

**WMATA
Crystal City / Potomac Yard Corridor
Transit Improvements Project**

**Socioeconomic and Community Characteristics
Technical Memorandum**

November 2006

Socioeconomic and Community Characteristics

Crystal City / Potomac Yard Corridor Transit Improvements Project

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1.0 Introduction

This technical memorandum provides a description of the existing and future conditions of the Crystal City/Potomac Yard Corridor. Future conditions reported in this memorandum are assumed to occur without the implementation of the Crystal City/Potomac Yard (CCPY) Corridor Transit Improvements Project. The potential effects of project implementation are also provided.

Elements described in this memorandum include population and employment; environmental justice and transit-dependency; neighborhoods and community services; and land use, zoning, and development activity.

2.0 PROJECT DESCRIPTION

2.1 Project Purpose

The purpose of the CCPY Corridor Transit Improvements Project is to advance the proposed transit improvements for the CCPY Corridor into design and construction utilizing federal grants appropriated for these transit improvements. As required by the Federal Transit Administration (FTA), the potential effects on transportation conditions and social, cultural, and natural environments in the corridor will be evaluated and documented. This process will meet the requirements of the National Environmental Policy Act (NEPA) and other federal and state policies.

2.2 Background

The CCPY Corridor is a five-mile long corridor that extends from the Braddock Road Metrorail station in the City of Alexandria to the Pentagon in Arlington County. Metrorail Blue and Yellow lines and Jefferson Davis Highway, a segment of heavily-traveled U.S. Route 1, form the transportation backbone of the corridor.

In 2003, the Virginia Department of Rail and Public Transportation (DRPT), Arlington County, and the City of Alexandria completed the CCPY Corridor Transit Alternatives Analysis (AA). In the AA, transit modes, which included bus rapid transit (BRT), light rail transit (LRT), and Metrorail, and alignment options were analyzed. The costs and benefits of each alternative were also assessed.

Following the completion of the AA, DRPT, in collaboration with Arlington County and the City of Alexandria, undertook the CCPY Corridor Interim Transit Improvements Study that formulated implementation strategies targeting the period from 2007 to 2014. As part of the study, an environmental scan and station area planning were conducted. At the conclusion of this study, a high-capacity, branded bus transit service using both mixed traffic operations and exclusive transitways was recommended. This service, while supporting growing transit demand from existing and new developments, would not preclude longer-term transit system improvement options that have been envisioned for the CCPY corridor, including BRT, LRT, and the addition of a Metrorail station.

2.3 Project Alignment Improvements

The planned alignment for the CCPY Corridor Transit Improvements Project begins at the Braddock Road Metrorail Station and ends near the Pentagon in Arlington County. The alignment passes through 38 intersections. The planned transit alignment, stops, and location of

exclusive right-of-way are shown in Figure 2-1. The planned CCPY Corridor Alignment has been separated into six segments that are identified from south to north. The segments are described below:

Segment A - Alexandria Route 1 South

Segment A begins at the Braddock Road Metrorail Station and heads east on Madison Street to North Fayette Street. The planned alignment turns north on Fayette Street and then east on 1st Street before turning north again on North Henry Street and crossing the realigned Monroe Avenue Bridge. The planned alignment in Segment A runs entirely in mixed traffic on existing roadway.

Segment B - Alexandria Route 1

Segment B runs north along Route 1 from the realigned Monroe Avenue Bridge to East Glebe Road. The planned alignment in Segment B runs entirely in exclusive transit lanes either in a median busway or along the east and west curbsides of Route 1 to East Glebe Road, where it transitions to mixed traffic.¹

Segment C - Alexandria Potomac Yard

Segment C travels east on East Glebe Road from Route 1 through the planned Potomac Yard Town Center to Potomac Avenue. It then turns north along Potomac Avenue to the Alexandria/Arlington line. The planned alignment in Segment C runs entirely in mixed traffic.

Segment D - Arlington Potomac Yard

Segment D begins at the Alexandria/Arlington border running in mixed traffic north on Potomac Avenue. It transitions to exclusive lanes as it turns west on South Glebe Road, running on the northern side of the roadway in right-of-way donated as part of the planned development of Potomac Yard. The alignment turns north on Jefferson Davis Highway and merges with South Crystal Drive, running on the east side of the roadway to the intersection of South Crystal Drive and 26th Street South.

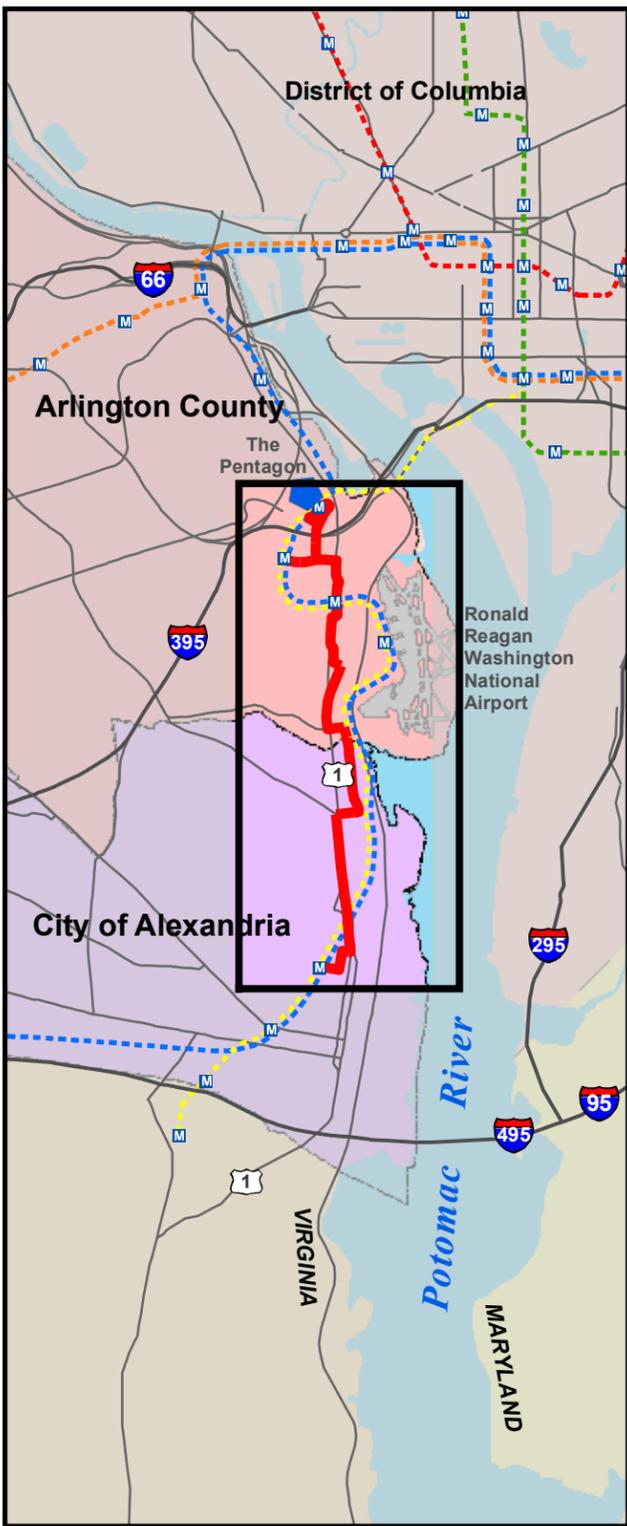
Segment E - Arlington Crystal City

Segment E begins at 26th Street South and South Crystal Drive running west before turning north on South Clark Street to 20th Street South. At 20th Street South, the planned alignment turns east and then north on South Bell Street to the Crystal City Metrorail Station at 18th Street South. This segment runs entirely in exclusive curbside lanes.

Segment F - Arlington Pentagon

Segment F begins at the Crystal City Metrorail Station and travels north on South Bell/South Clark Street before turning west on 12th Street. At South Eads Street, the alignment splits into two branches serving the Pentagon and Pentagon City. The first branch turns north on South Eads Street to the Pentagon Transit Center. The second branch continues west on 12th Street South to the Pentagon City Metrorail Station. The planned alignment in Segment F runs in exclusive curbside lanes until the intersection of 12th Street and South Eads Street, where it transitions to running in mixed traffic.

