

## 1.0 Purpose and Need

### 1.1 Introduction

Arlington County and Fairfax County, Virginia, in cooperation with the Federal Transit Administration (FTA), are proposing to implement high-quality, high-capacity transit service along a 5-mile corridor, running mainly along Columbia Pike, between the Pentagon/Pentagon City area in Arlington County and the Skyline area in the Baileys Crossroads Community Business Center (CBC) in Fairfax County. The proposed project, known as the Columbia Pike Transit Initiative, supports the transportation goals of the counties and fosters their vision for a multimodal corridor, linking its walkable, mixed-use, mixed-income neighborhoods and connecting these to the Washington, DC area transit network, and thus, the region's major activity centers. Figure 1.1-1 shows the location of the project corridor.

The project is seeking federal funding for a portion of the proposed improvements through the FTA Capital Investment Grant Program (49 U.S.C. 5309) New Starts/Small Starts program. In order to meet the requirements of the program and maintain eligibility for federal funding, FTA, as the lead federal agency, in coordination with Arlington County and Fairfax County, is preparing a combined Alternatives Analysis/Environmental Assessment (AA/EA). The Washington Metropolitan Area Transit Authority (WMATA) is providing technical oversight of the AA/EA.

#### 1.1.1 Corridor Description

The project corridor ("corridor") includes the Baileys Crossroads/Skyline area of Fairfax County, a portion of Columbia Pike from Jefferson Street to Joyce Street, Pentagon City, and the northernmost portion of Crystal City in Arlington County.

Columbia Pike is a major east-west roadway in Northern Virginia, providing access to the District of Columbia via Washington Boulevard and I-395. Columbia Pike is experiencing rapid growth as a mixed-use employment, commercial, and residential corridor. The Skyline and Pentagon City areas, anchoring the western and eastern ends of the corridor, are high-density regional activity and employment centers.

#### Land Use

A wide variety of land uses exist along the corridor, including residences, commercial offices, retail establishments, parkland, and federal government facilities.

The western end of the corridor includes the Skyline complex, a center of high-rise, high-density commercial offices and residences, and the Baileys Crossroads area, a mix of regional and local-serving retail establishments.

Along Columbia Pike within Arlington County, the predominant uses are local commercial establishments and multi-family residences. In the neighborhoods

abutting Columbia Pike, the predominant use is lower-density residential. Recent redevelopment along Columbia Pike has transformed single-story strip commercial centers into multi-story, mid-rise, mixed-use buildings fronting on streets with pedestrian and bicycle amenities.

At the eastern end of the corridor is Pentagon City, a mixed-use area that has developed rapidly over the past 20 years to include two regional shopping malls, offices, and residential development. The Pentagon is located at the northeastern end of the corridor.

#### Transportation Network

The primary transit services in the corridor are the Metrobus 16 line and the associated Arlington Transit (ART) bus services, collectively known as PikeRide. With 16,000 daily riders, PikeRide carries more passengers than any other bus service in Northern Virginia (WMATA 2010, Arlington County 2010). In addition, Columbia Pike is among the most heavily used roadways of its size in Virginia with an average of 31,000 vehicles per weekday (Virginia Department of Transportation (VDOT) 2010).

Arlington County and Fairfax County are currently upgrading pedestrian infrastructure as well as improving overall pedestrian safety and comfort along the corridor. There are designated bike routes within the corridor on streets parallel to Columbia Pike.

