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June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

Re: Application for General Land Use Plan Amendment
Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025

Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the "Applicant"), please accept this letter as a request for a General Land Use Plan amendment related to the Property.

Background

The Property contains approximately 2.38 acres and is developed with a 128-unit Days Inn hotel. The hotel was constructed in or around 1955. The Property is located at the intersection of North Pershing Drive and Arlington Boulevard, making it part of the *de facto* gateway into the Lyon Park neighborhood. The site is immediately bounded on the north by North Pershing Drive, on the east by an access drive, known as Wainwright Road, and Arlington Boulevard, on the south by the Washington & Lee Apartments, and on the west by North Wayne Street. Joint Base Myer-Henderson Hall is located across Arlington Boulevard to the east.

The Property is currently split-zoned. On the west, the Property is zoned to the C-2, Service-Commercial Business District. On the east, it is zoned to the RA6-15, Multiple-Family Dwelling District. The Property is not subject to a 4.1 Site Plan special exception. Instead, the existing hotel was developed by-right, as permitted under the Zoning Ordinance in the 1950s.

Similarly, the Property is not subject to any small area plan or sector plan guidance. However, the County Board adopted a Special General Land Use Plan study for the Property in July 2021. Currently, the Property is designated both as Service Commercial (on the west) and Low-Medium Residential (on the east). The Low-Medium Residential designation does not directly correspond to the Property's RA6-15 District zoning on the east.

Proposed Development

As more fully described on the attached plans prepared by Studios Architecture, Bowman Consulting, and LandDesign, the Applicant intends to develop the Property with a new, mixed-use multifamily residential building.

The proposed development responds directly to the Key Recommendations and Guiding Principles adopted in the Pershing Drive Special General Land Use Plan Study (the “Study”).

The Study recommends a mix of compatible uses on site. In line with the Study group’s preference for a residential use of the Property, the new building will contain up to 251 multifamily dwelling units. The units will vary in size and be interspersed across the several building floors. Ground floor walkout units are proposed along the Property’s eastern and southern façades, responding to the Study’s call for residential uses and entrances in these areas. These units will activate the streetscape along the revitalized Arlington Boulevard Trail and the new southern mews, while also providing a safety component by adding “eyes” on these areas. Along North Pershing Drive, the Applicant will add over 2,900 square feet of retail or retail equivalent space, in line with the Study’s guidance identifying this frontage as a “Gold” street under the Arlington County Retail Plan. The remainder of this frontage will be utilized as the building lobby and lounge area, which will wrap around and activate the corner, further defining the distinctive look and feel created by the building architecture and landscaping.

Building heights will vary to add visual interest to the skyline. In line with the Study’s guidance, the Applicant proposes the greatest building heights along Arlington Boulevard and at the center of the building, reaching eight (8) stories and nearly 90-feet. Along North Pershing Drive, the building will reach six (6) stories, while providing a stepback above the second floor to create a pedestrian-oriented feel at the ground level. While the lobby and blade sign cannot be directly preserved, due to construction and durability issues, the Applicant will pay homage to these features with a distinguishing lobby and new blade sign. The Applicant also intends to honor the site’s history in the branding for the building, to be known as “The Arva.” Distinctive landscaping in this area will further enhance the attractiveness of the corner. The combination of building height, architecture, landscaping, and homage to the site’s history will create a distinctive corner and complete the “gateway” into the neighborhood.

Primary access to the Property will occur from North Wayne Street. Vehicles will enter the shared mews to access the building’s garage. To facilitate loading activities, loading is proposed at the ground level, with through-block access for exiting vehicles onto North Pershing Drive. Vehicles may likewise exit onto the shared mews and out to North Wayne Street. The shared mews will also be available to pedestrians and bicyclists, who may utilize the mews to access the Arlington Boulevard Trail to and from the neighborhood. Along North Pershing Drive, the Applicant proposes to install protected bike lanes in the right of way. With the site redevelopment, the number of curb cuts along North Pershing Drive will be reduced to a single curb cut from the three existing today.

The Applicant will park residential uses at a ratio of one parking space per 0.80 dwelling units and retail uses at a ratio of one parking space per 580 square feet of retail use. The reduced parking ratio is justified in light of, among other things, substantial access to alternative transportation methods in the immediate vicinity of the Property, including, trails, bike lanes, and buses. On-site vehicle parking will primarily occur in a single-level below-grade garage. Parking for loft units and retail space is proposed at the ground level. These parking spaces will be integrated into the building design by (a) using the existing grade-features to place the parking below-grade along the eastern frontage and (b) wrapping the parking spaces with active, residential uses, so that they are not visible from public areas.

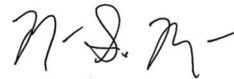
The Applicant is proposing substantial community benefits with this project. Among others, the Applicant intends to achieve (i) the transformation of Wainwright Road into a new greenway that is part of the Arlington Boulevard Trail network; (ii) a substantial onsite public open space of approximately 10,000 square feet; (iii) affordable housing; (iv) public art; (v) utility undergrounding; (vi) public right of way improvements, including

substantial curb cut reductions around the site perimeter; (vii) public transportation improvements, including the improvement of the off-site bus stop on Arlington Boulevard and off-site protected bike lanes; and (viii) green building certification at the LEED Gold level.

To implement this proposed development scheme, the Applicant is requesting (i) a General Land Use Plan Amendment to replan the site to “Low” Office-Apartment-Hotel, in line with the Study, (ii) to rezone the Property to the C-O-1.5, Mixed Use District, and (iii) a 4.1 Site Plan special exception application. By a separate filing, the Applicant is requesting to vacate various easements for utility purposes, which will be replaced in-kind with the proposed development. The Applicant is further requesting modifications from the Zoning Ordinance to: (a) permit bonus density for achieving LEED Gold certification, pursuant to Section 15.5.7.A.1; (b) permit bonus density pursuant to Section 15.5.8 in light of the substantial community benefits proposed; (c) reduce required parking ratios for the multifamily residential and retail uses; and (d) other modifications necessary to achieve the proposed development.

We look forward to your comments on these applications. Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

A handwritten signature in black ink, appearing to read "M.G. Roberts".

Matthew G. Roberts, Esq.
Counsel for Applicant



Matthew G. Roberts
D: 804.771.9570
mroberts@hirschlerlaw.com

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June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

**Re: Application for General Land Use Plan Amendment, Rezoning, and
4.1 Site Plan**
**Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025**

Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the “Applicant”), please accept this letter as a statement of justification in support of the enclosed applications for a General Land Use Plan amendment, rezoning, and 4.1 Site Plan related to the Property. With these applications, the Applicant will redevelop the Property as a mixed-use residential and retail building, completing the “gateway” into the Lyon Park neighborhood.

Background

The Property contains approximately 2.38 acres and is developed with a 128-unit Days Inn hotel. The hotel was constructed in or around 1955. The Property is located at the intersection of North Pershing Drive and Arlington Boulevard, making it part of the *de facto* gateway into the Lyon Park neighborhood. The site is immediately bounded on the north by North Pershing Drive, on the east by an access drive, known as Wainwright Road, and Arlington Boulevard, on the south by the Washington & Lee Apartments, and on the west by North Wayne Street. Joint Base Myer-Henderson Hall is located across Arlington Boulevard to the east.

The Property is currently split-zoned. On the west, the Property is zoned to the C-2, Service-Commercial Business District. On the east, it is zoned to the RA6-15, Multiple-Family Dwelling District. The Property is not subject to a 4.1 Site Plan special exception. Instead, the existing hotel was developed by-right, as permitted under the Zoning Ordinance in the 1950s.

Similarly, the Property is not subject to any small area plan or sector plan guidance. However, the County Board adopted a Special General Land Use Plan study for the Property in July 2021. Currently, the Property is designated both as Service Commercial (on the west) and Low-Medium Residential (on the east). The Low-Medium Residential designation does not directly correspond to the Property’s RA6-15 District zoning on the east. Finally, the Property is listed as “notable” under the Historic Resources Inventory.

Proposed Development

As more fully described on the attached plans prepared by Studios Architecture, Bowman Consulting, and LandDesign, the Applicant intends to develop the Property with a new, mixed-use multifamily residential building. The proposed development responds directly to the Key Recommendations and Guiding Principles adopted in the Pershing Drive Special General Land Use Plan Study (the “Study”).

The Study recommends a mix of compatible uses on site. In line with the Study group’s preference for a residential use of the Property, the new building will contain up to 251 multifamily dwelling units. The units will vary in size and be interspersed across the several building floors. Ground floor walkout units are proposed along the Property’s eastern and southern façades, responding to the Study’s call for residential uses and entrances in these areas. These units will activate the streetscape along the revitalized Arlington Boulevard Trail and the new southern mews, while also providing a safety component by adding “eyes” on these areas. Along North Pershing Drive, the Applicant will add over 2,900 square feet of retail or retail equivalent space, in line with the Study’s guidance identifying this frontage as a “Gold” street under the Arlington County Retail Plan. The remainder of this frontage will be utilized as the building lobby and lounge area, which will wrap around and activate the corner towards Arlington Boulevard, further defining the distinctive look and feel created by the building architecture and landscaping.

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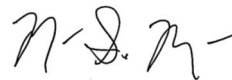
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We look forward to your comments on these applications. Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

A handwritten signature in black ink, appearing to read "M.G. Roberts".

Matthew G. Roberts, Esq.
Counsel for Applicant

Site Plan Specification Form

STAFF ENTRY:	
Assigned Site Plan Number	SP # TBD
PDSP Phase Number	
APPLICANT ENTRY:	
Form (Re)Submission Date	6/10/22
Project Title	The ARVA
Project Location	2201 Arlington Blvd., Arlington, VA 22201
Parcel RPC Numbers	18-059-020
DEVELOPMENT TEAM:	
Applicant	Arlington Boulevard, LLC
Address (incl. zip code)	6912 Elm St., McLean, VA 22101
Telephone Number (daytime w/area code)	804-771-9570
Contact	Nayan Patel
E-mail Address	naypatel@mac.com
Fax #	
APPLICATION MADE BY:	
	SEE ATTORNEY
Name	
Address (incl. zip code)	
Telephone Number (daytime w/area code)	
Contact	
E-mail Address	
Fax Number	
ATTORNEY:	
Firm	Hirschler
Address	8270 Greensboro Dr., Ste. 700, Tysons, VA 22102
Telephone Number	804-771-9570
Contact	Matthew G. Roberts, Esq.
E-mail Address	mroberts@hirschlerlaw.com
Fax #	
ARCHITECT:	
Firm	Studios Architecture
Address	1625 M St. NW, Washington, D.C. 20036
Telephone Number	202-736-5900
Contact	Ashton Allan
E-mail Address	aallan@studios.com
Fax #	

ENGINEER:	Bowman Consulting
Address	12355 Sunrise Valley Dr., Ste. 520, Reston, VA 20191
Telephone Number	703-464-1000
Contact	John Lutostanski
E-mail Address	jlutostanski@bowman.com
Fax #	
LANDSCAPE ARCHITECT:	
Firm	LandDesign, Inc.
Address	200 S. Peyton St., Alexandria, VA 22314
Telephone Number	703-549-7784
Contact	Gabriela Cañamar Clark
E-mail Address	gcanamar@landdesign.com
Fax #	
LEED CONSULTANT:	
Firm	Sustainable Building Partners
Address	2701 Prosperity Avenue, Ste. 100, Fairfax, VA 22031
Telephone Number	703-970-2890
Contact	Jennifer Wolf
E-mail Address	jennifer.wolf@sustainbldgs.com
Fax #	
TRAFFIC CONSULTANT:	
Firm	Gorove/Slade
Address	1140 Connecticut Ave NW, Ste. 600, Washington, D.C. 20036
Telephone Number	202-296-8625
Contact	Dan VanPelt
E-mail Address	dvanpelt@goroveslade.com
Fax #	
ADDITIONAL CONSULTANT(S):	
Firm	McMullan Consulting Engineers
Address	11800 Sunrise Valley Dr., Ste. 430, Reston, VA 20191
Telephone Number	703-556-0651
Contact	Colleen Nasta
E-mail Address	cnasta@mcmse.com
Fax #	

		Square Feet	Acres	
1.	A. Total Site Area	103,566	2.3775	
	B. Site Area in Existing Zoning Districts			
	1. District	C-2	65,723	1.51
	2. District	RA6-15	37,843	0.86
	3. District			
	4. District			
	5. District			
	C. Site Area in Proposed Zoning Districts			
	1. District	C-O-1.5	103,566	2.3775
	2. District			
	3. District			
4. District				
5. District				
2.	Site Area Allocated for Density Purposes To: (Attach exhibit of site area allocation when necessary)			
	A. Office			
	B. Commercial	1,684	0.0386	
	C. Hotel			
	D. Residential	101,820.95	2.3375	
	E. Other (specify)			
3.	Floor Area Ratio (FAR) inclusive of requested density bonuses and exclusions (GFA divided by site area for density purposes [for mixed use districts, the allocated site area])		FAR	
	A. Office			
	B. Commercial		1.75	
	C. Hotel			
	D. Residential		n/a	
	E. Other (specify)			
	Total			
4.	Dwelling Units Per Acre		107.4	
5.	Hotel Rooms Per Acre			
		Square Feet		
6.	Total Gross Floor Area			
	A. Office Use			
	1. Building 1			
	2. Building 2			
	3. Building 3			
	4. Building 4			
	5. Building 5			
	Total			
	B. Retail Use			
	1. Building 1	2,947		
	2. Building 2			

	3. Building 3					
	4. Building 4					
	5. Building 5					
	Total					
	C. Hotel Use	Square Feet		# Rooms		
	1. Building 1					
	2. Building 2					
	3. Building 3					
	4. Building 4					
	5. Building 5					
	Total					
	D. Residential Use	Square Feet		# Units		
	1. Building 1	266,010		251		
	2. Building 2					
	3. Building 3					
	4. Building 4					
	5. Building 5					
	Total					
	Affordable Housing Units					
	E. Other (specify)	Square Feet				
7.	Total # of Parking Spaces					
	A. Office Use	Standard	Compact	HC	Total	% Compact
	1. Building 1					
	2. Building 2					
	3. Building 3					
	4. Building 4					
	5. Building 5					
	Total					
	B. Retail Use					
	1. Building 1	5		1	6	0
	2. Building 2					
	3. Building 3					
	4. Building 4					
	5. Building 5					
	Total					
	C. Hotel					
	1. Building 1					
	2. Building 2					
	3. Building 3					
	4. Building 4					
	5. Building 5					
	Total					
	D. Residential					

	1. Building 1	164	33	4	201	16.4
	2. Building 2					
	3. Building 3					
	4. Building 4					
	5. Building 5					
	Total					
	E. Other (specify)					
8.	Type of Parking		# of spaces			
	A. Structured – Above grade					
	B. Structured – Below grade		145			
	C. Surface		62			
9.	Parking Ratio					
	A. # of Spaces per Office GFA	One space	per	Sq. Ft.		
	B. # of Spaces per Retail GFA	One space	per	580 Sq. Ft.		
	C. # of Spaces per Hotel Rooms	space(s)	per	One room		
	D. # of Spaces per Residential	0.8 space(s)	per	One unit		
	E. # of Spaces per Other (specify)	space(s)	per	Sq. Ft.		
10.	Building Height					
	A. Average Elevation of the Site in feet above sea level	236.04	Feet			
	B. Building Height in feet to Main Roof and Penthouse Roof					
	1. Office	Main Roof	Penthouse Roof	# Stories		
	a. Building 1					
	b. Building 2					
	c. Building 3					
	d. Building 4					
	e. Building 5					
	2. Retail					
	a. Building 1					
	b. Building 2					
	c. Building 3					
	d. Building 4					
	e. Building 5					
	3. Hotel					
	a. Building 1					
	b. Building 2					
	c. Building 3					
	d. Building 4					
	e. Building 5					
	4. Residential	Main Roof	Penthouse Roof	# Stories		
	a. Building 1	90'-0"	102'-0"	8		
	b. Building 2					
	c. Building 3					
	d. Building 4					

	e. Building 5		
	5. Other (Specify)		
	C. Building Elevation to Main Roof and Penthouse Roof (in feet above sea level)		
	1. Office	Main Roof	Penthouse Roof
	a. Building 1		
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	2. Retail		
	a. Building 1		
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	3. Hotel		
	a. Building 1		
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	4. Residential		
	a. Building 1	325'-8"	337'-8"
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	5. Other (Specify)		
	D. Retail slab-to-slab heights		
	1. Office	Height in Feet	
	a. Building 1		
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	2. Retail		
	a. Building 1	19'-7"	
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	3. Hotel		

	a. Building 1		
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	4. Residential		
	a. Building 1	10'-3"	
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	4. Residential		
	a. Building 1		
	b. Building 2		
	c. Building 3		
	d. Building 4		
	e. Building 5		
	5. Other (Specify)		
		Sq. Ft.	%
11.	Coverage and Percent Coverage	62,140	60
12.	Dimensions of Yards or Setbacks from right-of-way (for townhouse projects)		# Feet
	A. Front		
	B. Side		
	C. Side		
	D. Rear		
13.	Common Open Space (if required)		Square Feet
14.	Landscaped Area ("R-C", "C-O-A" and "C-R")		Square Feet
15.	Proximity to Metro Entrance (walking distance from main entrance to nearest station entrance) and proximity to regional and local bus service (walking distance from main entrance to bus shelter/ bus stop)		Feet Adjacent to bus stop on Arlington Blvd.; .8 mi to Clarendon Metro
16.	Requested Zoning Ordinance Modifications of Use Regulations (for example, density, height, parking, setback, coverage, etc.)		
	A. See Modifications Letter		
	B.		
	C.		
17.	Requested Encroachment(s) and/or Vacation(s). Include plat(s) showing exact locations and types. Vacations of utility easements		
18.	# LEED Credits	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/> Maybe <input type="checkbox"/>
19.	Historic District and/or Building	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

	Name of Building:	Arva Motel (now Days Inn)
	Address of Building:	2201 Arlington Boulevard, Arlington, VA 22201

Multimodal Transportation Assessment

2201 Arlington Boulevard

Arlington, Virginia

September 2, 2022

GOROVE SLADE
Transportation Planners and Engineers

Prepared by:



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This document, together with the concepts and designs presented herein, as an instrument of services, is intended for the specific purpose and client for which it was prepared. Reuse of and improper reliance on this document without written authorization by Gorove/Slade Associates, Inc., shall be without liability to Gorove/Slade Associates, Inc.

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Appendix D – Background Development Trips

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Appendix F – Removed Existing Site Peak Hour Traffic Volumes

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Executive Summary

The following report is a Multimodal Transportation Assessment (MMTA) for the 2201 Arlington Boulevard development in the Lyon Park neighborhood of Arlington, Virginia.

Site Location and Study Area

The proposed development site consists of a residential building with ground floor retail. The site is bounded by existing properties to the south, N Pershing Drive to the north, N Wayne Street to the west, and Arlington Boulevard to the east as shown in Figure 2. The general extents of the study area are N Pershing Drive to the north, 3rd Street N to the south, Arlington Boulevard to the east, and N Barton Street to the west.

The vehicular study area consists of 7 intersections along N Pershing Drive, N Wayne Street, and Arlington Boulevard as vetted and approved by Arlington County.

The existing site is generally comprised of a 128-room hotel and two (2) surface parking lots. The site is currently zoned as RA6-15 for the eastern portion of the site and C-2 for the western portion of the site and is shown as a “Low-Medium Residential” and “Service Commercial” land uses in the GLUP, respectively. As part of the proposed redevelopment, the site is proposed to be re-zoned from RA6-15 and C-2 to C-O-1.5, Commercial Office Building, Hotel, and Apartment District. The GLUP is also proposed to be amended to designate the site as “Low Office-Apartment-Hotel”, which is consistent with the designation identified in the Special GLUP Study adopted by the Board in July 2021.

Proposed Project

The proposed development will replace the existing hotel and surface parking lots with a total of approximately 251 residential dwelling units and 2,900 square feet of retail.

The proposed building will be served by 207 on-site parking spaces which will be provided in a garage. Six (6) of the spaces will be designated for retail parking. The remainder of the spaces will be provided for the residential units, resulting in a parking ratio of 0.8 spaces per dwelling unit. Per the Arlington County Zoning Ordinance, the required parking ratio is 1.125 spaces per dwelling unit. The proposed development will provide residential parking at a ratio of 0.8 spaces per dwelling unit, meeting the practical needs of the development.

The proposed development will provide one (1) 30-foot loading berth and one (1) 40-foot loading berth for the residential

component; no loading is required for the retail component since it is not proposed to be more than 2,900 square feet. Loading for the proposed development will be located along the shared driveway. The number of on-site loading facilities will accommodate the practical needs of the development.

The shared driveway will provide vehicular access into the new building as well as the parking garage and loading dock. Vehicles will access the shared driveway from N Pershing Drive or N Wayne Street.

Policies and Goals

The Arlington County Master Transportation Plan (MTP), adopted in 2011 and updated in 2019, outlines goals to improve various modes of transportation throughout the County. Additionally, in 2021 the County Board adopted a Special GLUP Study document for the project site, which in the absence of an Area Plan provides a vision for the development of the site. The proposed development achieves the goals and policies of the MTP, the Special GLUP Study, and other guiding documents for the County.

Multi-Modal Overview

Transit

The site is well-served by transit with direct access to several local and regional bus lines. There are 15 bus stops within a quarter-mile of the site. These stops are directly served by WMATA (Metrobus) and Arlington Transit (ART). The project is located 0.8 miles from the Clarendon Metro Station which can be accessed via bus lines that travel directly to the project site. The County has also recently implemented several improvements to transit facilities and transit access near the proposed development.

Pedestrian

The existing pedestrian infrastructure surrounding the site provides an adequate walking environment. There are sidewalks and curb ramps along most primary routes to pedestrian destinations; however, there are several curb ramp and sidewalk deficiencies in the system within a quarter mile of the site. Planned improvements to the pedestrian infrastructure surrounding the site will improve pedestrian comfort and connectivity.

As a result of the proposed development, pedestrian facilities along the perimeter of the site will be improved by upgrading sidewalks adjacent to the site so that they meet or exceed

Arlington County and ADA standards. The project will reduce the number of curb cuts at the site, reducing the number of conflict points between site vehicular traffic and pedestrians.

Additionally, a new segment of the Arlington Boulevard Trail along the eastern frontage of the site will be constructed.

Bicycle

The site has access to several on-street and off-street bicycle facilities, including bicycle lanes on N Pershing Drive, on-street bicycle routes along N Barton Street and 3rd Street N, and the Arlington Boulevard Trail, which runs along the eastern frontage of the site.

Several bicycle facility improvements have been recommended by the Arlington Master Transportation Plan to be upgraded in the future. These include the addition of bicycle lanes along 10th Street S west of N Barton Street, as well as shared lane markings on 2nd Road N between N Cleveland Street and the Fillmore Park Trail and on 7th Street S between Washington Boulevard and N Highland Street.

As part of the proposed development, eastbound protected bike lanes will be provided on N Pershing Drive along the frontage of the project site. The segment of Arlington Boulevard Trail fronting the eastern edge of the project site will also be reconstructed to be a fully off-street facility, consistent with the recommendations of the Special GLUP Study.

Vehicular

The site is primarily accessible from a principal arterial, Arlington Boulevard (US Route 50), and a minor arterial, N Pershing Drive. The arterials create connections to Interstate 395 (I-395), Interstate 66 (I-66), and ultimately the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs as well as regional access to Interstate 95 (I-95). There are also collector and local roads which can be used to access the site directly. The proposed development will be accessed via a shared driveway on N Pershing Drive and N Wayne Street.

Existing Conditions

Intersection capacity analyses were performed for the morning and afternoon peak hours at study area intersections. Synchro version 10 was used to analyze the study intersections based on the *Highway Capacity Manual* (HCM) 2000 methodology.

The existing conditions analysis shows that many intersections and movements operate at an acceptable level of service during the morning and afternoon peak hours. However, of the seven

(7) intersections in the study area, one (1) intersection has one or more movements that operate at levels beyond Level of Service (LOS) E or better in one or more peak hour. LOS E is typically used as the acceptable LOS threshold in the County; although LOS F is generally accepted in urbanized areas if vehicular improvements would be a detriment to safety or to non-auto modes of transportation. The capacity analysis results also show that one (1) intersection has 95th percentile queues that exceed the available storage length in one or more peak hour in existing conditions.

Travel Demand Assumptions

Mode split (also called mode share) is the percentage of travelers using a particular type (or mode) of transportation when traveling. The main source of mode split information for this report was based on the Arlington County Mode Share Assumptions for the Route 50 Corridor, census data using Transportation Analysis Districts (TADs), the WMATA Ridership Survey, the Arlington Resident Study, and other approved transportation studies in the vicinity of the site. The following mode splits were assumed in the analysis as vetted and approved by Arlington County:

- Residential
 - Auto – 58%, Transit – 35%, Bike – 2%, Walk – 5%
- Retail
 - Auto – 20%, Transit – 30%, Bike – 10%, Walk – 40%
- Existing Hotel
 - Auto – 40%, Transit – 30%, Bike – 5%, Walk – 25%

Weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 10th Edition.

Trip generation for the existing hotel building is based on the 128 rooms. Hotel trip generation was calculated using the Land Use 310 (Hotel) using the setting/location of General Urban/Suburban.

Residential trip generation is based on a development program of 251 residential units and was calculated based on ITE Land Use 221 (Multifamily Housing – Mid Rise), using setting/location of General Urban/Suburban.

Ground floor retail trip generation is based on a development program of 2,900 square feet of ground floor retail space and

was calculated based on ITE Land Use 820 (Shopping Center), using the setting/location of General Urban/Suburban.

Trips were split into different modes using assumptions outlined in the mode split section of this report.

Future Improvements

A number of planned transportation improvements in the vicinity of the proposed 2201 Arlington Boulevard development are expected to be complete by 2026. The full list of improvements is detailed in the report, but projects include:

- Pershing Drive Complete Street Improvements
- Washington Boulevard Street Improvements
- N Barton Street Improvements

Future Traffic Operations

A capacity analysis was developed to compare the future roadway network without the proposed development to the future roadway network with the proposed development. Intersection capacity analyses were performed for the morning and afternoon peak hours at study area intersections. Synchro version 10 was used to analyze all the study intersections based on the *Highway Capacity Manual* (HCM) 2000 methodology.

Traffic projections for 2026 are based on existing volumes plus inherent growth on the roadway (representing regional traffic growth) and traffic generated by background developments expected to be completed prior to 2026 (representing local traffic growth). The methodology of using an inherent growth rate to account for regional growth and background development trips to account for local growth has been vetted and approved by the County.

Mitigations

Mitigation measures were identified based on Arlington County standards and as outlined in the approved scoping document (contained in the Technical Appendix). The proposed development is considered to have an impact at an intersection if any of the following conditions are met:

- The overall intersection or any movement operates at LOS F in the future conditions with the proposed development where it operates at LOS E or better in the background conditions without the proposed development;
- The overall intersection or any movement operates at LOS F during the background condition and the delay

increases by more than 10% in the future conditions with the proposed development; or

- If any 95th percentile queue length in the future condition exceeds the available capacity where it does not in the background conditions or increases the 95th percentile queue length by more than 150 feet where it already exceeds the available capacity in the background conditions.

Following these guidelines, no impacts were identified at the study intersections as a result of the proposed development.

Transportation Management Plan

A Transportation Management Plan (TMP) will be provided for the project based on the County's requirements, and a framework for a TMP is included in this report. This TMP will include typical components such as the establishment of a TMP coordinator, the distribution of transit literature, and the on-site sale of discounted fare media. Management measures taken by the 2201 Arlington Boulevard development project will be monitored and adjusted as needed to continually create opportunities to reduce the amount of vehicular traffic generated by the site.

Summary and Recommendations

This report concludes that the proposed development will not have a detrimental impact to the surrounding transportation and roadway network, assuming that all planned site design elements and recommended mitigation measures are implemented.

The development has many positive elements contained within its design that minimize potential transportation impacts, including:

- The proposed development's close proximity to multiple local and regional bus lines.
- Improvements to the pedestrian facilities adjacent to the site that meet or exceed Arlington County and ADA requirements.
- The project will reduce the number of curb cuts at the site, reducing the number of conflict points between site vehicular traffic and pedestrians.
- Improvements to on-street bicycle facilities around the site, including the addition of eastbound protected bicycle lanes on N Pershing Drive and upgrades to the Arlington Boulevard Trail along the eastern frontage of the site.

- The installation of short- and long-term bicycle parking spaces site that meet zoning requirements.
- A Transportation Management Plan (TMP) that aims to reduce the demand of single-occupancy, private vehicles to/from the proposed development during peak period travel times or shifts single-occupancy vehicular demand to off-peak periods.

Introduction

This report presents the findings of a Multimodal Transportation Assessment (MTA) conducted for the proposed 2201 Arlington Boulevard development in Arlington, Virginia.

The development site currently consists of an existing 128-room hotel and two (2) surface parking lots. The proposed development will redevelop the site to include a total of approximately 251 residential dwelling units and 2,900 square feet of retail space. The proposed project build-out year is 2026.

The site is currently zoned as RA6-15 for the eastern portion of the site and C-2 for the western portion of the site and is shown as a “Low-Medium Residential” and “Service Commercial” land uses in the GLUP, respectively. As part of the proposed redevelopment, the site is proposed to be re-zoned from RA6-15 and C-2 to C-O-1.5, Commercial Office Building, Hotel, and Apartment District; the GLUP is also proposed to be amended to designate the site as “Low Office-Apartment-Hotel.”

Purpose of Study

The purpose of this study is to evaluate the transportation network in the vicinity of the site and identify any potential transportation impacts that may result from the proposed redevelopment. Elements of this report include a description of the proposed development, an evaluation of the existing multimodal transportation network, and evaluations of the future transportation network with and without the proposed development.

Study Tasks

The following tasks were completed as part of this study:

- A scoping form dated February 17, 2022, was submitted by Gorove Slade to Arlington County and accepted on April 6, 2022. This scope includes discussions about the parameters of the study and relevant background information. A copy of the scoping document is included in the Technical Appendix.
- Traffic counts, including bicycle and vehicular turning movements and pedestrian crossing counts, were conducted at the study area intersections on February 13, 2019 and May 25, 2022, during the morning and evening peak periods. Bicycle Average Daily Traffic (ADT) counts were also collected on May 25, 2022 at two locations on the Arlington Boulevard trail.
- As outlined in the scoping document, a number of proposed developments in the vicinity of the site were

assumed to be in place for the Background (2026) and Future (2026) Conditions.

- Proposed site traffic volumes were generated based on the methodology outlined in Trip Generation, 10th Edition published by the Institute of Transportation Engineers (ITE).
- Intersection capacity analyses were performed using the software package Synchro, Version 10 based on the Highway Capacity Manual (HCM) methodology. Traffic analyses were performed for existing conditions (2022) and future conditions (2026) with and without development.
- A Transportation Management Plan framework was developed as a TMP will be necessary to meet County requirements.

Project Summary

Site Location

The project site is located at 2201 Arlington Boulevard in Arlington, Virginia. Figure 1 shows the regional location of the project. The project site is bounded by existing properties to the south, N Pershing Drive to the north, N Wayne Street to the west, and Arlington Boulevard to the east. The site location is shown in Figure 2.

Parcel Information

The existing site is currently occupied by a 128-room hotel and two (2) surface parking lots. A parcel map showing the location of the property is shown in Figure 3.

General Land Use Plan Recommendations

According to Arlington County’s General Land Use Plan (GLUP), this site is listed as a low-medium residential and service commercial land uses. As part of the proposed development, the GLUP is proposed to be amended to designate the site as “Low Office-Apartment-Hotel,” which is consistent with the designation proposed in the Special GLUP Study. The site location on the existing GLUP map (prior to the proposed GLUP amendment) is shown in Figure 4.

The site is currently zoned as RA6-15, Apartment Dwelling District, on the eastern portion of the site and C-2, Service Commercial – Community Business District, on the western portion of the site. As part of the proposed redevelopment, the site is to be re-zoned from RA6-15 and C-2 to C-O-1.5, Commercial Office Building, Hotel, and Apartment District. The zoning map is shown in Figure 5.

Proposed Site Plan

The proposed development site currently consists of a 128-room hotel and two (2) surface parking lots. The proposed development will redevelop the site to include a total of approximately 251 residential dwelling units and 2,900 square feet of retail.

The proposed building will be served by 207 on-site parking spaces which will be provided in a garage. Six (6) of the spaces will be designated for retail parking. The remainder of the spaces will be provided for the residential units, resulting in a parking ratio of 0.8 spaces per dwelling unit. Per the Zoning Ordinance, the parking ratio requirement is 1.125 spaces per dwelling unit, however, a ratio of 0.8 will meet the practical needs of the development. Thirty-three (33) of the residential spaces (approximately 16 percent) are compact parking spaces, greater than the threshold for compact spaces established by § 14.3.3.F of the Zoning Ordinance of 15 percent. The Applicant is requesting a zoning modification to allow for a greater number of compact parking spaces to be provided.

Vehicular access to the site will be provided via the proposed driveways on N Pershing Drive and N Wayne Street. The development will provide two (2) loading berths at the ground level. East of the loading berths, vehicles can turn from the thru-block access drive into the parking garage where there will be a ramp down to the P2 level.

The proposed site plan is shown in Figure 6.

Scope and Limits of the Study Area

The study area is generally bounded by existing properties to the south, N Pershing Drive to the north, N Wayne Street to the west, and Arlington Boulevard to the east. The following intersections were identified for inclusion in the vehicular study area, as shown in Figure 7.