¹ The 2030 analysis is based upon a median alignment in Segment B as the proposed action. The City of Alexandria has not made a definitive decision about the alignment in Segment B; thus, the 2015 analysis examines the effects of both alignments.



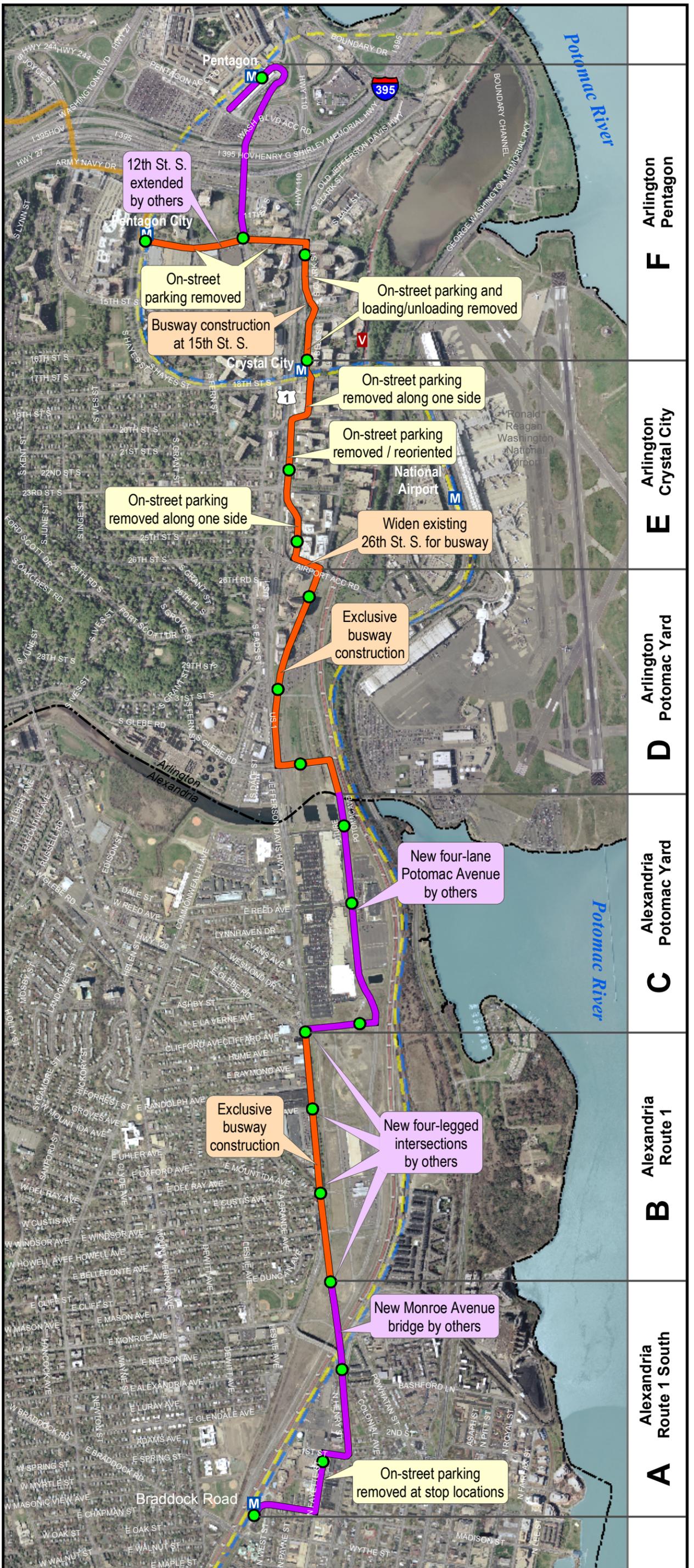
**Figure 2-1
Planned Alignment**

Legend

- VRE Station
 - Metro Station
 - Blue Metro Line
 - Yellow Metro Line
 - VRE Railroad
 - Proposed Station Stop
 - Columbia Pike Transit (Proposed)
- Planned Alignment**
- Mixed Traffic ROW
 - Dedicated ROW
 - Improvement Associated with CC/PY Project
 - Improvement by Others
 - Affected Parking



0 0.3 0.6 Miles



F
Arlington
Pentagon

E
Arlington
Crystal City

D
Arlington
Potomac Yard

C
Alexandria
Potomac Yard

B
Alexandria
Route 1

A
Alexandria
Route 1 South



2.4 Environmental Documentation

Both Alexandria and Arlington have secured considerable funding for the design and construction of the planned transit improvements, including several federal grants. In order to utilize the federal grants appropriated for transitways, the project sponsors must undertake environmental analyses to satisfy NEPA. Since the proposed transit improvements are planned largely in existing right-of-way and would require little or no construction, significant environmental effects are not anticipated. Based on consultation with FTA staff, the project sponsors will prepare a Documented Categorical Exclusion as the appropriate NEPA document. The studies will include an Air Quality analysis, a Noise and Vibration analysis, a Traffic analysis, a Historic and Archaeological Analysis, a water resources analysis, and a Phase I ESA. The studies will document the level of potential impact associated with the project and identify any mitigation measures necessary to reduce or eliminate impacts.

There are a number of activities within this project corridor that are either currently being constructed by others or planned to be constructed by others. Figure 2-1 shows the CCPY planned alignment and areas where construction is underway or planned by others. Construction activities by others include new roadways, bridges, and intersection improvements. Current and proposed projects planned or constructed by others are not evaluated as part of this project, and any potential impacts to known or potential hazardous materials sites are not included in this current study. Evaluations of potential environmental impacts associated with those other improvements are assumed to be part of separate environmental documents being prepared by the agencies sponsoring those improvements.

3.0 Demographic Characteristics

This section includes a description of population and employment in 2000 and growth projections for 2030. Demographic projections were developed by the Metropolitan Washington Council of Governments (MWCOCG) using traffic analysis zones (TAZ) for regional transportation planning purposes. The data were based on the results of the U.S. Census 2000. Forecasts were developed by allocating future anticipated growth to local levels based on local plans and policies. The forecasts are fit to regional control totals for population and employment.

3.1 Population

As shown in Table 3-1, population growth in the MWCOCG Region² is forecast to increase by approximately 26 percent, or 2,494,929 people, by the year 2030. Population within Arlington County and the City of Alexandria is expected to increase by 17 and 16 percent, respectively. In 2000, the population of the Project Area was approximately 30,028 people. By 2030, it is expected to increase by approximately 21,247 people, to 51,275, or 71 percent.

From 2000 to 2030, Segments B and F are expected to experience the greatest population growth in the Project Area. The population in Segment B is expected to increase by approximately 103 percent, while the population Segment F is expected to increase by 51 percent. At 18 percent, Segment E will see the lowest increase in population between 2000 and 2030.

² The MWCOCG Region encompasses the District of Columbia; Anne Arundel, Calvert, Carroll, Charles, Frederick, Howard, Montgomery, Prince George's, and St. Mary's counties in Maryland; the cities of Alexandria, Fairfax, Falls Church, Fredericksburg, Manassas, and Manassas Park, and Arlington, Clark, Fairfax, Fauquier, King George, Loudoun, Prince William, Spotsylvania (northern portion), and Stafford counties in Virginia; and Jefferson County in West Virginia.

Table 3-1: Population Growth

Segment/Area	2000	2015	2030	Percent Change 2000 to 2015	Change 2000 to 2015	Percent Change 2000 to 2030	Change 2000 to 2030
A - Alexandria Route 1 South	11,537	13,430	16,147	16%	1,893	40%	4,610
B - Alexandria Route 1	5,849	8,660	11,868	48%	2,811	103%	6,019
C - Alexandria Potomac Yard	7,597	8,893	9,394	17%	1,296	24%	1,797
D - Arlington Potomac Yard	6,413	8,702	9,221	36%	2,289	44%	2,808
E - Arlington Crystal City	5,485	5,712	6,458	4%	227	18%	973
F - Arlington Pentagon	19,176	25,490	28,860	33%	6,314	51%	9,684
Total Project Area	30,028	41,297	51,275	38%	11,269	71%	21,247
City of Alexandria	128,283	149,421	169,361	16%	21,138	32%	41,078
Arlington County	190,314	223,302	249,583	17%	32,988	31%	59,269
Region	5,748,109	7,215,693	8,243,038	26%	1,467,584	43%	2,494,929

Source: MWCOG Round 7.0 Cooperative Forecasting: Employment Forecasts to 2030 by Traffic Analysis Zone

3.2 Employment

According to the MWCOG Round 7.0 regional employment forecasts (shown in Table 3-2), by 2030, employment is expected to increase by 66 percent in the City of Alexandria and by about 52 percent in Arlington County. Within the Project Area as a whole, employment is expected to increase by 39 percent by 2030.