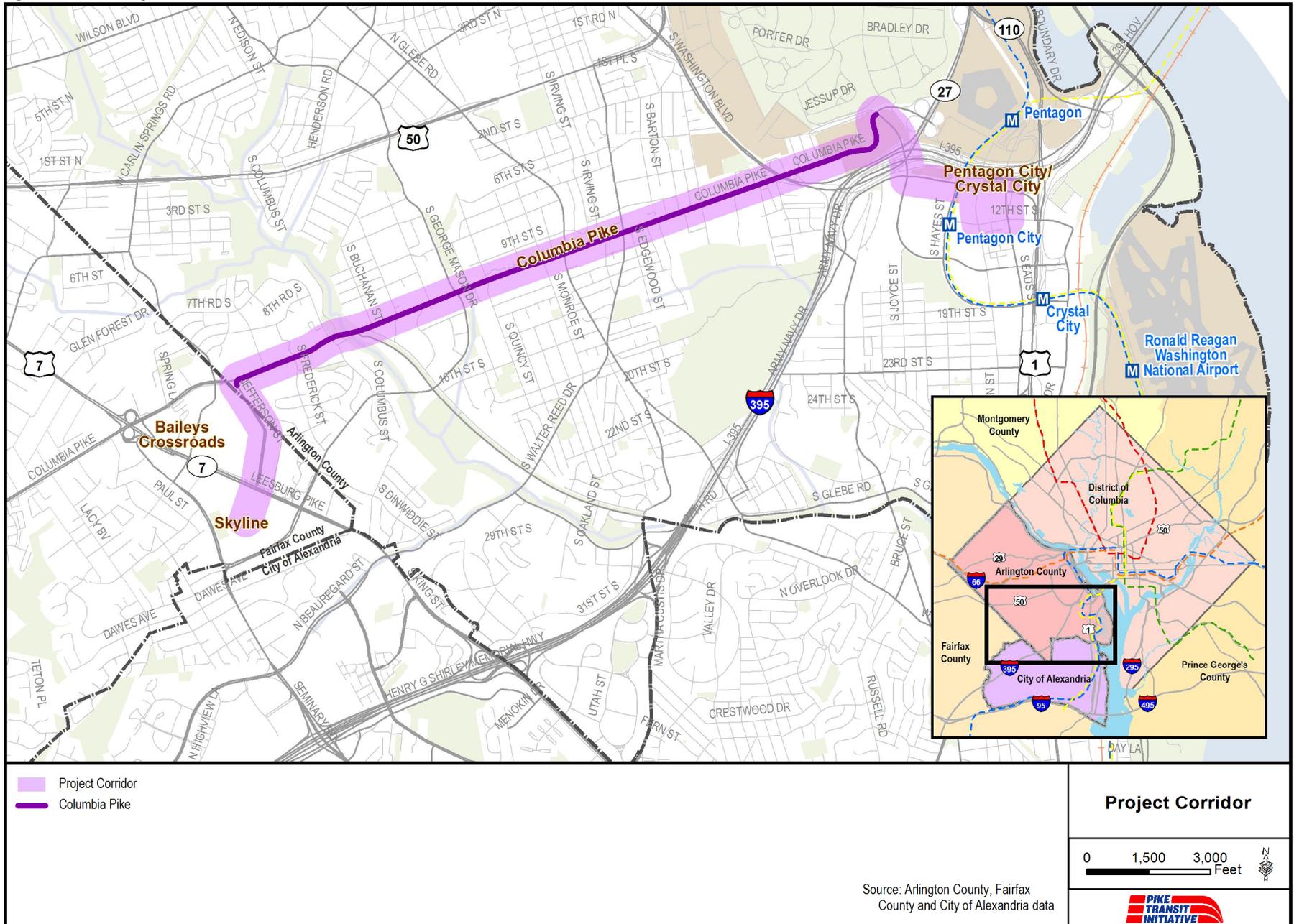
#### 1.1.2 Planning Context

##### Regional and Corridor Growth

For more than a decade, Arlington County and Fairfax County have been aware of the potential for economic growth in the corridor. As a result, both counties have successfully engaged in transportation and land use planning initiatives that ensure redevelopment and infrastructure improvements are consistent with community goals.

Both counties have also engaged in transportation improvement studies and successfully implemented bus service improvements. In addition, the counties have adopted policies, plans, and zoning laws supportive of high-quality, high-capacity transit to promote transit-oriented development.

