

Moving Forward

In January 2001, the 103-mile Adopted Washington Regional Metrorail System was completed, successfully fulfilling a vision for a world-class transit system that was conceived almost 50 years ago. To meet the needs of continued, robust growth beyond the service area of the Metrorail system, new investment in regional transportation improvements is needed where existing and planned facilities can no longer support the demands of businesses and communities. One such area is the Dulles Corridor, which lies west of the nation's capital in Northern Virginia in Fairfax and Loudoun counties. The Dulles Corridor is a vibrant, diverse mix of businesses, neighborhoods, recreational amenities and an international airport that continues to attract population and employment growth at almost twice the rate of the region.

New transit investment in the Dulles Corridor will link the region's key activity centers serving growth and development beyond the completed regional Metrorail system.



Washington Metrorail System

To respond to this increasing travel demand, the Federal Transit Administration (FTA), the Virginia Department of Rail and Public Transportation (DRPT), and the Washington Metropolitan Area Transit Authority (WMATA), in cooperation with the Federal Aviation Administration (FAA), are proposing a 23-mile extension of Metrorail in the Dulles Corridor. The proposed extension will enhance the overall transportation system, improving transit service, ridership, and transit travel times, while supporting the existing and future land uses and economic development. It will assist in maintaining the regional competitiveness of the corridor and in preserving the quality of the environment that makes the Dulles Corridor attractive to residents, businesses, and visitors alike. Equally important, the proposed extension will provide high-quality, high-capacity transit service between Washington Dulles International Airport and the region's core via a direct connection to the existing Metrorail system.

The Final EIS is a decision tool for shaping the future of the Dulles Corridor. It describes:

- Why transportation improvements are needed;
- Why Metrorail extension has been selected to meet these needs;
- What other alternatives were considered;
- What the economic, environmental, and social impacts of the extension would be;
- How much the extension would cost; and
- Actions required to make the proposed extension a reality.

Its purpose is to assist decision-makers and the public in selecting a transportation investment strategy for the Dulles Corridor and the region, consistent with federal, state and local goals and with environmental and community initiatives.

Investment in efficient and reliable transportation facilities to meet travel needs will contribute to the area's economic, social, and environmental quality.

The Final EIS documents the evaluation process and findings used by decision-makers to select the appropriate transportation improvements needed to secure the future of the Dulles Corridor in light of the potential effects on the social, economic and natural environment.

The Final EIS has been prepared in accordance with the provisions of the National Environmental Policy Act of 1969 (NEPA), as amended. FTA is the lead federal agency for the Dulles Corridor Rapid Transit Project, and the Federal Aviation Administration (FAA) is a federal cooperating agency. The Final EIS is being circulated to inform decision-makers and the public about the selection of the Metrorail extension and on the potential consequences of implementing the proposed extension in the corridor. Overall, the potential adverse impacts of the extension on the human and natural environment are expected to be minor given the complexity of the project. Coordination with the public, stakeholders, resource agencies, and local governments has confirmed these findings.

The potential adverse effects of the project are expected to be relatively low as a result of the use of existing transportation rights-of-way given the complexity and length of the project.

The proposed extension would be constructed in two phases in order to reduce annual funding needs by spreading the construction costs over a longer period of time. The first



Traffic Congestion

The central and eastern portions of the corridor currently experience some of the region's worst traffic congestion.

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phase of 11.6 miles would commence from a seamless connection with the existing Orange Line near West Falls Church, serve Tysons Corner, and reach Reston at Wiehle Avenue. It is anticipated that this first phase, named the Wiehle Avenue Extension, would begin operations in 2011. The second phase of 11.5 miles would continue westward from Wiehle Avenue and serve Reston, Herndon, Dulles Airport, and eastern Loudoun County by 2015.

The extension would be funded by FTA, the Commonwealth of Virginia, Fairfax County, Loudoun County, and the Metropolitan Washington Airports Authority (MWAA), along with possible private sector funding. At this time, FTA is considering only the first phase of construction (i.e., the segment between the Orange Line near West Falls Church and Wiehle Avenue) for New Starts funding from the pending six-year reauthorization of the New Starts program. FTA may consider the subsequent phase for federal funding in the future, but has made no commitment to do so. Furthermore, FTA has determined that the first phase now being considered for funding has independent transportation utility even if the subsequent phase is never built. (The first phase serves the high employment area of Tysons Corner.) Therefore, FTA will make a decision on funding the first phase without regard to the possible future phase.

In the Final Environmental Impact Statement (EIS), the alternative formerly known as "LPA Phase 1" in the October 2003 Supplemental Draft EIS and Section 4(f) Evaluation has been renamed the Wiehle Avenue Extension and is expected to begin operations in 2011. This change reflects the federal approach to the project's funding under the FTA's New Starts program. It will assure consistency among the environmental, engineering and financial documents during the project's development.

In the October 2003 Supplemental Draft EIS and Section 4(f) Evaluation, as well as this Final EIS, the term "full LPA" represents the Wiehle Avenue Extension and the second phase of the Dulles Corridor Rapid Transit Project. This second phase would extend west from Wiehle Avenue to Washington Dulles International Airport and Route 772 and is expected to begin operations in 2015.

The terms "LPA", "proposed action", or "selected LPA" refer to both the Wiehle Avenue Extension and the full LPA collectively.

Overview

The Final EIS is a significant milestone in advancing a solution to address the travel needs and leverage the opportunities in the Dulles Corridor, and to assist the region and corridor in realizing and maintaining its full potential. This Executive Summary provides an overview of the findings and conclusions of the Final EIS in terms of the following:

- Future Needs and Challenges
- Project Description
- The Alternatives Process
- Implementing the Project
- Coordination Opportunities
- Future Actions

The Final EIS contains more information on the topics discussed in this Executive Summary. The following table lists the topics and where further details may be found in the document.

