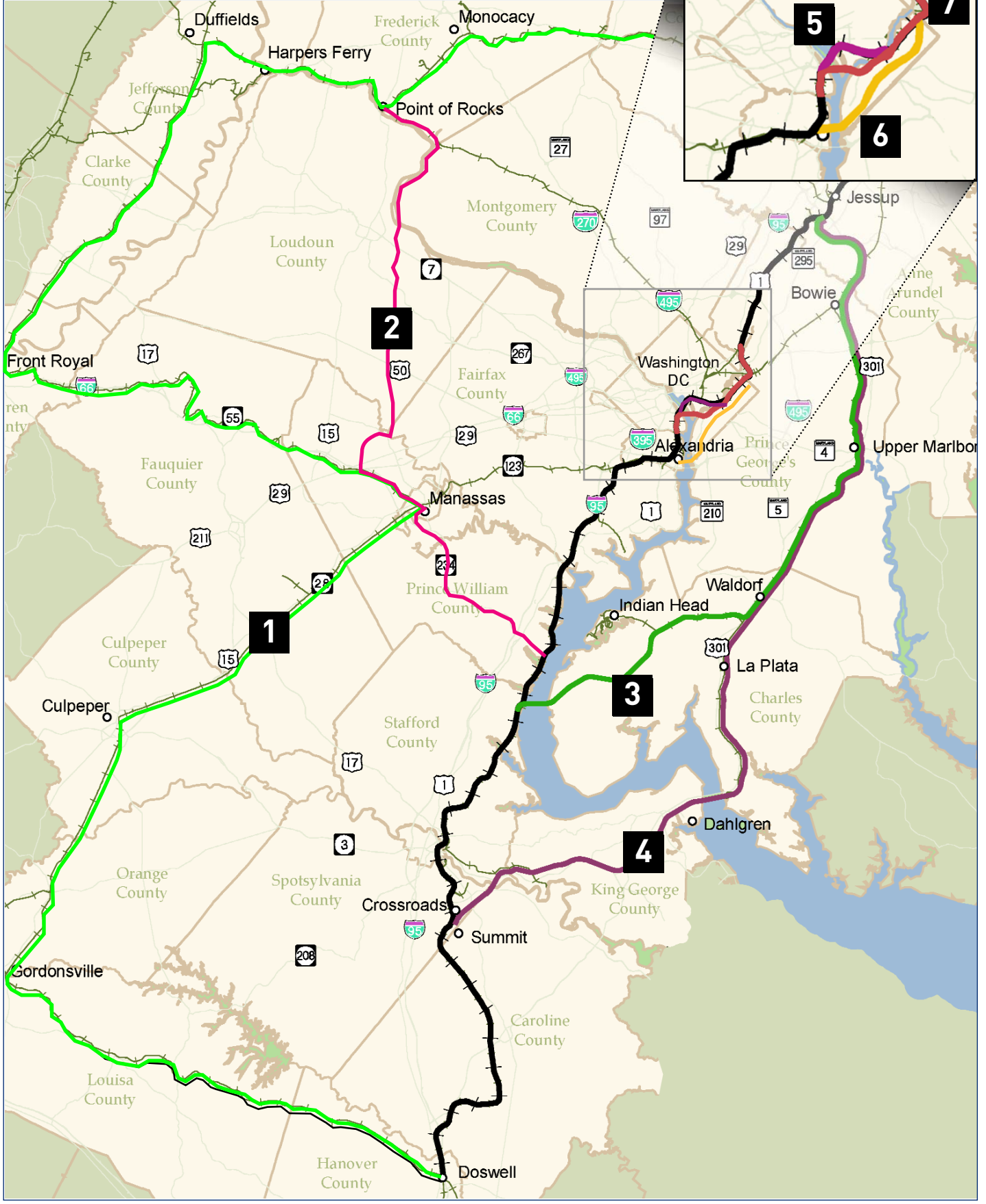
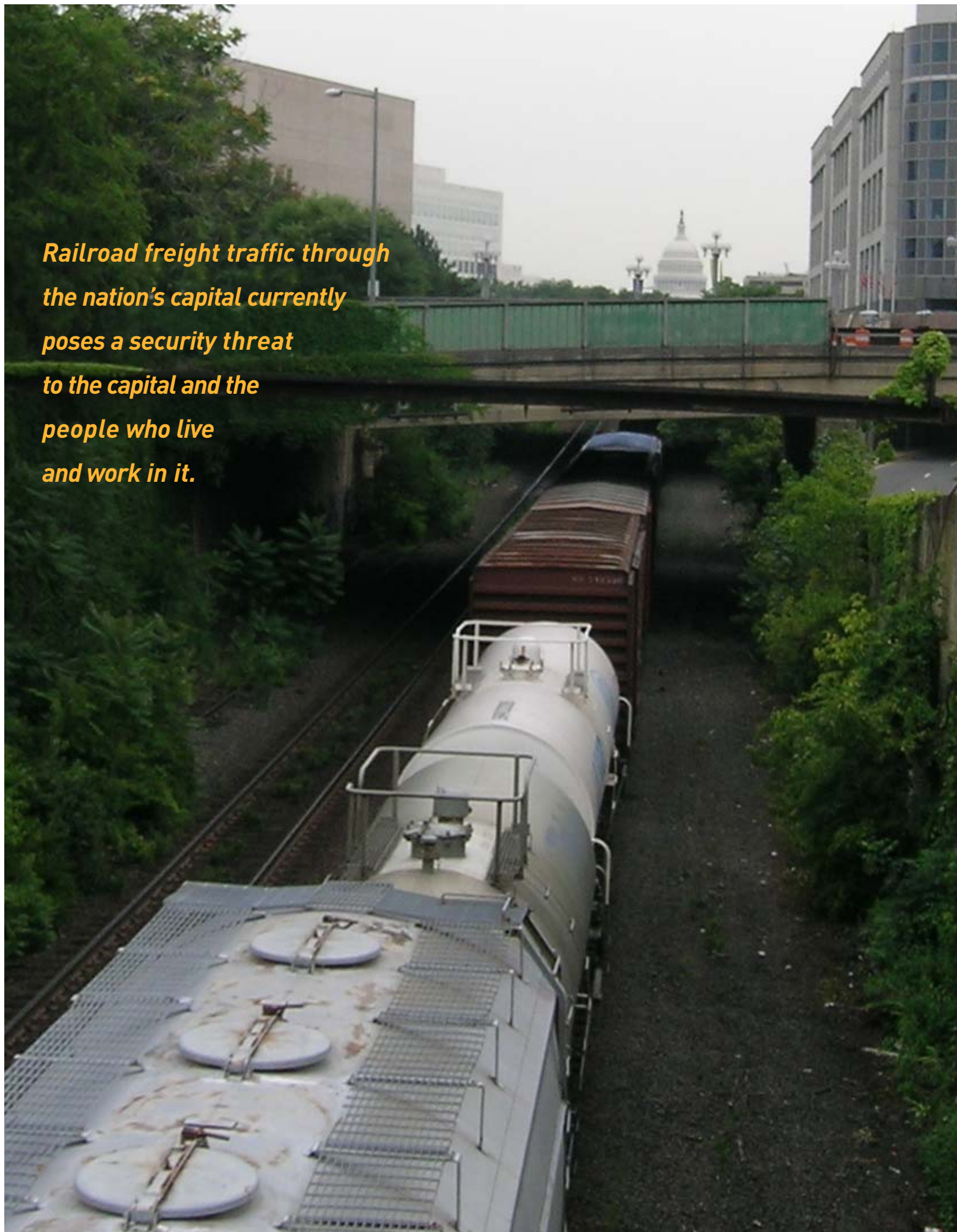
- DC TUNNEL** Tunnel under the Potomac River from Potomac Yard in Alexandria through DC to the Maryland border east of the Anacostia River,
- INDIAN HEAD** New alignment and improved CSX right-of-way running from the Indian Head area in Charles County, Maryland to the Jessup, Maryland area,
- DAHLGREN** New alignment and improved CSX right-of-way running from the Dahlgren area of Virginia to the Jessup, Maryland area.
-  Existing CSX Mainline Studied

Figure 2. Seven Alternate Corridors



*Railroad freight traffic through
the nation's capital currently
poses a security threat
to the capital and the
people who live
and work in it.*





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Beyond this Report

Realigning freight railroad traffic in the National Capital Region is a challenging issue. More detailed analysis is required to determine necessary costs and to weigh public benefits that would be derived from required expenditures.

Further analysis will require a funding strategy developed through a cooperative multi-jurisdictional approach that considers the complex issues each jurisdiction must face, including further analysis of costs, benefits, and implementation strategies.

Next steps must include identifying adequate funding for compliance with the National Environmental Policy Act and preparing an Environmental Impact Statement. Most importantly, public input will be important at each step in this lengthy process.



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The National Capital Planning Commission is the federal government's planning agency in the District of Columbia and surrounding counties in Maryland and Virginia. The Commission provides overall planning guidance for federal land and buildings in the region. It also reviews the design of federal construction projects, oversees long-range planning for future development, and monitors capital investment by federal agencies.



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The District of Columbia government's Department of Transportation's (DDOT) mission is to enhance the quality of life for District residents and visitors by ensuring that people, goods, and information move efficiently and safely, with minimal adverse impacts on residents and the environment. DDOT manages and maintains transportation infrastructure.