In 2000, jobs in the Project Area represented approximately three percent of those within the MWCOG Region. This share is expected to decline slightly to two percent by 2030. Most of the new job growth is forecast for the southern end of the Project Area in Segment B (252 percent increase). Substantial increases in employment will also occur in the Segment D portion of the Project Area, approximately 167 percent. By contrast, Segment C is expected to experience only a slight decrease in employment (two percent) by 2030.

Table 3-2: Employment Growth

Segment/Area	2000	2015	2030	Percent Change 2000 to 2015	Change 2000 to 2015	Percent Change 2000 to 2030	Change 2000 to 2030
A - Alexandria Route 1 South	579	584	584	1%	5	1%	5
B - Alexandria Route 1	3,674	5,893	12,943	60%	2,219	252%	9,269
C - Alexandria Potomac Yard	2,133	2,100	2,100	-2%	-33	-2%	-33
D - Arlington Potomac Yard	6,582	16,255	17,544	147%	9,673	167%	10,962
E - Arlington Crystal City	24,670	26,037	26,996	6%	1,367	9%	2,326
F - Arlington Pentagon	44,081	53,852	58,094	22%	9,771	32%	14,013
Total Project Area	91,915	113,906	128,019	24%	21,991	39%	36,104
City of Alexandria	89,273	123,225	147,957	38%	33,952	66%	58,684
Arlington County	182,587	237,784	275,798	30%	55,197	51%	93,211
Region	3,504,111	4,466,166	5,231,680	27%	962,055	49%	1,727,569

Source: MWCOG Round 7.0 Cooperative Forecasting: Population and Household Forecasts to 2030 by Traffic Analysis Zone

3.3 Potential Effects on Service to Population and Employment Centers

Taking no action except maintenance and repair of existing transit facilities and implementing the other projects assumed in the No-Build Alternative is expected to result in no change in existing conditions. The effect of implementing the No Build Alternative will be equivalent throughout the Main Line Corridor; therefore, no effects on socioeconomic trends in the Main Line Corridor are expected. Under the No-Build Alternative, increasing vehicular traffic would affect the performance of the existing transit service along the entire CCPY Corridor. Access to community facilities and area businesses would remain the same. However, the enhanced mobility and access benefits associated with the Build Alternative would not be realized under the No-Build Alternative. Additionally, under the No-Build Alternative the pedestrian environment would essentially remain the same, with the exception of planned improvements associated with separate projects and no parking would be displaced, unless part of another unrelated project.

Although additional roadways will be constructed as part of the development of Potomac Yard, additional capacity will not be added to Route 1, the primary arterial in the study area. Therefore, the improved transit service offered by the CCPY Corridor Transit Improvements Project will be a key component of the transportation network in the CCPY corridor. The transit service will enable internal circulation as well as providing connection to the regional transit network. The service will provide new connections between emerging centers in Potomac Yard (Segments B, C, and D) and the Metrorail system, as well as improving connections to established centers at the Pentagon, Pentagon City, Crystal City, and Braddock Road.

Since the proposed transit improvements are planned largely in existing right-of-way and would require little or no construction, no adverse impacts are expected during construction. Access to area activity centers during construction will be maintained to the extent possible.

4.0 Environmental Justice

Under Executive Order (EO) 12898, Federal policy mandates that minority and low income populations are not to be subjected to disproportionately high and adverse environmental impacts as a result of federally funded projects. This subsection describes the socioeconomic characteristics of the Project Area as it relates to EO 12898.

4.1 Environmental Justice

The U.S. Department of Transportation (USDOT) issued USDOT Order 5610.2 on April 15, 1997, to respond to and implement EO 12898. In addition to identifying disproportional impacts to minority and low income populations (Subsection 1-101); EO 12898 also requires each federal agency to:

Conduct its programs, policies and activities that substantially affect human health or the environment, in a manner that ensures that such programs, policies, and activities do not have the effect of excluding persons (including populations) from participation in, denying persons (including populations) the benefits of, or subjecting persons (including populations) to discrimination under such programs, policies and activities because of their race, color, or national origin (Subsection 2-2); and

Work to ensure that public documents, notices, and hearings relating to human health or the environment are concise, understandable, and readily accessible to the public [Subsection 5-5(c)].

The U.S. Environmental Protection Agency's (EPA's) Office of Environmental Justice defines environmental justice as follows:

"The fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation, and enforcement of environmental laws, regulations and policies. Fair treatment means that no group of people, including racial, ethnic, or socio-economic groups should bear a disproportionate share of the negative environmental consequences resulting from industrial, municipal, and commercial operations or the execution of federal, state, local, and tribal programs and policies."

The definition of "disproportionately" high effects is based on guidance provided by the Council on Environmental Quality (CEQ) in its December 10, 1997 *Environmental Justice Guidance under the NEPA*. In this guidance document, "disproportionately" high effects are those that: "(1) affect a population that is more than 50 percent minority and/or low income, or (2) affect a minority and/or low income population that represents a proportion "meaningfully greater" than the average minority and/or low income population for an appropriate geographic reference area." Based on this definition, disproportionate concentrations of environmental justice populations within the Project Area and the segments are defined as those census blocks with populations of environmental justice populations that is at least 10 percent greater than the County or City in which the census block resides. This rule was also applied when identifying high percentages of transit-dependent populations, as described in Section 3.2.

Minority Populations

Relative to EO 12898 and the USDOT's Order on Environmental Justice, persons who belong to any of the following groups are considered to be an environmental justice population:

- **Black** - a person having origins in any of the black racial groups of Africa.
- **Hispanic** - a person of Mexican, Puerto Rican, Cuban, Central or South American, or other Spanish culture or origin, regardless of race.
- **Asian** - a person having origins in any of the original peoples of the Far East, Southeast Asia, or the Indian subcontinent.
- **American Indian and Alaskan Native** - a person having origins in any of the original people of North America and who maintains cultural identification through tribal affiliation or community recognition.
- **Native Hawaiian or Other Pacific Islander** - a person having origins in any of the original peoples of Hawaii, Guam, Samoa, or other Pacific Islands. [Note: This category was added on March 9, 2000 by the Office of Management and Budget (OMB) in its Bulletin No. 00-02, "Guidance on Aggregation and Allocation of Data on Race for Use in Civil Rights Monitoring and Enforcement."]

Table 3-1 lists the numbers and percentages of minority populations within the Project Area and project area segments. The percentages of the populations of concern indicate which Census Tracts need to be considered for potential disproportionately high and adverse environmental effects. These are reflected in the highlighted Blocks of the table.

The minority population in the State of Virginia is 30 percent. Within Arlington County, it is 39 percent. The estimated percentage for the total minority population is highest, at 46 percent, in the City of Alexandria. Within the Project Area, the total minority population is approximately 40 percent. This reflects the wide range of concentrations of minorities along the project area's segments, with the higher number of minorities living within Segments A and C. The following Census Tracts have the highest percentages of minorities:

2012.03 (91 percent) and 2012.04, Blocks 1 and 2 (81 and 67 percent, respectively) in Segment C and 2016, Blocks 2 and 4 (84 percent and 65 percent, respectively) and 2018.01 (60 percent) in Segment A.

Segment D (17 percent) and Segment B have the lowest percentage of minority populations, at in the Project Area. The following Census Tracts have the lowest percentage of minority populations:

1034.02 in Segment C (15 percent); 1037 in Segment D (17 percent); 2018.01, Block 2 in Segment B (6 percent); and 2014 (7 percent) and 2015 (12 percent) in Segment A.

Low Income Populations

According to CEQ's *Environmental Justice Guidance under the National Environmental Policy Act* (1997), "Low income populations in an affected area should be identified with the annual statistical poverty thresholds from the Bureau of the Census' Current Population Reports." Thus, the poverty, or low income, data reported in this technical memorandum are directly from Census 2000 tables.