<i>Summary Topic</i>	<i>Final EIS Chapters</i>	
<i>Future Needs and Challenges</i>	<i>Chapter 1</i>	<i>Purpose and Need</i>
<i>Project Description</i>	<i>Chapter 2</i>	<i>Alternatives Considered</i>
<i>The Alternatives Process</i>	<i>Chapter 2</i> <i>Chapter 3</i> <i>Chapter 4</i> <i>Chapter 5</i> <i>Chapter 6</i> <i>Chapter 7</i> <i>Chapter 9</i>	<i>Alternatives Considered</i> <i>Social Effects</i> <i>Environmental Effects</i> <i>Economic Effects</i> <i>Transportation Effects</i> <i>Section 4(f) Evaluation</i> <i>Secondary and Cumulative Effects</i>
<i>Implementing the Project</i>	<i>Chapter 8</i> <i>Chapter 10</i>	<i>Financial Analysis</i> <i>Evaluation of Alternatives Carried Forward</i>
<i>Coordination Opportunities</i>	<i>Chapter 11</i> <i>Appendices</i>	<i>Public Coordination and Comments</i> JK
<i>Future Actions</i>	<i>Chapter 11</i> <i>Appendices</i>	<i>Public Coordination and Comments</i> JK

FUTURE NEEDS AND CHALLENGES

The Dulles Corridor, located in Northern Virginia west of the nation's capital, is truly the "Main Street" of one of the nation's fastest-growing business and population centers. It is home to the headquarters of leading technology firms, to Tysons Corner - one of the nation's largest employment and retail shopping centers, and to Washington Dulles International Airport. In addition, the corridor offers a diverse mix of high-intensity office development, many of the most desirable residential neighborhoods in the region, and numerous cultural and recreational resources, such as the Washington and Old Dominion Railroad Regional Park.

Key activity centers will continue to generate diverse travel needs exceeding the capacity of existing and future improvements.

Regionally significant activity centers in the corridor continue to expand and prosper. This continued growth is generating an unfulfilled demand for additional and improved transportation facilities to enhance mobility and accessibility within and through the corridor, and to provide a full range of transportation choices to meet a range of travel needs.

Key activity centers include:

Tysons Corner - The "downtown" of Fairfax County, Tysons Corner is one of the most recognizable "edge cities" in the nation, with over 30 million square feet of commercial space and the nation's eighth largest shopping center. With Tysons Corner Center and Tysons Galleria as its centerpieces, Tysons Corner has emerged as a regional shopping destination, housing more than 330 stores and attracting 1.9 million visitors annually. Tysons Corner is one of the largest suburban business districts in the country and is larger, both in geographic area (3 square miles) and employment (90,000 jobs), than many of the central business districts in major U.S. cities including Miami, San Diego, and St. Louis.



Tysons Corner

Reston - One of the premier planned communities in North America, Reston encompasses more than 7,400 acres and a population of more than 63,000 people living in a diverse mix of housing types. The area has also emerged as a center for



Reston



[Herndon](#)



[Dulles Airport](#)



[Loudoun County](#)

high-technology firms and boasts one of the highest concentrations of office development in Fairfax County (second only to Tysons Corner). The existing employment of the Reston area of approximately 44,000 jobs is expected to increase to nearly 65,000 in 2025. Reston Town Center has more than 50 shops and restaurants, a multiplex theater, an outdoor ice rink, a 514-room hotel, and almost one million square feet of office space.

Herndon - Similar to other areas of the Dulles Corridor, Herndon has grown over the last decade, while maintaining a balance of commercial, residential, and recreational uses. Growth is projected to continue, with a build-out potential for commercial properties in excess of 30 million square feet of floor space.

Dulles Airport - Located on 11,000 acres in the western end of the corridor, Washington Dulles International Airport is one of the world's fastest growing airports, employing more than 18,800 persons. As demand for air travel increases, the region is increasingly dependent upon Dulles Airport. At full build-out, Dulles Airport is projected to handle 55 million passengers per year (150,000 per day). The Smithsonian's National Air and Space Museum opened the Steven F. Udvar-Hazy Center in 2003 and is expected to attract three million visitors annually.

Eastern Loudoun County - The high-tech industry has spurred substantial growth in Loudoun County. America Online/Time Warner, MCI, and Orbital Sciences have added thousands of jobs to the eastern part of the county. The proximity of Dulles Airport has given rise to a large amount of industrial development. In addition to job growth, Loudoun County has experienced extensive population growth. From 2001 to 2003, the county led not only Northern Virginia with a population growth of 30.7 percent, but was recognized by the U.S. Census Bureau as the fastest growing county in the nation.

With the Dulles Corridor's increasing attractiveness as a place to live and work, travel in the corridor has been steadily growing over the past 15 years. This increasing travel demand has strained the capacity of the existing transportation network, causing delays and increasing travel times between activity centers within the corridor and the region. The central and eastern portions of the corridor currently experience some of the region's worst traffic congestion, constraining the economic opportunities and threatening the quality of life that make the corridor a thriving regional center.

Over the next 25 years, the Dulles Corridor will continue to outpace the region in employment and population at an anticipated growth rate significantly higher than the entire Washington metropolitan region. Population in the corridor is expected to increase by 45 percent (compared to 32 percent for the region), adding 168,000 persons. The addition of 185,000 jobs will result in a 63 percent increase in employment levels, compared to an average increase of 41 percent throughout the region. Parallel increases in travel demand throughout the corridor are projected to exceed the capacity of the already overburdened transportation system, resulting in severely congested traffic conditions on numerous routes, further degradation of air quality, and a threat to the valued quality of life in the Dulles Corridor.

Currently planned roadway improvements are only expected to maintain existing levels of service in the corridor, and will not be able to meet future demand. Due to right-of-way, financial, and air quality constraints, additional roadway expansion beyond these planned improvements cannot be accommodated in the corridor. Existing local bus service provides a partial solution to auto travel, but it is hampered by traffic on already congested roadways, particularly in the Tysons Corner area. Given these factors and a need to reduce auto emissions in the region to meet federal air quality standards,

According to a 2002 survey by the American Public Transportation Association, support for transit investment in the Washington metropolitan region is almost twice that of support nationwide.

transportation improvements, such as a high-capacity rail rapid transit line in the Dulles Corridor, have long been the focus of public and private sector studies. The Northern Virginia 2020 Transportation Plan and local comprehensive plans recognize the need for significant future investment in transit in the corridor.

The Metrorail extension was selected as the solution to address these needs and challenges for the following considerations:

- Meeting the mobility and accessibility needs of future residents, businesses, and visitors;
- Serving and supporting future land use and development patterns while leveraging economic development and redevelopment opportunities for a vibrant, sustainable future;
- Accommodating future increases in the volume of travel demand on a roadway system that is largely “built-out”, and the associated constraints for existing and planned transit systems to operate on these roadways; and
- Maintaining the air quality of the Washington metropolitan region by contributing to the attainment of regional air quality goals.

PROJECT DESCRIPTION

The Dulles Corridor Rapid Transit Project, which will be constructed in two phases, would be fully integrated with the existing Metrorail system in terms of scheduling, signage, and fare collection. Selected after consideration of various alternative improvements for the corridor, the entire 23.1-mile extension is known as the Locally Preferred Alternative (LPA). The LPA includes an extension of the regional Metrorail system through Tysons Corner, along the Dulles International Airport Access Highway (DIAAH) to Dulles Airport, along the Dulles Greenway, into eastern Loudoun County.