Figure 1.1-1: Project Corridor



### “Priority for Enhanced Transit” Identification

Multiple agencies, including Arlington County and Fairfax County, WMATA, the Metropolitan Washington Council of Governments (MWCOC) and its Transportation Planning Board, the Northern Virginia Transportation Commission (NVTC), and the Northern Virginia Transportation Authority (NVTA), have identified the corridor as a priority for transit investment based on current demand and expected growth. Plans and studies that identify the corridor as a priority for enhanced transit include:

- The Comprehensive Plan for Fairfax County, Virginia Area I, Baileys Planning District, Baileys Crossroads Community Business Center (amended 2010);
- MWCOC, Update to Fiscally Constrained Long-Range Transportation Plan for 2030 (2009);
- Fairfax County Transportation Plan (amended 2007);
- Arlington County Master Transportation Plan Map (2007);
- NVTA TransAction 2030 (2006);
- Arlington County Columbia Pike Initiative – A Revitalization Plan, Update (2005);
- Arlington County Columbia Pike Street Space Planning Task Force Report (2004);
- WMATA Transit Study for Columbia Pike and Leesburg Pike (2002); and
- WMATA Transit Service Expansion Plan (1999).

#### 1.1.3 Project History

After recognizing the increased demand of the emerging transit market, Arlington County and Fairfax County initiated a local Columbia Pike Alternatives Analysis in 2004 (local AA) to consider the development of an advanced transit system connecting the Pentagon/Pentagon City area to Skyline. At the time, the counties were not seeking federal funding and a federally approved AA was not required; therefore, the local AA was not submitted for approval by FTA. The goal of this local AA was to examine a wide-range of possible transit solutions and identify the solution that best served the needs of the corridor. The selected transit system and mode would increase transit capacity, improve mobility, and spur economic development along the corridor. The local AA included agency, stakeholder, and citizen input throughout the process.

The local AA process yielded a “Modified Streetcar Alternative,” which included a combination of streetcar and bus service as the preferred transportation solution that best served the needs of the corridor. Subsequently, the Arlington County Board and Fairfax County Board of Supervisors endorsed the “Modified Streetcar Alternative” in 2006. In 2008, the two counties decided to seek federal funding, thereby requiring a federally approved AA. In 2010, the two counties submitted a Project Initiation package to FTA to officially state their interest in pursuing federal funding from FTA. The “Modified Streetcar Alternative,” which was selected

as the preferred alternative in the local AA process, is the basis of the “Streetcar Build Alternative” presented and evaluated in this document.

Currently, Arlington and Fairfax Counties, in coordination with FTA, are preparing this document to evaluate alternatives and identify the environmental impacts of the proposed solution in compliance with FTA New Starts/Small Starts requirements. This document is also being prepared to aid local decision-makers in selecting a locally preferred alternative (LPA) that best serves the current and expected transportation needs of the corridor and supports the project goals and objectives, described in the next section.

## 1.2 Purpose for the Columbia Pike Transit Initiative

The purpose of the Columbia Pike Transit Initiative is to:

- Implement higher-quality and higher-capacity transit service in the corridor in order to provide more capacity;
- Enhance access within the corridor and provide connections to the regional transit network; and
- Support economic development along the corridor.

Premium transit service would improve regional accessibility by enhancing the quality of transportation options along the corridor, which in turn, would make the corridor a more attractive location for redevelopment. In addition, enhanced transit would support the emerging mixed-use, walkable environment by offering a convenient, dependable, and frequent option for traveling the corridor without using an automobile, while also serving existing and future low-income and transit-dependent populations residing along the corridor. This “main street,” walkable, mixed-use environment is consistent with Arlington County and Fairfax County’s vision for the corridor.

## 1.3 Need for the Columbia Pike Transit Initiative

Transit is not only a vital component of what makes the corridor function, but is also important to the future vision for the corridor. Within a quarter-mile of the corridor, there are transit-dependent populations, clustered around Jefferson Street, in Pentagon City, and southeast of Four Mile Run.<sup>1</sup> Furthermore, the corridor carries the most bus riders of any corridor in Northern Virginia, with average weekday ridership of approximately 16,000 boardings per day (WMATA 2010, Arlington County 2010).

The need for the Columbia Pike Transit Initiative stems from existing and expected transportation problems along the corridor related to limited roadway and transit capacity to accommodate increasing travel demand as the population grows and development increases. Additionally, the Skyline area of the corridor is underserved by transit, limiting the employment center’s

<sup>1</sup> American Community Survey 5-year estimates, 2005-2010.

regional connectivity. These problems and needs are summarized in Table 1.3-1 and described below.