1. N Pershing Drive and N Barton Street
2. N Pershing Drive and N Wayne Street
3. N Pershing Drive and Wainwright Road
4. N Pershing Drive and Arlington Boulevard
5. N Wayne Street and 3rd Street N
6. N Wayne Street and Site Driveway (Planned)
7. N Pershing Drive and Site Driveway (Planned)

Data Sources

Sources of data for this study include Arlington County, the Virginia Department of Transportation (VDOT), the Institute of Transportation Engineers (ITE) Trip Generation, 10th Edition,

Census Transportation Planning Products (CTPP), STUDIOS, Bowman, and the office files and field reconnaissance efforts of Gorove Slade.

Contents of Study

This report contains ten (10) chapters as follows:

- Study Area Overview
This chapter reviews the area near and adjacent to the project and includes an overview of the site location.
- Transit
This chapter summarizes the existing and future transit service adjacent to the site, reviews how the project's transit demand will be accommodated, outlines impacts, and presents recommendations as needed.
- Pedestrian Facilities
This chapter summarizes existing and future pedestrian access to the site, reviews walking routes to and from the project site, outlines impacts, and presents recommendations as needed.
- Bicycle Facilities
This chapter summarizes existing and future bicycle access to the site, reviews the quality of cycling routes to and from the project site, outlines impacts, and presents recommendations as needed.
- Project Design
This chapter reviews the transportation components of the project, including the site plan and access.
- Travel Demand Assumptions
This chapter outlines the travel demand of the proposed project. It summarizes the expected mode splits and multimodal trip generation of the project.
- Traffic Operations
This chapter provides a summary of the existing roadway facilities and an analysis of the existing and future roadway capacity in the study area. It summarizes the routing assumptions used in the analysis. This chapter highlights the vehicular impacts of the project, including presenting mitigation measures for minimizing impacts as needed.
- Crash Data Review
This chapter reviews the findings of a crash data analysis of adjacent intersections and frontage of the proposed project.
- Transportation Management Plan
This chapter outlines the components of the proposed development's Transportation Management Plan (TMP).

- Summary and Conclusions

This chapter presents a summary of the recommended mitigation measures by mode and presents overall findings and conclusions.

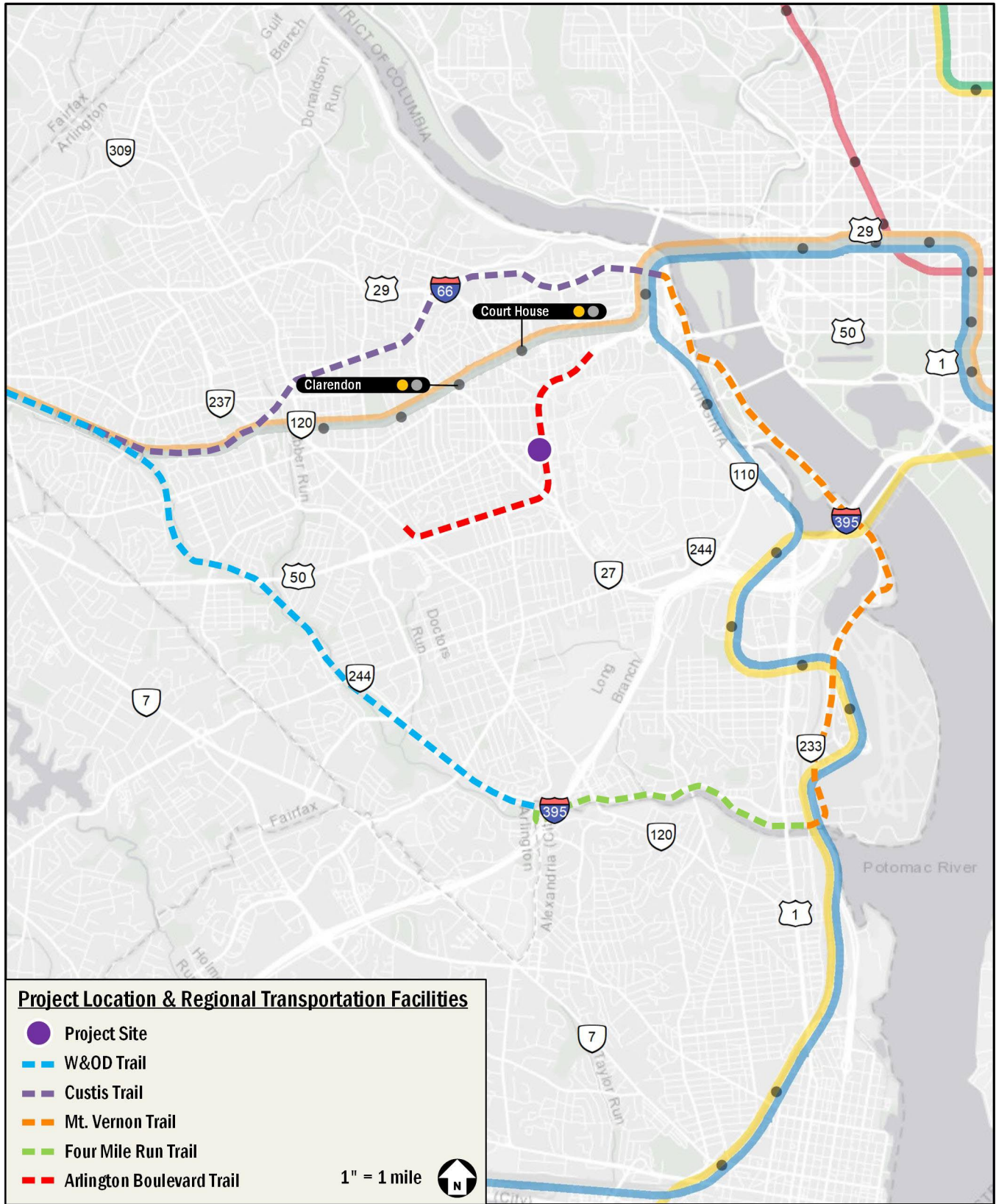


Figure 1: Major Regional Transportation Facilities

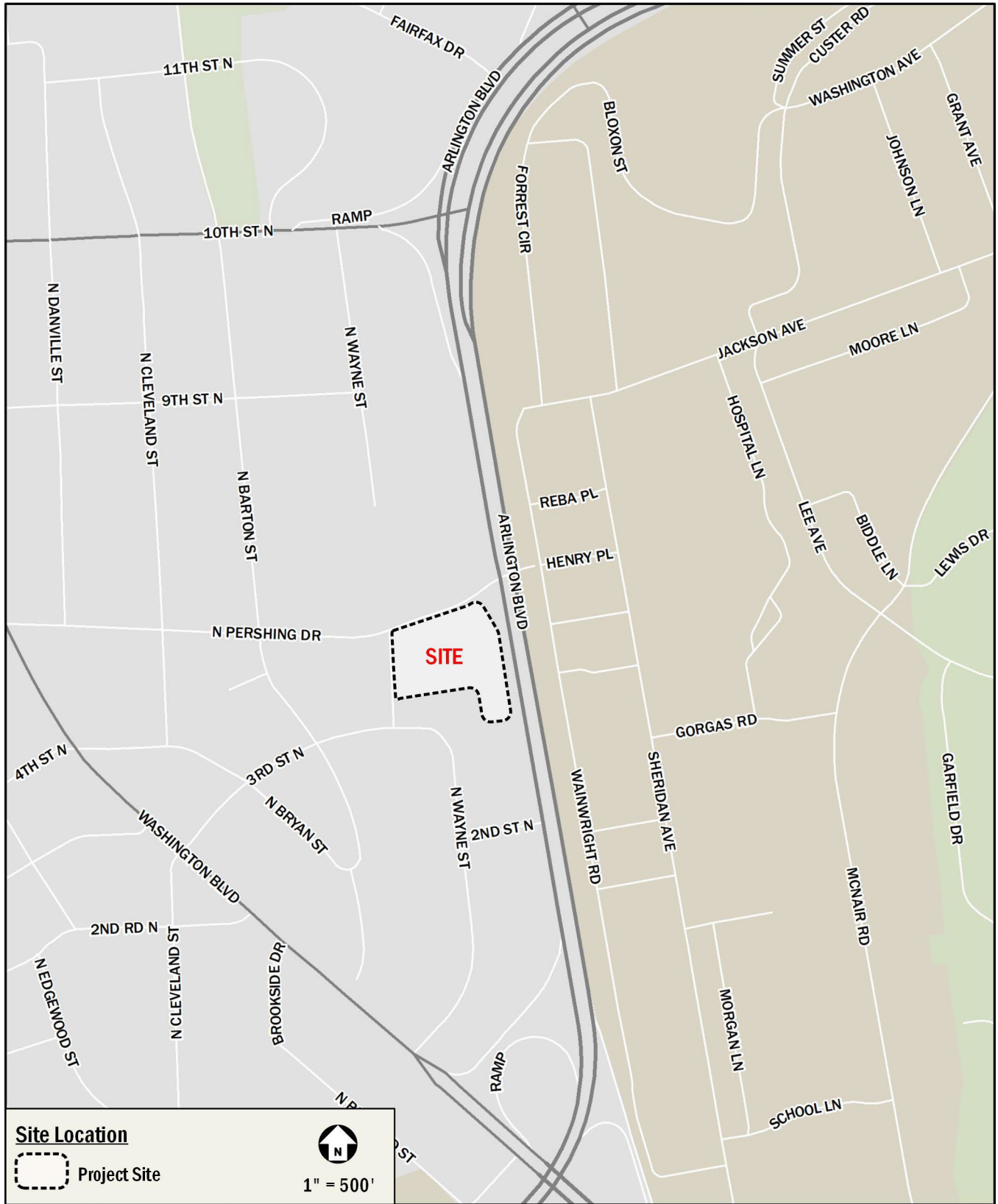


Figure 2: Site Location

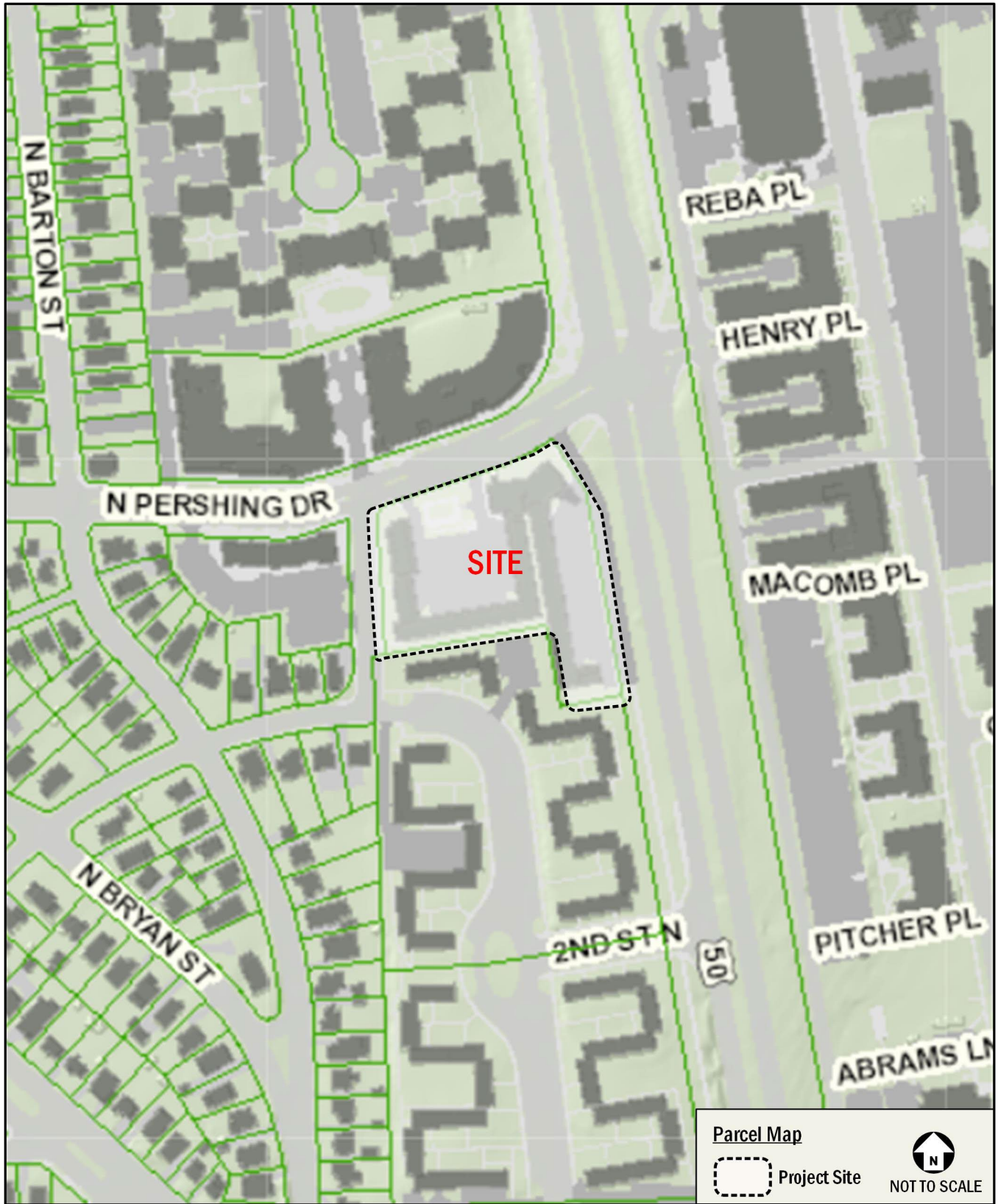


Figure 3: Parcel Map (Source: Arlington County Real Estate Map, June 2022)

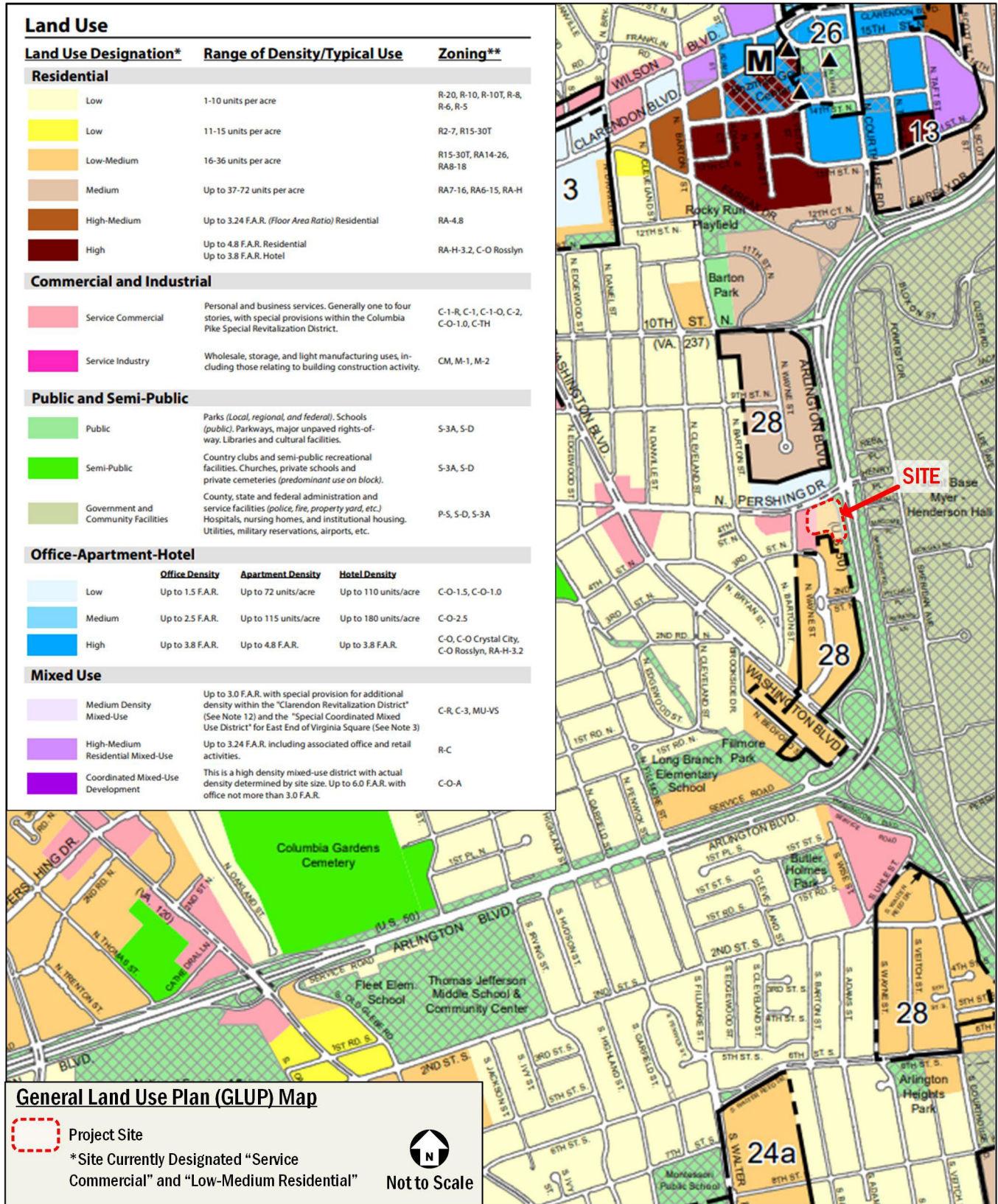


Figure 4: Planned Land Uses (Source: Arlington General Land Use Plan (GLUP), December 2021)



Figure 5: Zoning Map (Source: Arlington County)

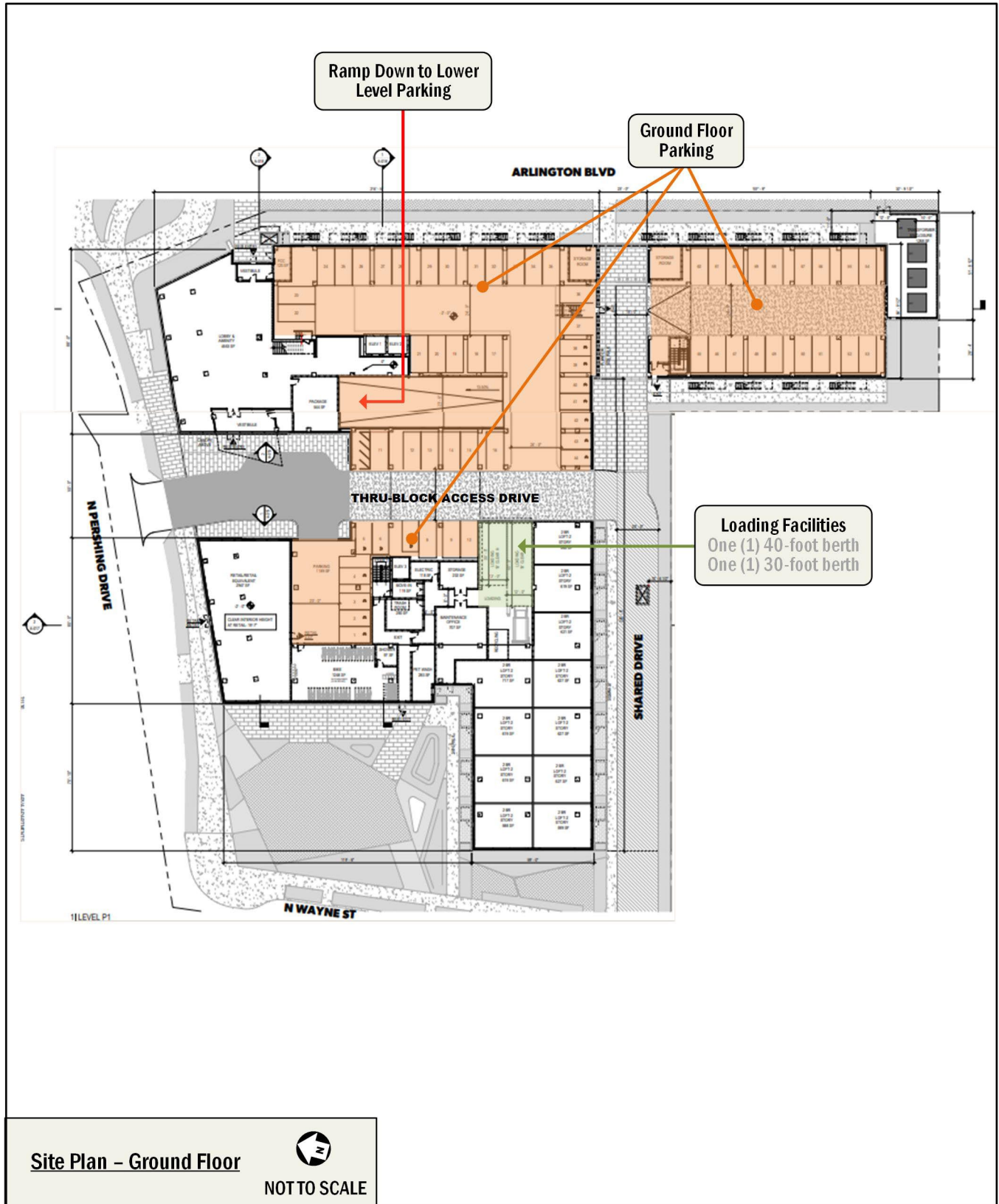


Figure 6: Site Plan – Ground Floor

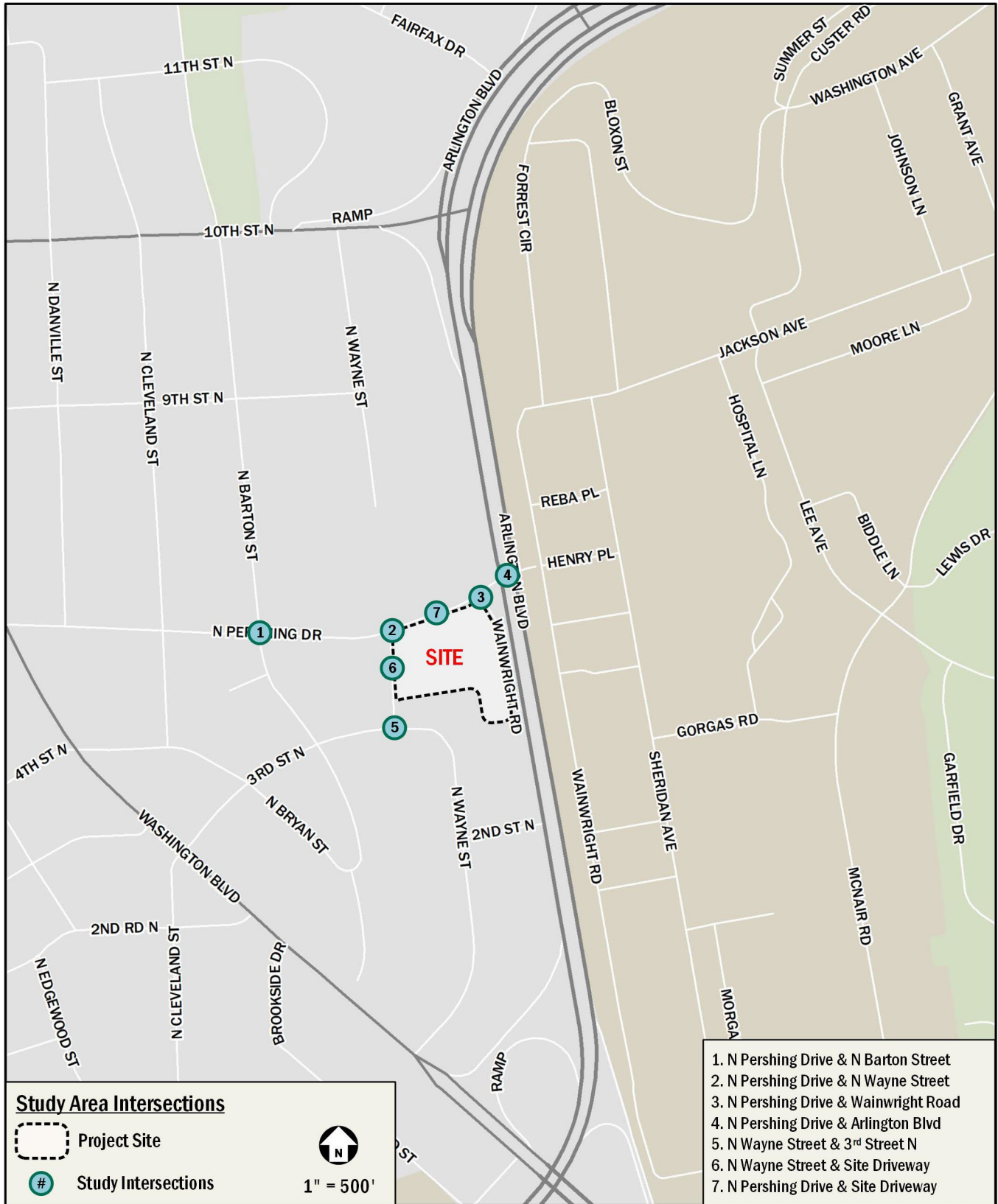


Figure 7: Study Intersections

Study Area Overview

This chapter reviews the existing conditions of the surrounding transportation network and includes an overview of the site location, including a summary of the major transportation characteristics of the area and of future regional projects. Detailed characteristics of each mode and their subsequent study areas will be defined in the following chapters.

The following conclusions are reached within this chapter:

- The site is surrounded by an extensive regional and local transportation system that will accommodate the residents, employees, and patrons of the proposed development.
- The site is well-served by public transportation with access to the Metrorail's Orange and Silver lines and several local and regional bus lines.
- The site is surrounded by a well-connected pedestrian environment. In the vicinity of the site, sidewalks generally meet standards recommended by the Arlington County Master Transportation Plan with some gaps in the system.
- The site has access to several on-street and off-street bicycle facilities, including bicycle lanes on N Pershing Drive, on-street bicycle routes along N Barton Street and 3rd Street N, and the Arlington Boulevard trail.

Major Transportation Features

Overview of Regional Access

Under existing conditions, the proposed development site has ample access to regional vehicular and transit-based transportation options, as shown in Figure 1, that connect the site to destinations within Virginia, the District, and Maryland.

The site is accessible from a principal arterial, Arlington Boulevard (US Route 50), and from a minor arterial, N Pershing Drive. The arterials create connections to Interstate 395 (I-395), Interstate 66 (I-66), and ultimately the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs as well as regional access to Interstate 95 (I-95). There are also other minor arterials, collectors, and local roads which can be used to access the site directly.

The project site has access to the Orange and Silver Lines via the Clarendon Metrorail, located approximately 0.8 miles from the site, or via the Court House Metrorail, located approximately 0.9 miles from the site. The Orange and Silver Lines directly

connect Arlington County and Fairfax County in Virginia; the District of Columbia; and Prince George's County in Maryland. Both lines provide connections to the Red Line, which provides a direct connection to Union Station, a hub for commuter rail – such as Amtrak, MARC, and VRE – in addition to all other Metrorail lines, allowing access to much of the DC Metropolitan area.

The Arlington Boulevard trail runs along the eastern frontage of the proposed development site. The trail is an approximately 2.2-mile off-street bicycle trail running along Arlington Boulevard between N Rhodes Street and N Glebe Road. The trail extends to the east from Glebe Road and connects to the Court House and Rosslyn neighborhoods, and can be used to access the District, Mount Vernon Trail, and the Custis Trail.

Overall, the site has access to several regional roadways, transit, and bicycle options, making it convenient to travel between the site and destinations in the Virginia, the District, and Maryland.

Overview of Local Access

There are several local transportation options near the site that serve vehicular, transit, walking, and cycling trips under existing conditions, as shown on Figure 8.

In addition to the principal arterial, the site is served by a local vehicular network that includes several minor arterials and collectors such as N Pershing Drive, Washington Boulevard, N Barton Street. In addition, there is an existing network of local roadways that provide access to the site.

Several bus routes provide local transit service in the vicinity of the site, including connections to several neighborhoods within Virginia, the District, and additional Metrorail stations. As shown in Figure 8, there are multiple bus routes that serve the site. In the vicinity of the site, the majority of routes travel along Arlington Boulevard, N Barton Street, N Pershing Drive, and Washington Boulevard.

There are existing bicycle facilities that connect the site to areas within Arlington, Virginia, and the District, most notably the Arlington Boulevard trail. There are bike lanes on N Pershing Drive and N Barton Street north of 10th Street N. There are also on-street bicycle routes on 3rd Street N and N Barton Street. A detailed review of existing and proposed bicycle facilities and connectivity is provided in a later chapter of this report.

In the vicinity of the site, most sidewalks meet the Americans with Disabilities Act (ADA) standards and standards recommended by the Arlington Master Transportation Plan. Anticipated pedestrian routes, such as those to public transportation stops, retail zones, nearby residential areas, and community amenities, provide well-connected pedestrian facilities. A detailed review of existing and proposed pedestrian access and infrastructure is provided in a later chapter of this report.

Overall, the site is surrounded by an extensive local transportation network that allows for efficient transportation options via transit, bicycle, walking, or vehicular modes.



Figure 8: Major Local Transportation Facilities

Car-Sharing

Car-sharing service in Arlington is provided by Zipcar. This is a private company that provides registered users access to a variety of automobiles. Zipcar has designated spaces for their vehicles. There are no Zipcar locations within 0.5 mile of the site; however, five (5) Zipcar locations are located within 0.75 miles of the site. These locations and the number of available vehicles are listed in Table 1.

Table 1: Carshare Locations

Zipcar Carshare Location	Number of Vehicles
11 th Street N and N Highland Street	3 vehicles
8 th Road N and N Jackson Street	1 vehicle
14 th Street N and N Barton Street	3 vehicles
14 th Street N and N Uhle Street	2 vehicles
14 th Street N and N Courthouse Road	2 vehicles

E-Scooters and Dockless E-Bicycles

Five (5) electric-assist scooter (e-scooter) and electric-assist bicycle (e-bike) companies provide Shared Mobility Device (SMD) service in Arlington County: Bird, Helbiz, Lime, Link/Superpedestrian, and Spin. These SMDs are provided by private companies that give registered users access to a variety of e-scooter and e-bike options. These devices are used through each company-specific mobile phone application. Many SMDs do not have designated stations where pick-up/drop-off activities occur like with Capital Bikeshare; instead, many SMDs are parked in public space, most commonly in the “furniture zone” (the portion of sidewalk between where people walk and the curb, often where you’ll find other street signs, street furniture, trees, parking meters, etc.). At this time, SMD pilot/demonstration programs are underway in Arlington County, the District, Fairfax County, the City of Alexandria, and Montgomery County.

Walk Score and Bike Score

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions for an area. This project location has a walk score of 76 (or “Very Walkable”), transit score of 59 (or “Good Transit”), and a bike score of 81 (or “Very Bikeable”). Figure 9 displays a heat map for walkability and bikeability.

The site is situated in an area with a “Very Walkable” walk score because of the abundance of neighborhood serving retail locations, where daily errands can be completed by walking.

The proposed development is located in an area with a “Good Transit” transit score based on its proximity to several bus lines along Arlington Boulevard and N Pershing Drive.

The site is situated in an area that received a “Very Bikeable” score due to its proximity to low volume roadways, a number of bike lanes and trails, including Arlington Boulevard trail, and flat topography.

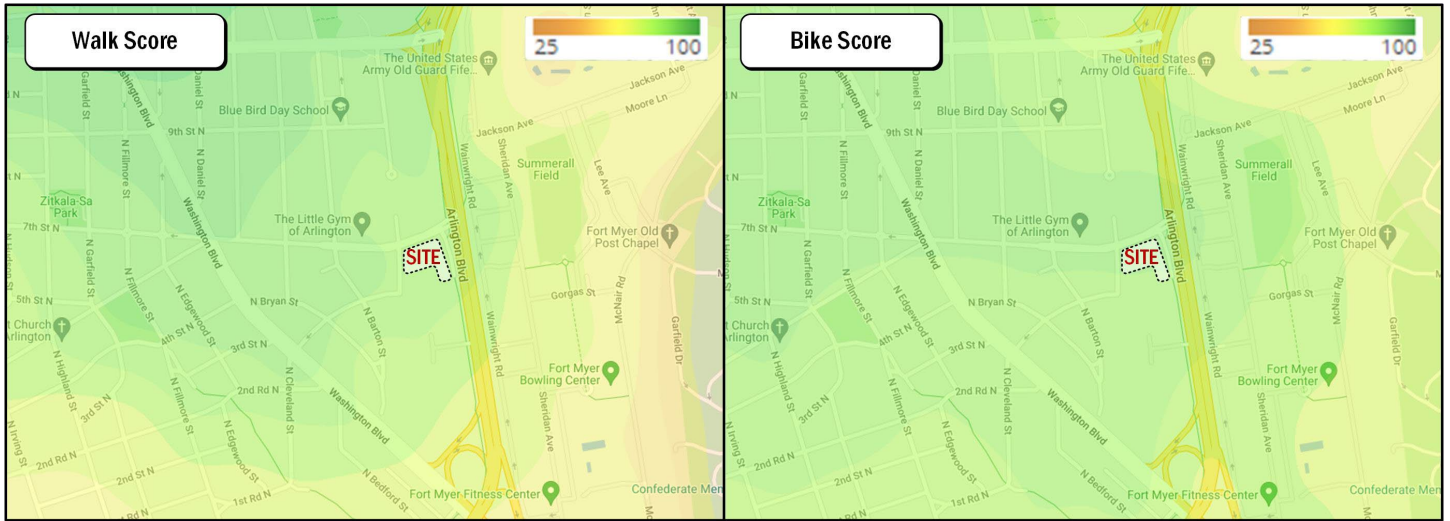


Figure 9: Walkscore and Bikescore Map

Future Projects

There are several County-wide initiatives, local initiatives, and planned improvements located in the vicinity of the site. These planned projects are summarized below.