The LPA would be implemented in two phases: the Wiehle Avenue Extension and the full LPA. The Wiehle Avenue Extension would include construction of the LPA to Wiehle Avenue with express bus service along the remainder of the project corridor. The full LPA would include an extension to Dulles Airport and Route 772 in Loudoun County. A map of the extension project is provided on the following page.

Having the Metrorail extension in dedicated right-of-way will improve efficiency, reliability, and predictability for travelers in the corridor.

Wiehle Avenue Extension

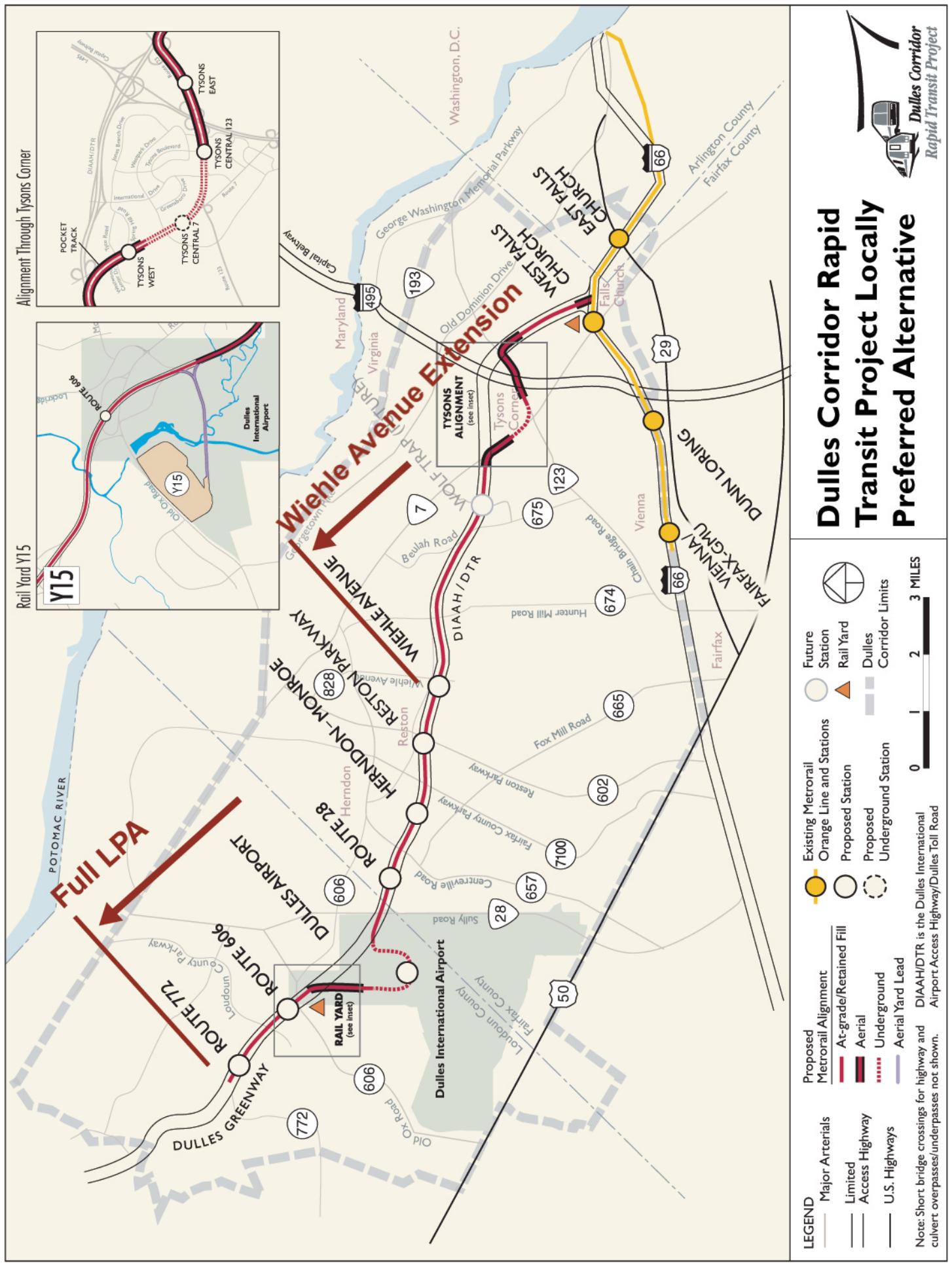
The first phase of 11.6 miles would commence from a seamless connection with the existing Orange Line near West Falls Church, serve Tysons Corner, and reach Reston at Wiehle Avenue. It is anticipated that this first phase, the Wiehle Avenue Extension, would begin operations in 2011. The alignment follows the Dulles Connector Road, Route 123, and Route 7 in Tysons Corner and the Dulles International Airport Access Highway (DIAAH). The five stations of the Wiehle Avenue Extension are Tysons East, Tysons Central 123, Tysons Central 7, Tysons West, and Wiehle Avenue.

The Wiehle Avenue Station would serve as an interim end-of-line station. West of the station and in the median of the DIAAH, interim tail tracks with a pocket track would provide the end-of-line, turn-back maneuver and storage of trains.

In its opening years, the Wiehle Avenue Extension would operate with a mix of 6- and 8-car trains at approximately 7-minute headways during the peak periods, and 4-car trains at 12-minute headways in the off-peak periods. To accommodate these operations, the Wiehle Avenue Extension would improve the existing West Falls Church Yard by adding storage tracks for forty-two cars and expansion of the maintenance building for eight more cars. Yard improvements would also include a new yard lead from the extension and construction of a sound attenuation box over the existing loop track and a portion of the new yard lead.



Dulles Corridor Rapid Transit Project Locally Preferred Alternative



The Wiehle Avenue Extension would include express bus service between the Wiehle Avenue Station and transit centers/stops in the western part of the corridor.

Full LPA

Completion of the 23-mile full LPA would extend Metrorail 11.5 miles westward from Wiehle Avenue Station to serve Reston, Herndon, Dulles Airport, and eastern Loudoun County by 2015. The alignment remains located in the DIAAH until entering Dulles Airport property and then follows the Dulles Greenway to the terminus at Route 772 in Loudoun County. The six additional stations of this second phase of construction are



Reston Parkway, Herndon-Monroe, Route 28, Dulles Airport, Route 606, and Route 772. Metrorail operations for the full LPA would be the same as those for the Wiehle Avenue Extension.

The Herndon-Monroe park-and-ride facility would be expanded from the existing 1,750 spaces to 3,500 spaces. Park-and-ride structures would be constructed at the new stations west of Wiehle Avenue: 2,000 spaces at Route 28, 2,000 spaces at Route 606, and 3,300 spaces at Route 772. Under the full LPA, total park-and-ride capacity in the corridor, including West Falls Church, would be nearly 16,400 spaces.