Table 1.3-1: Problems and Needs

Problem	Need
Limited roadway capacity to handle an increase in automobile trips.	<ul style="list-style-type: none"> <li>• Improve transit capacity; and</li> <li>• Improve transit mode share.</li> </ul>
Existing transit capacity is insufficient to support future growth and development within the corridor.	<ul style="list-style-type: none"> <li>• Invest in transit service that supports growth and economic development.</li> </ul>
Skyline, a regional center of office, commercial and residential activity, is poorly connected to the regional transit network.	<ul style="list-style-type: none"> <li>• Improve transit access and regional connectivity to and from Skyline.</li> </ul>

Continued population and employment growth will increase transportation demand along the corridor. According to the MWCOG forecasts, population within a quarter-mile of the corridor is projected to increase by 21 percent from 2010 to 2030, while employment is projected to increase by 23 percent.<sup>2</sup> The population and employment growth (spurred by redevelopment) and operational improvements to existing transit service have generated a 45 percent increase in corridor weekday transit ridership since 2004. As land along the corridor continues to be redeveloped with medium- to large-scale mixed-use projects, and population and employment increases and development intensifies, the demand for transit will also increase. Anticipated baseline growth of 16 percent will add another 80,000 daily trips to the corridor by 2030, assuming relatively minimal change to the distribution of trips between commute and non-commute. However, Arlington County has an explicit policy against adding additional automobile through-capacity to the Columbia Pike corridor.<sup>3</sup>

Arlington County initially addressed this emerging problem with implementation of the PikeRide program. The PikeRide program has been successful by improving bus stop locations and providing convenient and reliable transit service along the corridor. Currently, the Metrobus and ART bus routes on Columbia Pike operate at combined 2- to 3-minute headways during peak-hours. However, this high transit frequency limits the ability to improve service quality and reliability by simply adding more buses to the schedule, leading to bus bunching and decreased service reliability. Both Arlington County and Fairfax County need to identify potential transit investments that will:

- Provide higher-capacity transit service to cope with underlying growth; and
- Increase transit mode share while decreasing single-occupancy vehicle use along the corridor.

The Baileys Crossroads Revitalization Commercial District in Fairfax County and Arlington County's Columbia Pike Initiative have provided the necessary land use plans and zoning codes to encourage higher density redevelopment along Columbia Pike. These efforts have resulted in two major redevelopment projects in the Baileys Crossroads area of Fairfax County and six major residential redevelopment projects completed in the Arlington County portion of the corridor since 2002.<sup>4</sup> Additionally, ten projects, mostly mixed-use developments, are either under construction or approved along the overall corridor.

The continued success of redevelopment efforts is dependent upon a robust transportation system to connect the new developments with existing population and employment centers. Most critically, improved transit service will demonstrate a permanent and on-going commitment to transportation by the public sector. Sustaining and improving the level of transit service investment will reassure developers that higher-density, transit-oriented, and mixed-use projects are worth the risk in the real estate market, and given this reassurance, jobs, housing, and services will continue to flow into the corridor. As a result, both Arlington County and Fairfax County need to identify potential transit investments that will:

- Improve mobility and accessibility of the corridor in a way that supports growth and economic development.

Furthermore, at the western end of the corridor, the existing transit network provides relatively limited service to the Skyline area in Fairfax County, an area of high-density office, residential, and retail. Only one Metrobus line provides a direct connection from Skyline to the Pentagon Metrorail station and there is no direct connection to Pentagon City. Both Arlington County and Fairfax County need to identify potential transit investments that will:

- Improve transit access; and
- Improve regional connectivity to and from Skyline.

<sup>2</sup> Metropolitan Washington Council on Governments (MWCOG) Round 7.2a Land Use Projections.

<sup>3</sup> Arlington County. (2011). *Arlington County Transportation Master Plan Streets Element*, p. 7.

<sup>4</sup> The six projects are the Halstead at Arlington, Siena Park, Gramercy at Metropolitan Park, Majestic Oak Townhouses, 55 Hundred, and Alcova Row.

## 1.4 Project Goals and Objectives

Goals and objectives for the Columbia Pike Transit Initiative are shown in Table 1.4-1. The project goals and objectives are based on the problems and needs and are consistent with goals of the regional long-range transportation plans. The project purpose and need as well as the project goals and objectives provide measures to evaluate the proposed alternatives (described in Chapter 2, Alternatives Considered). An overall evaluation of the alternatives is presented in Chapter 5, Evaluation of Alternatives.