County-Wide Initiatives

Arlington Master Transportation Plan (2019)

The Arlington County Master Transportation Plan (MTP), adopted in 2011 and updated in 2019, outlines goals to improve various modes of transportation throughout the County. The MTP identifies goals and objectives for each mode to improve safety and access for all users, particularly for pedestrians, bicyclists, and transit users. The Arlington Master Transportation Plan's recommended policies for transportation in the County that apply to the 2201 Arlington Boulevard development are outlined as follows:

Streets (2016) – The County will address the street system and enhance the transportation network by: (1) Utilizing the plan's street typology to guide street planning and ensure each street type supports the general policies of complete streets and adjacent land uses; (2) Including appropriate facilities to meet and balance the needs of all modes; (3) Constructing/converting some local streets to a pedestrian priority or a shared street; (4) Accommodating travel growth through shifts to non-auto modes; (5) Designing streets to favor lower vehicular speeds; and (6) Maintaining a grid-style network to enhance connectivity. The planned improvements included in the MTP in the vicinity of the site are shown in Figure 10.

Transit (2016) – The County will address the transit system by: (1) Developing a Premium Transit Network of high-frequency service connecting major destinations; (2) Operating a Secondary Transit Network of fixed route services that improves access to destinations across Arlington; (3) Making transit more accessible and convenient to all through enhanced facilities and transit-oriented land use policies; (4) Improving Metrorail services and stations; and (5) Expanding pedestrian access to transit facilities.

Pedestrian (2011) – The County will address the pedestrian system by: (1) Completing the walkway network with appropriate facilities on both sides of arterial streets and at least one side of neighborhood streets; (2) Upgrading existing pedestrian facilities to comply with current standards; (3) Implementing measures

aimed at changing motorist behavior to manage vehicular speed and minimize vehicle/pedestrian conflicts; and (4) Developing strategies to encourage more people to walk.

Bicycle (2019) – The County will address the bicycle system by: (1) Making existing streets safer and more comfortable for bicycling by all users; (2) Expanding travel safety education programs; (3) Providing a network of low-traffic-stress bicycle routes that connect all land uses; (4) Accommodating bicycle infrastructure as part of all street improvement projects; (5) Establishing bicycles as a mainstream travel mode; and (6) Encouraging bicycle facilities, including parking, showers, and lockers. The improvements planned for the bicycle facilities surrounding the site as part of the Plan are shown in Figure 11.

Parking and Curb Space (2009) – The County will address the parking system by: (1) Prioritizing the use of curb space, matching the various types of uses to the most appropriate locations; (2) Promoting on-street parking within residential neighborhoods and on commercial streets to calm traffic; (3) Ensuring the minimum parking needs are met and limit excessive parking; (4) Discouraging off-street surface parking; and (5) Allowing reduced parking space requirements for new developments in close proximity to frequent transit service and requiring enhanced TDM measures.

Transportation Demand Management (2008) – The County will address transportation demand management by: (1) Incorporating comprehensive TDM plans for all site plans to minimize vehicular trips and maximize the use of other modes; (2) Exploring strategies and incentives to achieve TDM measures in existing private buildings; and (3) Applying TDM programs to non-work travel, as well as commuting, through marketing strategies.

A number of elements in the proposed development are consistent with these policies:

- Pedestrian:
 - Improvements to the adjacent sidewalks.
 - Construction of a new segment of the Arlington Boulevard trail along the eastern frontage of the site.
- Bicycle:
 - Short-term bicycle parking will be provided along the perimeter of the site.

- Secure, long-term bike parking will be provided in a bike room on the ground floor of the proposed building.
- Construction of a new segment of the Arlington Boulevard trail along the eastern frontage of the site.
- Parking and Curb Space:
 - On-site parking will be located off-street in the parking garage.
- Transportation Demand Management:
 - A TMP will be implemented for the development to discourage auto travel and encourage the travel by other modes.

The MTP also identifies the following recommendations in the vicinity of the 2201 Arlington Boulevard development:

- Transit:
 - Upgrade service frequency, span of service, reliability and quality along Primary Transit Network corridors.
 - Expand pedestrian access to transit facilities through measures such as improved sidewalks, new station entrances, upgraded street crossings, and new elevators and escalators.
- Bicycle:
 - Reconstruct portions of the Arlington Boulevard Trail, between Rosslyn and the Seven Corners area, to enhance user safety and usability. Reconstruction should include resurfacing to achieve a minimum 10-foot paved width, enhancing the crossings of highway ramps and providing contra-flow facilities for those sections of one-way service road that constitute parts of the trail. Evaluate installation of trail lighting.

In direct relation to the 2201 Arlington Boulevard development, these recommendations would create additional multi-modal capacity and connectivity to/from the site.

Local Initiatives

Pershing Drive Special GLUP Study

In July 2021, the County Board adopted a Special GLUP Study document for the project site. In the absence of an Area Plan, the Special GLUP Study provides a vision for the development of the project site. The key transportation-related recommendations from the Special GLUP Study include:

- *A shared street and mews concept is recommended for that portion of the site facing the Washington and Lee*

Apartments. Rather than turning its back on its neighbors, any new proposed building or buildings for this site should present an inviting facade along this edge with three to four story buildings, individual entrances, trees and landscaping. This area will also have a shared street that pedestrians and bicyclists can use to directly access the Arlington Boulevard Trail.

- *A fix-it station for bicyclists and a drinking fountain should be studied near the North Pershing Drive and Arlington Boulevard intersection, along with a micro-mobility hub.*
- *Remove Wainwright Road and replace with a 12-foot paved trail section of Arlington Boulevard trail with 2-foot unpaved shoulders to either side.*
- *Provide entrances and exits along both North Wayne Street and North Pershing Drive, with the North Wayne Street access point being the primary access point.*
- *On-site parking should be provided below-grade. Should limited above-grade parking be considered appropriate for the retail or retail equivalent businesses, it should be carefully screened so as not to be visible from any public roadway using architectural, landscaping or other techniques.*
- *Space for curbside management of bike parking, shared micro-mobility device facilities, safe pick-up and drop-off spots, and delivery and service vehicle parking should be considered. This general area could be a potential location for a micro-mobility hub. Micro-mobility hubs can provide access to multiple transportation options, such as scooters, e-bikes, car-sharing and bicycles, and organize them in one location (i.e. a designated parking area). These hubs could provide an area for fixing bicycles, too. Bringing micro-mobility devices to this area will potentially reduce vehicle usage and parking needs.*
- *With regards to the bus stop in front of the site, it is important to improve this stop, which is currently a gravel and dirt area on the edge of the Boulevard accessed across grass. This stop could benefit from a paved pad, sidewalk access and improved signage. This would not only enhance the stop aesthetically, but would also increase its safety and accessibility for users of all abilities. Currently the stop does not meet the County's ridership threshold for a bus shelter installation. This will be monitored and/or the developer can install and maintain a bus shelter as part of the development process.*

Figure 12 shows the transportation-related recommendations outlined by the Special GLUP Study. The 2201 Arlington Boulevard development is consistent with the Special GLUP Study's recommendations. The development includes a shared street (referred to as the Shared Drive) along the southern frontage of the site facing the Washington and Lee Apartments. The location of a potential mobility is being studied as part of the site design. The proposed development will remove Wainwright Road and replace it with a new, off-street segment of the Arlington Boulevard Trail. Access to the trail will be provided on both N Wayne Street and N Pershing Drive. The proposed development will also provide a 40-foot long bus pad with sidewalk access for the southbound bus stop on Arlington Boulevard on the eastern frontage of the site.

Lyon Park Neighborhood Conservation Plan (2019)

The Neighborhood Conservation Program, established in 1964, was created to improve and enhance Arlington neighborhoods. The goal of the program is to encourage residents to discuss and share ideas for improving the neighborhoods in which they reside. The program also provides funding for a variety of improvements, such as the installation of sidewalks, curbs and gutters, streetlights, and signs. Each neighborhood decides to develop a plan and when it is ready to initiate the update process; each plan typically serves a community for 10 years. The Lyon Park Neighborhood Conservation Plan was developed in 2019 and includes the project site and areas to the west.

Planned Improvements

Pershing Drive Complete Street Improvements

The Pershing Drive Complete Street Improvements project will reconfigure N Pershing Drive between N Piedmont Street and N Barton Street to improve multimodal safety and accessibility.

A pilot of safety and accessibility improvements was implemented along the segment between Washington Boulevard and N Barton Street in 2018, which included protected bike lanes, pedestrian improvements, and bus service improvements. Other improvements identified through this project will be implemented in three phases. Phase I is largely complete and includes improvements to the Washington Boulevard intersection, as well as several intersections to the west of Washington Boulevard. Subsequent phases will be implemented upon funding availability and include areas on N Pershing Drive east of Washington Boulevard.

In direct relation to the 2201 Arlington Boulevard development, the improvements implemented through this project will improve multimodal connectivity to/from the site and enhance multimodal safety in the area.

Lee Highway and Washington Boulevard Bus Stop Consolidation and Accessibility Improvements

The objective Lee Highway and Washington Boulevard Bus Stop Consolidation and Accessibility Improvements project is to improve the quality of bus stops and increase the efficiency of bus service along the Lee Highway and Washington Boulevard corridors.

The project finished construction in January 2020. Improvements made as part of the project include enhanced stop amenities, bus stop infrastructure, and consolidation of underutilized or closely spaced bus stops.

As it relates to the proposed development, this project affected several bus stops in the vicinity of the project site. The existing northbound and southbound bus stops on Washington Boulevard at N Pershing Drive were relocated from the near side to the far side of the intersection, and the northbound bus stop on Washington Boulevard at 3rd Street N was eliminated, as there is another nearby stop one block to the north, just south of N Bryan Street. These improvements will improve transit connectivity to the site by reducing bus travel times on routes serving the study area.

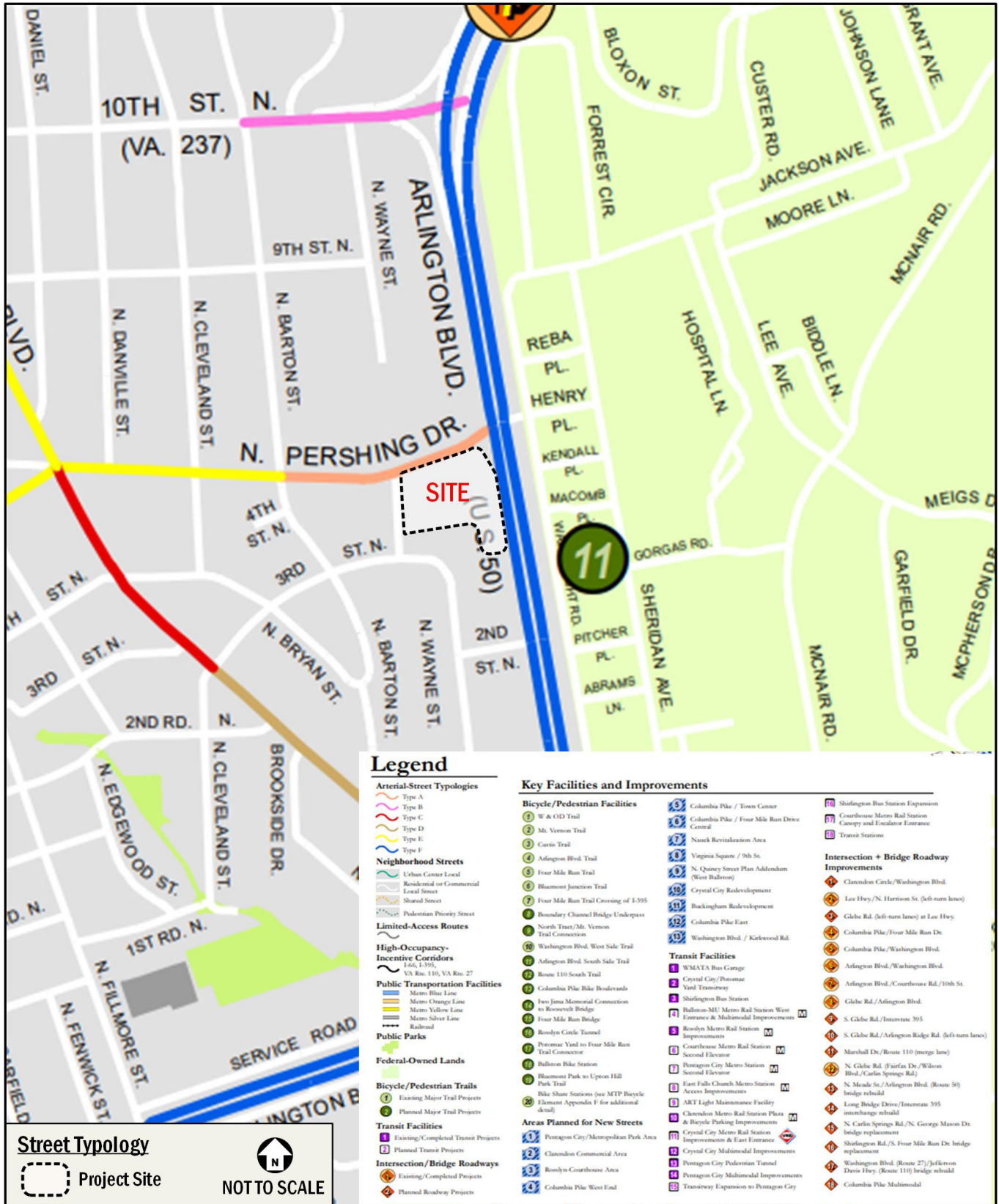


Figure 10: Street Typology (Source: Arlington Master Transportation Plan, 2019)

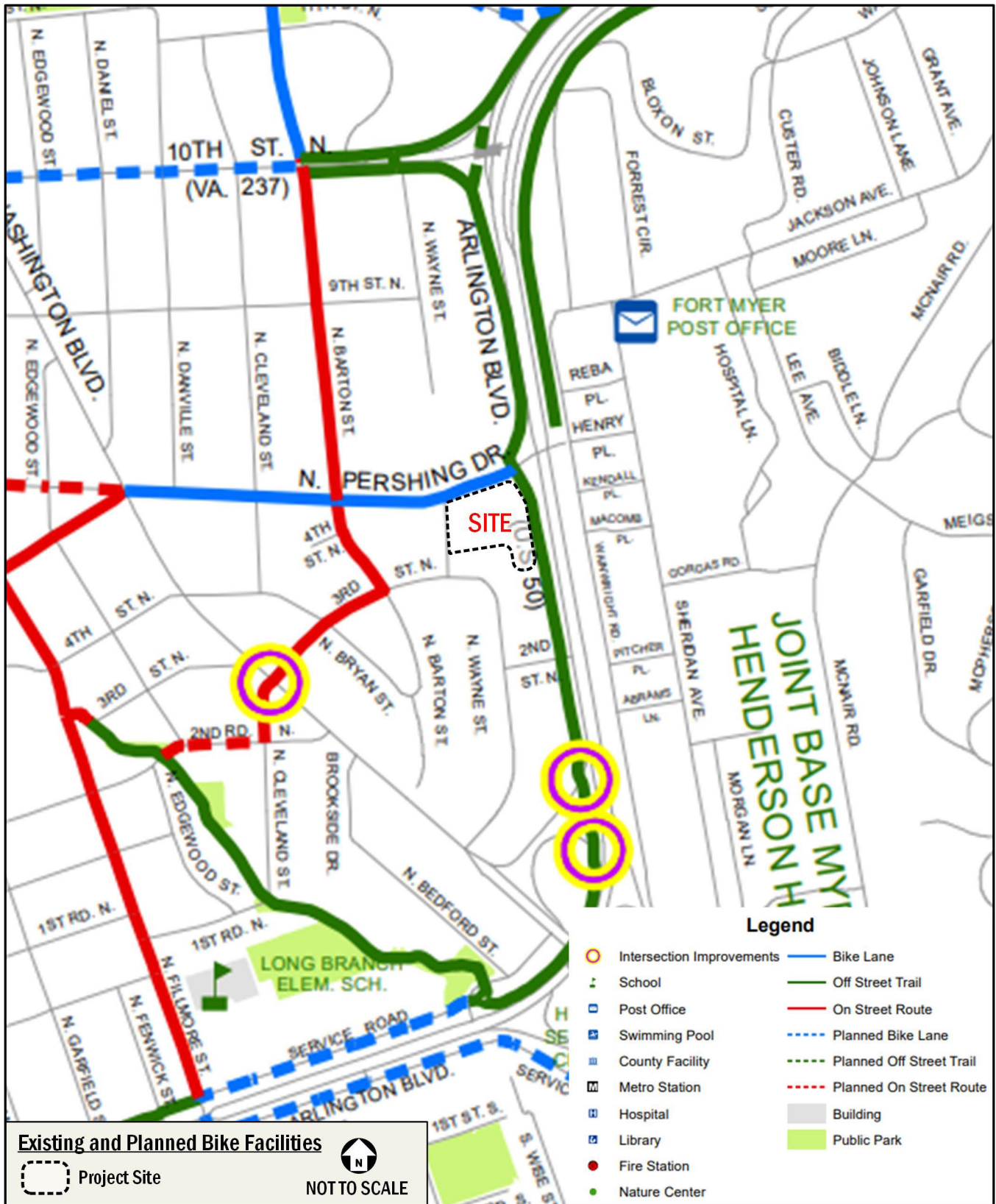
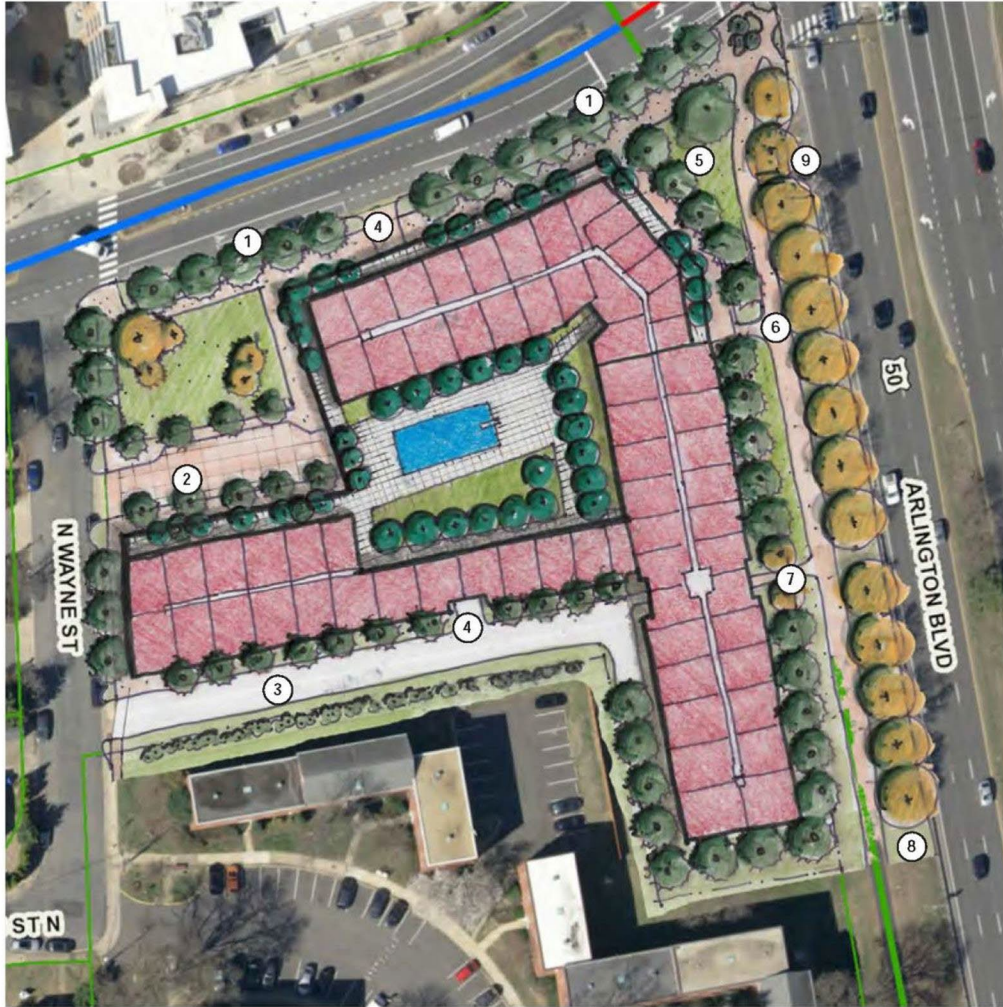


Figure 11: Existing and Planned Bike Facilities (Source: Arlington Master Transportation Plan, 2019)



- | | |
|--|---|
| <p>1 Protected Bike Lanes and Streetscape</p> <p>2 Driveway Plaza for Food Trucks, Drop-off, Retail Parking Access</p> <p>3 Shared Street/Mews</p> <p>4 Managed Access for Parking, Loading, and Service</p> | <p>5 Potential Mobility Hub</p> <p>6 Multi-Use Trail</p> <p>7 Pedestrian Connection and Potential Mobility Hub</p> <p>8 Emergency Vehicle Access Using Permeable Pavers</p> <p>9 Upgraded Bus Stop</p> |
|--|---|

Figure 6 -21 Transportation Opportunities Plan

Pershing Drive Special GLUP Study - Recommendations



Figure 12: Pershing Drive Special GLUP Study Recommendations (2021)

Project Design

This chapter reviews the transportation components of the 2201 Arlington Boulevard development, including the proposed site plan and access points. It includes descriptions of the site's vehicular access, loading, parking, bicycle, and pedestrian facilities.

The project site is located in the Lyon Park area of Arlington, Virginia. The project site is bounded by existing properties to the south, N Pershing Drive to the north, N Wayne Street to the west, and Arlington Boulevard to the east. The site location is shown in Figure 2. The proposed site plan for the redevelopment is shown in Figure 6.

The proposed development will include redeveloping an existing hotel and two (2) surface parking lots into a mixed-use development with a total of approximately 251 residential dwelling units and approximately 2,900 square feet of retail.

Approximately 207 parking spaces will be provided in at-grade parking as well as in a below-grade parking garage. The garage will be accessed from a shared driveway that runs through the site. The shared driveway can be accessed from the north on N Pershing Drive or from the west on N Wayne Street. Vehicles will enter the parking garage at the P1 level and will ramp down to the P2 level of the garage. A total of at least six (6) short-term bicycle parking spaces for residential use and two (2) short-term bicycle space for retail use will be located around the perimeter of the site.

Adjacent and Internal Roadways

Consistent with the MTP, the proposed development will provide safe and attractive multimodal infrastructure along the adjacent and internal roadways.

N Pershing Drive

As part of the proposed development, N Pershing Drive will be improved along the northern frontage of the site. N Pershing Drive is envisioned to be an approximately 98-foot wide, urban, tree-lined street that provides a safe pedestrian environment and accommodates multiple modes. Streetscape elements that contribute to this will include a bike lane on both sides with a buffer on the south side of N Pershing Drive, street parking on both sides, and wide sidewalks. Figure 13 shows the typical cross-section and design elements that can be expected along N Pershing Drive as part of the proposed development.

N Wayne Street

As part of the proposed development, N Wayne Street will be improved along the western frontage of the development site. N Wayne Street is envisioned to be an approximately 41-foot wide, urban street that provides a safe pedestrian environment and accommodates multiple modes. Streetscape elements that contribute to this include street parking on both sides and a wide sidewalk on the east side of N Wayne Street. Figure 14 shows the typical cross-section and design elements that can be expected along N Wayne Street as part of the proposed development.

Shared Drive

As part of the proposed development, the Shared Drive extends east-west from the proposed site driveway on N Wayne Street to the eastern end of the site at the Arlington Boulevard Trail. The Shared Drive is envisioned to be a 20-foot wide, shared street for vehicles, bicycles, and pedestrians. The curbless design will serve as a non-traditional traffic calming measure to limit vehicular speed through the use of non-traditional paving and streetscape elements.

Thru-Block Access Drive

As part of the proposed development, the Thru-Block Access Drive extends north-south from N Pershing Drive to the Shared Drive. The Thru-Block Access Drive is envisioned to be a 24-foot wide road which is partially covered by the proposed building. The Thru-Block Access Drive will be accessed from the Shared Drive and by a right in/right out entrance off of N Pershing Drive.

Arlington Boulevard

As part of the proposed development, Arlington Boulevard will be improved along the eastern frontage of the development site. Wainwright Road, which runs along the eastern edge of the project site, currently serves as an access road to the existing hotel and will be eliminated. The proposed development will construct a new segment of the Arlington Boulevard Trail along the eastern frontage of the site, connecting the two existing trail segments that were previously connected by an on-street, two-way bicycle lane on Wainwright Road. The new 12-foot wide trail segment will also connect to internal site pedestrian facilities, the Shared Drive, and residential entrances to the building. The trail will be separated from Arlington Boulevard with a landscape strip.

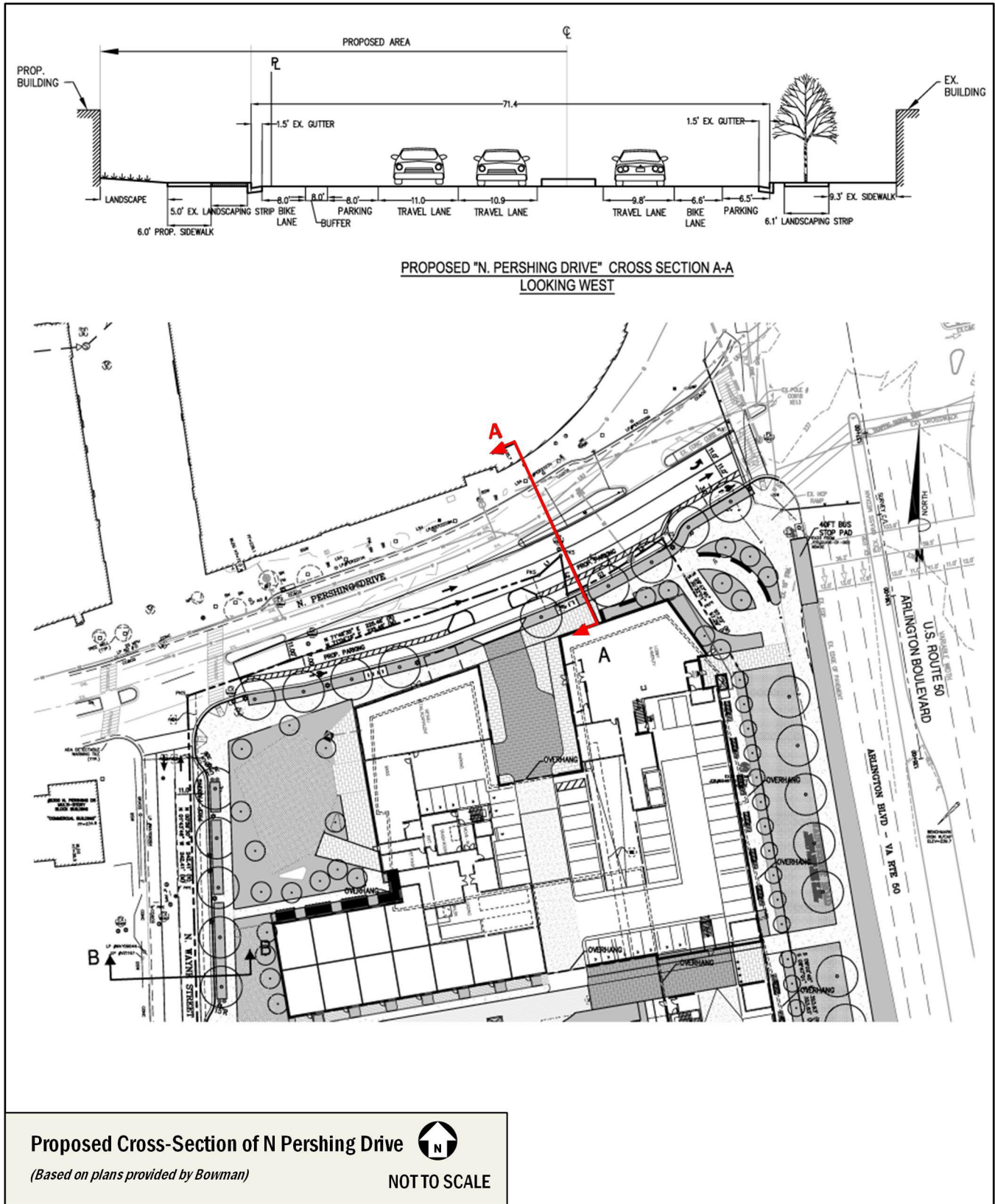


Figure 13: Proposed Cross Section of N Pershing Drive

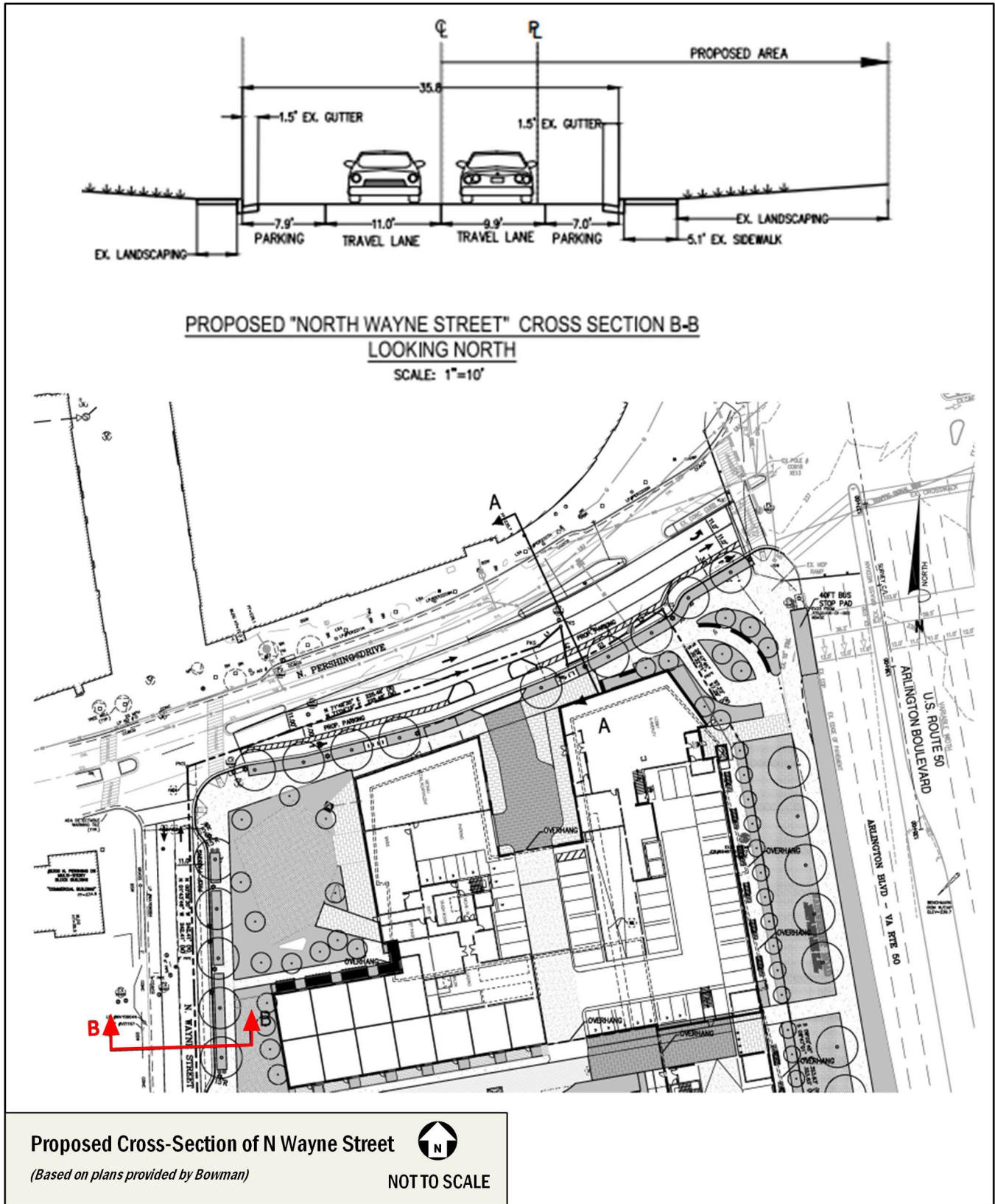


Figure 14: Proposed Cross Section of N Wayne Street

Site Access and Circulation

Pedestrian Access

The primary pedestrian access to the residential component will occur off of N Pershing Drive and Arlington Boulevard, as shown in Figure 15. Access to the retail component will occur off of N Pershing Drive. Additional pedestrian access to the development will occur along the internal Shared Drive on the site and via a trail connection from Arlington Boulevard Trail to the Shared Drive. Some ground floor residential units will be accessed via external doors to the building. A circulation plan showing expected pedestrian routes is shown in Figure 16.