A new Metrorail service and inspection (S&I) yard would be constructed on Dulles Airport property. The yard would occupy roughly 70 to 90 acres and would be designed to accommodate 250 rail vehicles but would initially be built for 184. For safety and security considerations, where the alignment traverses airport property, there would be no tunnel exits of any kind in the secure zone of the airport.

THE ALTERNATIVES PROCESS

Alternatives Previously Considered

Over the last four decades, the transportation needs of the Dulles Corridor and potential improvements have been the subject of several studies conducted by public agencies and private entities. Most of these studies identified mass transit alternatives as the best transportation solution for the corridor. Numerous land use and regional transportation plans include references to specific Dulles Corridor transit alternatives, supportive land use measures, and potential funding sources.



Dulles Airport

Numerous alternatives have been evaluated for the Dulles Corridor over the last 40 years, including a range of different travel modes.

DRPT initially identified and described alternatives for the Dulles Corridor Rapid Transit Project in the Dulles Corridor Transportation Study, completed in 1997, that served as a federal Major Investment Study (MIS). The MIS recommended a Metrorail extension and an interim expanded bus system. In a Supplement to the Dulles Corridor Transportation Study, completed in 1999, the MIS recommendations were revised for a phased implementation of transit improvements: first, the existing express bus service; then enhanced express bus service; then bus rapid transit (BRT); a Metrorail extension through Tysons Corner with BRT between Tysons Corner and Loudoun County; and finally, full Metrorail service between the Orange Line and Loudoun County. The Commonwealth Transportation Board (CTB) adopted the revisions described in the MIS Supplement and directed that the revisions be included in the Commonwealth of Virginia's State Transportation Improvement Plan (STIP).

Alternatives Considered in the Draft EIS

The alternatives advanced for detailed evaluation in the Draft EIS were those judged to best achieve the goals and objectives for the corridor, relative to the other alternatives under consideration. Alternatives were assessed in terms of how well they achieved the following objectives:

The Draft EIS evaluated a range of multi-modal transportation options, including phased implementation of both BRT and Metrorail service, as compared to a "No Build" (Baseline) condition, to provide a seamless connection to the Metrorail system.

- Enhanced transportation service;
- Increased transit ridership;
- Supported future development;
- Supported environmental quality;
- Provided cost-effective, achievable transportation solutions; and
- Served diverse populations.

The range of alternatives considered included a variety of modes, alignments, stations, S&I yard, and ancillary facilities.

The modal alternatives initially considered included bus system improvements, bus rapid transit, express bus service, light rail transit, personal rapid transit, Metrorail, and monorail.

As a result of the previous studies, project scoping, and preliminary screening during the initiation of the preparation of the Draft EIS, the alternatives retained for further, more detailed evaluation focused on BRT and Metrorail improvements, or some combination of both, along with associated maintenance facilities.

The following alternatives were considered in the June 2002 Draft EIS.

No Build Alternative - The No Build Alternative includes additional investment beyond the existing highway and transit service infrastructure and services within the corridor, and any investments that are committed to be implemented by 2025 aside from the Dulles Corridor Rapid Transit Project. This alternative serves as the basis for comparison and evaluation of the Build Alternatives described below.

Bus Rapid Transit (BRT) - BRT is transit service that uses buses operating in a limited access right-of-way to provide amenities typical of rail service, such as enhanced stations and platforms and off-vehicle fare collection. BRT would extend the full length of the Dulles Corridor from the West Falls Church Station on the Metrorail Orange Line to Route 772 in Loudoun County.

Metrorail - Metrorail is service like that currently provided by the existing 103-mile regional system, consisting of rapid transit vehicles operating on a dedicated right-of-way. Metrorail would extend the full length of the corridor from a point between the East and West Falls Church Stations on the Metrorail Orange Line to Route 772 in Loudoun County.

Combined BRT/Metrorail - Metrorail would extend from a point between the East Falls Church and West Falls Church stations on the Orange Line through Tysons Corner, and BRT would operate in the remainder of the corridor, from Tysons Corner to Route 772 in Loudoun County.

Phased Implementation - BRT and Metrorail improvements would be implemented beginning with BRT for the length of the corridor. Ultimately BRT would be replaced with Metrorail service, first from the existing Metrorail Orange line through Tysons

The Draft EIS used the conclusions of the 1999 Supplement to the Dulles Corridor Transportation Study (MIS) as a point of departure, which called for phased implementation of BRT and Metrorail service.

The Build Alternatives retained for consideration in the Draft EIS were those that best served the needs of the Dulles Corridor.

Corner, and then from Tysons Corner to Dulles Airport, terminating at Route 772 in Loudoun County.



S&I Yard and a BRT Maintenance and Storage Facility. The highway and transit infrastructure for the No Build Alternative was assumed to be completed by others and in place before the project would be implemented.

The comparative evaluation of the alternatives for the project described in the June 2002 Draft EIS focused on the relative effectiveness of each alternative in meeting the stated project goals and objectives, the essential differences among alternatives and alignment options, and the basic advantages and disadvantages of each alternative. Goals ranged from improving public transit and broadening the availability of transportation services to supporting future land use development patterns and preserving and enhancing neighborhood and environmental quality. The effectiveness of each of the alternatives in meeting these goals was assessed against a set of evaluation criteria and measures.

Key findings in the Draft EIS relative to the alternatives considered include the following:

Draft EIS No Build Alternative

- The No Build Alternative would not afford enhanced opportunities for economic development, and is not consistent with local and regional plans, which call for transit investment in the corridor.
- The No Build Alternative would have the fewest short-term environmental impacts, but the least desirable long-term effect on the environment, including transportation, social, economic and environmental factors.

The goals used to measure the performance of alternatives were:

- Increase transit ridership
- Support future development
- Provide cost-effective, achievable transportation solutions
- Serve diverse populations

The No Build Alternative, or taking no additional action, would not be consistent with adopted local and regional plans.

Draft EIS BRT Alternatives

- BRT service could be implemented before Metrorail or Combined BRT/Metrorail.
- BRT would not support land development patterns in Tysons Corner as well as Metrorail, Combined BRT/Metrorail, or Phased Implementation, and would not penetrate Tysons Corner to effectively serve its workers, shoppers, and residents.
- BRT would be less expensive to construct than choices involving Metrorail service.
- BRT would provide less overall passenger capacity than Metrorail.
- BRT would not provide the same level of accessibility for minority and low-income populations to regional job choices as Metrorail.