Table 1.4-1: Project Goals and Objectives

Goals	Objectives
Improve mobility for corridor residents, employees, customers, and visitors.	<ul style="list-style-type: none"> <li>• Provide additional transportation capacity to meet current and future travel demand.</li> <li>• Provide more transportation choices.</li> <li>• Provide high-quality service for local-corridor trips.</li> <li>• Address the transportation needs of the transit-dependent populations in the corridor.</li> </ul>
Contribute to and serve as a catalyst for economic development.	<ul style="list-style-type: none"> <li>• Support continued population and employment growth in the corridor.</li> <li>• Support county economic development initiatives.</li> <li>• Maximize local economic impact of transportation investments.</li> </ul>
Enhance livability and long-term economic and environmental sustainability of the corridor.	<ul style="list-style-type: none"> <li>• Support lifestyle choices for environmentally sustainable communities.</li> <li>• Support long-term private investment in transit-friendly development.</li> <li>• Minimize adverse environmental impacts of transportation investments.</li> <li>• Serve households at a range of income levels.</li> <li>• Promote pedestrian-and bicycle-focused communities.</li> </ul>
Support the development of an integrated regional multimodal transportation system.	<ul style="list-style-type: none"> <li>• Provide enhanced connections to intermodal centers.</li> <li>• Provide improved service to regional activity centers.</li> <li>• Increase transit ridership and mode share.</li> </ul>
Provide a safe environment for all modes of travel.	<ul style="list-style-type: none"> <li>• Enhance personal security for travelers in the corridor.</li> <li>• Provide safe operations for travelers in the corridor.</li> <li>• Provide a safe environment for transportation operations staff and employees.</li> </ul>

## 1.5 Document Content and Organization

This AA/EA is being prepared in accordance with the requirements of the Safe, Accountable, Flexible, Efficient Transportation Equity Act (SAFETEA-LU), Section 5309 Capital Investment Grant Funding and related guidance/procedures, National Environmental Policy Act (NEPA) of 1969, as amended, the Council on Environmental Quality (CEQ) regulations implementing NEPA, the joint Federal Highway Administration/Federal Transit Administration Environmental Impact and Related Procedures, Section 4(f) of the Department of Transportation Act of 1966, Section 106 of the National Historic Preservation Act of 1966, and other regulations regarding environmental permitting and approval for the project.

This document is organized into two volumes, Volume I, and Volume II, Technical Memoranda. Volume I includes:

- Chapter 1 presents a description of the project, the project purpose and need, and the purpose of the AA/EA document.
- Chapter 2 outlines the various planning and screening steps undertaken to identify the project alternatives. It also describes the No Build, Transportation Systems Management (TSM), and Streetcar Build Alternatives.
- Chapter 3 presents existing environmental conditions in the study corridor, includes an assessment of impacts of the No Build, TSM, and Streetcar Build Alternatives, and discusses mitigation strategies to minimize unavoidable impacts.
- Chapter 4 discusses the potential capital and operating costs as well as funding strategies for the project.
- Chapter 5 provides an overall evaluation of the alternatives. Each alternative presented is compared against the evaluation measures, based on the project purpose and need as well as goals and objectives.
- Chapter 6 summarizes agency coordination and public participation.

Supporting information for material presented in Volume I is provided in Volume II, Technical Memoranda. Technical Memoranda provided in Volume II include:

- Detailed Definition of Alternatives
- Environmental Constraints Map
- Transportation Conditions
- Land Acquisition
- Environmental Justice
- Economic Development and Economic Impacts
- Cultural Resources
- Section 4(f) and 6(f) Documentation
- Noise and Vibration
- Air Quality
- Federal Coastal Zone Management Act Consistency Certification

- Contaminated Materials
- Energy
- Capital Cost Estimate Methodology
- Operations and Maintenance Cost Calculations
- Agency Correspondence
- Examples of Public Involvement

A CD containing the following materials is provided on the back cover:

- Volume I of the AA/EA
- Volume II of the AA/EA
- Preliminary Alignment Conceptual Plans