Bicycle Access

Long-term bicycle parking for residents will be provided in a secure room on the ground floor of the building. Access to the bike room will be at the rear of the vehicular parking area along the shared drive just south of N Pershing Drive, as shown in Figure 16. Short-term bicycle parking spaces will be located along the site frontage on N Pershing Drive. Bicycle access to the site is primarily expected to occur via N Pershing Drive and the Arlington Boulevard Trail, and via the connection from the Arlington Boulevard Trail to the Shared Drive. A circulation plan showing expected bicycle routes is shown in Figure 16.

Vehicular Access

Vehicular access to the parking garage and loading facilities will be provided via the Shared Drive on N Wayne Street and the Thru-Block Access Drive on N Pershing Drive. The driveway on N Pershing Drive will be right-in/right-out only. Parking will be located on the ground floor of the building and on the P2 level below-grade.

Access to the loading facilities and parking garage is shown in Figure 15 and Figure 16. A circulation plan showing expected vehicular routes is shown in Figure 16.

Loading

Per the Zoning Ordinance, the following outlines the loading facility requirements for land uses of the development:

- Residential
Multifamily uses with more than 50 dwelling units are required to provide one (1) loading space for each 200 units.
- Retail

Buildings with over 2,900 square feet of retail space are required to provide one (1) loading space, with one (1) additional space for more than 15,000 square feet and one (1) additional space for more than 50,000 square feet.

Per these requirements, the proposed development is required to provide two (2) loading spaces for the residential component. No loading spaces are required for the retail component. The proposed development will provide one (1) 30-foot loading berth and one (1) 40-foot loading berth for the residential component. The number of on-site loading facilities will accommodate the practical needs of the development.

Parking

Based on Arlington County Zoning Ordinance (ACZO), the following outlines the vehicular parking requirements for land uses of the development:

- Residential
One and one-eighth (1.125) spaces for the first 200 dwelling units and one (1) space for each additional dwelling unit.
- Retail
One (1) space per 250 square feet of floor area on the first floor and one (1) space per 300 square feet of floor area located elsewhere in the building.

Residential Parking

Per the Zoning Ordinance, the proposed development is required to provide at least 276 parking spaces for residential use. The proposed development will provide 201 parking spaces for residential use; the Applicant is requesting a residential zoning modification to reduce the required parking spaces to 0.8 spaces per residential unit. Thirty-three (33) of the residential spaces (approximately 16 percent) are compact parking spaces, greater than the threshold for compact spaces established by § 14.3.3.F of the Zoning Ordinance of 15 percent. The Applicant is requesting a zoning modification to allow for a greater number of compact parking spaces to be provided.

Retail Parking

Per the Zoning Ordinance, the proposed development is required to provide at least 12 parking spaces for retail use. The proposed development will provide six (6) parking spaces for retail use; the Applicant is request a zoning modification to reduce the required parking spaces to one per 580 square feet of retail.

The proposed development will provide 207 total parking spaces in a partially below-grade parking garage located on-site. A summary of the proposed parking supply is shown in .

Curbside Management

A review of the existing curbside management was conducted and is shown on Figure 17. Currently, on-street parking is provided along N Wayne Street, N Pershing Drive, and on Wainwright Road, providing on-street parking along the northern, eastern, and western frontage of the site. On-street parking on N Pershing Drive and N Wayne Street will remain, and the on-street parking on Wainwright Road will be removed as part of the proposed project. The proposed on-street parking is shown in Figure 18.

Bicycle and Pedestrian Facilities

Bicycle Facilities

Bicycle Parking

Per the Standard Site Plan Conditions, the following outlines the bicycle parking requirements for land uses of the development:

- Residential
Provide one (1) long-term space for every 2.5 residential dwelling units; and one (1) short-term space for every 50 residential dwelling units.
- Retail
Provide one (1) long-term bicycle parking space for every 25,000 square feet, or portion thereof; and two (2) short-term spaces for every 10,000 square feet of the first 50,000 square feet of retail space and one (1) additional space for every 12,500 square feet of additional space.

Long-Term Bicycle Parking

Per these requirements, the proposed development is required to provide:

- 101 long-term spaces for residential use
- One (1) long-term space for retail use

The proposed development will provide at least 101 long-term bicycle parking spaces for residential use, and at least one (1) long-term bicycle parking spaces for retail employee use, meeting zoning requirements. Long-term bicycle parking will be located in a bike room on the ground floor of the building.

Short-Term Bicycle Parking

Per these requirements, the proposed development is required to provide:

- Six (6) short-term spaces for residential use
- Two (2) spaces for retail use

The proposed development will provide at least six (6) short-term bicycle parking spaces for residential use and two (2) short-term bicycle spaces for retail use, meeting requirements. Short-term bicycle parking spaces will be placed along the perimeter of the site on N Pershing Drive.

Bicycle Showers and Lockers

Per the Standard Site Plan Conditions, the following outlines the bicycle shower and locker requirements for the retail uses of the development:

- Showers
 - 1) Within residential buildings, retail space equal to or greater than 25,000 square feet and less than 50,000 square feet, provide a minimum of one (1) unisex shower; for retail space greater than 50,000 square feet, provide a minimum of one (1) shower per gender.
- Lockers
For every required employee bicycle parking space, either:
 - 1) A minimum of one (1) clothes storage locker per gender shall be installed in gender-specific changing rooms; or
 - 2) A minimum of one (1) clothes locker shall be installed adjacent to, but outside of changing rooms.

Bicycle Showers

Per these requirements, no shower is required to be provided for the retail component of the proposed development.

Bicycle Lockers

Per these requirements, the proposed development is required to provide one (1) locker for retail use. The proposed development will provide at least one (1) locker for retail employee use, meeting requirements.

Pedestrian Facilities

The existing pedestrian facilities around the site provide an adequate walking environment. Pedestrian facilities directly surrounding the site will be improved along the northern, eastern, and western frontages of the project. These facilities will provide a more inviting pedestrian environment and comply with the

improvements laid out in the Arlington Master Transportation Plan. The project will also reduce the number of curb cuts at the site, reducing the number of conflict points between site vehicular traffic and pedestrians.

New pedestrian facilities are expected to meet or exceed Arlington County requirements with an emphasis on pedestrian safety and comfort. This includes sidewalks that meet or exceed the width requirements, crosswalks at all necessary locations, and curb ramps with detectable warnings.

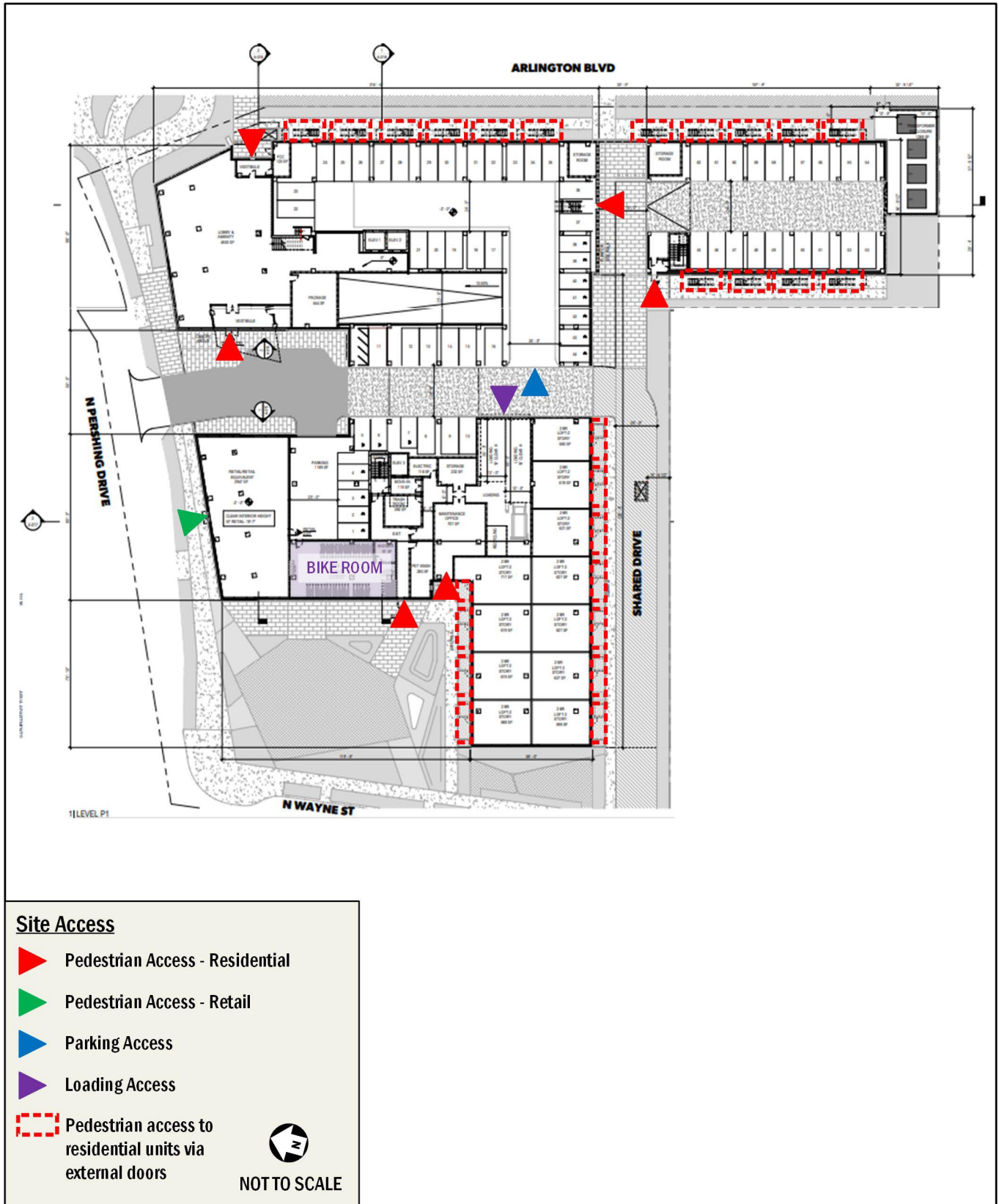


Figure 15: Site Access

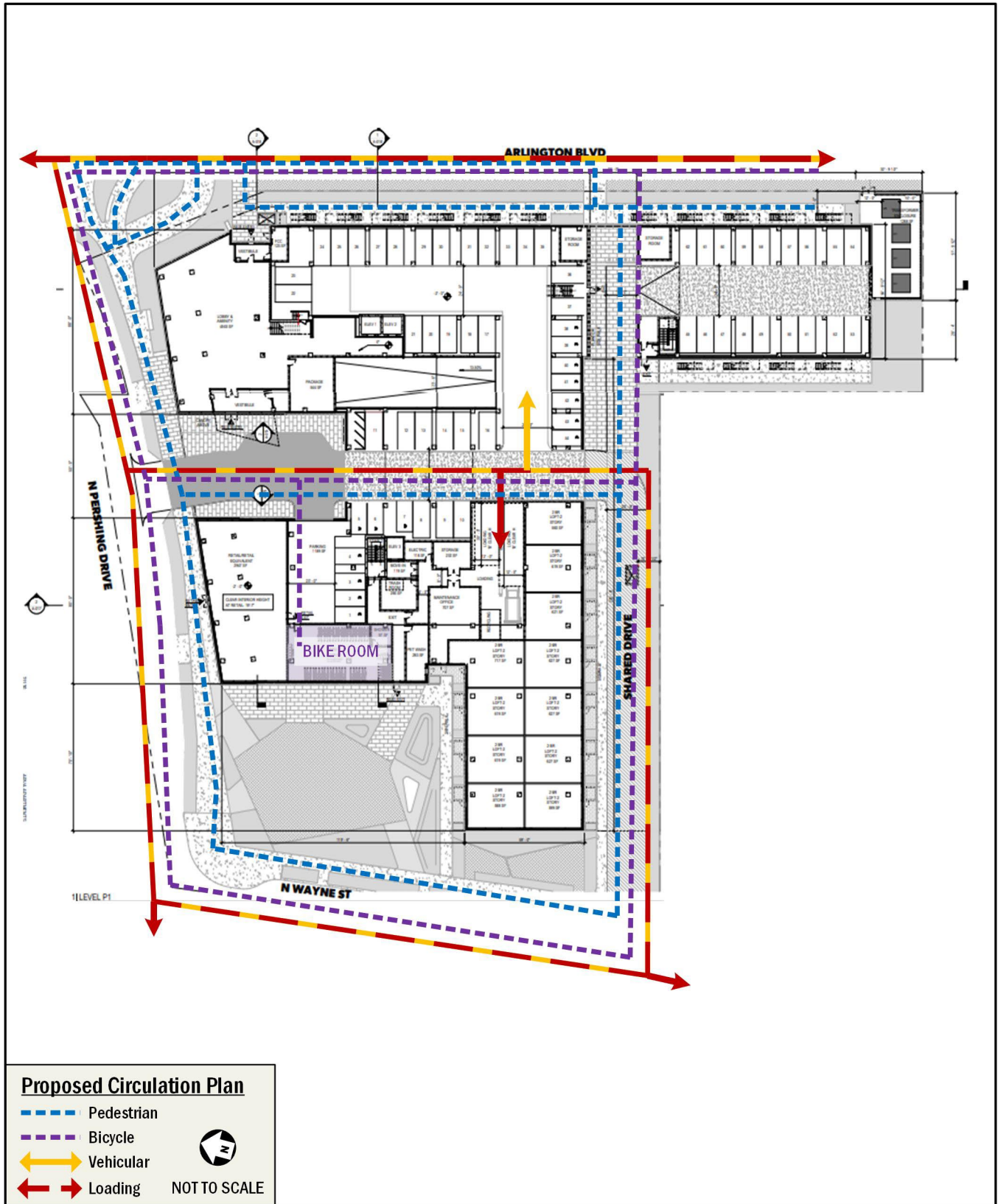


Figure 16: Site Circulation Plan

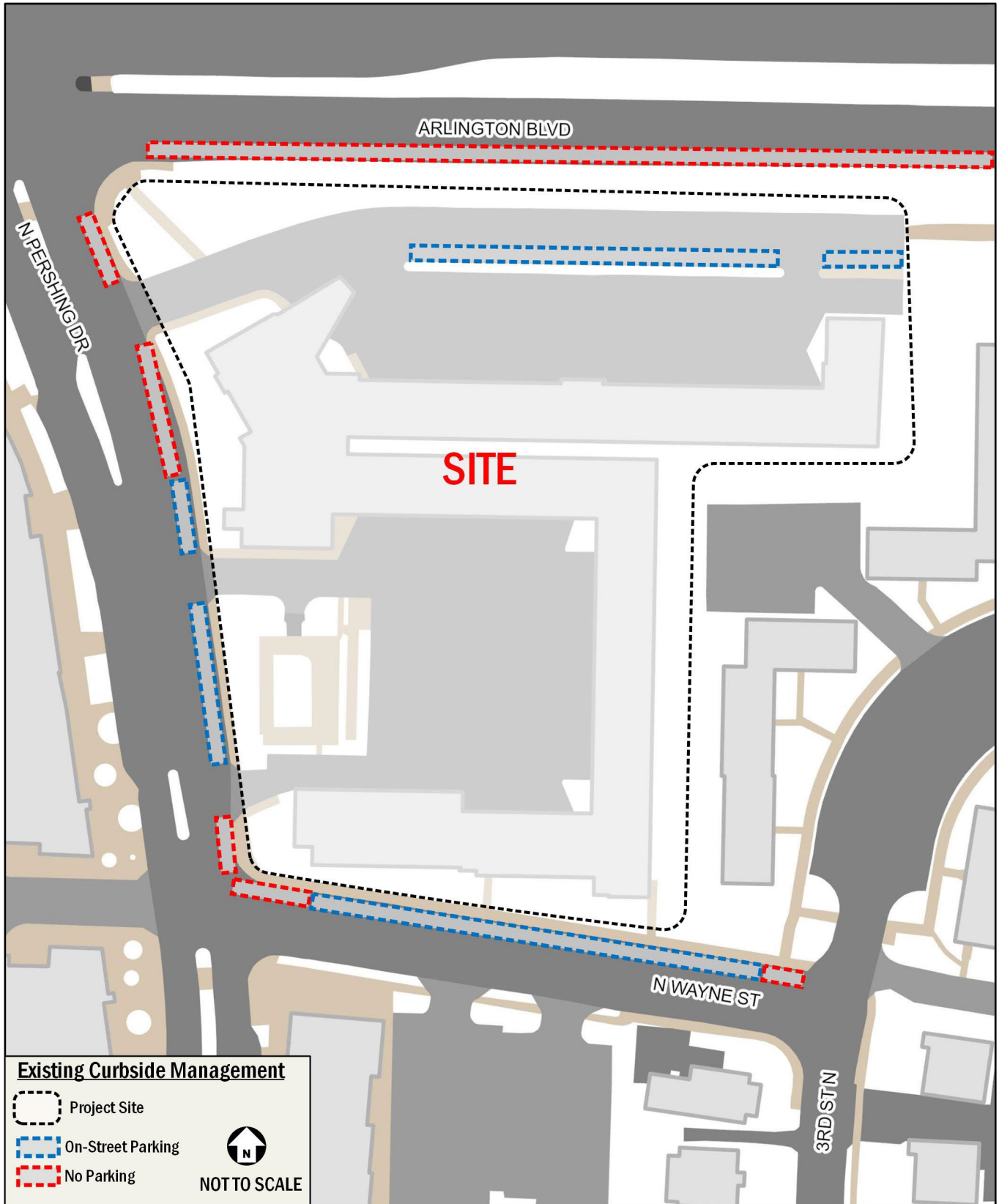


Figure 17: Existing Curbside Management

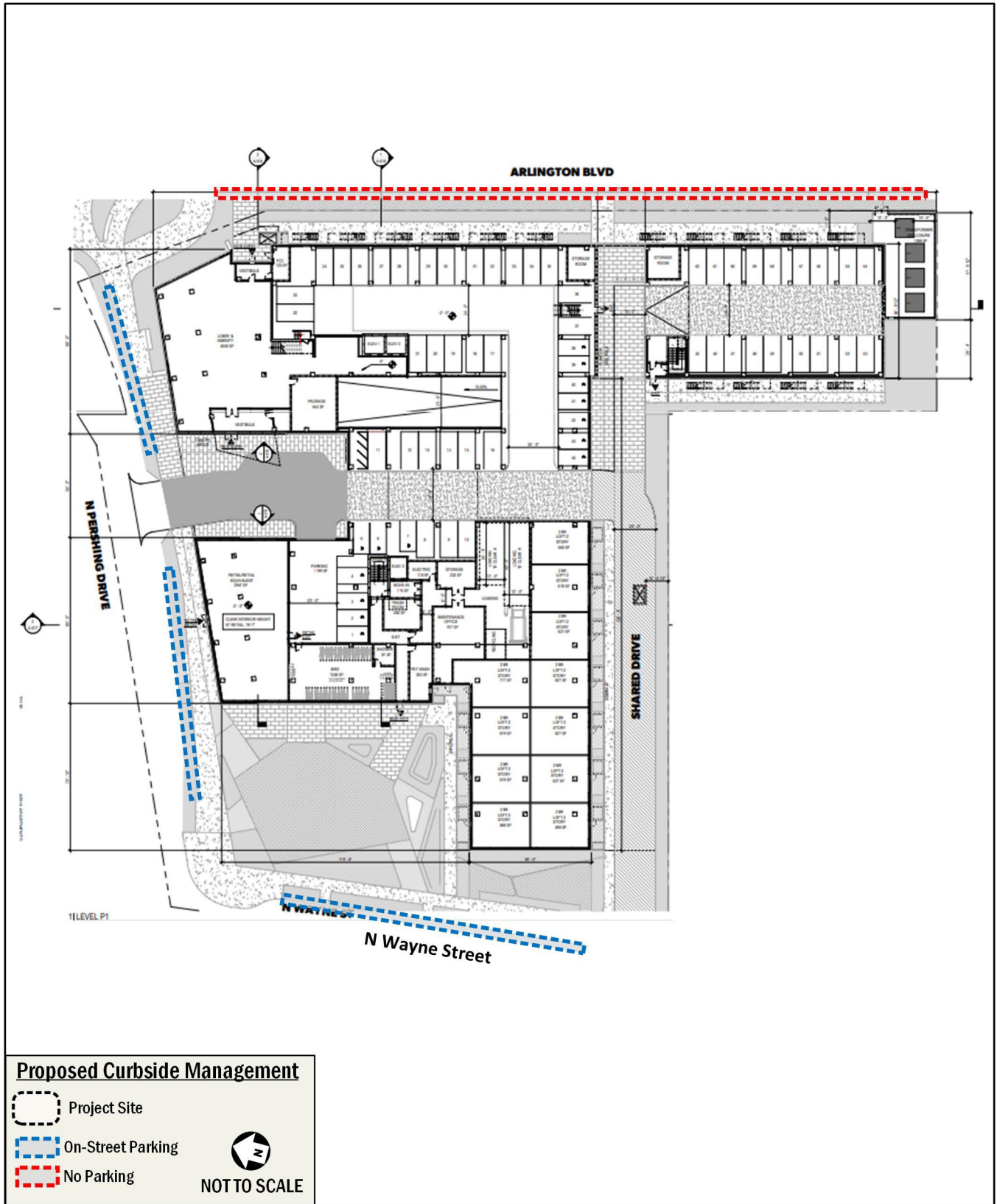


Figure 18: Proposed Curbside Management

Transit

This chapter discusses the existing and planned transit facilities in the vicinity of the site, accessibility to transit, and evaluates the overall transit impacts of the project.

The following conclusions are reached within this chapter:

- The site is surrounded by an extensive regional and local transportation system that will accommodate the residents, employees, and patrons of the proposed development.
- The site is well-served by public transportation with direct access to several local and regional bus lines. The project is located 0.8 miles from the Clarendon Metro Station.
- There are 15 bus stops within a quarter-mile of the site. These stops are directly served by WMATA (Metrobus) and Arlington Transit (ART).
- The site is surrounded by a well-connected pedestrian environment. Near the site, most sidewalks meet standards recommended by the Arlington County Master Transportation Plan.

The site is well-served by numerous transit options under existing conditions. Combined, these transit services provide local, County-wide, and regional transit connections and link the site with major cultural, residential, employment, and commercial destinations throughout the region. Figure 19 identifies the major transit routes, stations, and stops in the study area.

Figure 20 shows the 10-minute, 20-minute, and 30-minute transit travel shed to and from the proposed development. As shown in the transit travel shed, much of Arlington County and some parts of District, Alexandria, and Fairfax County are accessible via transit within 30 minutes from the proposed development. Several destinations in Arlington and District are accessible within a 20-minute transit trip from the proposed development, including the Rosslyn-Ballston corridor and Foggy Bottom.

Metrorail Service

The site is located approximately 0.8 miles from the Clarendon Metro Station. The Clarendon Station is located northwest of the development site on N Highland Street between Clarendon Boulevard and Wilson Boulevard. It can be reached by walking west from the site along N Pershing Drive and Washington Boulevard.

The Clarendon station serves the Orange and Silver lines. The average daily ridership at the station in 2021 was approximately

1,000 boardings on weekdays, according to the WMATA Ridership Data Portal. The Orange Line travels from Fairfax, VA to the District core and continues east to New Carrollton, MD. As of 2022, trains run approximately every 20 minutes on weekdays and every 24 minutes on weekends. The Silver Line travels east from Reston, VA to the District core and continues east to Largo, MD. As of 2022, trains run approximately every 20 minutes on weekdays and every 24 minutes on weekends. Both lines provide connections to the Red Line, which provides a direct connection to Union Station, a hub for commuter rail – such as Amtrak, MARC, and VRE – in addition to all other Metrorail lines, allowing for access to much of the DC Metropolitan area.

Figure 21 shows the average annual weekday passenger boardings for the Clarendon station. Prior to the COVID-19 pandemic, Metrorail ridership at the station was approximately 4,700 boardings on weekdays. Ridership throughout the entire system was down five percent prior to the COVID-19 pandemic. In 2016, WMATA initiated the Back2Good plan to improve safety, reduce delays, and build rider confidence in Metrorail. Currently, Metrorail is experiencing reduced systemwide ridership due to the effects of COVID-19, which include changes in travel patterns as well as the reduction in service that Metrorail has implemented during the pandemic. The decline in boardings at the station near the development site indicates there is available capacity at these stations.

Bus Service

A review of the existing Metrobus stops within a quarter-mile radius of the site, detailing individual bus stop amenities and conditions, is shown in Table 2. There are 15 bus stops within a quarter-mile of the site: four (4) on N Barton Street, two (2) on Arlington Boulevard, seven (7) on Washington Boulevard, and two (2) on N Pershing Drive. These stops are served by two (2) WMATA Metrobus routes and three (3) Arlington Transit (ART) routes.

The site is served by several bus lines and routes along multiple primary corridors. These bus lines connect the site to many areas of Virginia and the District, including several Metrorail stations serving all of the six (6) Metrorail lines.

Table 3 shows a summary of the bus route information for the routes that serve the site, including service hours, headway, and distance to the nearest bus stop.

Planned Transit Facilities

Arlington Master Transportation Plan (2019)

The Arlington County Master Transportation Plan (MTP), adopted in 2011 and updated in 2019, outlines goals to improve various modes of transportation throughout the County. The MTP Transit Element identifies policies, implementation actions, and performance measures to:

- increase transit service options;
- improve access to transit services for all;
- improving transit facilities;
- creating multi-modal centers for convenient transfers;
- expanding transit information distribution and marketing outreach; and
- employing environmentally-sensitive technologies.

The MTP envisions public transit as a central feature of the County's transportation system as the resident and employment populations grow in the future. A key aspect of the plan is the implementation of a Premium Transit Network (PrTN) and Primary Transit Network (PTN). Historically, the County has organized development around the Metrorail corridors; the MTP extends this policy to the Premium and Primary Transit Networks.

The PrTN includes the Columbia Pike and Pentagon City/Crystal City corridors and features high frequency, branded, and easy to understand bus routes with passenger amenities such as real-time transit information and high-quality transit stations. The PTN is a network of east-west and north-south routes that can be easily accessed by the majority of Arlington residents. The planned PrTN and PTN are shown in Figure 22. As it relates to the 2201 Arlington Boulevard project, the segment of N Pershing Drive west of N Barton Street and the segment of N Barton Street north of N Pershing Drive are both part of the PTN.

The MTP identifies the following recommendations in the vicinity of the project:

- Upgrade service frequency, span of service, reliability and quality along PTN corridors.
- Expand pedestrian access to transit facilities through measures such as improved sidewalks, new station entrances, upgraded street crossings, and new elevators and escalators.

As it relates to the proposed development, these improvements will enhance multi-modal connectivity to the project site with enhanced transit amenities and changes to service. The proposed development will provide improvements to pedestrian facilities along the perimeter of the project site; it will also provide a 40-foot long bus pad with sidewalk access for the southbound bus stop (which is currently unpaved) on Arlington Boulevard on the eastern frontage of the site. These improvements will improve access to transit service and will thus contribute to the County's policy and plan.

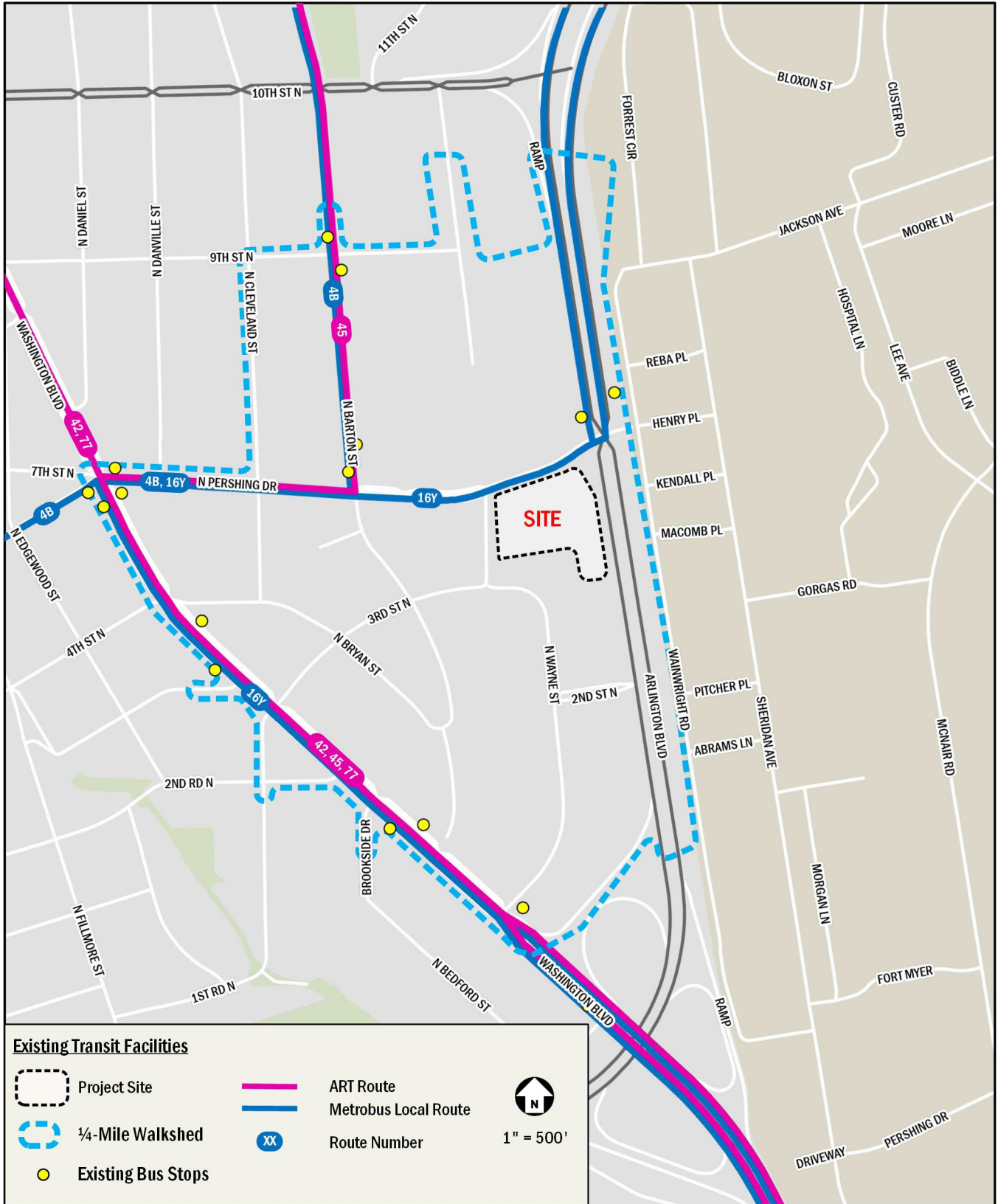


Figure 19: Existing Transit Service

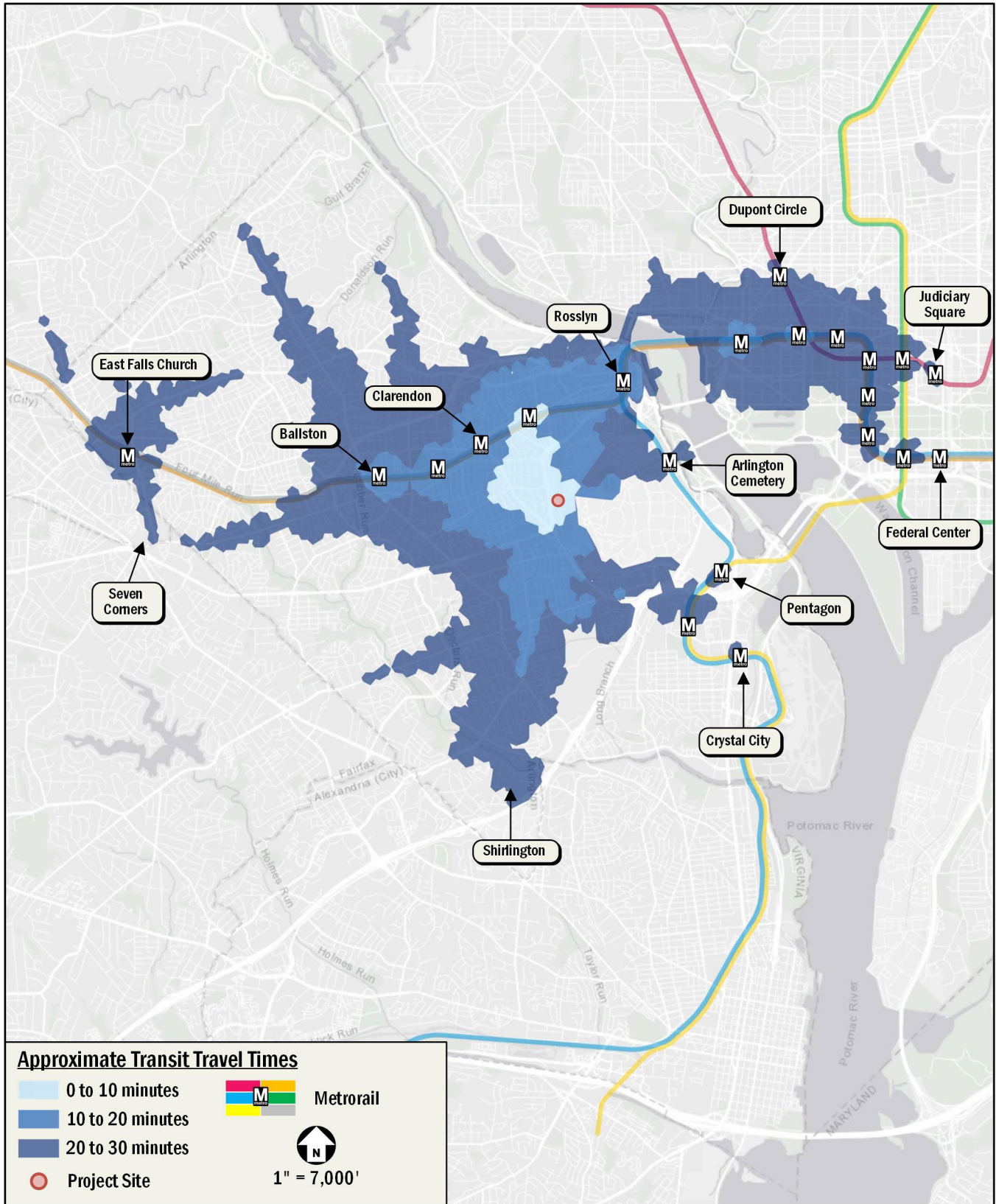


Figure 20: Approximate Transit Travel Times

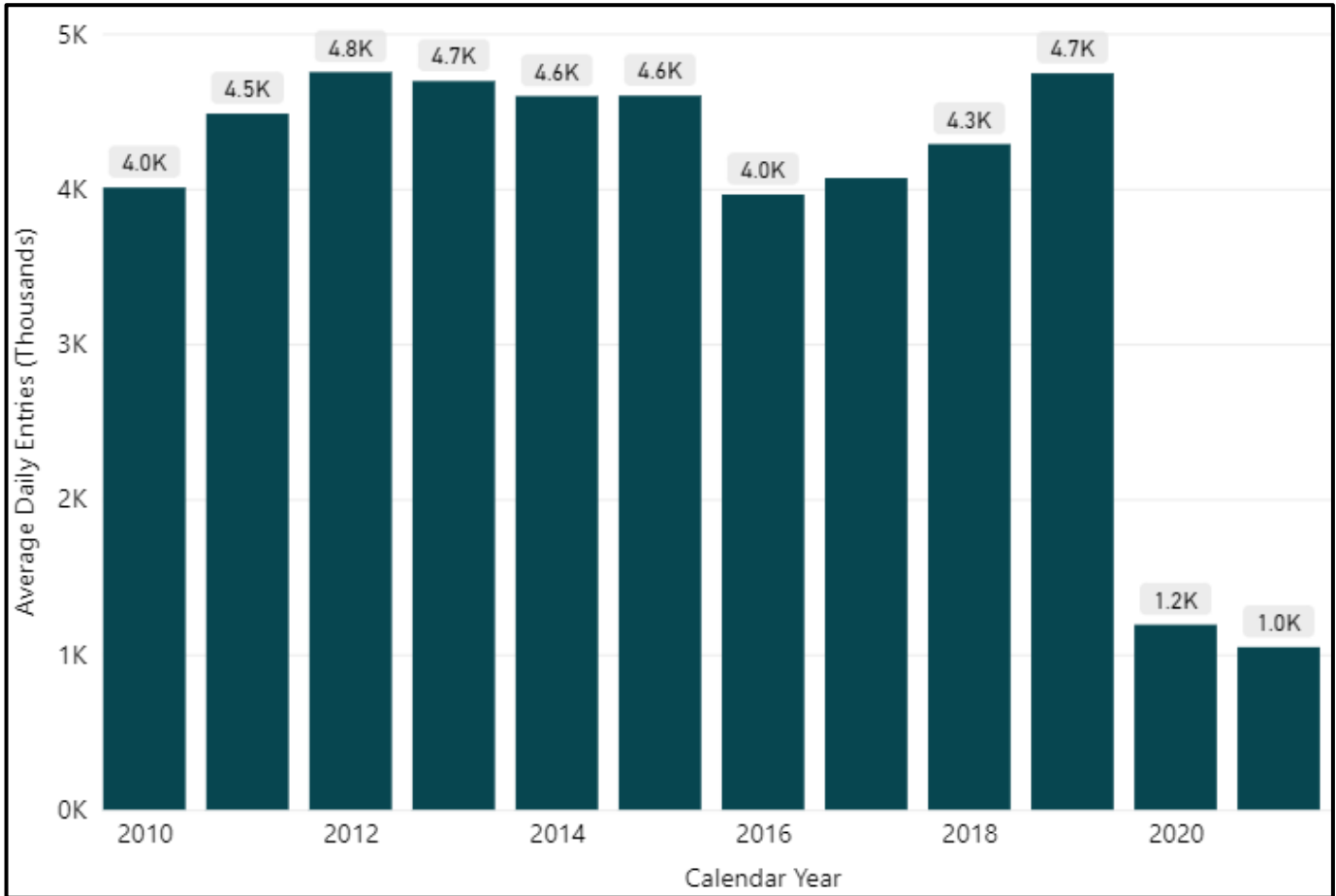


Figure 21: Average Daily Metro Ridership by Year at Clarendon Metro Station (Source: WMATA)