According to MWCOG, vehicle-miles of travel, which is a measure of how extensively roads are used, is expected to significantly increase within the corridor by 2025. Planned freeway and arterial lane-miles will not keep pace.

Draft EIS Metrorail Alternatives

- Metrorail would provide the best opportunity to capture previous investment made in regional infrastructure.
- Metrorail service would generally result in the shortest travel time, especially for reverse commute trips and those that begin and end in Tysons Corner.

- Metrorail service would deliver the highest ridership (more than twice as much as BRT) and the highest number of new trips (more than three times more than BRT), and would result in a higher percentage of people using transit.
- Metrorail would provide a seamless “single-seat” link between Dulles Airport and the region’s core, and provide facilities commensurate to the status of this international airport.
- Metrorail service would provide a much greater increase in the capacity to move people through the corridor than either BRT or Combined BRT/Metrorail.
- Metrorail would have higher growth potential in station areas along the corridor due to planned increases in allowable densities at rail stations, and would better contribute to the objectives of adopted county master plans.
- More members of the business community, area neighborhood residents, and civic organizations expressed support for Metrorail than for any other choice.

The Draft EIS found that BRT would be faster to implement and less expensive to construct than Metrorail but would serve fewer people less effectively, and therefore was not selected as the Locally Preferred Alternative.

Draft EIS Combined BRT/Metrorail Alternative

- The combined service would be similar in nature to both the BRT and the Metrorail options.
- With Combined BRT/Metrorail, areas that would be served by BRT would not have to wait for rapid transit service as long as they would for Metrorail service.
- Combined BRT/Metrorail would blend the benefits of Metrorail service in areas where BRT would not adequately serve development patterns with the benefits of enhanced, more immediate transit service in other areas.
- Combined BRT/Metrorail would provide a greater increase in capacity to move people through the corridor, and would have higher ridership and improved travel times when compared to BRT service alone.

Draft EIS Phased Implementation Alternative

- Phased Implementation would cost the most, but would combine the advantages of both BRT and Metrorail service. Under Phased Implementation, transit service would be introduced in the corridor as soon as possible.
- Phased Implementation would be the most disruptive to the community, traffic, and transit service during the conversion of BRT to Metrorail because of the extended construction periods associated with each of the modes, followed by the conversion period.
- Phased Implementation would provide all the long-term benefits of Metrorail described above.

The Draft EIS concluded that major transit capital investment such as Metrorail in the Dulles Corridor would improve transit travel times and make them more competitive with highway travel. Peak period Metrorail times are faster than highway times in over one-half of analyzed corridor origination-destination pairs.

Alternatives Considered in the Supplemental Draft EIS

Based on public and agency coordination after the completion of the Draft EIS and after an LPA was selected, DRPT and WMATA identified a series of modifications to the project to resolve outstanding design issues, reduce environmental and community impacts, and allow for construction of the project in two phases. The Supplemental Draft EIS was prepared to assist decision-makers and the public in understanding the effects of the proposed modifications to the selected LPA. A comparative evaluation was presented for the following alternatives:

Supplemental Draft EIS No Build Alternative

- The No Build Alternative for the Supplemental Draft EIS was similar to the No Build Alternative defined in the Draft EIS but updated to reflect current conditions.

- The alternative included existing transportation infrastructure and services, as well as improvements included in the region's constrained long-range plan and planned to be implemented by 2025.
- The No Build Alternative provided a baseline for comparison against which the other alternatives were evaluated.

Supplemental Draft EIS Metrorail Alternative

- This alternative was the Metrorail Alternative evaluated in the Draft EIS and originally selected as the LPA (with Alignment T6 through Tysons Corner and a new S&I Yard at Site 15).
- The alternative would generally follow an alignment between the Metrorail Orange Line near West Falls Church Station and Route 772 in Loudoun County, using the median of the Dulles Connector Road, the DIAAH, and the Dulles Greenway. It would include 11 new stations and ancillary facilities, such as a new Metrorail S&I Yard, traction power substations, tie-breaker stations, and stormwater management ponds.
- The Metrorail Alternative was included in the Supplemental Draft EIS to facilitate understanding of the changes in effects associated with the proposed modifications to the LPA.

Supplemental Draft EIS Locally Preferred Alternative

The primary difference between the Supplemental Draft EIS Metrorail Alternative and the proposed LPA is that the proposed LPA would be implemented in two phases – the Wiehle Avenue Extension (originally called LPA Phase 1) and the full LPA.

The Supplemental Draft EIS addressed proposed design modifications to the selected Locally Preferred Alternative, including implementation of the project in two phases.

Supplemental Draft EIS Wiehle Avenue Extension

- For the Wiehle Avenue Extension, Metrorail would be constructed from the Metrorail Orange Line through Tysons Corner to Wiehle Avenue, with express bus service in the western portion of the corridor until rail service could be extended.
- The Wiehle Avenue Extension would be similar to the Metrorail Alternative in terms of alignment, stations, facilities, and operating characteristics but would have an interim end-of-line station at Wiehle Avenue.
- The Wiehle Avenue Extension would include improvements at the West Falls Church S&I Yard to accommodate the extension.
- Alignment plans and profiles were adjusted for a variety of purposes including reducing potential noise impacts, visual impacts, costs, and improving operational efficiency.
- Design modifications of station site plans and ancillary facilities addressed operational changes to respond to concerns of local jurisdictions and landowners.

The potential benefits and effects of the full LPA under the Supplemental Draft EIS were similar to the Metrorail Alternative from the June 2002 Draft EIS.

Supplemental Draft EIS Proposed Full LPA

- The proposed full LPA would be similar to the Metrorail Alternative in terms of alignment, stations, facilities, and operating characteristics and would continue west of Wiehle Avenue to Route 772.
- Alignment plans and profiles for the full LPA were adjusted for a variety of purposes including reducing potential effects on historic resources, noise impacts, visual impacts, costs, and improving operational efficiency.
- Design modifications of station site plans and ancillary facilities addressed operational changes to respond to concerns of local jurisdictions and landowners.

Revisions to the Locally Preferred Alternative have been approved by the Commonwealth Transportation Board and the Washington Metropolitan Area Transit Authority Board of Directors.



Evaluation of alternatives in the Supplemental Draft EIS showed that many of the benefits and potential effects of the proposed LPA were similar to those presented for the Metrorail Alternative in the Draft EIS. The proposed LPA would provide a greater degree of improvement in Dulles Corridor transit services than the No Build Alternative, and overall would provide similar support for future development in the Dulles Corridor to the Metrorail Alternative. Relative to the Metrorail Alternative, the design modifications for the LPA would result in slightly higher ridership, reduced visual impacts at the eastern end of the corridor, and an increase in impacts on water resources in the western end of the corridor. The full LPA would provide higher transportation and economic development benefits than the Wiehle Avenue Extension, and this first phase of the project would not be consistent with future land use designations or future land development patterns west of Wiehle Avenue. Although implementation of more express bus service in the western end of the corridor for the Wiehle Avenue Extension would have minimal physical effects, this service would also result in fewer transportation and development benefits than the full LPA.