As presented in Table 4-1 and illustrated in Figure 4-1, the percentage of individuals living below the poverty level, as defined by the U.S. Bureau of the Census, in the State of Virginia was 10 percent in the 2000. The percentage of residents living below the level of poverty Arlington County and the City of Alexandria were 8 and 9 percent, respectively. The percentage of persons living below level of poverty in the Project Area was 10 percent. Of the segments in the Project Area, Segment F has the highest concentrations of low income groups. Specifically, the following Census Tracts are characterized as having a high percentage of the population living below the poverty level: 2016, Blocks 1 and 2 at 19 and 32 percent respectively, and 2018.01, and Block 3 at 23 percent in Segment A Block.³

Table 4-1: Minority and Low Income Populations within the Project Area

Area		Total Population 2000	Percent Minority Population	Percent Low Income Population
Census Tract	Block Group			
A - Alexandria South Route 1				
2013	3	503	26%	6%
2013	4	648	30%	4%
2014	4	777	7%	3%
2015	3	1,202	12%	1%
2016	1	1,419	37%	19%
2016	2	1,122	84%	32%
2016	3	555	40%	15%
2016	4	993	65%	6%
2018.01	3	1,368	38%	23%
2018.01	4	620	60%	3%
Total Segment A		9,207	41%	13%
B - Alexandria Route 1				
2013	1	852	34%	1%
2013	2	1,031	41%	10%
2018.01	1	1,650	19%	5%
2018.01	2	1,089	6%	9%
Total Segment B		3,770	21%	8%

³ It should be noted that the portion of Census Tract 1034.01, Block 1 within the study area consists almost entirely of the Pentagon Reservation and is not residential.

Table 4-1 (cont.): Minority and Low Income Populations within the Project Area

Area		Total Population 2000	Percent Minority Population	Percent Low Income Population
Census Tract	Block Group			
C - Alexandria Potomac Yard				
2012.03	3	1,421	91%	6%
2012.04	1	1,455	81%	12%
2012.04	2	1,469	67%	8%
Total Segment C		4,345	80%	9%
D - Arlington Potomac Yard				
1037	2	1,536	17%	3%
Total Segment D		1,536	17%	3%
E - Arlington Crystal City				
1034.02	2	726	35%	10%
1034.02	4	599	28%	9%
1034.02	5	0	0%	0%
1036	1	2,065	31%	0%
Total Segment E		3,390	31%	7%
F - Arlington Pentagon				
1034.01	1	2,238	42%	18%
1035	1	3,494	38%	13%
1035	2	3,992	37%	12%
1034.02	1	1,196	15%	4%
1034.02	3	498	22%	5%
Total Segment F		11,418	35%	11%
Total Project Area		58,977	40%	6%
City of Alexandria	City	128,283	46%	9%
Arlington County	County	189,453	39%	8%
State of Virginia	State	7,078,515	30%	10%

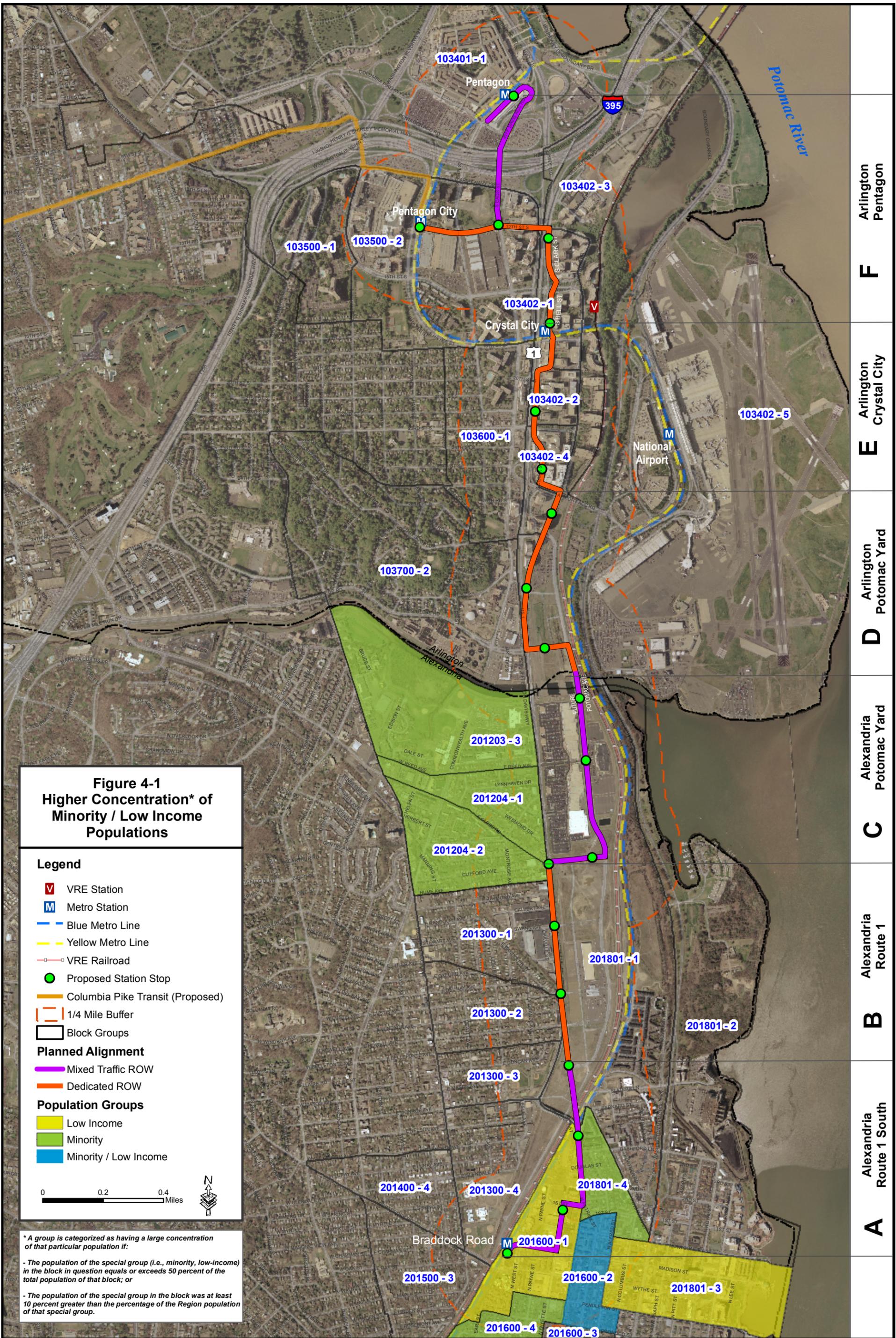
Source: U.S. Bureau of the Census, Census 2000

Note: The blocks highlighted within the table indicate those census blocks within each segment that are at least 10 percent greater than the percentage of that particular population group in the County in which the block resides. For example, within the Arlington Segment 3, Census Tract 1034.01 has a minority population at least 10 percent greater than the County as a whole.

4.2 Potential Effects on Environmental Justice Populations

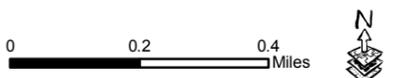
Segments within the CCPY Corridor that are characterized by high levels of racial and economic diversity include Segments A and C. The effect of implementing the No-Build Alternative would be equivalent throughout the CCPY Corridor; thus, no disproportionate adverse impacts to qualifying environmental justice populations would occur in the CCPY Corridor (for a description of the No-Build Alternative see the Transportation Effects Technical Memorandum (November 2006)). However, the benefits associated with the Build Alternative, such as enhanced mobility and access associated with improved transit would not be realized under the No-Build Alternative.

No disproportionate adverse effects on environmental justice populations are expected under the Build Alternatives. Residents of all segments are expected to benefit from the provision of the planned transit improvements, which will improve access to activities within the corridor.