Table 2: Nearby Bus Stops

Location	Stop ID	Buses Served	Stop Condition
Washington Blvd & N Bryan St	6000487	Metrobus 16Y, ART 42, 45, 77	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, shelter, trash receptacle
N Barton St & N Pershing Dr (SB)	6000515	ART 45	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, shelter, trash receptacle
N Barton St & N Pershing Dr (NB)	6000518	Metrobus 4B, ART 45	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, shelter, trash receptacle
Washington Blvd & 3rd St (SB)	6000473	Metrobus 16Y, ART 42, 45, 77	Sign, no ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, no shelter, no trash receptacle
Washington Blvd & Brookside Dr (SB)	6000453	ART 42, 77	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, no shelter, no trash receptacle
Arlington Blvd & N Pershing Dr (NB)	6000522	Metrobus 16Y	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, shelter, trash receptacle
Arlington Blvd & N Pershing Dr (SB)	6000529	Metrobus 16Y	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, shelter, trash receptacle
Washington Blvd & N Wayne St (NB)	6000441	ART 42, 77	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, no shelter, no trash receptacle
N Pershing Dr & Washington Blvd (WB)	6000514	Metrobus 4B	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, no information case, no seating, no shelter, no trash receptacle
N Pershing Dr & Washington Blvd (EB)	6000512	Metrobus 4B	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, no information case, seating, no shelter, no trash receptacle
Washington Blvd & N Barton St (NB)	6000450	ART 42, 77	Sign, no ADA clearance, acceptable sidewalk clearance, streetlighting, no information case, no seating, no shelter, no trash receptacle
Washington Blvd & N Pershing Dr (NB)	6000510	ART 42, 77	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, no seating, no shelter, no trash receptacle
Washington Blvd & N Pershing Dr (SB)	6000516	ART 42, 77	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, no seating, no shelter, no trash receptacle
N Barton St & 9th St (NB)	6000535	ART 45	Sign, no ADA clearance, acceptable sidewalk clearance, streetlighting, information case, seating, no shelter, no trash receptacle
N Barton St & 9th St (SB)	6000541	Metrobus 4B, ART 45	Sign, ADA clearance, acceptable sidewalk clearance, streetlighting, information case, no seating, no shelter, no trash receptacle

Table 3: Bus Route Information

Route Number	Route Name	Service Hours	Headway	Walking Distance to Nearest Bus Stop
4B	Wilson Blvd	Weekdays: 5:05AM-12:01AM Saturday: 6:20AM-11:31AM Sunday: 6:35AM-9:44AM	30-60 min	0.2 miles, 3 minutes
16Y	Columbia Pike – Farragut Square Line	Weekdays: 6:00AM-9:33AM; 4:00PM-7:45PM	20-24 min	0.1 miles, 2 minutes
ART 42	Ballston-Pentagon	Weekdays: 6:08AM-8:00PM Weekend: 7:12AM-7:42PM	15-30 min	0.3 miles, 6 minutes
ART 45	Columbia Pike – DHS/Sequoia – Rosslyn	Weekdays: 5:45AM-11:40PM Weekend: 7:30AM-12:21AM	20-30 min	0.2 miles, 3 minutes
ART 77	Shirlington – Lyon Park – Court House	Weekdays: 6:00AM-11:25PM Saturday: 7:00AM-11:56PM	25-30 min	0.3 miles, 6 minutes

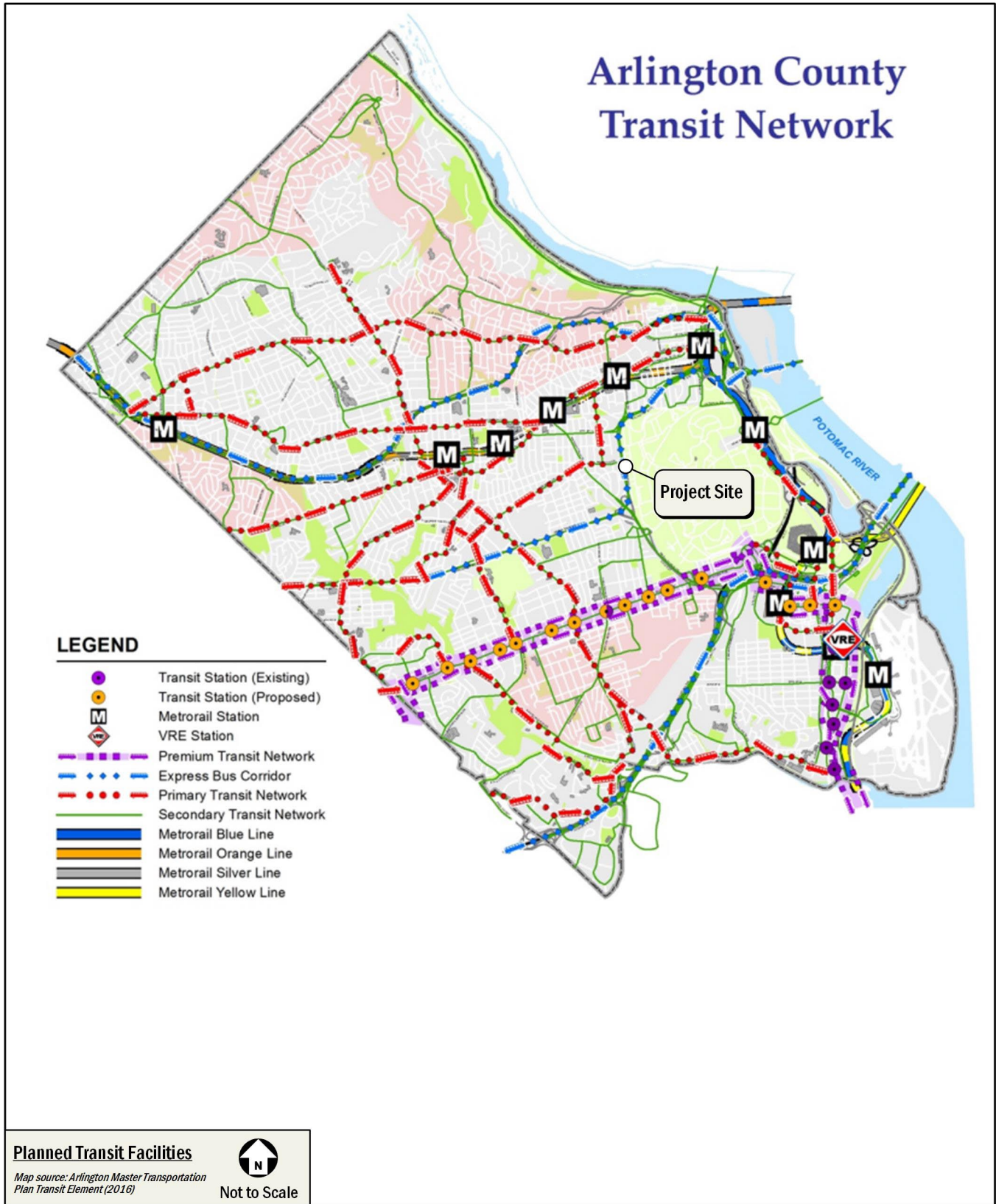


Figure 22: Planned Transit Network (Source: Arlington MTP)

Pedestrian Facilities

This chapter summarizes the existing and future pedestrian access to the site and reviews walking routes to and from the site.

The following conclusions are reached within this chapter:

- The existing pedestrian infrastructure surrounding the site provides an adequate walking environment. There are sidewalks along most primary routes to pedestrian destinations with several curb ramps and sidewalk width deficiencies in the system.
- Planned improvements to the pedestrian infrastructure surrounding the site will improve pedestrian comfort and connectivity.

Pedestrian Study Area

Pedestrian facilities within a quarter-mile of the site were evaluated. In general, existing pedestrian facilities surrounding the site provide comfortable walking routes to and from nearby destinations. The site is accessible to transit options such as the two (2) bus stops to north of the site on Arlington Boulevard. There are some areas of concern within the study area that negatively impact the quality and attractiveness of the walking environment; namely, missing sidewalks in portions of the residential neighborhoods near the site.

Figure 23 shows expected pedestrian pathways, walking time and distances, and barriers or areas of concern. To the east of the site, Arlington Boulevard limits east-west pedestrian connectivity in the study area. Pedestrians may cross Arlington Boulevard at N Pershing Drive, but east-west connection points are otherwise infrequent along Arlington Boulevard, limiting pedestrian connectivity to Fort Myer and Arlington Cemetery.

Figure 24 shows the 10-minute, 20-minute, and 30-minute walk travel shed for the proposed development. Within a 10-minute walk, the proposed development has access to several destinations including public transportation stops, retail zones, nearby residential neighborhoods, and the Arlington Boulevard Trail. Within a 20-minute walk, the proposed development has access to destinations such as residential neighborhoods, parks, retail zones, grocery stores, and the W&OD Trail. Within a 30-minute walk, the proposed development has access to destinations including Arlington Cemetery, the Custis Trail, Ballston, and other residential neighborhoods.

Existing Pedestrian Facilities

A review of pedestrian facilities surrounding the proposed development shows that many facilities provide an adequate walking environment. Figure 25 shows the existing pedestrian infrastructure surrounding the site. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by Arlington County, and ADA standards. Sidewalk and buffer widths and recommendations (per the Arlington County Master Transportation Plan) are shown in Table 4. It should be noted that the sidewalk widths shown in Figure 25 reflect the total sidewalk widths based on observations in the field taken from curb to building.

ADA standards require that curb ramps be provided wherever an accessible route crosses a curb and must have a detectable warning. Additionally, curb ramps shared between two crosswalks is not desired. As shown in Figure 25, under existing conditions the majority of curb ramps along nearby arterials meet ADA standards, whereas curb ramps along local streets frequently do not meet ADA standards.

Within the study area, major roadways have existing sidewalks on both sides; however, there are portions of the residential areas within a quarter mile of the site that are missing sidewalks. Despite these deficiencies, all primary pedestrian destinations are accessible via routes (as shown in Figure 23) with sidewalks on both sides, most of which meet Arlington County and ADA standards.

Overall, the site is situated within an urban transportation network, with adequate pedestrian access. Figure 26 shows the existing pedestrian peak hour volumes at study area intersections, where data was available.

Planned Pedestrian Facilities

As part of the proposed development, the existing sidewalks along the site frontage on N Pershing Drive and N Wayne Street will be upgraded. These sidewalks will meet both the Arlington Master Transportation Plan requirements and ADA standards, and will encourage pedestrian safety in the area. The Shared Drive is proposed to be a 20-foot wide, shared street for vehicles, bicycles, and pedestrians. The curbless design of the Shared Drive will serve as a non-traditional traffic calming measure to limit vehicular speed through the use of non-traditional paving and streetscape elements. The project will

reduce the number of curb cuts at the site, reducing the number of conflict points between site vehicular traffic and pedestrians.

Additionally, the proposed development will construct a new segment of the Arlington Boulevard Trail along the eastern frontage of the site. Currently, this segment of the trail is an on-street, two-way bicycle lane on the east side of Wainwright Road.

Other planned projects in the area will improve pedestrian facilities in the area. The Pershing Drive Complete Street Improvements project has completed various street improvements to the segment of N Pershing Drive from N Oakland Street to N Barton Street; these mainly included pedestrian/streetscape enhancements, added crosswalks, protected bike lanes, and bus service efficiencies to improve safety for all roadway users. Additional improvements are currently under construction at the intersection of N Pershing Drive and Washington Boulevard. Future improvements are planned for the intersections of N Pershing Drive and N Nelson Street, N Kenmore Street, N Jackson Street, and the segment of N Pershing Drive between Washington Boulevard and N Barton Street.

Planned and proposed pedestrian improvements are shown in Figure 27.

Table 4: Sidewalk Recommendations per Arlington County Master Transportation Plan

Street Name	Section	Minimum Sidewalk Width	Minimum Sidewalk Width Met	Existing Sidewalk Width*	Minimum Buffer Width	Minimum Buffer Width Met	Existing Buffer Width*
9th Street N	N Cleveland Street to N Barton Street	4-6 ft	Y	5 ft	2-4 ft	N	None
9th Street N	N Barton Street to N Wayne Street	4-6 ft	N	None	2-4 ft	N	None
N Pershing Drive	Washington Boulevard to N Cleveland Street	5-6 ft	Y	<5 ft	4-6 ft	N	None
N Pershing Drive	N Cleveland Street to N Barton Street	5-6 ft	Y	5 ft	4-6 ft	N	None
N Pershing Drive	N Barton Street to N Wayne Street	10-16 ft	N	5 ft	6 ft	N	None
N Pershing Drive	N Wayne Street to Arlington Boulevard	10-16 ft	N	5 ft	6 ft	N	None
N Bryan Street	Washington Boulevard to 3rd Street N	4-6 ft	N	None	2-4 ft	N	None
N Bryan Street	3rd Street N to N Barton Street	4-6 ft	N	None	2-4 ft	N	None
3rd Street N	Washington Boulevard to N Wayne Street	4-6 ft	N	None	2-4 ft	N	None
3rd Street N	N Edgewood Street to Washington Boulevard	4-6 ft	Y	<5 ft	2-4 ft	Y	3 ft
2nd Street N	N Wayne Street to Arlington Boulevard	4-6 ft	Y	6 ft	2-4 ft	Y	4 ft
2nd Road N	N Cleveland Street to Washington Boulevard	4-6 ft	Y	<5 ft	2-4 ft	Y	3 ft
Washington Boulevard	N Pershing Drive to 4th Street N	6-8 ft	Y	6 ft	6 ft	N	None
Washington Boulevard	4th Street N to 3rd Street N	6-8 ft	N	<5 ft	6 ft	N	3 ft
Washington Boulevard	3rd Street N to Brookside Drive	6-8 ft	N	<5 ft	5-6 ft	N	4 ft
Washington Boulevard	Brookside Drive to Arlington Boulevard	6-8 ft	N	<5 ft	5-6 ft	Y	5 ft
N Cleveland Street	9th Street N to N Pershing Drive	4-6 ft	Y	<5 ft	2-4 ft	Y	3 ft
N Cleveland Street	N Pershing Drive to N Bryan Street	4-6 ft	N	None	2-4 ft	N	None
N Cleveland Street	Washington Boulevard to 2nd Road N	4-6 ft	Y	<5 ft	2-4 ft	Y	3 ft
Brookside Drive	Washington Boulevard to N Bedford Street	4-6 ft	Y	<5 ft	2-4 ft	Y	5 ft
N Barton Street	10th Street N to N Pershing Drive	4-6 ft	Y	<5 ft	2-4 ft	Y	3 ft
N Barton Street	N Pershing Drive to 3rd Street N	4-6 ft	N	None	2-4 ft	N	None
N Barton Street	3rd Street N to Washington Boulevard	4-6 ft	N	None	2-4 ft	N	None
N Wayne Street	10th Street N to N Pershing Drive	4-6 ft	N	None	2-4 ft	N	None
N Wayne Street	N Pershing Drive to 3rd Street N	4-6 ft	Y	6 ft	2-4 ft	N	None
N Wayne Street	3rd Street N to Washington Boulevard	4-6 ft	Y	6 ft	2-4 ft	N	None
Arlington Boulevard	N Pershing Drive to 2nd Street N	6 ft	N	None	8 ft	N	None

* Widths based most narrow measurement along either side of roadway section



Figure 23: Pedestrian Pathways

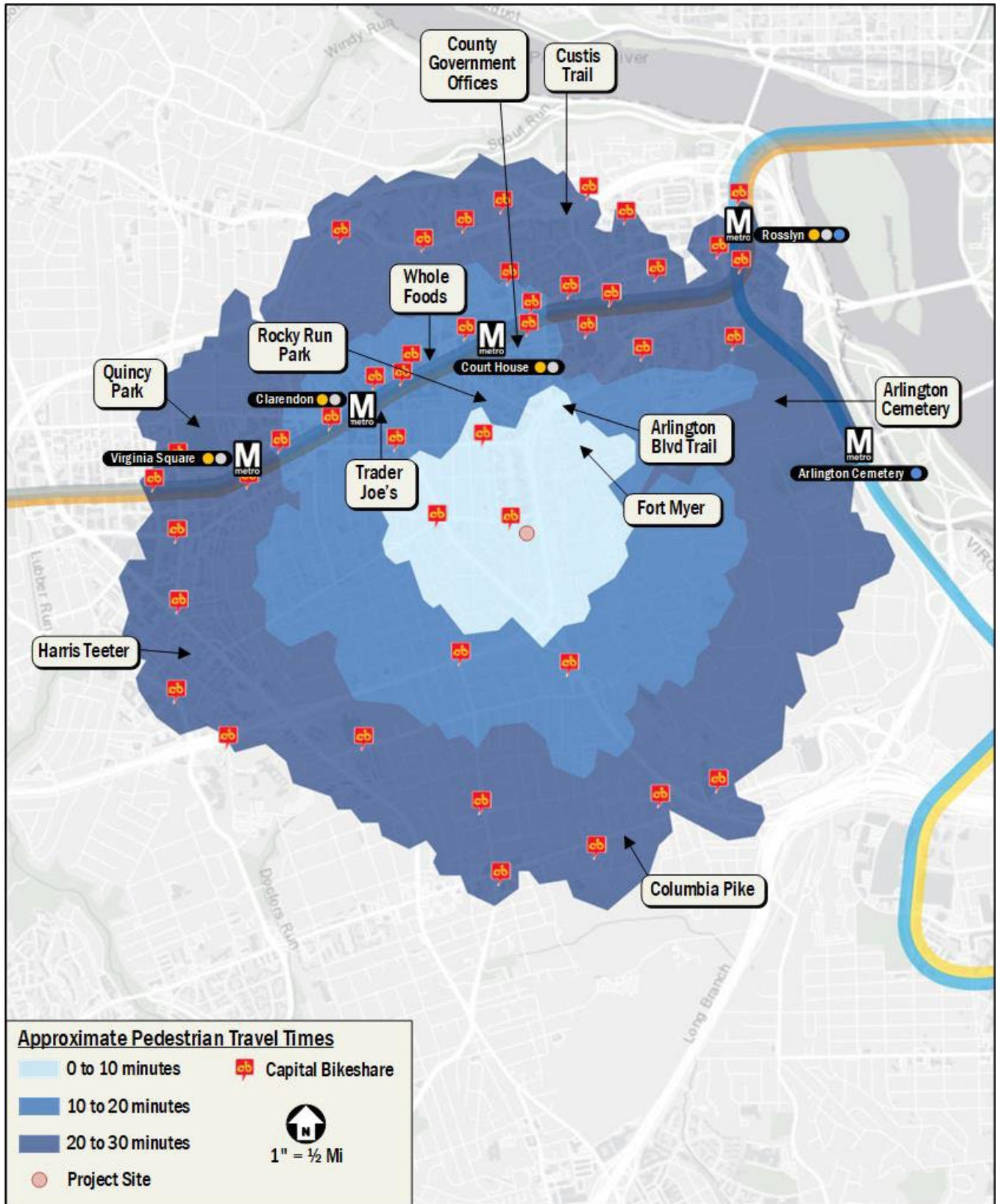


Figure 24: Approximate Pedestrian Travel Times



Figure 25: Existing Pedestrian Facilities

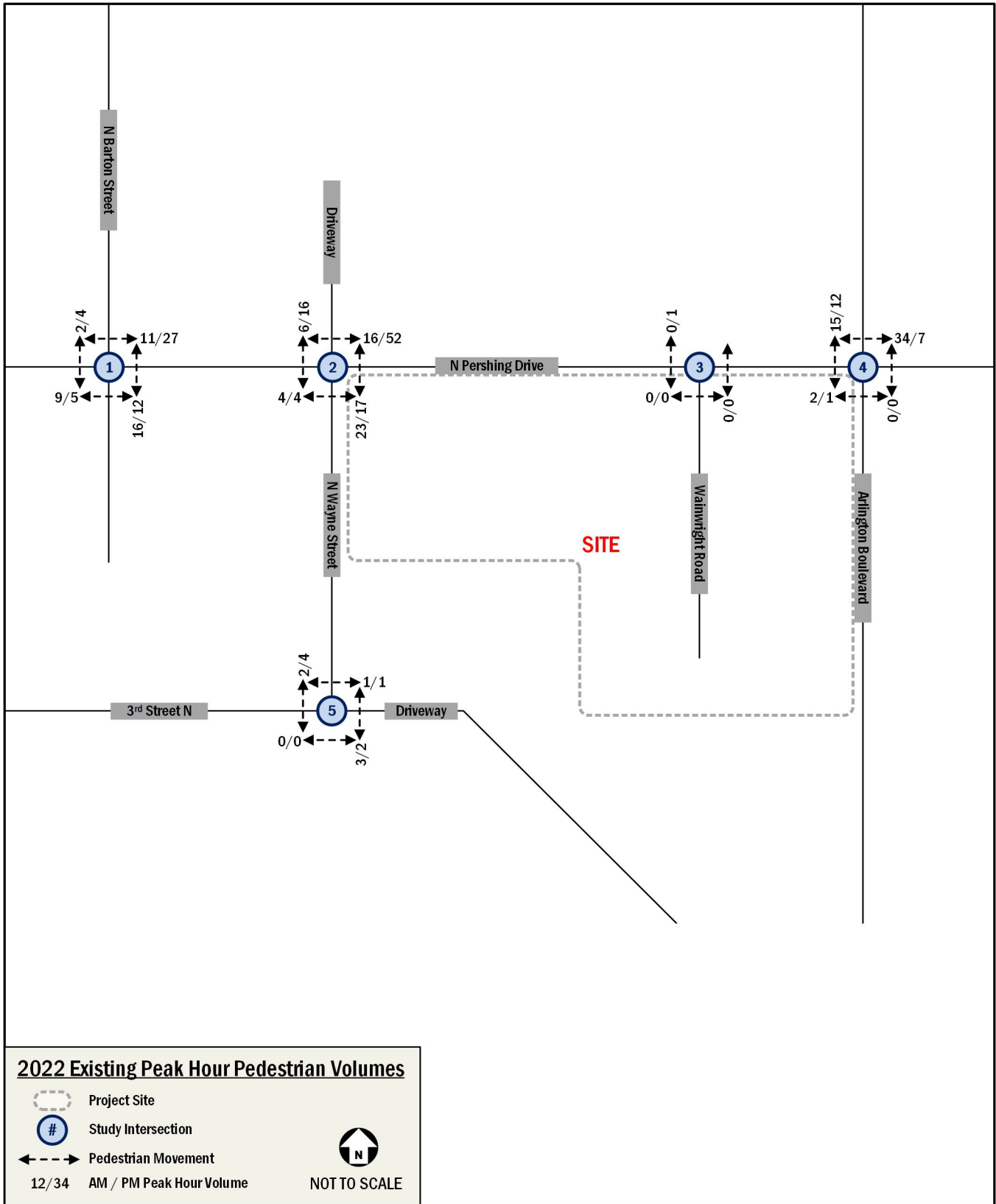


Figure 26: 2022 Existing Peak Hour Pedestrian Volumes

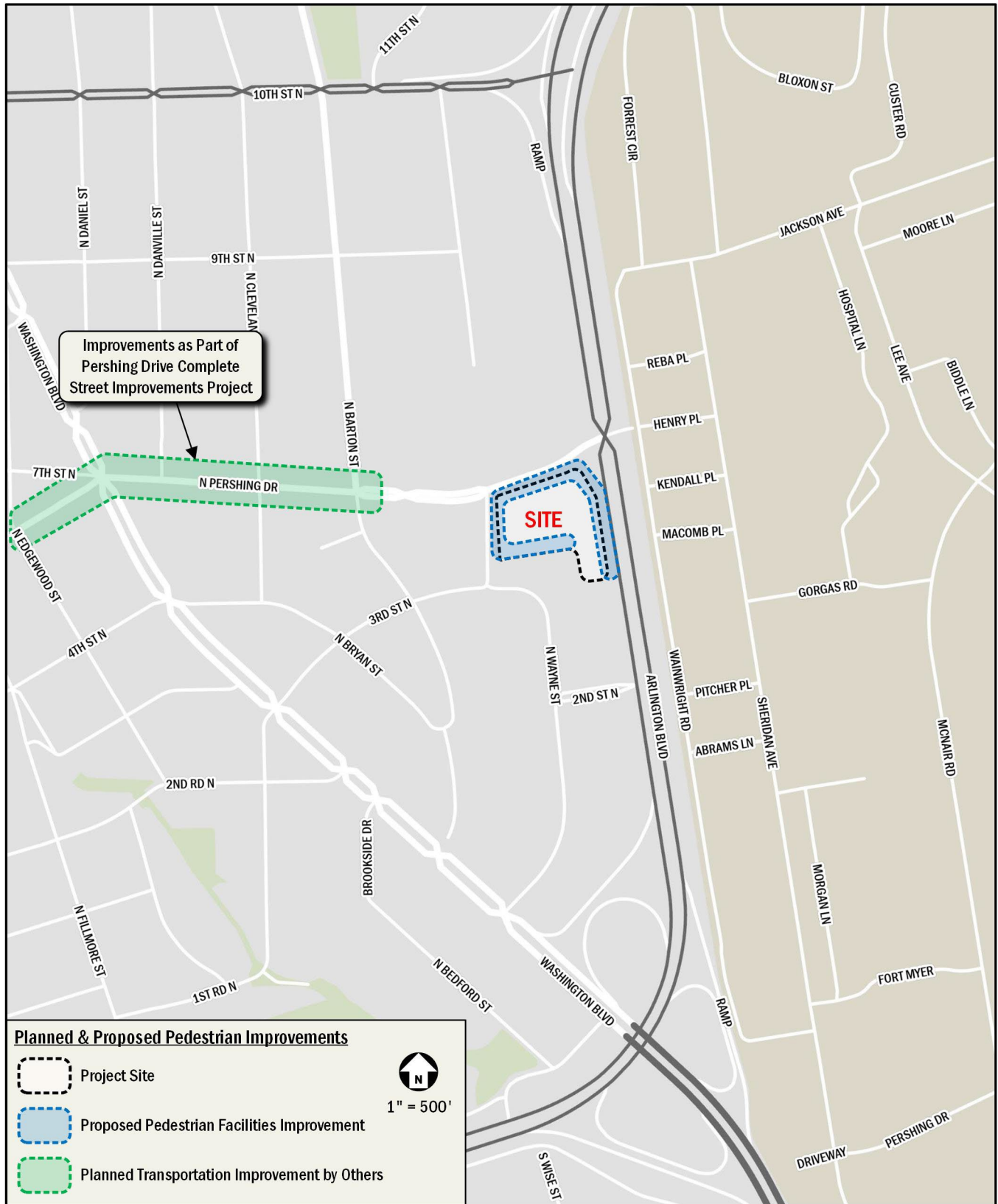


Figure 27: Planned and Proposed Pedestrian Improvements

Bicycle Facilities

This chapter summarizes existing and future bicycle access and reviews the quality of cycling routes to and from the site.

The following conclusions are reached within this chapter:

- The site has access to several on-street bicycle facilities, including protected bicycle lanes on N Pershing Drive between N Barton Street and Washington Boulevard, bicycle lanes on N Pershing Drive between N Barton Street and Arlington Boulevard, and on-street bicycle routes along N Barton Street and 3rd Street N.
- The site has direct access to the Arlington Boulevard Trail, which runs along the eastern frontage of the site.
- Future planned projects in the vicinity of the site include adding bicycle lanes along 10th Street S west of N Barton Street, as well as shared lane markings (“sharrows”) on 2nd Road N between N Cleveland Street and the Fillmore Park Trail and on 7th Street S between Washington Blvd and N Highland Street.
- As part of the proposed development, eastbound protected bike lanes will be provided on N Pershing Drive along the frontage of the project site. The segment of Arlington Boulevard Trail fronting the eastern edge of the project site will also be reconstructed to be a fully off-street facility.

Existing Bicycle Facilities

The site has access to several on-street and off-street bicycle facilities, including bicycle lanes on N Pershing Drive, on-street bicycle routes along N Barton Street and 3rd Street N, and the Arlington Boulevard trail, which runs along the eastern frontage of the site. The trail is generally an off-street, multi-use path which parallels Arlington Boulevard between N Rhodes Street and N Glebe Road. The segment of Arlington Boulevard Trail along the eastern frontage of the site is an on-street, two-way bicycle lane on the east side of Wainwright Road. Figure 29 shows the existing bicycle facilities within the study area.