Based on the analysis contained in the Supplemental Draft EIS, public comments received on the document, and agency coordination, the CTB approved the revision of the LPA in March 2004 to incorporate the elements required for phased construction and the design refinements outlined in the Supplemental Draft EIS and recommended in the Public Hearings Report. In April 2004 the WMATA Board also approved the revision of the LPA as outlined in the Supplemental Draft EIS and recommended in the Public Hearings Report.

Alternatives Considered in the Final EIS

The Final EIS includes the evaluation of the No Build Alternative and the LPA, which would be implemented in two phases.

Final EIS No Build Alternative

- The No Build Alternative for the Final EIS is similar to the No Build Alternative defined in the Supplemental Draft EIS but updated to reflect current conditions.
- The alternative includes existing transportation infrastructure and services, as well as improvements included in the region's constrained long-range plan and planned to be implemented by 2025.
- The No Build Alternative provides a baseline for comparison against which the other alternatives were evaluated.

Final EIS Locally Preferred Alternative

The LPA for the Final EIS generally follows an alignment between the Metrorail Orange Line near the West Falls Church Station and Route 772 in Loudoun County, using the median of the Dulles Connector Road, the DIAAH, and the Dulles Greenway. The alignment diverges from these routes to serve Tysons Corner and Dulles Airport. The LPA would include 11 new stations, as well as ancillary facilities, such as a new Metrorail S&I Yard on Dulles Airport property, traction power substations, tie-breaker stations, and stormwater management ponds. The LPA would be implemented in two phases – the Wiehle Avenue Extension and the full LPA.

Final EIS Wiehle Avenue Extension

- Initially, Metrorail service would be provided from the existing Orange Line near West Falls Church through Tysons Corner to Wiehle Avenue (the Wiehle Avenue Extension). Express bus service would be provided between Wiehle Avenue and the western portion of the corridor until Metrorail is extended to Route 772.
- It is anticipated that the Wiehle Avenue Extension would begin operations in 2011.

Final EIS Full LPA

- During the second phase of construction, Metrorail service would be extended west of Wiehle Avenue to Dulles Airport and Loudoun County.
- The full LPA is expected to begin operations by 2015.

Potential positive effects include:

- Air quality benefits*
- Enhanced mobility*
- Reinforcement of land use patterns*

The following table summarizes the characteristics of the alternatives evaluated in the Final EIS.

Characteristics of Alternatives Evaluated in the Final EIS

Characteristics	Locally Preferred Alternative			
	No Build Alternative (2025)	Wiehle Avenue Extension Opening Year (2011)	Wiehle Avenue Extension (2025)	Full LPA (2025)
New Metrorail Line	–	11.6 miles	11.6 miles	23.1 miles
New Metrorail Stations	–	5	5	11
Yard Facilities	–	Improvements to West Falls Church S&I Yard	Improvements to West Falls Church S&I Yard	Site Y15 and Improvements to West Falls Church S&I Yard
Ancillary Facilities	–	11 substations, 4 tie-breaker stations, 11 stormwater facilities	11 substations, 4 tie-breaker stations, 11 stormwater facilities	21 substations, 7 tie-breaker stations, 24 stormwater facilities
Metrorail Operating Characteristics	7 minute peak period service 12 minute off- peak period service	7 minute peak period service 12 minute off- peak period service	7 minute peak period service 12 minute off- peak period service	7 minute peak period service 12 minute off- peak period service
Capacity and Reliability Improvements to Metrorail System	8-car train operations, line reconfiguration, longer headways	No improvements beyond those included in the No Build Alternative	No improvements beyond those included in the No Build Alternative	No improvements beyond those included in the No Build Alternative
Express Bus Service	Fairfax and Loudoun Counties planned transit improvements (Express Bus) in the Dulles Corridor to West Falls Church Station	More Express Bus Service provided between Wiehle Avenue and points west	More Express Bus Service provided between Wiehle Avenue and points west	No Express Bus Service provided
Highway	Existing highways and planned highway improvements through 2025 included in the 2003 update of the MWCOG constrained long-range transportation plan (CLRP)	No improvements beyond those included in CLRP	No improvements beyond those included in CLRP	No improvements beyond those included in CLRP

<i>Characteristics</i>	<i>Locally Preferred Alternative</i>			<i>Full LPA (2025)</i>
	<i>No Build Alternative (2025)</i>	<i>Wiehle Avenue Extension Opening Year (2011)</i>	<i>Wiehle Avenue Extension (2025)</i>	
Other Bus Service	Existing Metrorail, Fairfax Connector and Loudoun County Bus Services; marginal increases in local transit service to meet demand	Bus Service improvements provided	Bus Service improvements provided	Bus Service improvements provided

Environmental Effects of Alternatives Evaluated in the Final EIS

The alternatives evaluated in the Final EIS have been assessed for their potential effects on the existing social, environmental, economic, and transportation conditions in the Dulles Corridor. The social and environmental effects of the alternatives are anticipated to be minor, especially given the length and complexity of the project, because most of the Metrorail extension would occur within the medians of the Dulles Connector Road, DIAAH, and Dulles Greenway. During the preparation of the Final EIS, agency coordination continued to address potential effects of design refinements and appropriate mitigation.

In comparison to the No Build Alternative, the full LPA is expected to have positive effects on commercial and residential properties located near transit stations, and contribute to more sustainable and transit-supportive economic development by focusing higher-density residential and commercial land uses around the transit stations, as a result of the investment in the Metrorail extension.

The full LPA and its first phase, the Wiehle Avenue Extension, would result in changes to traffic conditions as people change their travel patterns to access the new transit stations, affecting some of the neighborhoods that surround certain stations. Although several neighborhoods would experience such traffic-related effects, these neighborhoods would also directly benefit from the mobility and accessibility that the transit improvements would bring. Neighborhoods surrounding the Tysons East, Tysons West, Wiehle Avenue, Reston Parkway, and Herndon-Monroe stations would be most affected.

Secondary effects related to increased development at transit stations as a result of the LPA could include effects on neighborhoods, community services, visual and aesthetic conditions, cultural resources, parks and recreation, natural resources, and traffic conditions. The LPA would have a low impact on the cumulative effects resulting from other transportation and local improvement projects, such as the new runways proposed at Dulles Airport, being implemented at the same time.