**Figure 4-1
Higher Concentration* of
Minority / Low Income
Populations**

- Legend**
- V VRE Station
 - M Metro Station
 - Blue Metro Line
 - Yellow Metro Line
 - VRE Railroad
 - Proposed Station Stop
 - Columbia Pike Transit (Proposed)
 - 1/4 Mile Buffer
 - Block Groups
- Planned Alignment**
- Mixed Traffic ROW
 - Dedicated ROW
- Population Groups**
- Low Income
 - Minority
 - Minority / Low Income



*A group is categorized as having a large concentration of that particular population if:

- The population of the special group (i.e., minority, low-income) in the block in question equals or exceeds 50 percent of the total population of that block; or
- The population of the special group in the block was at least 10 percent greater than the percentage of the Region population of that special group.

A Alexandria Route 1 South
B Alexandria Route 1
C Alexandria Potomac Yard
D Arlington Potomac Yard
E Arlington Crystal City
F Arlington Pentagon

5.0 Community Characteristics

This section presents a description of the neighborhoods located adjacent to the planned alignment and the community facilities located therein. They are illustrated on Figure 5-1.

5.1 Neighborhoods

*City of Alexandria*⁴

The *Braddock Road Metro Station* area is located in Segment A. It is bounded by Route 1 and Montgomery Street to the north, Washington Street to the east, King Street to the south, and the RF&P Railroad to the west. The area contains primarily residential and light industrial uses with commercial office uses located near the northern and southern boundaries. The area has been occupied by free Blacks since prior to the Civil War. Today, it is one of the oldest primarily Black neighborhoods in Alexandria. According to the U.S. Bureau of the Census, the population of this area was 46 percent Black/African American in 2000.

The *Potomac Yard/Potomac Greens* area is located on the east side of Route 1 in Segments A, B, and C. It is bounded by Four Mile Run to the north, the Potomac River to the east, and the eastern right-of-way of the Richmond, Fredericksburg, and Potomac (RF&P) Railroad tracks, Slater's Lane, to the South. The George Washington Memorial Parkway runs north-south through the area. East of the Parkway is Daingerfield Island, a federally-owned park. The neighborhood consists of townhouses constructed as part of the redevelopment of Potomac Yard.

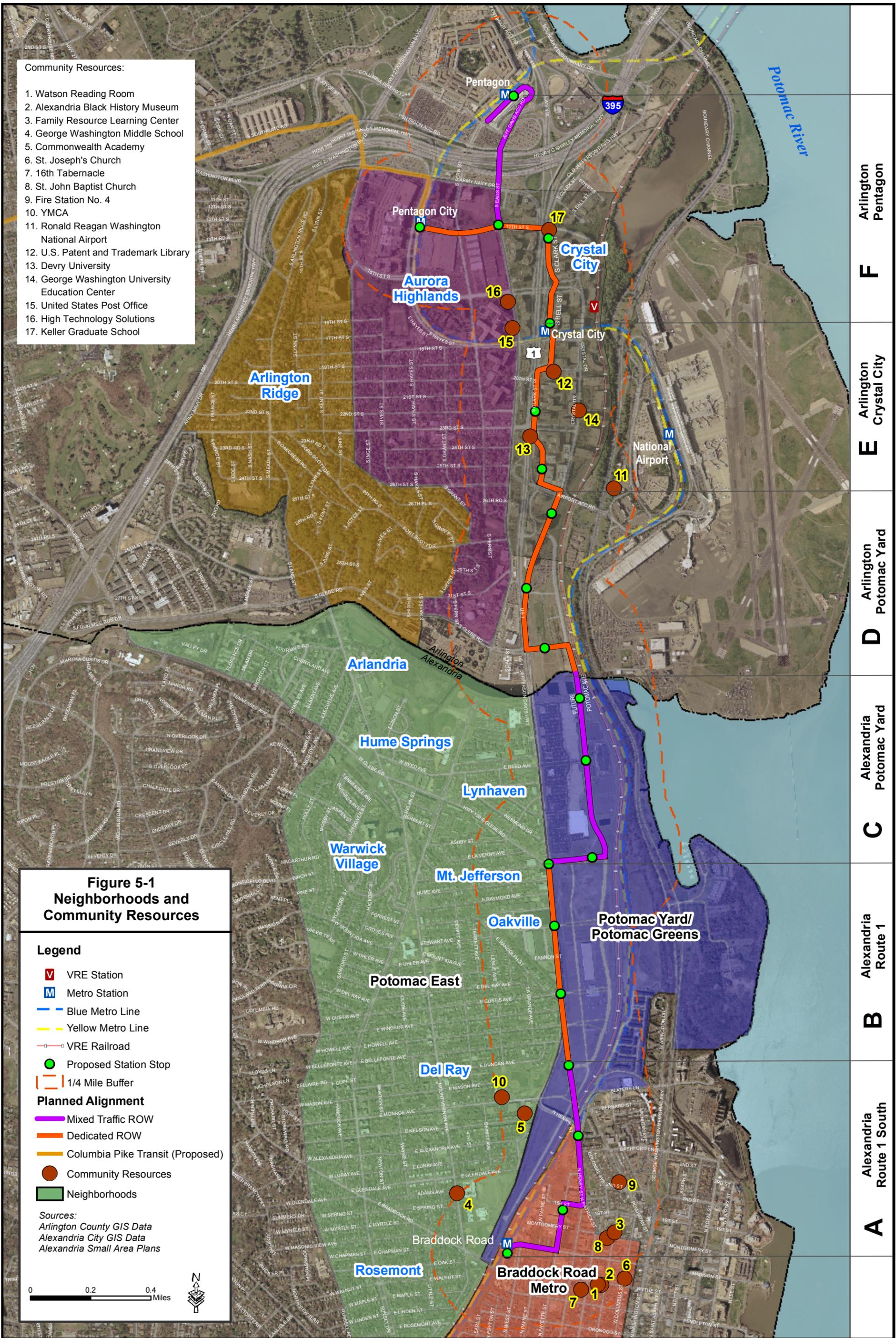
The *Potomac West* area, which extends from the Virginia Railway Express/Amtrak Station on Callahan Drive to the City line at Four Mile Run, is divided into the following five neighborhoods:

- § The neighborhood of *Del Ray* is located in Segments A and B. It is bounded by Glebe Road to the north, Route 1 to the east, Braddock Road to the South, and Russell Road to the West. It originated in early 1894, when developer, Charles Wood, organized it on a grid pattern of streets running north-south and east-west. The tree-lined streets of the neighborhood contain older, single-family homes extending off Mount Vernon Avenue. It includes the Braddock Road Metro Station. The residents of the neighborhood include young professionals and blue-collar workers.
- § The *Oakville* neighborhood is located in the Segment B. It is bounded by Route 1, the abandoned Washington and Old Dominion (W&OD) right-of-way, and Raymond Avenue. The area is primarily industrial. It consists of one and two story brick and metal warehouses occupied by a mixture of firms including printing, metal fabrication, equipment and construction materials supply, and automobile-related businesses.

⁴ Potomac West Small Area Plan, Adopted 1992 Master Plan, Alexandria, VA, amended June, 2003; the Del Ray Citizen's Association of Alexandria, VA website: <http://www.delraycitizen.org>; Potomac Yard/Potomac Greens Small Area Plan, Adopted 1992 Master Plan, Alexandria, VA, amended November, 1995; Braddock Road Metro Station Small Area Plan, Adopted 1992 Master Plan, Alexandria, VA, amended April, 2000.

Community Resources:

1. Watson Reading Room
2. Alexandria Black History Museum
3. Family Resource Learning Center
4. George Washington Middle School
5. Commonwealth Academy
6. St. Joseph's Church
7. 16th Tabernacle
8. St. John Baptist Church
9. Fire Station No. 4
10. YMCA
11. Ronald Reagan Washington National Airport
12. U.S. Patent and Trademark Library
13. Devry University
14. George Washington University Education Center
15. United States Post Office
16. High Technology Solutions
17. Keller Graduate School



**Figure 5-1
Neighborhoods and
Community Resources**

Legend

- V VRE Station
- M Metro Station
- Blue Metro Line
- Yellow Metro Line
- VRE Railroad
- Proposed Station Stop
- 1/4 Mile Buffer
- Planned Alignment**
- Mixed Traffic ROW
- Dedicated ROW
- Columbia Pike Transit (Proposed)
- Community Resources
- Neighborhoods

Sources:
Arlington County GIS Data
Alexandria City GIS Data
Alexandria Small Area Plans

0 0.2 0.4 Miles



- § The neighborhood of *Arlandria* is located between Four Mile Run, Glebe Road, and Commonwealth Avenue, which is in the Segment C. They are primarily residential with a dense concentration of garden apartments and smaller concentrations of duplexes, rowhouses, townhouses, and single-family detached homes located east and west of Mt. Vernon Avenue and along Reed Avenue.
- § The neighborhood of *Mt. Jefferson* is located in Segments B and C. It is a relatively small area bounded by U.S. Route 1, Mt. Vernon Avenue, Ashby Street, and Glebe Road. It contains mainly single-family homes dating from the 1930s, some as early as 1900.
- § The *Lynhaven* neighborhood is located in Segment C. The neighborhood encompasses the blocks of rowhouses bounded by Glebe Road, Commonwealth Avenue, East Reed Avenue, and U.S. Route 1.