Arlington County publishes an annual Bicycle Comfort Level Map highlighting the most comfortable bicycle routes throughout Arlington County. The map uses a rating system of “perception of comfort” to show which routes are most comfortable. Routes are rated as ‘Easy’, ‘Medium’, ‘Challenging’, ‘Expert Level’, or ‘Prohibited’. The most recent publication of the map (2020) shows most on-street bicycle routes in the vicinity of the site rated as ‘Easy’ or ‘Medium’. The segment of Washington Boulevard between N Pershing Drive and Arlington Boulevard is

identified as ‘Expert Level.’ The Arlington Boulevard Trail, which is off-street, serves as an accessible bicycle route to and from the site that provides an enhanced level of comfort for cyclists.

‘U’ shaped bicycle racks are available at locations along N Pershing Drive near the project site. The proposed development will provide at least the required short-term bicycle parking.

Figure 30 shows the 10-minute, 20-minute, and 30-minute bicycle travel shed for the proposed development. Within a 10-minute bicycle ride, the proposed development has access to several destinations including the Custis Trail trailhead, Ballston, Rosslyn, public transportation stops, Metro stations served by the Orange and Silver lines, retail zones, residential neighborhoods, and community amenities. Within a 20-minute bicycle ride, the proposed development has access to destinations in Arlington such as the W&OD Trail, Pentagon City, Downtown DC, residential neighborhoods, and retail zones. Within a 30-minute bicycle ride, the proposed development is accessible to most of Arlington County, as well as several locations in the District, Alexandria, and Fairfax County.

Capital Bikeshare

In addition to personal bicycles, the Capital Bikeshare program provides additional cycling options for residents and patrons of the proposed development. The Bikeshare program has placed over 550 Bikeshare stations across Washington, DC, Arlington County, VA, City of Alexandria, VA, Montgomery County, MD, Fairfax County, VA, Prince George’s County MD, and most recently the City of Falls Church, VA, with over 4,500 bicycles provided. There is one (1) existing Capital Bikeshare station within a quarter mile of the site, located at N Pershing Drive & N Wayne Street, with 11 dock spaces. There are three (3) additional stations located within one half-mile of the site.

E-Scooters and Dockless E-Bicycles

Five (5) electric-assist scooter (e-scooter) and electric-assist bicycle (e-bike) companies provide Shared Mobility Device (SMD) service in Arlington County: Bird, Helbiz, Lime, Link/Superpedestrian, and Spin. These SMDs are provided by private companies that give registered users access to a variety of e-scooter and e-bike options. These devices are used through each company-specific mobile phone application. Many SMDs do not have designated stations where pick-up/drop-off activities occur like with Capital Bikeshare; instead, many SMDs are parked in public space, most commonly in the “furniture zone” (the portion of sidewalk between where people walk and the

curb, often where other street signs, street furniture, trees, parking meters, etc. are found). At this time, SMD pilot/demonstration programs are underway in Arlington County, the District, Fairfax County, the City of Alexandria, and Montgomery County.

Existing Trail Counts

As part of the data collection efforts for this study, bicycle ADT count data was collected on Wednesday, May 25th, 2022, at two (2) locations on Arlington Boulevard Trail near the proposed development site: one at the portion of the trail abutting the southeastern corner of the project site, immediately south of the point where the trail becomes a cycle track on Wainwright Road, and a second count on the segment of trail immediately north of the Arlington Boulevard/N Pershing Drive intersection. These locations were determined based on discussions with Arlington County staff during the scoping process. The count locations are shown in Figure 28. The hourly two-way bicycle volumes are shown in Table 5.

The volumes show that peak bicycle activity in the area occurred in the evening, with the greatest volume occurring between 6:00 PM and 7:00 PM at both locations. Outside of this evening peak period, the northern count location observed a notable increase in activity in the early afternoon (1:00 PM to 3:00 PM) while the southern count location observed a notable increase in activity in the morning (7:00 AM to 9:00 AM).



Figure 28: Bicycle ADT Count Locations

Table 5: Hourly Bicycle Volumes

Beginning of Hourly Period	Trail Count Location	
	B1 - North of N Pershing Drive	B2 - South of N Pershing Drive
12:00 AM	0	1
1:00 AM	1	0
2:00 AM	0	1
3:00 AM	0	0
4:00 AM	0	0
5:00 AM	1	3
6:00 AM	3	2
7:00 AM	6	11
8:00 AM	8	13
9:00 AM	7	6
10:00 AM	7	6
11:00 AM	4	5
12:00 PM	6	5
1:00 PM	11	8
2:00 PM	12	5
3:00 PM	8	5
4:00 PM	7	4
5:00 PM	10	13
6:00 PM	17	20
7:00 PM	10	11
8:00 PM	3	2
9:00 PM	1	2
10:00 PM	1	1
11:00 PM	2	2

Planned Bicycle Facilities

Existing bike facilities have been recommended by the Arlington Master Transportation Plan to be upgraded in the future, as

shown in Figure 11. The most notable planned improvements near the project site include the addition of bicycle lanes along 10th Street S west of N Barton Street, as well as shared lane markings (“sharrows”) on 2nd Road N between N Cleveland Street and the Fillmore Park Trail and on 7th Street S between Washington Blvd and N Highland Street.

As part of the proposed development, eastbound protected bike lanes will be provided on N Pershing Drive along the frontage of the project site. In coordination with the County, VDOT, and Washington Gas, the segment of Arlington Boulevard Trail fronting the eastern edge of the project site will also be reconstructed to be a fully off-street trail facility. The potential for a micro-mobility hub with a bicycle repair station, bicycle parking, and micro-mobility device facilities is being studied for a location near the corner of Arlington Boulevard and N Pershing Drive.

The proposed development will include both short- and long-term bicycle parking spaces. The proposed development will provide at least six (6) short-term bicycle parking spaces for residential use and two (2) short-term bicycle spaces for retail use, meeting zoning requirements. The proposed development will provide at least 101 long-term bicycle parking spaces for residential use, and at least one (1) long-term bicycle parking space for retail employee use, meeting zoning requirements. Secure long-term bicycle parking for the development will be located in a bike room on the ground floor of the building. Short-term bicycle parking spaces will be placed along the perimeter of the site.

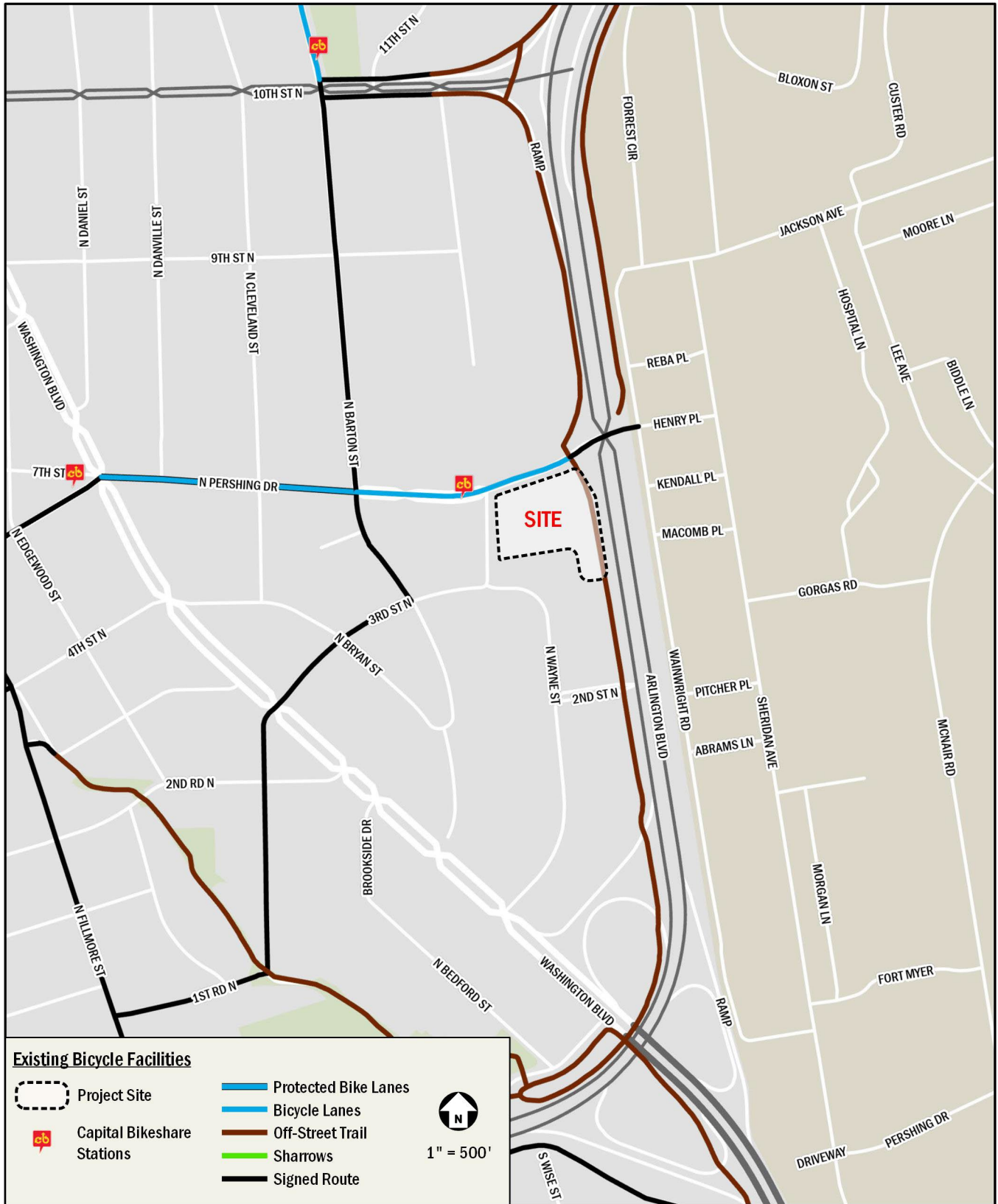


Figure 29: Existing Bicycle Facilities

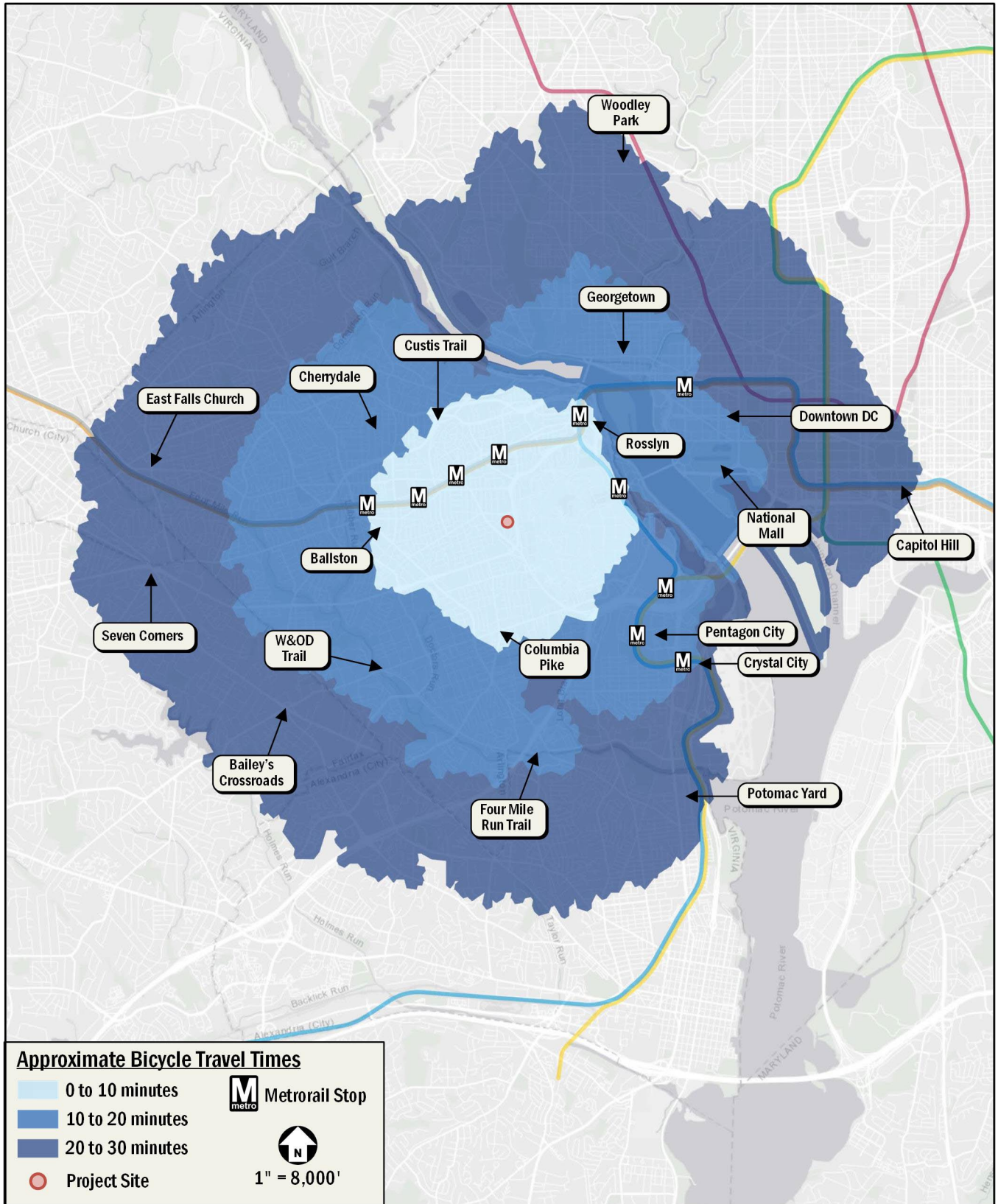


Figure 30: Approximate Bicycle Travel Times

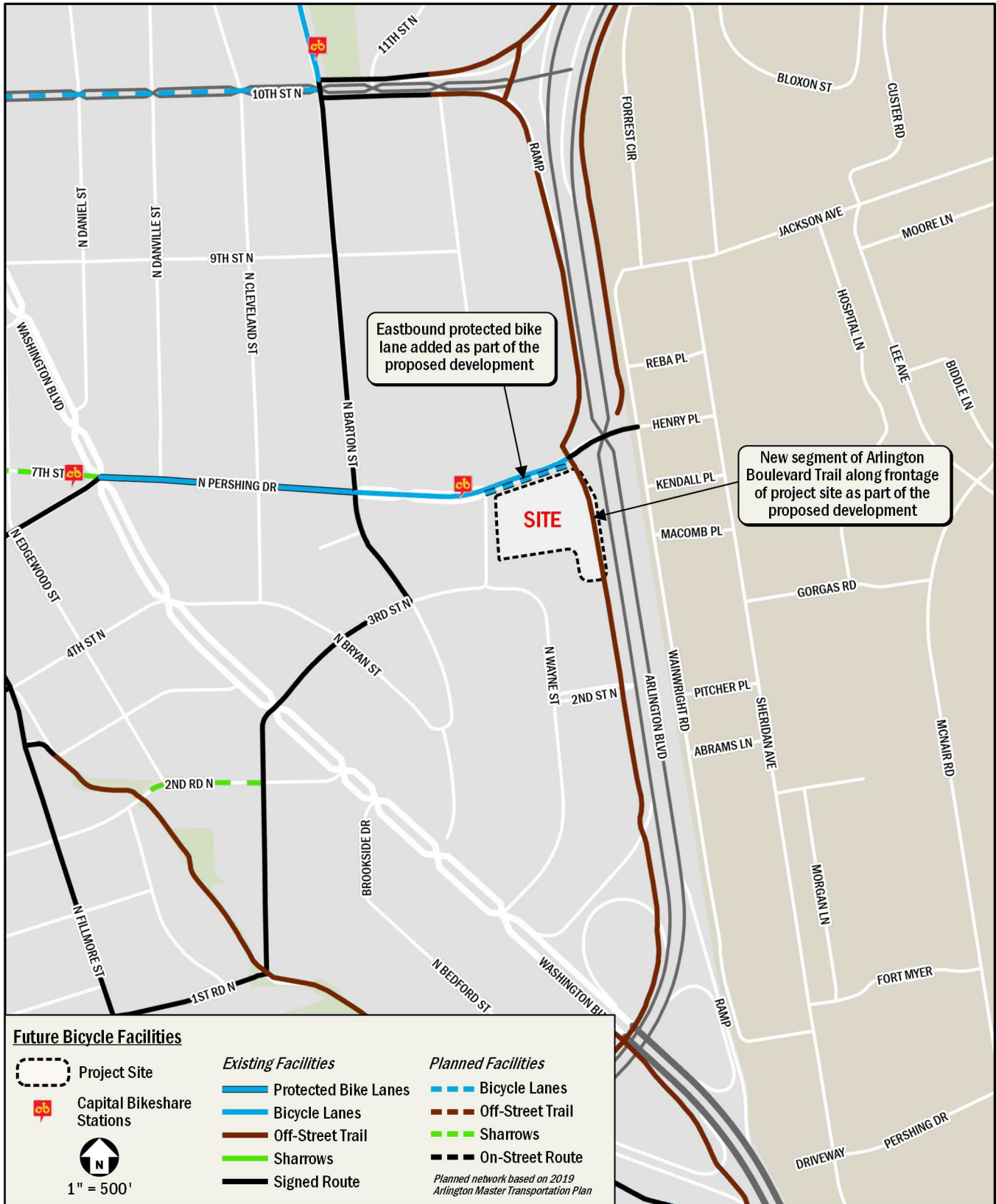


Figure 31: Future Bicycle Facilities

Travel Demand Assumptions

This chapter outlines the transportation demand of the proposed 2201 Arlington Boulevard development. It reviews the expected mode splits, multimodal trip generation, and the trip distribution and routing assumptions, which forms the basis for the chapters that follow.

Mode Split Methodology

Mode split (also called mode share) is the percentage of travelers using a particular type (or mode) of transportation when traveling. The main source of mode split information for this report was based on the Arlington County Mode Share Assumptions for the Route 50 Corridor, census data using Transportation Analysis Districts (TADs), the WMATA Ridership Survey, the Arlington Resident Study, and other approved transportation studies in the vicinity of the site.

Residential Mode Splits

Residential mode splits were primarily based on the County’s guidance on mode share assumptions for residential trip productions; census data at the TAD level was also considered for commuters with origins in the TAD. Figure 32 shows the TAD used in the analysis in relation to the proposed development and Figure 33 shows the destinations of driving commuters with origins in the project TAD. Table 6 summarizes the data that was used to establish the residential mode split assumptions for this report.

Table 6: Summary of Residential Mode Split Data

Information Source	Mode				
	SOV	Carpool	Transit	Bike/Walk	Telecommute/Other
Census Transportation Planning Products (TAD 1014)	43%	4%	36%	11%	6%
Census Data 2018 (Tract 1018.03)	54%	7%	31%	3%	5%
WMATA Ridership Survey (average for Courthouse Station Area)	34%		52%	14%	---
WMATA Ridership Survey (Suburban Inside the Beltway)	39%		49%	12%	---
Arlington Resident Study 2015	44%	3%	42%	11%	1%
Arlington County Mode Share Assumptions for Productions for Route 50 Corridor)	58%		35%	7%	---

Retail Mode Splits

Retail mode splits were primarily based on information contained in WMATA’s 2005 *Development-Related Ridership Survey* and other approved transportation studies in the vicinity of the site. Table 7 summarizes the data that was used to establish the retail mode split assumptions for this report.

Table 7: Summary of Retail Mode Split Data

Information Source	Mode				
	SOV	Carpool	Transit	Bike/Walk	Telecommute/Other
WMATA Ridership Survey (average for Ballston Station Area)	43%		30%	27%	---
WMATA Ridership Survey Table 15 (average for Retail Sites)	36%		37%	27%	---

Existing Hotel Mode Splits

Existing hotel mode splits were primarily based on the County’s guidance on mode share assumptions and information contained in WMATA’s 2005 *Development-Related Ridership Survey*. Table 8 summarizes the data that was used to establish the hotel mode split assumptions for this report.

Table 8: Summary of Hotel Mode Split Data

Information Source	Mode				
	SOV	Carpool	Transit	Bike/Walk	Telecommute/Other
WMATA Ridership Survey (average for Ballston Station Area)	43%		30%	27%	---
WMATA Ridership Survey Table 15 (Hotel Sites)	38%		31%	31%	---

The site has multiple bus stops in the vicinity and one (1) Metro station near the site. It is expected that a significant portion of trips will be by transit, bicycle, or on foot during the morning and afternoon peak hours, rather than by personal vehicle. Based on this, the auto mode splits for the development were determined to be 58% for the residential component and 20% for the retail component. The proposed mode splits were vetted and approved by Arlington County during the scoping process. Table 9 shows the mode split for the development.

Table 9: Summary of Mode Split Assumptions by Land Use

Land Use	Mode			
	Auto	Transit	Bike	Walk
Residential	58%	35%	2%	5%
Retail	20%	30%	10%	40%
Existing Hotel	40%	30%	5%	25%

Trip Generation Methodology

Weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) Trip Generation, 10th Edition.

Existing Trip Generation

The existing site is currently occupied by a 128-room hotel and two (2) surface parking lots. Hotel trip generation was calculated using ITE's baseline vehicular trips for Hotel (LU 310) using the setting/location of General Urban/Suburban. Trips were split into different modes using assumptions outlined in the mode split section of this report.

Proposed Trip Generation

All trip generation calculations for the proposed development are based on ITE's baseline vehicular trips using setting/location of General Urban/Suburban. Residential trip generation was calculated using Multifamily Housing (Mid-Rise) (LU 221) and retail trip generation was calculated using Shopping Center (LU 820). Trips are split into different modes using assumptions outlined in the mode split section of this report.

A summary of the net new multi-modal trip generation for the proposed development as compared to the existing uses on site is shown in Table 10 for the weekday morning and weekday afternoon peak hours. Detailed trip generation calculations are included in the Technical Appendix.

Table 10: Multi-Modal Trip Generation

Mode	Land Use	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Auto	Residential	251 du	14 veh/hr	38 veh/hr	52 veh/hr	38 veh/hr	24 veh/hr	62 veh/hr
	Retail	3,000 sf	1 veh/hr	0 veh/hr	1 veh/hr	4 veh/hr	4 veh/hr	8 veh/hr
	Total Proposed		15 veh/hr	38 veh/hr	53 veh/hr	42 veh/hr	28 veh/hr	70 veh/hr
	<i>Existing Hotel</i>	<i>128 rooms</i>	<i>14 veh/hr</i>	<i>10 veh/hr</i>	<i>24 veh/hr</i>	<i>14 veh/hr</i>	<i>14 veh/hr</i>	<i>28 veh/hr</i>
	Net New		1 veh/hr	28 veh/hr	29 veh/hr	28 veh/hr	14 veh/hr	42 veh/hr
Transit	Residential	251 du	9 ppl/hr	28 ppl/hr	37 ppl/hr	27 ppl/hr	17 ppl/hr	44 ppl/hr
	Retail	3,000 sf	1 ppl/hr	1 ppl/hr	2 ppl/hr	11 ppl/hr	12 ppl/hr	23 ppl/hr
	Total Proposed		10 ppl/hr	29 ppl/hr	39 ppl/hr	38 ppl/hr	29 ppl/hr	67 ppl/hr
	<i>Existing Hotel</i>	<i>128 rooms</i>	<i>17 ppl/hr</i>	<i>13 ppl/hr</i>	<i>30 ppl/hr</i>	<i>18 ppl/hr</i>	<i>17 ppl/hr</i>	<i>35 ppl/hr</i>
	Net New		-7 ppl/hr	16 ppl/hr	9 ppl/hr	20 ppl/hr	12 ppl/hr	32 ppl/hr
Bike	Residential	251 du	1 ppl/hr	1 ppl/hr	2 ppl/hr	2 ppl/hr	1 ppl/hr	3 ppl/hr
	Retail	3,000 sf	0 ppl/hr	1 ppl/hr	1 ppl/hr	4 ppl/hr	4 ppl/hr	8 ppl/hr
	Total Proposed		1 ppl/hr	2 ppl/hr	3 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr
	<i>Existing Hotel</i>	<i>128 rooms</i>	<i>3 ppl/hr</i>	<i>2 ppl/hr</i>	<i>5 ppl/hr</i>	<i>3 ppl/hr</i>	<i>3 ppl/hr</i>	<i>6 ppl/hr</i>
	Net New		-2 ppl/hr	0 ppl/hr	-2 ppl/hr	3 ppl/hr	2 ppl/hr	5 ppl/hr
Walk	Residential	251 du	1 ppl/hr	4 ppl/hr	5 ppl/hr	4 ppl/hr	2 ppl/hr	6 ppl/hr
	Retail	3,000 sf	2 ppl/hr	0 ppl/hr	2 ppl/hr	14 ppl/hr	16 ppl/hr	30 ppl/hr
	Total Proposed		3 ppl/hr	4 ppl/hr	7 ppl/hr	18 ppl/hr	18 ppl/hr	36 ppl/hr
	<i>Existing Hotel</i>	<i>128 rooms</i>	<i>15 ppl/hr</i>	<i>10 ppl/hr</i>	<i>25 ppl/hr</i>	<i>15 ppl/hr</i>	<i>14 ppl/hr</i>	<i>29 ppl/hr</i>
	Net New		-12 ppl/hr	-6 ppl/hr	-18 ppl/hr	3 ppl/hr	4 ppl/hr	7 ppl/hr

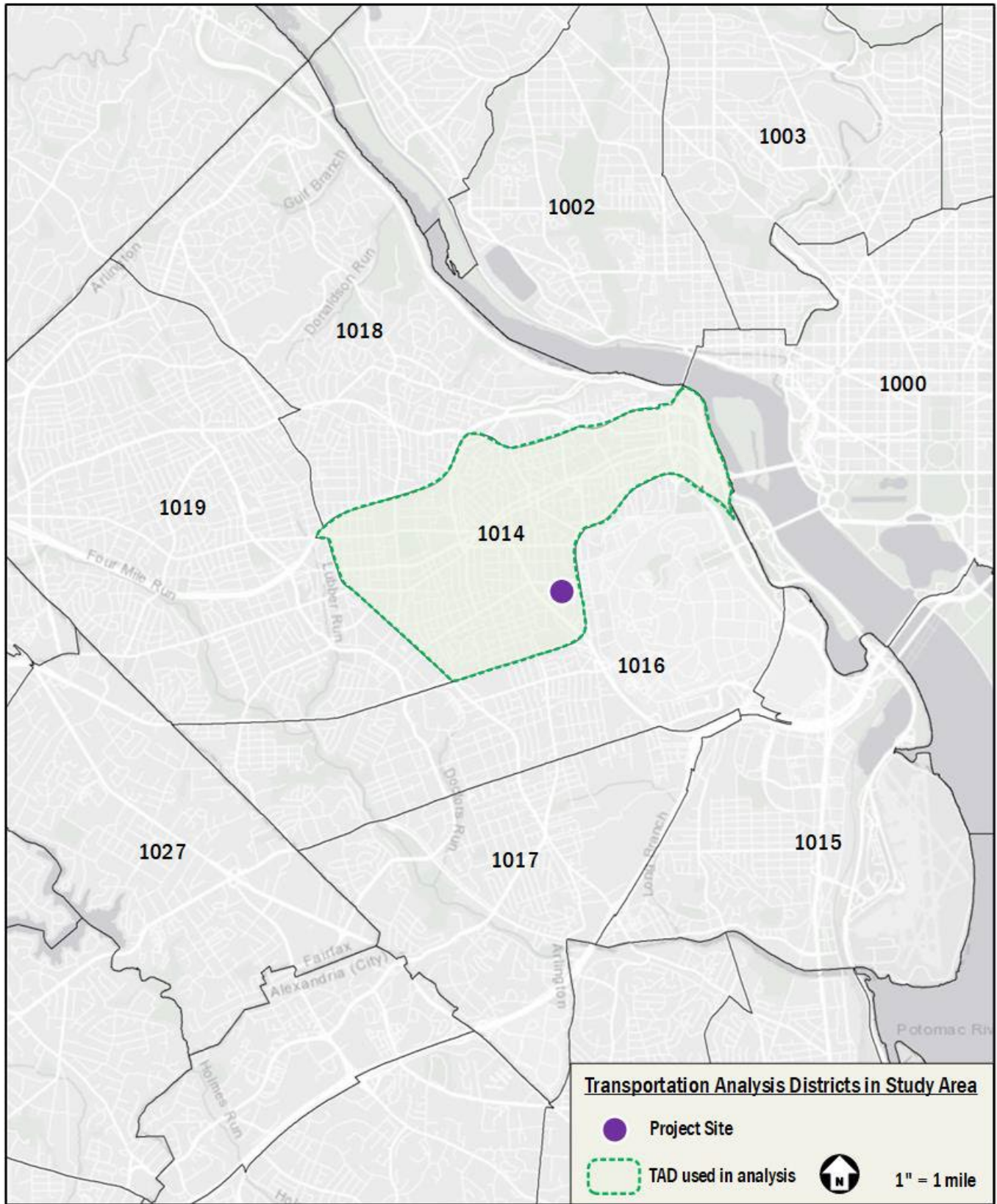


Figure 32: Transportation Analysis Districts (TADs) in Study Area

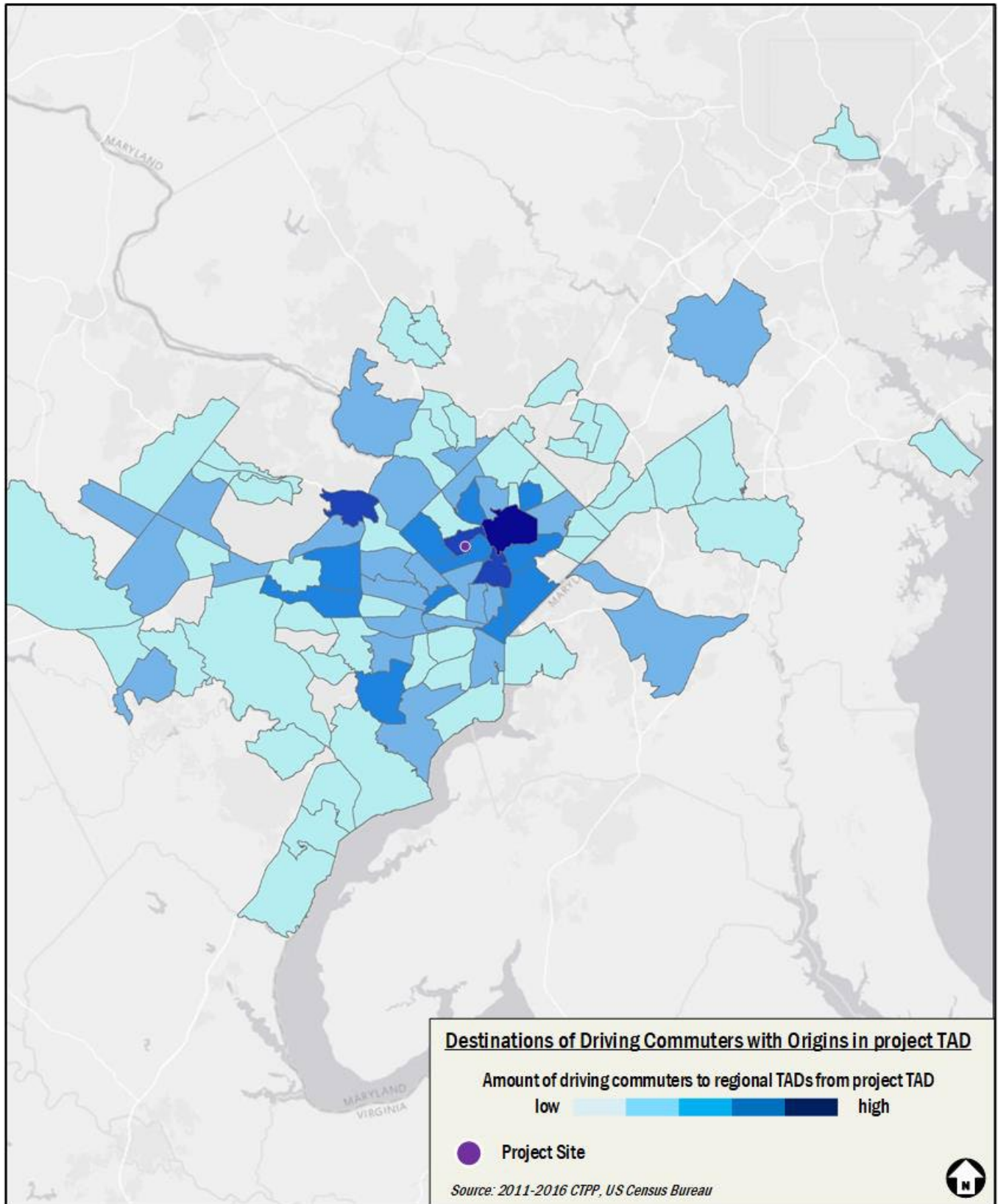


Figure 33: Destinations of Driving Commuters with Origins in Project TAD

Traffic Operations

This chapter provides a summary of an analysis of the existing and future roadway capacity in the study area for the 2026 analysis year. Included is an analysis of potential vehicular impacts of the 2201 Arlington Boulevard development and a discussion of potential improvements.

The purpose of the capacity analysis is to:

- Determine the existing capacity of the study area roadways;
- Determine the overall impact of the proposed development on the study area roadways; and
- Discuss potential improvements and mitigation measures to accommodate the additional vehicular trips.

The capacity analysis focuses on the morning and afternoon commuter peak hours, as determined by the existing traffic volumes in the study area.