IMPLEMENTING THE PROJECT

Funding Needs and Strategy

Capital Costs

The Federal Transit Administration, the Commonwealth of Virginia, Fairfax and Loudoun counties, and Metropolitan Washington Airports Authority would provide capital funding for the project as summarized in the table below:

Capital Costs and Funding Shares

	<i>Wiehle Avenue Extension 11.6 miles by year 2011</i>	<i>Full LPA 23.1 miles by year 2015</i>
<i>Costs in year of expenditure \$</i>	<i>\$1.5 billion</i>	<i>\$3.5 billion</i>
<i>Federal Sources</i>		
<i>Federal Transit Administration</i>	<i>50.0 %</i>	<i>50.0 %</i>
<i>Non-Federal Sources</i>		
<i>Commonwealth of Virginia</i>	<i>25.0 %</i>	<i>25.0 %</i>
<i>Fairfax County</i>	<i>25.0 %</i>	<i>16.1 %</i>
<i>Loudoun County</i>		<i>4.8 %</i>
<i>Metropolitan Washington Airports Authority</i>		<i>4.1 %</i>

As the project sponsor and federal grant recipient, DRPT will be applying for New Starts funding from FTA at 50 percent of the capital costs.

Federal funding has been requested for 50 percent of the capital costs for the Wiehle Avenue Extension.

The anticipated capital funding sources of the funding partners are:

- Federal Transit Administration (federal New Starts funds);
- Commonwealth of Virginia (Virginia Transportation Act of 2000, Dulles Toll Road Revenues and future transportation appropriations);
- Fairfax County (Transportation Improvement District Revenues and Fairfax County General Obligation Bonds); and
- Loudoun County (Business and Professional Occupancy License Tax Revenues).
- MWAA (Passenger Facility Charges).

Operating and Maintenance Costs

WMATA will be the operator of the project. Opening year operating and maintenance (O&M) costs were estimated for the No Build Alternative and for the project in its two phases. The O&M cost estimates in the tables below are the increase in costs of the project over the costs of the No Build Alternative in current 2004 dollars and in year-of-expenditure (YOE) dollars.

Implementation of the Locally Preferred Alternative will result in an increase in Metrorail system operations and maintenance costs.

Incremental Annual Operating and Maintenance Costs

	<i>Wiehle Avenue Extension 11.6 miles by year 2011</i>	<i>Full LPA 23.1 miles by year 2015</i>
<i>Costs in 2004 \$</i>	<i>\$39.9 million</i>	<i>\$71.7 million</i>
<i>Costs in opening year \$</i>	<i>\$47.5 million</i>	<i>\$93.9 million</i>

Operating revenues would come from a number of sources, including passenger fares, parking, joint development, advertising, concessions, and grants. An operating subsidy is required from each WMATA Compact jurisdiction to fund the difference between project operating and maintenance costs and project revenues.

COORDINATION OPPORTUNITIES

The Metrorail Extension as the Locally Preferred Alternative has been developed and advanced by a partnership of federal, state and local entities as the result of an open and collaborative public discussion of the corridor, its future needs, and potential solutions to transportation demands. The preparation of the Draft EIS, Supplemental Draft EIS, and the Final EIS was guided by a proactive, responsive public outreach and agency coordination program, with participation from thousands of people with diverse

interests from all parts of the corridor, as well as representatives from over 75 federal, regional, state, and local agencies.



Public Hearings on the June 2002 Draft EIS and October 2003 Supplemental Draft EIS provided additional opportunities for interested parties to review and comment proposed improvements.

To accommodate various degrees of participation and support the decision process, a broad range of outreach techniques was used to define the project purpose and need, design solutions, and assess potential consequences of different actions in terms of transportation, social, economic, and environmental considerations. Comments received focused mainly on the need for a rapid transit

investment in the corridor, and how improvements should be designed to avoid and minimize potential effects of construction and operation on adjacent properties and resources.

In 2002, the Draft EIS was circulated for review by elected officials, government agencies, and the public, and was made available at libraries, information centers, and community centers prior to the July 2002 public hearings. The Supplemental Draft EIS was circulated in a similar manner to the Draft EIS, and public hearings were held in December 2003. Comments received on the Draft EIS and the Supplemental Draft EIS influenced the development of the project and are addressed in the Final EIS.

FUTURE ACTIONS

Environmental Process

The environmental process for the project is nearing a conclusion. The notification that the Final EIS is available and is circulating has appeared in the Federal Register. The following actions remain:

- Circulation of the Final EIS for 30 days among officials, agencies, stakeholders; and
- FTA preparation and issuance of its Record of Decision (ROD) which describes the basis of FTA's decision, alternatives considered, and mitigation measures.

Preliminary Engineering

The project continues to move forward during the new phase of preliminary engineering. Preliminary engineering is more than design and will entail the following actions:

- DRPT and WMATA coordination with agencies, property owners and stakeholders to address outstanding issues of facility design and mitigation;
- DRPT coordination with resource and regulatory agencies regarding mitigation of adverse effects and permit applications that will support construction;
- Fairfax County initiative for an alternative site plan of the Tysons West Station facilities;
- Fairfax County initiative for joint development at the north side facilities of Wiehle Avenue Station;
- WMATA technical management of preliminary engineering design and of contract documents for the design-build phase;
- DRPT preparation of a right-of-way acquisition plan and negotiation of inter-agency and utility agreements for the construction, acquisition, and operation of the project;
- DRPT preparation of the final financial plan for the Wiehle Avenue Extension, including capital and operating funding commitments;

- DRPT request for FTA approval to enter the final design phase of the Wiehle Avenue Extension;
- DRPT application to FTA for a Full Funding Grant Agreement for the Wiehle Avenue Extension; and
- Coordination for the financial planning of the remaining 11.5 miles of the full LPA.

Public Outreach Efforts

Public outreach efforts will continue throughout preliminary engineering and final design. The focus of these outreach activities will be to keep the public, stakeholders, and affected property owners informed about the project's progress.

SUMMARY OF THE LOCALLY PREFERRED ALTERNATIVE

The Final EIS provides detailed analysis of the No Build Alternative, the full LPA and its first phase, the Wiehle Avenue Extension. For easy comparison, the following table highlights the results of those analyses.