Arlington County⁵

The *Aurora Highlands* neighborhood is located in Segment E. It is bounded by 26th Street South to the south, South Eads Street to the east, South Joyce Street to the west, , and South Hayes Street to the north. The neighborhood was considered a fringe suburb of Washington, DC and Alexandria prior to World War II and grew slowly. However, the construction of the Pentagon in 1942 brought an influx of workers eager to purchase the new bungalow, colonial and Victorian style houses.⁶ The area consists mostly of mid-century single-family houses on small lots, as well as some garden apartments.

The *Arlington Ridge* neighborhood is located in Segments D and E of the Project Area. It is bounded by Four Mile Run and the Arlington County line to the south; South Grant Street and 26th Street South to the east; and Shirley Highway to the north and South Joyce Street to the west. The neighborhood is known for its stately homes lining Arlington Ridge Road, but the majority of the neighborhood consists of single-family homes built in the 1950s and 1960s. Many residents choose the neighborhood because of its proximity to several major transportation corridors.

The neighborhood of *Crystal City*, located in Arlington Segments D and E of the Project Area, is an urban, mixed-use area consisting of office buildings, residential high-rises, shopping, and restaurants all centered on the Crystal City Metro Station. All of the main structures within the neighborhood are linked by tree-lined streets above ground and an underground system of corridors and walkways that link the area's commercial businesses and services.

5.2 Community Facilities

Community facilities contribute to the social fabric of the communities within which they are located, and include a variety of places where people go or gather for special needs and services, educational needs, or recreation or social activities. These places include:

- Educational facilities (including universities, community colleges, and grade schools);
- Places of worship (churches and religious facilities);
- Health care facilities (e.g., hospitals);
- Public safety facilities (e.g., police, fire, and rescue);
- Entertainment (very similar to activity centers, but includes large public uses - sports arenas, convention center, fairgrounds, theaters, and entertainment districts);

⁵ Source: Arlington's Urban Villages – Crystal City Website: <http://www.commuterpage.com/ART/villages/CrystalCity.htm>

⁶ "Aurora Highlands: from Neighbors to Friends," Washington Post, June 24, 1995 (<http://www.washingtonpost.com/wp-srv/local/counties/arlington/longterm/wwlive/aurora.htm>)

- Cultural facilities (such as libraries and museums);
- Government agency buildings or land (including local, state, and federal agency buildings, such as the US Post Office); and
- Social services (such as shelters and other non-profit service centers).

Table 5-1 summarizes the primary community facilities within the Project Area. They are also shown on Figure 5-1. This may not be inclusive of all of the community facilities in the area, but the ones identified are considered to be primary facilities that are frequented by residents and visitors to the area. These facilities are typical of a mixed-use urban area. The inventory of these facilities considers and includes those that could be potentially affected either through a direct change in their setting, which could affect their purpose and function, and/or a change in accessibility (either improved or impaired) to these facilities. A description of the community resources in each segment is as follows:

Segment A - Alexandria Route 1 South

The greatest number of community resources is located in this segment. To the west of the Braddock Road Metrorail Station, community facilities include George Washington Middle School and its associated playing fields, the YMCA, and Commonwealth Academy. To the east of the Braddock Road Metrorail Station are located three churches, the Alexandria Black History Museum, the Watson Reading Room, the Family Resource Learning Center, and Fire Station No. 4.

Segment B - Alexandria Route 1

To the west of Route 1, community facilities include, the Anglican Church of St. Andrew and St. Margaret of Scotland.

Segment C - Alexandria Potomac Yard

There are no community facilities within ¼ mile of the planned alignment in the Segment C.

Segment D - Arlington Potomac Yard

Community facilities in the neighborhoods to the west of Jefferson Davis Highway include DeVry University and the George Washington University Education Center and the U.S. Patent and Trademark Library in Crystal City. Part of Ronald Reagan National Airport is also located in Segment D.

Segment E - Arlington Crystal City

Community facilities in Segment E include the United States Post Office on South Eads Street and the majority of Ronald Reagan National Airport.

Segment F - Arlington Pentagon

To the west of Jefferson Davis Highway, community facilities in Segment F include two schools, the Virginia Highlands Park and High Technology Solutions and Keller Graduate School.

Table 5-1: Community Resources within the Project Area

Location on Figure*	Facility	Facility Type	Address
Segment A - Alexandria Route 1 South			
1	Watson Reading Room	Cultural	906 Wythe Street
2	Alexandria Black History Museum	Cultural	902 Wythe Street
3	Family Resource Learning Center	Educational	910 Montgomery Street
4	George Washington Middle School	Educational	1005 Mt. Vernon Avenue
5	Commonwealth Academy	Educational	1321 Leslie Avenue
6	St. Joseph's Church	Place of Worship	711 North Columbus Street
7	16 th Tabernacle	Place of Worship	634 North Patrick Street
8	St. John Baptist Church	Place of Worship	901 North Alfred Street
9	Fire Station No. 4	Public Safety	Powhatan Street
Segment B - Alexandria Route 1			
10	YMCA	Recreational	420 East Monroe Avenue
Segment C - Alexandria Potomac Yard			
No community resources located within this segment			
Segment D - Arlington Potomac Yard			
11	Ronald Reagan Washington National Airport	Government Services	George Washington Parkway
12	U.S. Patent and Trademark Library	Cultural	2021 South Clark Place
13	Devry University	Educational	2341 Jefferson Davis Highway
14	George Washington University Education Center	Educational	2231 Crystal Drive
Segment E - Arlington Crystal City			
11	Ronald Reagan Washington National Airport	Government Services	George Washington Parkway
15	United States Post Office	Government Services	1720 South Eads Street
Segment F - Arlington Pentagon			
16	High Technology Solutions	Educational	1600 South Eads Street
17	Keller Graduate School	Educational	1215 Jefferson Davis Highway

*See Figure 5-1

5.3 Potential Effects on Neighborhoods and Community Facilities

Under the No-Build Alternative, increasing vehicular traffic would affect the performance of the existing transit service along the entire CCPY Corridor. Access to community facilities and neighborhood cohesion would remain the same. The pedestrian environment would essentially remain the same, with the exception of planned improvements associated with separate projects. No parking would be displaced with the No-Build Alternative, unless part of another unrelated project.

No adverse effects to neighborhoods and community facilities are expected. The proposed transit service will run entirely on existing transportation right-of-way or on right-of-way donated as part of the development of Potomac Yard. The new service will provide enhanced access to neighborhoods and community facilities in the study area. No element of the proposed transit improvements would divide or separate the surrounding communities. Under the Build

Alternative, the pedestrian environment at and around proposed stops within the affected neighborhoods would be improved at determined locations.

Access to some buildings within the community could potentially be impacted under the Build Alternative. There is the potential for effects to properties abutting the alignment in segments where the new service would run in curbside bus lanes (Segments D, E, and F, and possibly Segment B). However, design of the bus lanes, lane markings, and mountable land barriers will ensure continued access to existing driveways. Some on-street parking would be lost for the development of improved bus stops and to provide bus lanes in some locations. Median busway lanes would have no effect on access to businesses along Route 1 and may improve access by transferring all bus traffic away from the curb areas near the existing access points.

Since the proposed transit improvements are planned largely in existing right-of-way and would require little or no construction, no adverse impacts are expected during construction. Access to neighborhoods and community facilities during construction will be maintained to the extent possible.