The proposed development is considered to have an impact at an intersection within the vehicular study area if any of the following conditions are met:

- The overall intersection or any movement operates at LOS F in the future conditions with the proposed development where it operates at LOS E or better in the background conditions without the proposed development;
- The overall intersection or any movement operates at LOS F during the background condition and the delay increases by more than 10% in the future conditions with the proposed development; or
- If any 95th percentile queue length in the future condition exceeds the available capacity where it does not in the background conditions or increases the 95th percentile queue length by more than 150 feet where it already exceeds the available capacity in the background conditions..

The following conclusions are reached within this chapter:

- No impacts were identified at the study intersections as a result of the proposed development.
- Overall, this report concludes that the project will have minimal impact to the surrounding transportation network.

Study Area, Scope, & Methodology

This section outlines the assumptions used to develop the existing and future roadway capacity analyses, including

volumes, roadway geometries, and traffic operations. The scope of the analysis contained within this report was discussed with and approved by Arlington County staff. The general methodology of the analysis follows national and Arlington County guidelines on the preparation of transportation impact evaluations of site development.

Capacity Analysis Scenarios

The vehicular capacity analyses are performed to determine if the proposed development will lead to adverse impacts on traffic operations. This is accomplished by comparing future scenarios: (1) without the proposed development (referred to as the Background conditions) and (2) with the development approved and constructed (referred to as the Future conditions).

Specifically, the roadway capacity analysis examined the following scenarios:

1. 2022 Existing Conditions
2. 2026 Future Conditions without the development (2026 Background)
3. 2026 Future Conditions with the development (2026 Future)

Study Area

The study area of the analysis is a set of intersections where detailed capacity analyses are performed for the scenarios listed above. The set of intersections included are those intersections most likely to have potential impacts or require changes to traffic operations to accommodate the proposed development.

Based on the projected future trip generation and the location of the site access points, as agreed to in this report's scoping agreement, the following intersections were chosen for analysis:

1. N Pershing Drive and N Barton Street
2. N Pershing Drive and N Wayne Street
3. N Pershing Drive and Wainwright Road Access Road
4. N Pershing Drive and Arlington Boulevard
5. N Wayne Street and 3rd Street N
6. N Wayne Street and Site Driveway (Planned)
7. N Pershing Drive and Site Driveway (Planned)

Figure 7 shows the vehicular study area intersections. Roadway characteristics, including classification, number of lanes, speed limit, the presence of on-street parking and average daily traffic volumes (ADT) are outlined in Table 11.

Table 11: Existing Roadway Network

Roadway	Classification*	Lanes	Speed	On-Street Parking	ADT**
N Pershing Drive	Minor Arterial (VDOT) Between N Glebe Road and N Barton Street - Arterial Type E (Arlington)	2	25 mph	Yes	5,200
	Between N Barton Street and Washington Boulevard - Arterial Type A (Arlington)				
Arlington Boulevard	Other Principal Arterial (VDOT) Arterial Type F (Arlington)	6	45 mph	No	60,000
N Barton Street	Major Collector (VDOT) Non-Arterial (Arlington)	2	25 mph	Yes	NA
N Wayne Street	Local Road (VDOT) Non-Arterial (Arlington)	2	25 mph	Yes	NA

* From VDOT and Arlington GIS

** VDOT ADT Data from 2019

NA – Data unavailable

Traffic Volume Assumptions

The following section reviews the traffic volume assumptions and methodologies used in the roadway capacity analyses.

Existing Traffic Volumes

The existing traffic volumes are comprised of turning movement count data which was collected in February 2019 as part of the Special GLUP Study conducted for the project site, and site driveway counts collected in May 2022. Existing volumes were balanced where appropriate. Based on the average peak hours from all of the count data, the system peak hours assumed were 7:30 AM to 8:30 AM for the morning peak hour and 5:00 PM to 6:00 PM for the afternoon peak hour. The existing turning movement counts, without volume balancing, are included in the Technical Appendix.

The existing peak hour traffic volumes for intersections within the vehicular study area are shown in Figure 34.

2026 Traffic Volumes

2026 Background Traffic Volumes (without the proposed development)

Traffic projections for the 2026 Background Conditions consist of the existing volumes with the two additions:

- Inherent growth on the roadway (representing regional traffic growth); and
- Traffic generated by developments expected to be completed prior to 2026 (representing local traffic growth, known as background developments).

Regional Traffic Growth

While the background developments represent local traffic changes, regional traffic is typically accounted for using growth rates. The growth rates used in this analysis were derived using VDOT's Annual Average Daily Traffic (AADT) data, transportation studies for recently-approved projects, and discussions with Arlington County staff during the scoping process. According to historical data, the average historical growth rate on Arlington Boulevard near the project site has been 1.0%. As such, an annual growth rate of 1.0% was applied to through volumes on Arlington Boulevard, the regional roadway in the study area.

Background Developments (2026)

Following industry methodologies, a background development must meet the following criteria to be incorporated into the analysis:

- Be located in the study area, defined as having an origin or destination point within the cluster of study area intersections;
- Have entitlements; and
- Have a construction completion date prior or close to the proposed development.

Based on these criteria, four (4) developments were included in the 2026 Background Conditions scenario. These developments are:

1. 1200 N Courthouse Road (Park Arlington at Courthouse)
2. 1300 and 1305 N Pierce Street (Marbella Apartments)
3. 2025 Fairfax Drive (Wakefield Manor)
4. 1307 N Rolfe Street (Gables North Rolfe Street)

The location of the background developments included in the 2026 Background Conditions scenario in relation to the proposed 2201 Arlington Boulevard development is shown on Figure 35.

Transportation studies were available for the majority of the background developments included in the 2026 Background Conditions. Details on each of the background developments included in the 2026 Background Conditions are presented below:

1. **1200 N Courthouse Road (Park Arlington at Courthouse):** The approved project is located at 1200 N Courthouse Road at the southeast corner of the 13th Street N and N Courthouse Road intersection. The project will convert the existing 187-room hotel to 180 residential units. The project includes two levels of below-grade parking containing approximately 150 parking spaces. The 1200 N Courthouse Road project is expected to generate -29 net weekday AM peak hour vehicle trips and -30 net weekday PM peak hour vehicle trips based on the multimodal facilities evaluation prepared by Wells & Associates dated May 15, 2019.
2. **1300 and 1305 N Pierce Street (Marbella Apartments):** The approved project is located at 1300 and 1305 N Pierce Street in the Fort Myer Heights area of Arlington, Virginia.

The Applicant proposes to develop the site in two phases. The first phase will consist of a 12-story tower with 325 residential units (132 of which would be dedicated senior housing) and 163 below-grade parking spaces; the second phase will consist of an additional 12-story tower with 236 residential units and 118 below-grade parking spaces. The proposed development is expected to generate 91 net weekday AM peak hour vehicle trips and 102 net weekday PM peak hour vehicle trips based on the Multimodal Traffic Impact Analysis prepared by Wells & Associates dated May 13, 2021.

3. **2025 Fairfax Drive (Wakefield Manor):** The approved 2025 Fairfax Drive development is located in the Radnor/Fort Myer Heights neighborhood in Arlington Virginia. The approved development would construct 110 residential units at the project site, which currently is occupied by surface parking lots and a single family structure. The proposed development is expected to generate 35 net weekday AM peak hour vehicle trips and 47 net weekday PM peak hour vehicle trips based on the Traffic Impact Study prepared by Gorove Slade Associates dated April 15, 2010.
4. **1307 N Rolfe Street (Gables North Rolfe Street):** The completed 1307 N Rolfe Street development is located in the Radnor/Fort Myer Heights neighborhood in Arlington,

Virginia. The project constructed 395 housing units, 14 County transitional living housing units, and an 8,000 square-foot park on the development site. The 1307 N Rolfe Street development is expected to generate 136 net weekday AM peak hour vehicle trips and 112 net weekday PM peak hour vehicle trips based on the 10th Edition ITE Trip Generation rates. Although this project was completed prior to 2022, it is included as a background development as it was not complete at the time that existing conditions counts were collected along Arlington Boulevard in February 2019. The majority of trips generated by this site traveling through the study area would be concentrated along Arlington Boulevard; therefore the site was included as a background development.

Trips generated by the approved background developments are included in the Technical Appendix. The traffic volumes generated by background developments were added to the regional traffic growth and existing traffic volumes in order to establish the 2026 Background traffic volumes. The traffic volumes for the 2026 Background conditions are shown on Figure 36.

Table 12: Traffic Generated by 2026 Background Developments

Development	Trip Generation					
	AM Peak Hour			PM Peak Hour		
	<i>In</i>	<i>Out</i>	<i>Total</i>	<i>In</i>	<i>Out</i>	<i>Total</i>
<u>1200 N. Courthouse Road</u>						
Total New Vehicle Trips	-27	-2	-29	-13	-30	-43
<u>1300 and 1305 North Pierce Street</u>						
Total New Vehicle Trips	21	69	91	62	40	102
<u>2025 Fairfax Drive (Wakefield Manor)</u>						
Total New Vehicle Trips	7	28	35	31	17	47
<u>1307 N. Rolfe Street</u>						
Total New Vehicle Trips	29	107	136	66	46	112
Total New Background Trips	30 veh/hr	202 veh/hr	233 veh/hr	146 veh/hr	73 veh/hr	218 veh/hr

(1): Extracted from Park Arlington at Courthouse multimodal facilities evaluation (05.15.2019) prepared by Wells + Associates.

(2): Extracted from Marbella Apartments MMTA (05.13.2021) prepared by Wells + Associates.

(3): Extracted from Wakefield Manor TIS (04.15.2010) prepared by Gorove Slade Associates

(4): Based on ITE Trip Generation, 10th Edition.

2026 Future Traffic Volumes

The 2026 Future Conditions traffic volumes consist of the 2026 Background volumes with the addition of the traffic volumes generated by the proposed development (site-generated trips). Thus, the 2026 Future Conditions traffic volumes include traffic generated by: the existing volumes, background developments, removed existing site trips, regional growth, and the proposed development.

Trip distribution and assignments for site-generated traffic was primarily determined using existing volumes, anticipated traffic patterns, and other recent studies conducted in the area. To provide a more conservative analysis, the existing site trips removed from the site were based on existing driveway volumes, as opposed to crediting the site based on trip generation for the existing land use. Trips generated by the proposed residential and retail components of the development were then added to the network. The origins of outbound and destinations of inbound vehicular trips were the proposed driveways on N Wayne Street (both inbound and outbound trips) and on N Pershing Drive (outbound trips only). A summary of the inbound and outbound trip distribution assumptions for the proposed development is shown on Figure 37 for residential and Figure 38 for retail. Removed existing site trip volumes are provided in the Technical Appendix.

Trip distribution and assignment assumptions were vetted and approved by Arlington County. Based on the trip distribution and

assignment assumptions, site-generated trips were distributed though the study area intersections. The site-generated traffic volumes are shown on Figure 39. The 2026 Future Conditions traffic volumes, which are comprised of existing volumes, background developments, removed existing site trips, and the proposed development are shown on Figure 40.

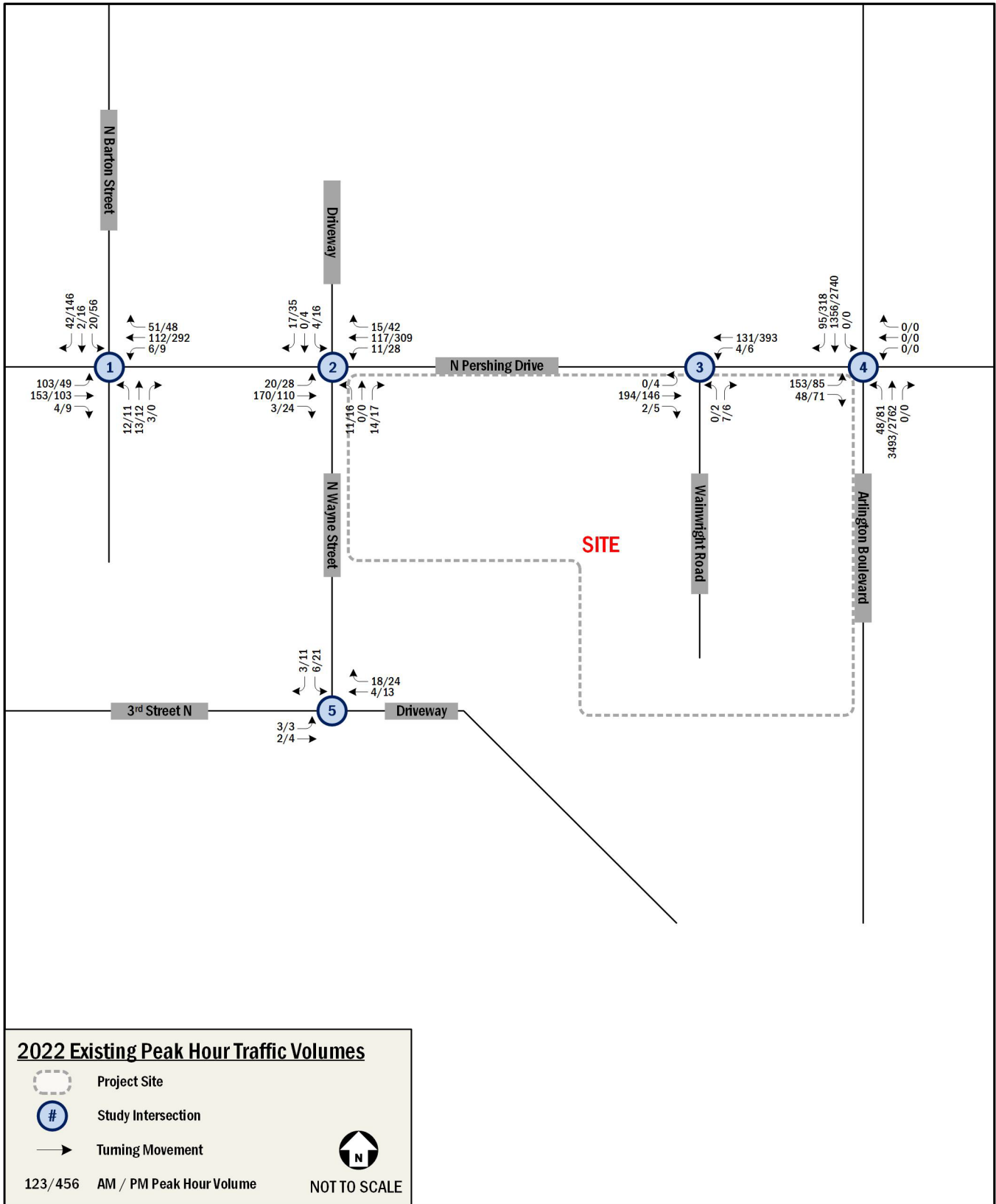


Figure 34: 2022 Existing Peak Hour Traffic Volumes

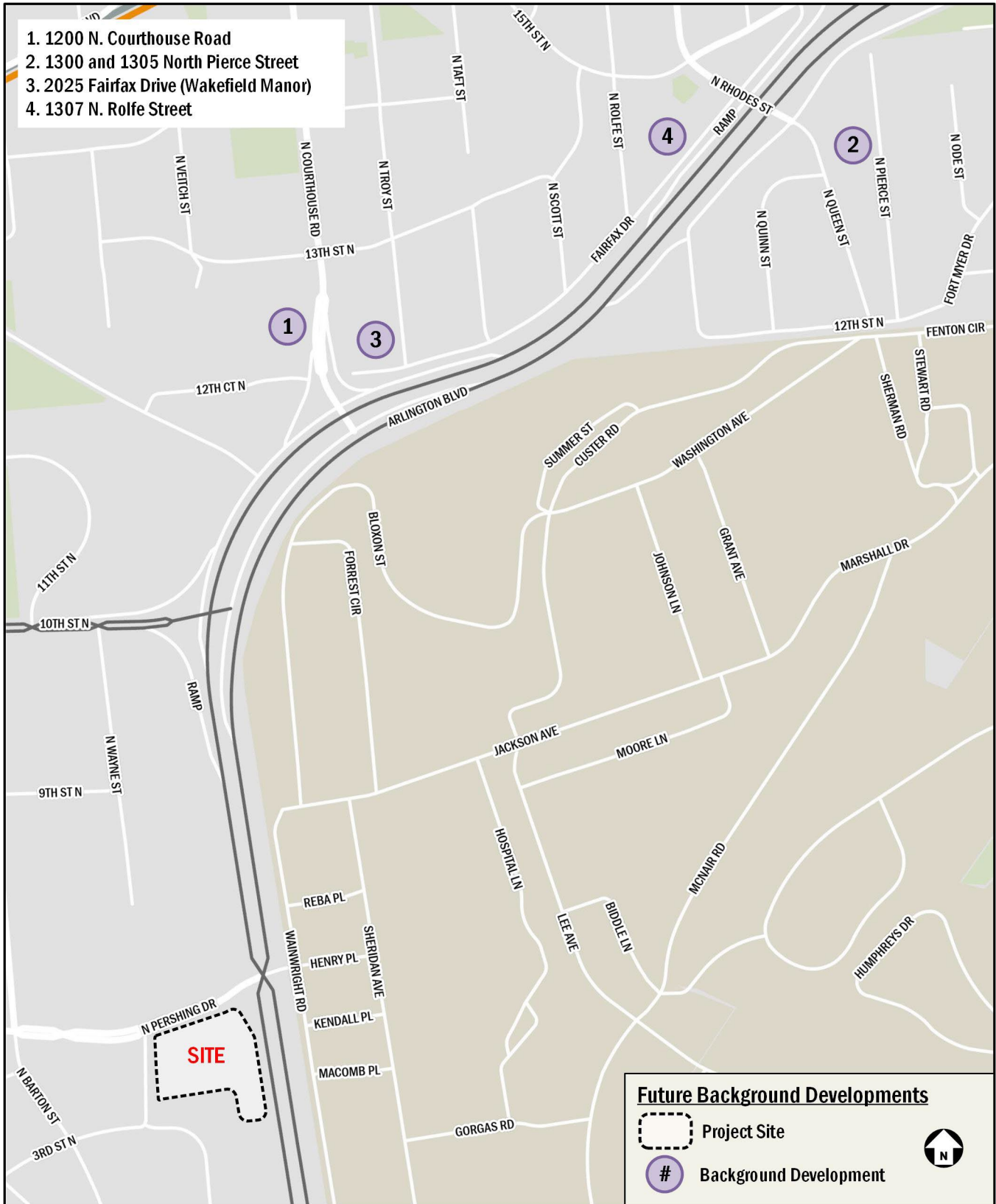


Figure 35: Future Background Developments

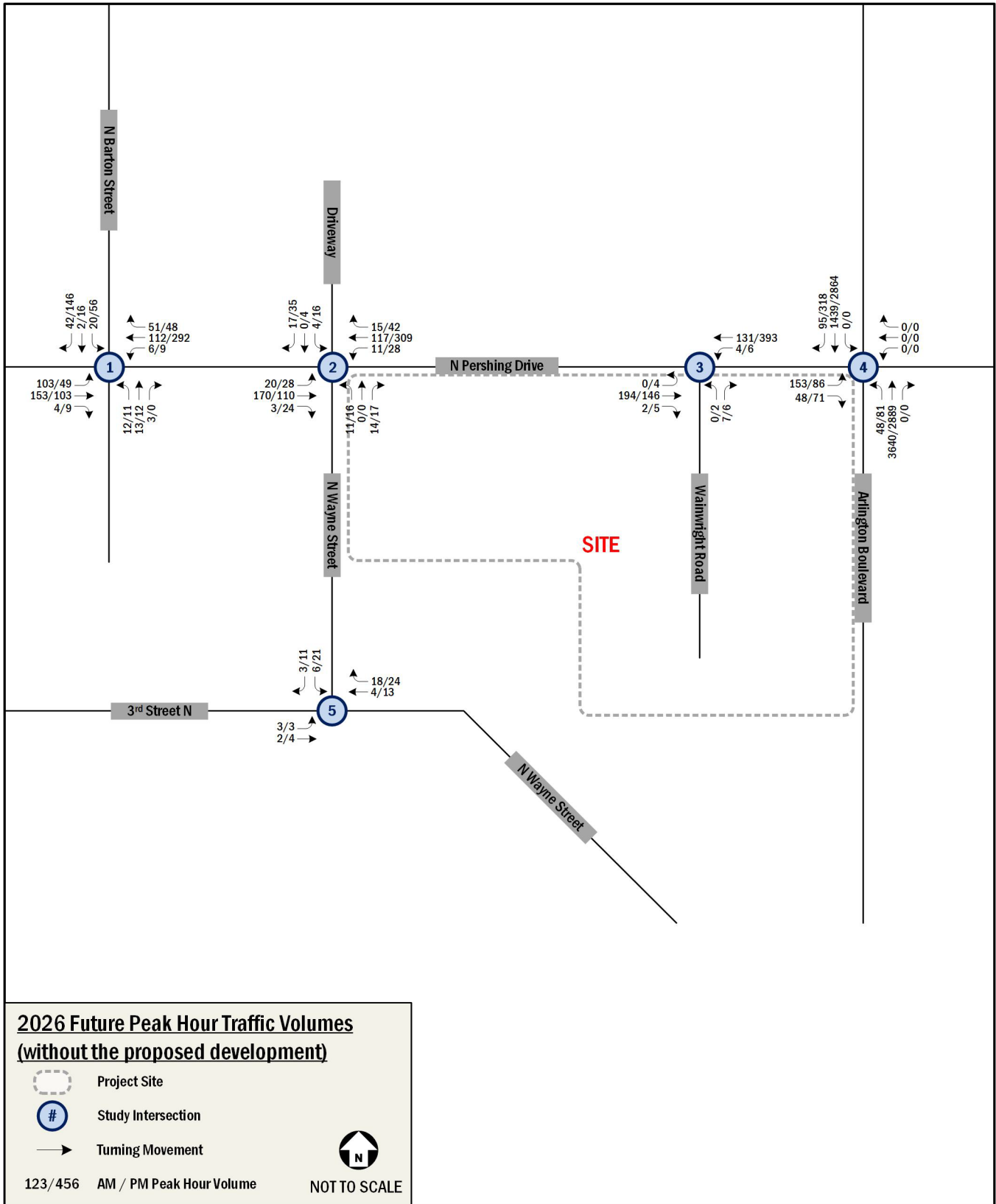


Figure 36: 2026 Background Peak Hour Traffic Volumes (without the proposed development)

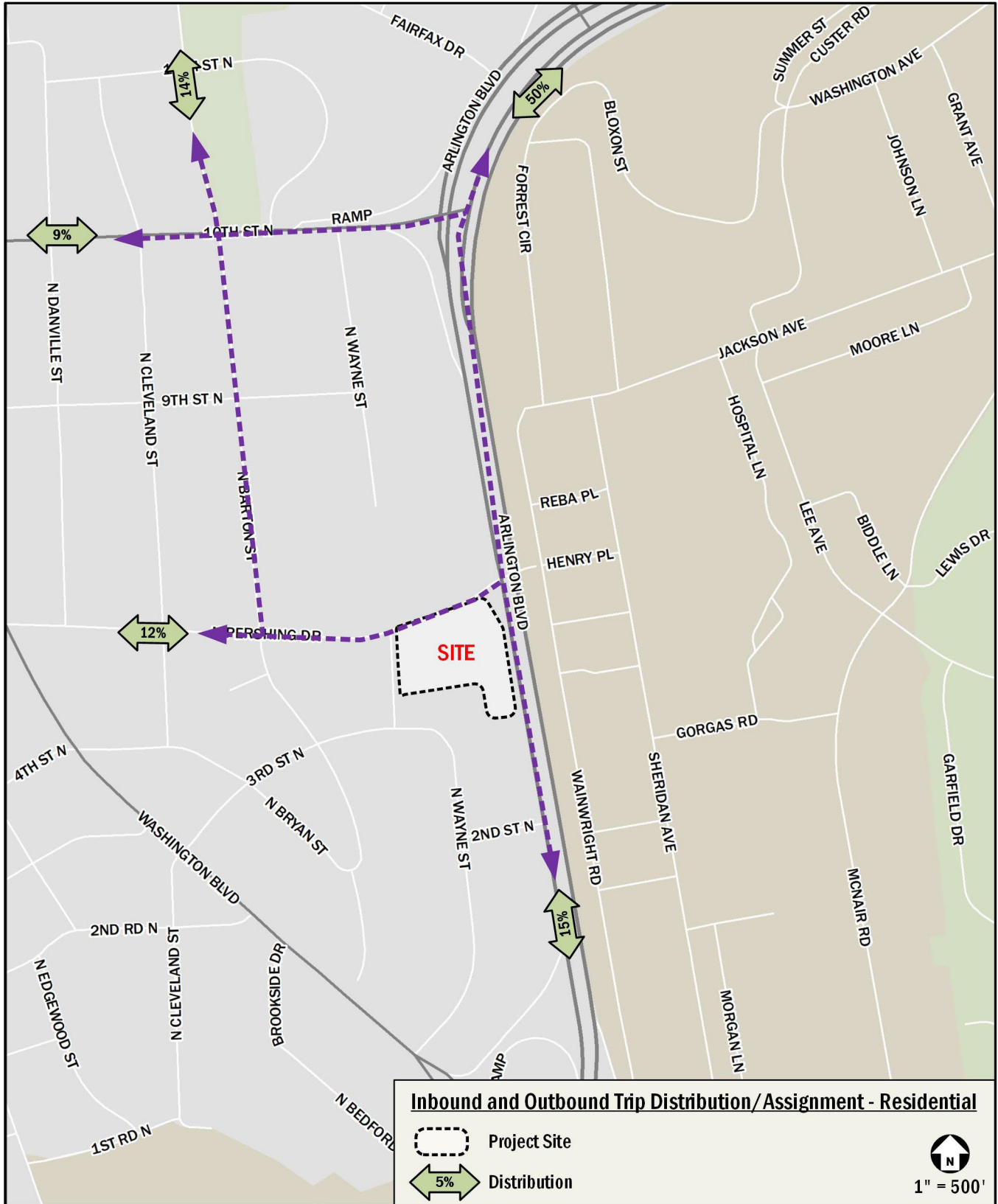


Figure 37: Inbound and Outbound Trip Distribution/Assignment – Residential

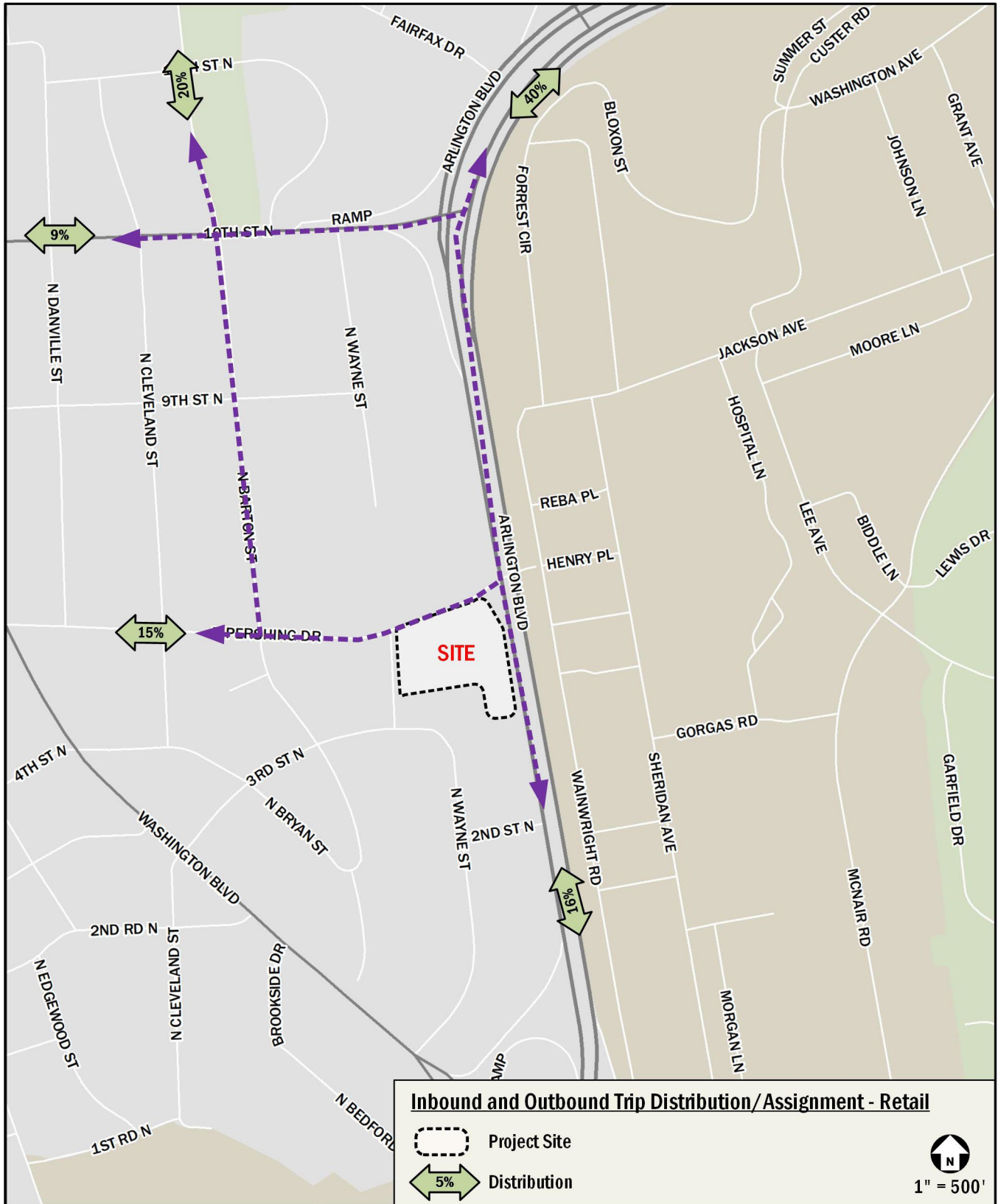


Figure 38: Inbound and Outbound Trip Distribution/Assignment – Retail

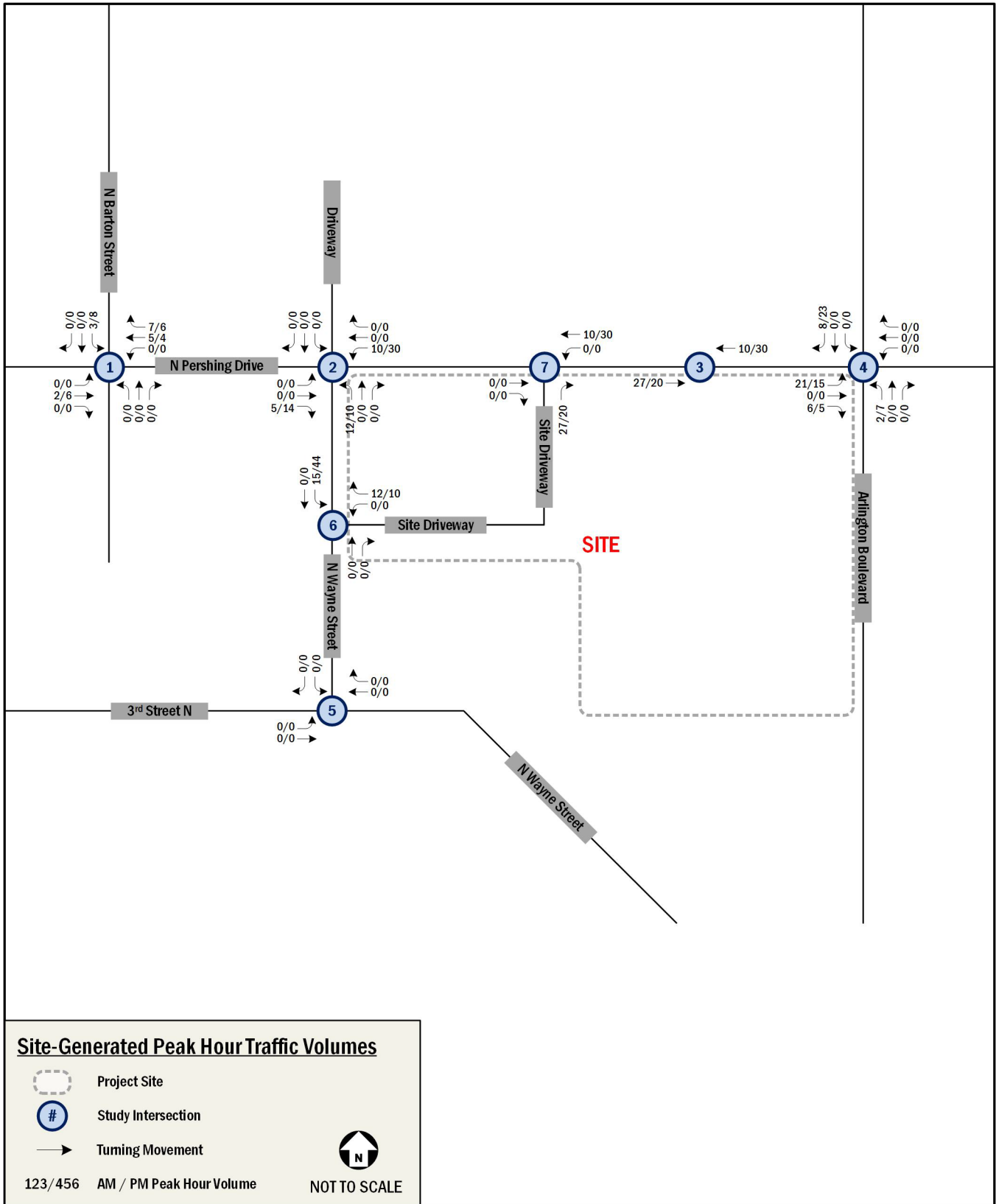


Figure 39: Site-Generated Peak Hour Traffic Volumes

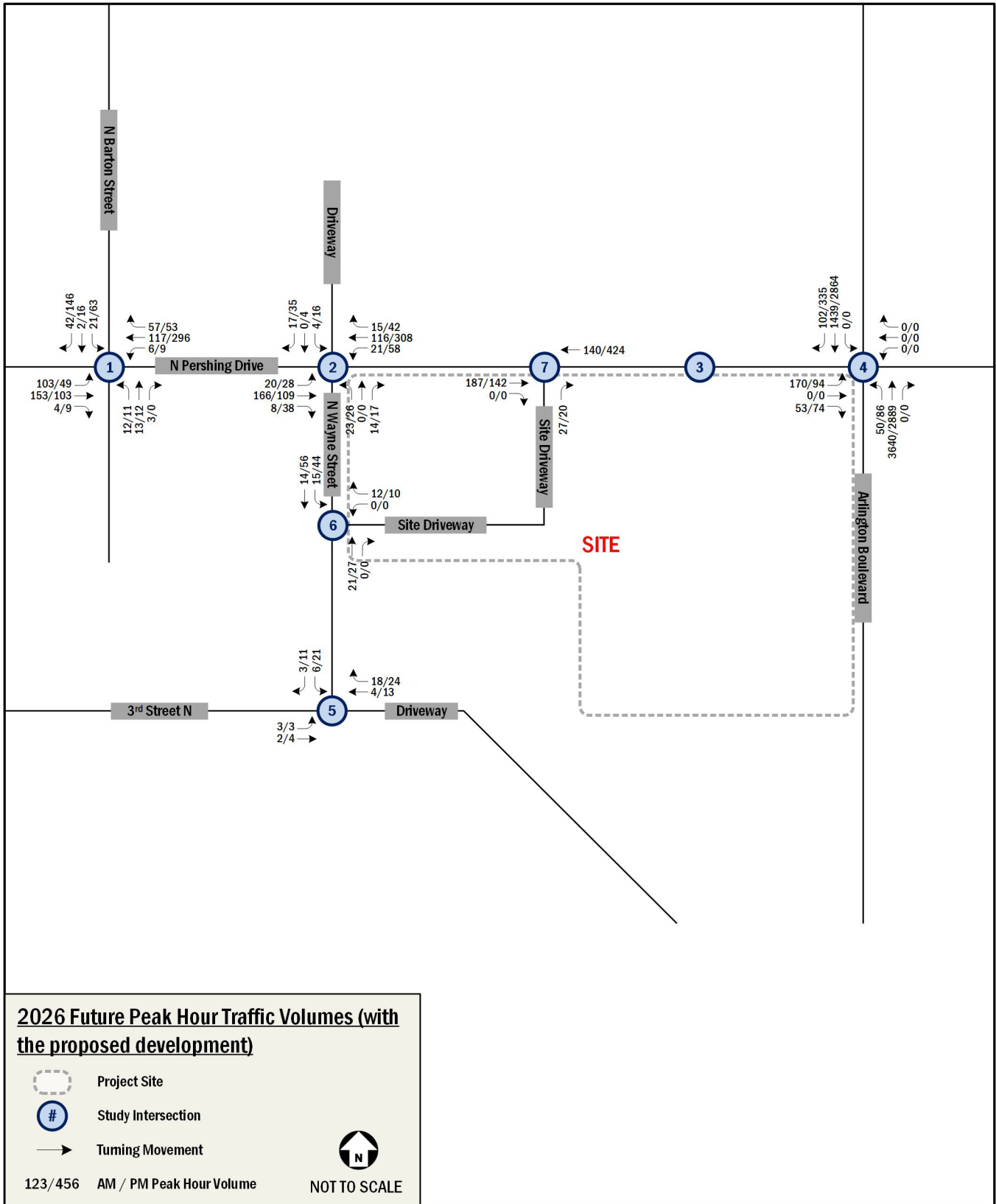


Figure 40: 2026 Future Peak Hour Traffic Volumes (with the proposed development)

Geometry and Operations Assumptions

The following section reviews the roadway geometry and operations assumptions made and the methodologies used in the roadway capacity analyses.