Summary of the Locally Preferred Alternative

<i>Measures</i>	<i>No Build Alternative (2025)</i>	<i>Metrorail Extension Project</i>			<i>Full LPA (2025)</i>
		<i>Wiehle Avenue Extension (2011)</i>	<i>Wiehle Avenue Extension (2025)</i>		
<i>Transit Operations</i>					
Number of Metrorail Stations	Base	5	5	11	
Opening Year Ridership (Average Weekday Riders)	Base	62,800	Not Applicable	Not Applicable	
Opening Year New Trips	Base	29,100	Not Applicable	Not Applicable	
Forecast Year Total Ridership (Average Weekday Riders)	Base	Not Applicable	73,300	91,200	
Forecast Year New Trips	Base	Not Applicable	34,400	47,800	
<i>Costs</i>					
Capital Costs (Year of Expenditure)	\$0	\$1.5B	\$1.5B	\$3.5B	
Capital Funding Sources	Not Applicable	50% Federal 50% Non Federal	50% Federal 50% Non Federal	50% Federal 50% Non Federal	
Incremental Annual O&M Costs (YOE)	Base	\$47.5M	\$67.6M	\$117.9M	
<i>Social Effects</i>					
Consistent with Comprehensive Plans	No	Partially	Partially	Yes	
Residential Displacements (No.)	0	0	0	0	
Commercial Displacements (No.)	0	3	3	3	
Residential Properties Partially Acquired (No.)	0	11	11	11	
Shifts in Population and Employment	Unlikely	Likely	Likely	Likely	
Overall Visual Impacts	Continues Current Conditions	Minimal	Minimal	Minimal	
Cultural Resources (Adverse Effect)	0	0	0	1	
Section 4(f) Direct Use (No.)	0	0	0	1	
<i>Environmental Effects</i>					
Streams Impacts (Linear feet)	0	0	0	245	
Wetlands Impacts (Acres)	0	0	0	5.2	
Floodplains Impacts (No. of 100-year crossings)	0	3	3	5	
Air Quality – NAAQS Violations	None	None	None	None	
Noise Receptors Above FTA Criteria Before Mitigation	0	184	184	183	
Vibration Receptors Above FTA Criteria Before Mitigation	0	7	7	7	
Hazardous Materials Generators Potentially Affected	0	4	4	11	
<i>Economic Effects</i>					
Corridor Development Potential	304,638,650 SF	Not Applicable	+5%	+13%	
Corridor Employment	403,857	+3%	+6%	+16%	

Measures	No Build Alternative (2025)	Metrorail Extension Project		
		Wiehle Avenue Extension (2011)	Wiehle Avenue Extension (2025)	Full LPA (2025)
Property Values Near Station Areas	Continues Current Conditions	Likely to Increase	Likely to Increase	Likely to Increase
Transportation Effects				
Transit Capacity (at Tysons Central 123 Station)	400	7,680	8,640	8,640
Transit Mode Share (at Tysons Corner)				
- Home Based Work Trips Attracted to Corridor	8.4%	11.9%	11.6%	12.6%
- Home Based Work Trips Produced in Corridor	25.9%	33.5%	34.3%	34.4%
Number of intersections at LOS F (pm peak)	16	3	6	16
Existing and Planned Parking Spaces at Park-and-Ride Stations	4,800	5,600	6,300	14,350

Below is a summary of major mitigation measures. A more comprehensive listing of proposed mitigation measures is presented in Chapter 2 of the FEIS.

Mitigation of Effects

Area	Summary of Mitigation Measures
Land Use and Socioeconomics	Assist Fairfax and Loudoun counties and the Town of Herndon to pursue transit-oriented development and joint development opportunities. Fairfax County will incorporate the park-and-ride requirements (500 spaces) for the Tysons West station into the Fairfax County Comprehensive Plan.
Property Acquisition and Displacements	All property acquisitions would be conducted in accordance with the Uniform Relocation Assistance and Real Property Acquisition Act, as amended.
Visual and Aesthetic Conditions	Minimize the potential visual and aesthetic effects through sensitive design of the Metrorail facilities and landscaping.
Cultural Resources	Preserve and enhance the historic design features of the Dulles Airport Historic District through appropriate design and activities to increase public awareness of the district's unique historic characteristics.
Parklands	Design the proposed Metrorail overpass in the W&OD Railroad Regional Park according to the NVRPA Guideline for the Development of W&OD Trail Bridge Crossings . Maintain public use of the W&OD Railroad Regional Park and minimize disruption of Pimmit Run Stream Valley Park, Scotts Run Stream Valley Park, and Difficult Run Stream Valley Park during construction.
Safety and Security	Conform WMATA's Safety and Security Program with Dulles Airport measures and develop mutual aid agreements with local jurisdictions. Where the alignment traverses airport property, there would be no tunnel exits of any kind in the secure zone of the airport.
Water Resources	Plant riparian buffers to protect affected surface waters and water quality, provide compensatory mitigation for unavoidable wetlands impacts associated with the S&I Yard on Dulles Airport property and the Route 28 station, and avoid changes in floodplain elevations(s) of more than 1 foot. Coordinate with Fairfax and Loudoun counties to ensure consistency with local stream protection policies and coordinate with FAA to control potentially hazardous wildlife interference of airport operations.
Noise	Install parapet and trackside noise barriers near sensitive areas, reduce noise impacts of the improved West Falls Church Yard facilities, and comply with WMATA, FTA, and local regulations and policies. Analyze reflective highway noise impacts to the Hallcrest Heights residential community during preliminary engineering and/or final design.
Vibration	Utilize dampening materials or devices under switches and crossovers near sensitive receptors.
Transportation Effects	Construct roadway improvements, such as new turn and acceleration lanes, to increase access to the Tysons Central 123, Wiehle Avenue, Route 606 stations, and the Yard Site 15 facilities and to mitigate traffic impacts at the Tysons East, Wiehle Avenue, Reston Parkway, Herndon-Monroe, and Route 606 stations.
Construction Effects	Prepare plans for erosion and sediment control and maintenance of traffic, and use applicable Best Management Practices. Comply and coordinate with relevant local, state and federal regulations and agencies to address construction-related activities. Communicate and coordinate with affected local businesses and communities.

For More Information:

For more information on the Dulles Corridor Rapid Transit Project, please call the project hotline at 1-888-566-7245 TDD 202-638-3780 or view the project website at www.dullestransit.com.

The Final EIS is available for review at the libraries and community centers noted below. The Executive Summary of the Final EIS may be viewed on the project web site www.dullestransit.com.

Arlington Central Library	Lovettsville Library
Ashburn Farm Association	McLean Community Center
Broadlands Visitors Center	Middleburg Library
Dolley Madison Community Library	Patrick Henry Community Library
Eastern Loudoun Regional Library	Purcellville Library
Fairfax City Regional Library, Virginia Room	Reston Community Center
Falls Church Community Center	Reston Regional Library
Falls Church Library	Rust Library
Great Falls Community Library	Sterling Library
Greater Reston Chamber of Commerce	Thomas Balch Library for Local History
Herndon Community Center	Tysons-Pimmit Regional Library
Herndon Fortnightly Library	Vienna Community Center