6.0 Land Use, Zoning, and Development Activity

This section presents a description of the land use, zoning, and development activity in neighborhoods adjacent to the proposed transit corridor.

6.1 Land Use

The Crystal City/Potomac Yard Corridor has a variety of land use patterns, ranging from single-family residential neighborhoods to the west of Route 1 in Alexandria and Arlington to dense mixed-use patterns in Pentagon City and Crystal City. Route 1 and other arterial roads serve as the commercial corridors for these neighborhoods.

Segment A - Alexandria Route 1 South

This segment is split by the southern end of Potomac Yard, the remaining rail line, and the Metrorail line. To the west, the neighborhood consists almost entirely of single-family detached housing. George Washington Middle School and its associated playing fields lie immediately west of the Braddock Road Metrorail Station and the rail lines. To the east, the area consists of a mix of light industrial uses and rowhouses, with some garden apartments and larger residential buildings (more than 50 units).

Segment B - Alexandria Route 1

To the west of Route 1, neighborhoods in this segment include Mt. Jefferson, Del Ray, and Oakville. To the east of Route 1 this segment includes Potomac Yard and the neighborhood of Potomac Greens (between the rail line and George Washington Memorial Parkway). The Mt. Jefferson and Del Ray neighborhoods consist of a mix of single-family detached homes, rowhouses, and garden apartments. Oakville is a small light-industrial section to the west of Route 1, bounded by the abandoned Washington and Old Dominion (WO&D) right-of-way and East Raymond Avenue. Potomac Yard, a former rail yard, is currently undergoing redevelopment as a mixed-use area with housing, offices, and retail. Potomac Greens is a residential neighborhood consisting entirely of rowhouses.

Segment C - Alexandria Potomac Yard

This segment includes the Arlandia, Hume Springs, Lynhaven, and Mt. Jefferson neighborhoods to the west of Route 1 and the Potomac Yard Shopping Center to the east of Route 1. The neighborhoods are primarily residential, with a large concentration of rowhouses and garden apartments.

Segment D - Arlington Potomac Yard

This segment includes the Arlington Ridge neighborhood to the west of Route 1, the Arlington portion of Potomac Yard to the east of Crystal Drive and a small section of Crystal City. Arlington Ridge is a residential neighborhood consisting almost entirely of single-family detached homes. Potomac Yard is currently being developed as a mix of dense office, residential, and retail uses. The section of Crystal City between Route 1 and Crystal Drive consists primarily of office buildings and hotels.

Segment E – Crystal City⁷

This segment includes the neighborhood of Aurora Highlands to the west of Route 1 and Crystal City to the east of Route 1. The Aurora Highlands neighborhood consists of primarily single-family detached homes and some garden apartments. Although close to 40 percent of the residents of Aurora Highlands live in buildings with 50 or more units, these buildings are clustered along Route 1 and South Eads Street close to Crystal City and Pentagon City. Land uses in Crystal City are almost entirely high-rise office and residential. Almost 95 percent of the residents of Crystal City live in buildings with 50 or more units.

Segment F – Arlington Pentagon

This segment covers the Pentagon, Pentagon City, and the northern portion of Crystal City. Land uses in Pentagon City (south of I-395 and west of Route 1) include a large shopping mall (the Fashion Centre at Pentagon City), 'big-box' retail (CostCo), and high-rise office and residential buildings. Close to 90 percent of the residents in this area live in buildings with 50 or more units. As described above, Crystal City consists almost entirely of high-rise office and residential buildings. The Pentagon covers most of the Project Area north of I-395. Land uses in this section are primarily office and parking.

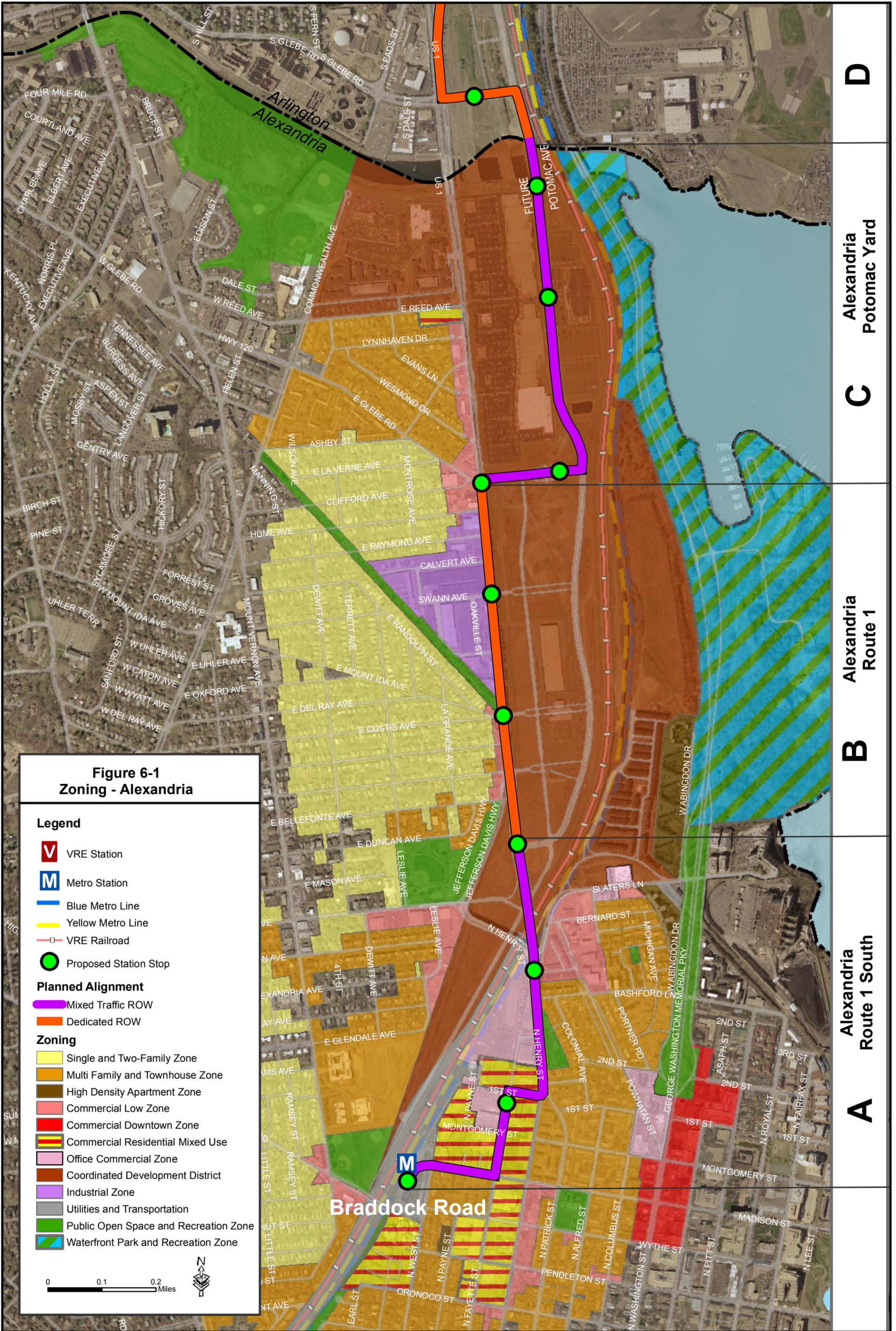
6.2 Zoning

Zoning for the districts encompassed by the CCPY Project Area varies from apartment and housing units to industrial and professional districts. Zoning in Alexandria outside of Potomac Yard is primarily residential, with some mixed use around the Braddock Road Metrorail Station and low-density commercial along the major arterials (Mount Vernon Avenue, Braddock Road, and Route 1). Zoning in Arlington consists of medium-density single family districts at the southern and western edge of the Project Area, higher density commercial, light industrial and residential districts in the strip on the western side of Jefferson Davis Highway, and high density office and apartment districts in Crystal City and Pentagon City. A map of zoning in the Project Area can be seen in Figures 6-1 and 6-2.

Segment A - Alexandria Route 1 South

Zoning for this segment encompasses a variety of allowed uses. The area to the west of the Braddock Road Metrorail Station is zoned primarily for single- and two-family residential. There is a small low-density commercial zone immediately west of the station along Braddock Road. Zoning to the east of the station is more mixed. Allowed uses include medium to high density mixed use, medium to high density office and commercial, and townhomes.

⁷ As a result of recent Base Realignment and Closure (BRAC) decisions by the federal government, a significant number of federal offices and employees will be relocated from Crystal City. To address the expected impact upon current land use and development, Arlington County has initiated a comprehensive planning process to develop a Concept Plan and Policy Framework that will guide the future redevelopment of the Crystal City area. This comprehensive planning process began in October 2006 and is scheduled to be completed in Spring 2007.



**Figure 6-1
Zoning - Alexandria**

Legend

- VRE Station
- Metro Station
- Blue Metro Line
- Yellow Metro Line
- VRE Railroad
- Proposed Station Stop

Planned Alignment

- Mixed Traffic ROW
- Dedicated ROW

Zoning

- Single and Two-Family Zone
- Multi Family and Townhouse Zone
- High Density Apartment Zone
- Commercial Low Zone
- Commercial Downtown Zone
- Commercial Residential Mixed Use
- Office Commercial Zone
- Coordinated Development District
- Industrial Zone
- Utilities and Transportation
- Public Open Space and Recreation Zone
- Waterfront Park and Recreation Zone

0 0.1 0.2 Miles



D
C
B
A

Alexandria
Potomac Yard

Alexandria
Route 1

Alexandria
Route 1 South

Segment B - Alexandria Route 1

Most of this segment to the west of Route 1 is zoned for single- and two-family residential, with low-density commercial zones along Route 1. The area west of Route 1 and bounded by the abandoned Washington and Old Dominion (W&OD) right-of-way and Raymond Avenue is zoned for industrial uses. Potomac Yard, to the east of Route 1, is a “coordinated development district,” meaning it is zoned for a mix of uses and requires a higher level of review and coordination among land owners.

Segment C - Alexandria Potomac Yard

To the west of Route 1, this segment is zoned primarily for medium-density residential uses (multifamily and townhomes), with a strip of low-density commercial along Route 1. The Arlandria neighborhood north of East Reed Avenue is zoned as a coordinated development district, in order to enable the community to realize its redevelopment goals as set forward in its community plan. The area to the east of Route 1, currently occupied by the Potomac Yard Shopping Center, is also zoned as a coordinated development district as part of the development of Potomac Yard.

Segment D - Arlington Potomac Yard

Zoning in this segment gradually allows for greater density and mix of uses from west to east. The single-family neighborhoods at the western edge of the Project Area are zoned primarily for single-family residential. Higher density multi-family residential is allowed between South Fern and South Eads streets, and the strip between South Eads Street and Jefferson Davis Highway is zoned for light industrial and commercial uses. To the east of Jefferson Davis Highway, the area is zoned for commercial offices, hotels, and apartment buildings.

Segment E – Arlington Crystal City

Outside of the single-family residential district at the western edge of the Project Area, this area is zoned for commercial, office, and high-density residential uses. West of Jefferson Davis Highway, zoning alternates between apartment districts and commercial business districts. East of Jefferson Davis Highway, the majority of Crystal City is zoned for high-density office use, with some multi-family residential along South Clark Street between 23rd and 20th streets.

Segment F – Arlington Pentagon

Most of Pentagon City is zoned for high-density office, hotel, and residential use. The block south of 12th Street South and between South Hayes and South Fern streets is zoned for light industrial uses, and the block south of 15th Street South between South Fern and South Eads streets is zoned for multi-family residential. To the east of Jefferson Davis Highway, the northern portion of Crystal City is zoned for high-density office use. The North Tract (north of 10th Street South) is zoned for light industrial uses.

6.3 Development

A number of areas throughout the CCPY Corridor are currently experiencing extensive development and redevelopment. Development is occurring or redevelopment is planned in the vicinity of the Braddock Road Metrorail Station, in Potomac Yard, Crystal City, and Pentagon City. Table 6-1 presents a summary of development activity within the Project Area.

Table 6-1: Development Activity in the Project Area

Site	Developer	Plans
Segment A - Alexandria Route 1 South		
The Madison (800 N. Henry St)	Capital Associates	20,000 square feet retail 45,000 square foot grocery store 260 dwelling units
Braddock Place Condominiums (Braddock Place)	Davis, Carter, Scott	1,650 square feet retail 120 dwelling units
Fayette Plaza (1219 1 st St)		2,400 square feet retail 90 dwelling units
600 block of North Fayette Street		140 dwelling units
The Monarch (500 N. Henry Street)	Diamond Properties, LLC	170 dwelling units
1 st Street and North Fayette Street		Condominiums and retail
Charles H. Houston Recreation Center (Madison and N Patrick streets)	City of Alexandria	30,000 square feet recreation center
Nordic Press Site (800-820 Slater's Lane)	Diamond Properties, LLC	30 dwelling units
Old Town Court (908 Slater's Lane)	Madison Homes, Inc.	10 dwelling units
Segment B - Alexandria Route 1		
Potomac Yard	Potomac Yard Development, LLC	1.8 million square feet office 135,000 square feet retail 1,800 dwelling units 600 hotel rooms
Segment C - Alexandria Potomac Yard		
Preston at Potomac Yard (181 E. Reed Avenue)	Abramson Properties	60 dwelling units
Segment D - Arlington Potomac Yard		
Eclipse on Center Park/Market Square on Center Park (Potomac Yard south of South Glebe Road)	Comstock	80,000 square feet retail 50,000 square foot grocery store 480 dwelling units
Camden Potomac Yard (Potomac Yard east of Potomac Avenue)	Camden, USA	4,120 square feet retail 390 dwelling units 150 storage units
Potomac Yard between South Glebe Road and 27 th Street South	Meridian Group	1.93 million square feet office 40,000 square feet retail 402,000 square feet residential 625 room hotel
One and Two Potomac Yard (eastern side of South Crystal Drive north of 27 th Street South)	Crescent Resources	645,500 square feet office 8,500 square feet retail
Airport Plaza (western side of South Crystal Drive north of 27 th Street South)	Gould Property Company	650 dwelling units
Segment E - Arlington Crystal City		
Century Center	Lowe Enterprises	8,260 square feet retail
22 nd Street South and South Eads Street	Archstone Smith	200 dwelling units
Segment F - Arlington Pentagon		
North Tract Lofts (10 th Street South)	Archstone Smith	180 dwelling units
10 th Street South	Monument Realty	700,000 square feet residential
Lofts 590 (15 th Street South and South Fern Street)	Archstone Smith	200 dwelling units
Metropolitan Park (North of 15 th Street South between South Fern and South Eads streets)	KSI	11,300 square feet retail 609 dwelling units

6.4 Potential Effects on Land Use, Zoning, and Development

Zoning patterns under the No-Build Alternative are expected to be similar to those of the existing condition as most neighborhoods adjacent to the CCPY Corridor are well developed. Under the No-Build Alternative, limitations in terms of available land area and land with available infrastructure will tend to shape where development occurs. Land use and zoning would remain the same or change according to proposed changes outlined in the Alexandria Master Plan and the Arlington County Comprehensive Plan. Each of these plans encourages development and/or redevelopment in already established areas as a way of optimizing the available land and infrastructure. As such, some areas within the CCPY Corridor may experience some refinement in zoning patterns to ensure land use compatibility in already developed areas and zoning changes in less developed areas to discourage inappropriate development.

No adverse effects to zoning or development are expected under the Build Alternative. The proposed transit service will operate on existing transportation right-of-way or on right-of-way donated by developers. No facilities will be constructed outside the right-of-way which might be inconsistent with current zoning. The proposed service is consistent with existing zoning and will enhance access to new development within the corridor.

There is the potential for effects to properties abutting the alignment in segments where the new service would run in curbside bus lanes (Segments D, E, and F, and possibly Segment B). However, design of the bus lanes, lane markings, and mountable land barriers will ensure continued access to existing driveways. Some on-street parking would be lost for the development of improved bus stops and to provide bus lanes in some locations. Median busway lanes would have no effect on access to businesses along Route 1 and may improve access by transferring all bus traffic away from the curb areas near the existing access points. Since the proposed transit improvements are planned largely in existing right-of-way and would require little or no construction, no adverse impacts are expected during construction.