2022 Existing Geometry and Operations Assumptions

The geometry and operations assumed in the existing conditions scenario are those present when the main data collection occurred. Gorove Slade made observations and confirmed the existing lane configurations and traffic controls at the intersections within the study area. Existing signal timings and offsets were obtained from Arlington County and confirmed during field reconnaissance.

A description of the roadways within the study area is presented above in Table 11. The existing local roadway network including lane configurations and intersection control is detailed in and illustrated in Figure 41.

2026 Background Geometry and Operations Assumptions (without the proposed development)

Following industry standard methodologies, a background improvement must meet the following criteria to be incorporated into the analysis:

- Be funded; and
- Have a construction completion date prior or close to the proposed development.

Based on these criteria, there are no geometry improvements included in the 2026 Background scenario.

The configurations and traffic controls for the 2026 Background Conditions were based on those for the 2022 Existing Conditions. Lane configurations and traffic controls for the 2026 Background Conditions are shown in Figure 42.

2026 Future Geometry and Operations Assumptions (with the proposed development)

The configurations and traffic controls assumed in the 2026 Future Conditions are based on the 2026 Background Conditions with the addition of the proposed development. The proposed development would result in the closure of two (2) existing site driveways located on N Pershing Drive, the closure of Wainwright Road on the east side of the project site, and the addition of two new site driveways on N Wayne Street and N Pershing Drive.

The modifications of the roadway network as a result of the proposed development are as follows:

- (1) N Pershing Drive & Wainwright Road (Int.3) will be modified to close Wainwright Road. Each intersection approach is configured with the following:
 - The westbound approach will include one through lane.
 - The eastbound approach will include two through lanes.
 - The northbound approach will be closed.
- (2) The two existing site driveways on N Pershing Drive will be closed as a result of the proposed development.
- (3) One right-in/right-out only site driveway will be constructed on the south side of N Pershing Drive. The intersection will be configured with the following:
 - The eastbound approach will include one through lane and one through/right lane
 - The westbound approach will include one through lane.
 - The northbound approach will include one right-turn lane.
- (4) One site driveway will be constructed on the east side of N Wayne Street. The intersection will be configured with the following:
 - The southbound approach will include one through/left lane
 - The westbound approach will include one right/left turn lane.
 - The northbound approach will include one through/right lane.

No signal timing changes were made to existing signals. Lane configurations and traffic controls for the 2026 Future Conditions are shown in Figure 43.

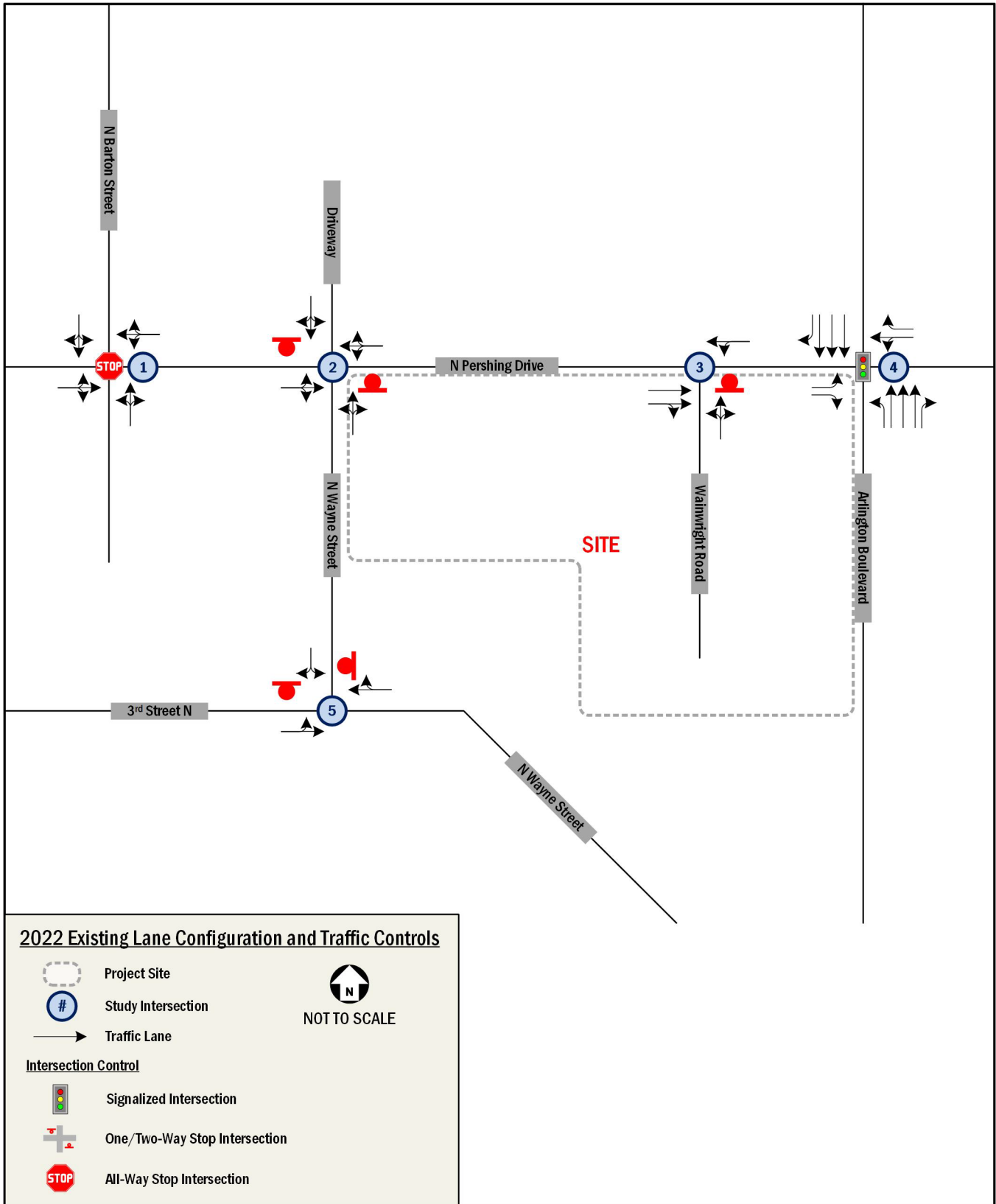


Figure 41: 2022 Existing Lane Configurations and Traffic Controls

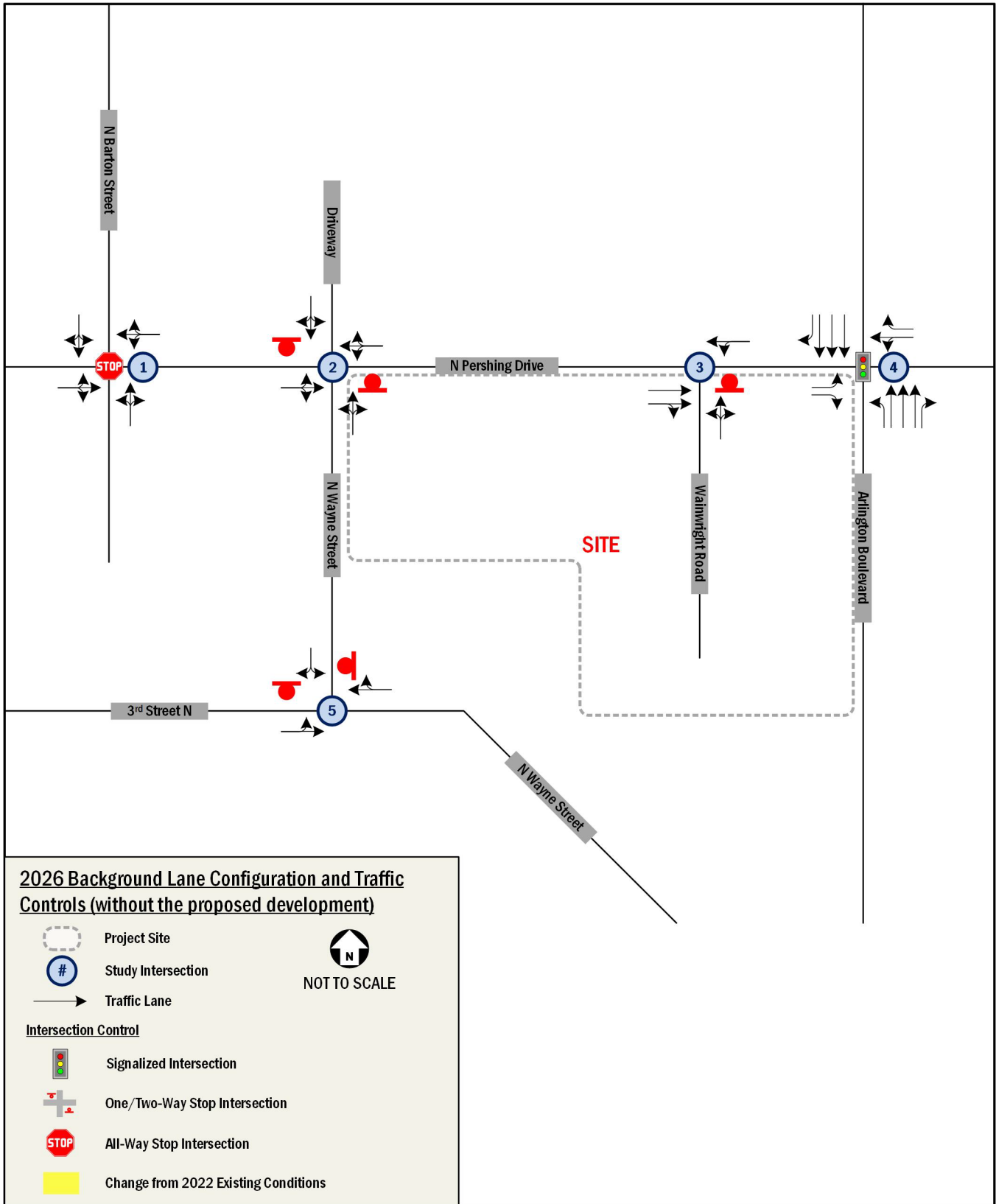


Figure 42: 2025 Background Lane Configurations and Traffic Controls (without the proposed development)

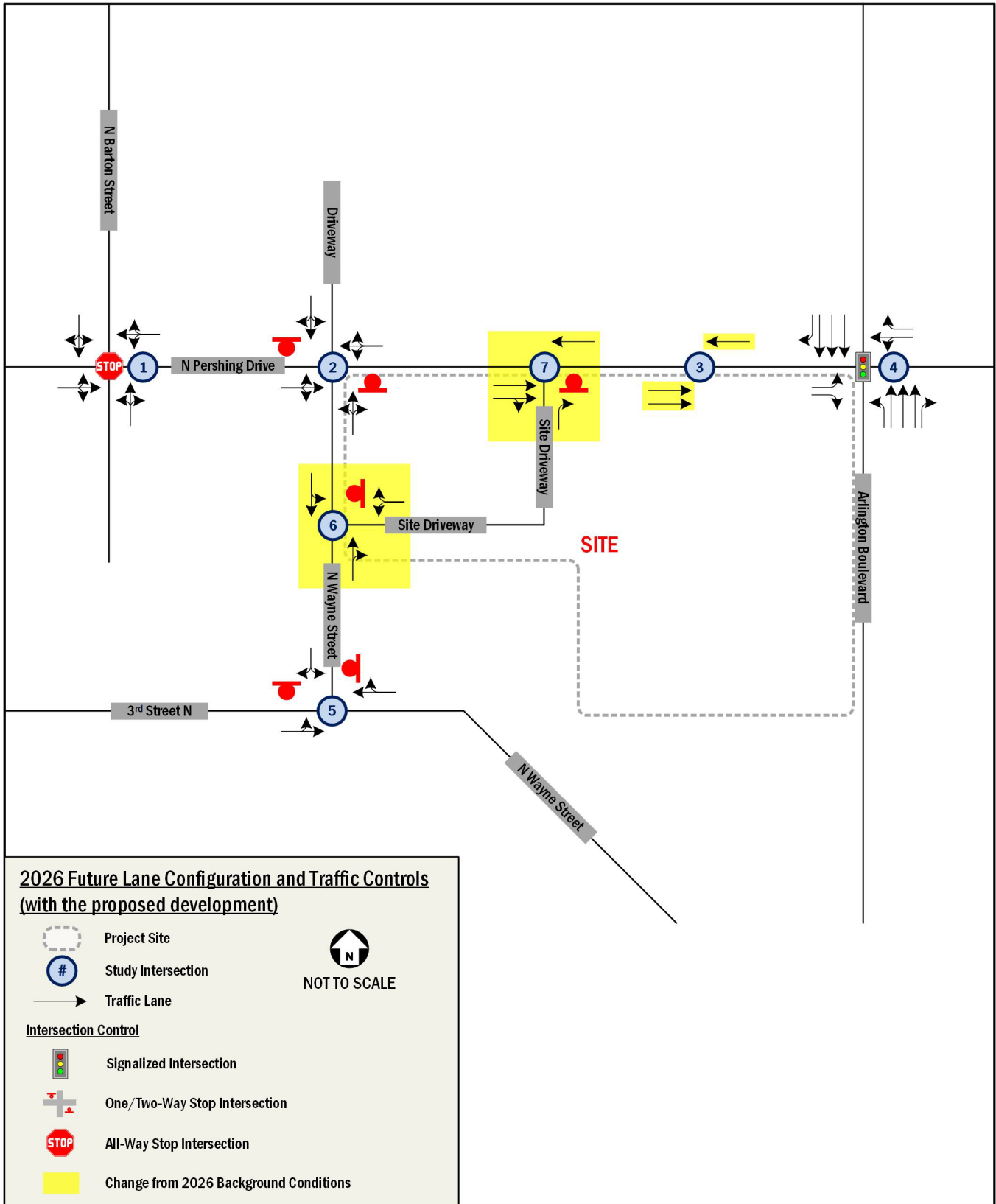


Figure 43: 2025 Future Lane Configuration and Traffic Controls (with the proposed development)

Vehicular Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for the three scenarios outlined previously at the intersections contained within the study area during the morning and afternoon hours. *Synchro*, version 10 was used to analyze the study intersections based on the Highway Capacity Manual 2000 (HCM) methodology and includes level of service, delay, and queue length comparisons for the turning movements analyzed. Both signalized and unsignalized intersections were evaluated using HCM 2000.

Peak Hour Factors

Peak hour factors were applied in accordance with *Traffic Operations and Safety Analysis Manual 2.0* prepared by VDOT dated February 2020. As such, peak hour factors by approach between 0.85 and 1.00 were used for the existing year analysis. Where the calculated peak hour factor based on the existing turning movement counts was greater than 0.85, the calculated factor was applied. Where the calculated factor was 0.85 or less, a factor of 0.85 was applied.

Peak hour factors by approach between 0.92 and 1.00 were used for all future scenarios. Where the calculated peak hour factor based on the existing turning movement counts was greater than 0.92, the calculated factor was applied. Where the calculated factor was 0.92 or less, a factor of 0.92 was applied.

Heavy Vehicle Percentages

A heavy vehicle percentage of 2% was used for existing movements unless determined to be higher from the turning movement counts, in which case the higher percentage was used. A default heavy vehicle percentage of 2% was used for any new movements.

Geometry and Operations

Existing signal timings were obtained from Arlington County for signalized intersections in the vehicular study area. These timings were verified in the field by Gorove Slade and adjusted where necessary.

Level of Service and Delay

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each movement. A LOS grade is a letter grade based on the average

delay (in seconds) experienced by motorists traveling through an intersection. LOS results range from "A" being the best to "F" being the worst. LOS E is typically used as the acceptable LOS threshold in Arlington County; although LOS F is sometimes accepted in urbanized areas if vehicular improvements would be a detriment to safety or non-auto modes of transportation. For the purpose of this analysis, it is desirable to achieve a level of service (LOS) of E or better for each movement at the intersections.

The LOS capacity analyses were based on: (1) the peak hour traffic volumes; (2) the lane use and traffic controls; and (3) the Highway Capacity Manual (HCM) methodologies (using the *Synchro* software). The average delay of each movement and LOS is shown for the signalized intersections in addition to the overall average delay and intersection LOS grade. The HCM does not give guidelines for calculating the average delay for a two-way stop-controlled intersection, as the approaches without stop signs would technically have no delay. Detailed LOS descriptions and the analysis worksheets are contained in the Technical Appendix.

Queuing Analysis

In addition to the capacity analyses, a queuing analysis was performed at the study intersections. The queuing analysis was performed using *Synchro* software. The 50th percentile and 95th percentile queue lengths are shown for each lane group at the study area signalized intersections. The 50th percentile queue is the maximum back of queue on a median cycle. The 95th percentile queue is the maximum back of queue that is exceeded 5% of the time. For unsignalized intersections, only the 95th percentile queue is reported for each lane group (including free-flowing left turns and stop-controlled movements) based on the HCM calculations. Queuing analysis worksheets are contained in the Technical Appendix.

2022 Analysis Results

The Existing (2022) results of the intersection capacity analyses for the AM and PM peak hours are expressed in level of service (LOS) and delay (seconds per vehicle) per movement are presented in Table 13. The capacity analysis results indicate that most intersections operate at acceptable LOS under the Existing (2022) Conditions; however, one (1) intersection has one or more movements that operate at levels beyond acceptable thresholds in one or more peak hour:

- N Pershing Drive/Arlington Boulevard
 - Eastbound Left (AM)
 - Northbound Left (AM/PM)

The Existing (2022) queuing results for the AM and PM peak hours are expressed by movement and presented in Table 14. The 95th percentile queues at most lane groups at study area intersections do not exceed their available storage length in Existing Conditions; however, one (1) intersection does have at least one movement with 95th percentile queues that exceed the available storage length in the morning or afternoon peak hour:

- N Pershing Drive/Arlington Boulevard
 - Eastbound Left (AM)
 - Northbound Thru (AM)
 - Southbound Thru (PM)

2026 Analysis Results

2026 Background Analysis Results (without the proposed development)

The Background (2026) results of the intersection capacity analyses for the AM and PM peak hours are expressed in level of service (LOS) and delay (seconds per vehicle) per movement and presented in Table 13. The capacity analysis results indicate that most intersections operate at acceptable LOS under the Background (2026) Conditions; however, one (1) intersection has one or more movements that operate at levels beyond acceptable thresholds in one or more peak hour:

- N Pershing Drive/Arlington Boulevard
 - Eastbound Left (AM)
 - Northbound Left (AM/PM)

The Background (2026) queuing results for the AM and PM peak hours are expressed by movement and presented in Table 14. The 95th percentile queues at most lane groups at study area intersections do not exceed their available storage length in the Background (2025) Conditions; however, one (1) intersection does have at least one movement with 95th percentile queues that exceed the available storage length in the morning or afternoon peak hour:

- N Pershing Drive/Arlington Boulevard
 - Eastbound Left (AM)
 - Northbound Thru (AM)

- Southbound Thru (PM)

2026 Future Analysis Results (with the proposed development)

The Future (2026) results of the intersection capacity analyses for the AM and PM peak hours are expressed in level of service (LOS) and delay (seconds per vehicle) per movement and presented in Table 13. The capacity analysis results indicate that most intersections operate at acceptable LOS under the Future (2026) Conditions; however, one (1) intersection has one or more movements that operate at levels beyond acceptable thresholds in one or more peak hour:

- N Pershing Drive/Arlington Boulevard
 - Eastbound Left (AM)
 - Northbound Left (AM/PM)

The Future (2026) queuing results for the AM and PM peak hours are expressed by movement are presented in Table 14.. The 95th percentile queues at most lane groups at study area intersections do not exceed their available storage length in the Background (2026) Conditions; however, one (1) intersection does have at least one movement with 95th percentile queues that exceed the available storage length in the morning or afternoon peak hour:

- N Pershing Drive/Arlington Boulevard
 - Eastbound Left (AM)
 - Northbound Thru (AM)
 - Southbound Thru (PM)

2026 Future Mitigations

Mitigation measures were identified based on Arlington County standards and as outlined in the approved scoping document. The proposed development is considered to have an impact at an intersection if any of the following conditions are met:

- The overall intersection or any movement operates at LOS F in the future conditions with the proposed development where it operates at LOS E or better in the background conditions without the proposed development;
- The overall intersection or any movement operates at LOS F during the background condition and the delay increases by more than 10 percent in the future conditions with the proposed development; or

- If any 95th percentile queue length in the future condition exceeds the available capacity where it does not in the background conditions or increases the 95th percentile queue length by more than 150 feet where it already exceeds the available capacity in the background conditions.

Following these guidelines, no impacts were identified to the study intersections under Future (2026) Conditions as a result of the proposed development.

Table 13: Capacity Analysis Results

Intersection and Movement	Existing (2022)				Background (2026)				Future (2026)			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1. N Pershing Drive & N Barton Street												
Overall	9.4	A	11.4	B	9.4	A	11.4	B	9.5	A	11.7	B
Eastbound LTR	10.2	B	10.2	B	10.1	B	10.0	B	10.1	B	10.0	B
Westbound LTR	8.8	A	12.7	B	8.6	A	12.6	B	8.7	A	12.6	B
Northbound LTR	8.5	A	9.3	A	8.4	A	9.2	A	8.5	A	9.2	A
Southbound LTR	8.4	A	10.6	B	8.3	A	10.5	B	8.4	A	10.5	B
2. N Pershing Drive & N Wayne Street												
Eastbound LTR	0.9	A	1.7	A	0.9	A	1.7	A	0.9	A	1.7	A
Westbound LTR	0.7	A	0.8	A	0.7	A	0.7	A	1.2	A	0.7	A
Northbound LTR	11.2	B	14.1	B	10.9	B	13.4	B	11.8	B	13.4	B
Southbound LTR	10.1	B	15.1	C	9.9	A	14.3	B	9.9	A	14.3	B
3. N Pershing Drive & Wainwright Road												
Eastbound LT	0.0	A	0.0	A	0.0	A	0.0	A	--	--	--	--
Eastbound TR	0.0	A	0.0	A	0.0	A	0.0	A	--	--	--	--
Westbound LT	0.3	A	0.2	A	0.2	A	0.2	A	--	--	--	--
Northbound LR	9.1	A	9.9	A	9.0	A	9.8	A	--	--	--	--
4. N Pershing Drive & Arlington Boulevard												
Overall	29.2	C	28.1	C	34.0	C	31.7	C	36.9	D	33.0	C
Eastbound Left	109.8	F	60.8	E	104.7	F	60.7	E	114.7	F	60.8	E
Eastbound Right	70.9	E	56.6	E	71.4	E	56.7	E	70.3	E	56.4	E
Westbound LT	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Westbound Right	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Northbound Left	101.8	F	83.8	F	101.8	F	82.7	F	103.1	F	84.1	F
Northbound Thru	29.7	C	17.0	B	37.7	D	16.9	B	40.9	D	17.2	B
Northbound Right	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound Thru	15.4	B	37.7	D	15.4	B	45.6	D	16.1	B	47.8	D
Southbound Right	11.2	B	15.2	D	11.0	B	15.1	D	11.5	B	15.7	B
5. N Wayne Street & 3rd Street N												
Eastbound LT	4.8	A	2.7	A	4.3	A	3.1	A	4.3	A	3.1	A
Westbound TR	9.2	A	9.2	A	9.2	A	9.2	A	9.2	A	9.2	A
Southbound LR	8.9	A	9.1	A	9.0	A	9.0	A	9.0	A	9.0	A
6. N Wayne Street & Site Driveway (Planned)												
Westbound LR	--	--	--	--	--	--	--	--	8.5	A	8.5	A
Northbound TR	--	--	--	--	--	--	--	--	0.0	A	0.0	A
Southbound LT	--	--	--	--	--	--	--	--	3.8	A	3.4	A
7. N Pershing Drive & Site Driveway (Planned)												
Eastbound TR	--	--	--	--	--	--	--	--	0.0	A	0.0	A
Westbound Thru	--	--	--	--	--	--	--	--	0.0	A	0.0	A
Northbound Right	--	--	--	--	--	--	--	--	9.5	A	9.1	A

Table 14: Queuing Results

Intersection and Lane Group	Storage Length (ft)	Existing (2022)				Background (2026)				Future (2026)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
1. N Pershing Drive & N Barton Street													
Eastbound LTR	284	--	--	--	--	--	--	--	--	--	--	--	--
Westbound LTR	372	--	--	--	--	--	--	--	--	--	--	--	--
Northbound LTR	373	--	--	--	--	--	--	--	--	--	--	--	--
Southbound LTR	763	--	--	--	--	--	--	--	--	--	--	--	--
2. N Pershing Drive & N Wayne Street													
Eastbound LTR	372	--	1	--	2	--	1	--	2	--	1	--	2
Westbound LTR	333	--	1	--	2	--	1	--	2	--	1	--	4
Northbound LTR	270	--	4	--	7	--	3	--	6	--	6	--	10
Southbound LTR	178	--	3	--	13	--	2	--	11	--	2	--	12
3. N Pershing Drive & Wainwright Road													
Eastbound LT	145	--	0	--	0	--	0	--	0	--	--	--	--
Eastbound TR	256	--	0	--	0	--	0	--	0	--	--	--	--
Westbound LT	45	--	0	--	0	--	0	--	0	--	--	--	--
Northbound LR	406	--	1	--	1	--	1	--	1	--	--	--	--
4. N Pershing Drive & Arlington Boulevard													
Eastbound Left	185	226	316	85	140	211	312	82	138	240	#366	90	151
Eastbound Right	333	0	40	0	45	0	40	0	45	0	46	0	46
Westbound LT	25	0	0	0	0	0	0	0	0	0	0	0	0
Westbound Right	25	0	0	0	0	0	0	0	0	0	0	0	0
Northbound Left	165	69	122	99	156	69	122	94	154	72	126	100	161
Northbound Thru	1585	1722	#1735	1023	1024	~2057	#2056	1023	1090	~2057	#2056	1023	1090
Northbound Right	190	0	0	0	0	0	0	0	0	0	0	0	0
Southbound Thru	610	355	404	~1313	#1435	380	433	~1420	#1542	381	433	~1425	#1542
Southbound Right	320	0	26	80	163	0	26	85	169	0	27	92	179
5. N Wayne Street & 3rd Street N													
Eastbound LT	213	--	0	--	0	--	0	--	0	--	0	--	0
Westbound TR	475	--	2	--	4	--	2	--	3	--	2	--	3
Southbound LR	270	--	1	--	3	--	1	--	3	--	1	--	3
6. N Wayne Street & Site Driveway (Planned)													
Westbound LR		--	--	--	--	--	--	--	--	--	1	--	1
Northbound TR		--	--	--	--	--	--	--	--	--	0	--	0
Southbound LT		--	--	--	--	--	--	--	--	--	1	--	2
7. N Pershing Drive & Site Driveway (Planned)													
Eastbound TR		--	--	--	--	--	--	--	--	--	0	--	0
Westbound Thru		--	--	--	--	--	--	--	--	--	0	--	0
Northbound Right		--	--	--	--	--	--	--	--	--	3	--	2

95th percentile volume exceeds capacity, queue may be longer.
 m Volume for 95th percentile queue is metered by upstream signal.
 ~ Volume exceeds capacity, queue is theoretically infinite.

Crash Data Review

This chapter reviews available crash data within the study area, reviews potential impacts of the proposed development on crash rates and informs future transportation improvements that work toward the County’s goals outlined in the Vision Zero Action Plan.

VDOT Crash Data

Based on guidelines contained in the Safety Analysis Guidance (May 2021) provided by Arlington County DES, crash data from 2017 to 2021 was obtained from the VDOT Crash Analysis Tool for crashes occurring in the vicinity of the site. This data was used to conduct a review of safety at study intersections and frontage of the development site. The crash data used in the analysis is included in the Technical Appendix.

Based on the historical crash data, a total of 17 crashes occurred at study area intersection and in the vicinity of the site between 2017 and 2021. The year with the highest number of crashes was 2018 with eight (8) crashes per year, while the year with the lowest number of crashes was 2021 with no crashes. Figure 44 shows the number of crashes per year in the study area over the last five (5) years. The data obtained from VDOT shows a generally downward trend in recent years in the number of crashes.

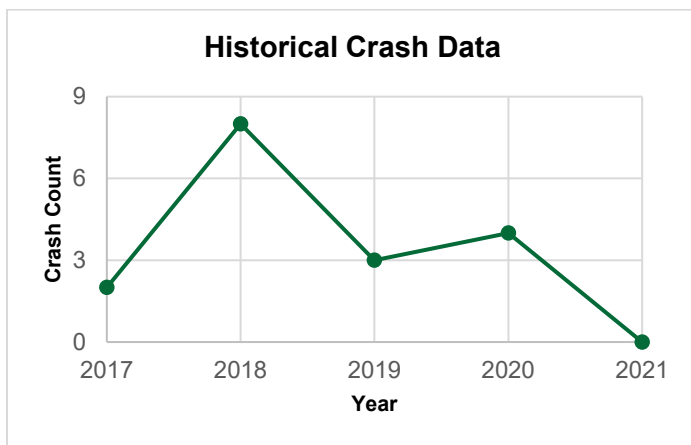


Figure 44: Historical Crash Data

Crash Characteristics

Crash Severity

According to the 2017 VDOT Crash Data Manual, crash severity is measured using the KABCO scale as per the Model Minimum Uniform Crash Criteria (MMUCC) based on the most severe

injury to any person involved in the crash. The KABCO scale definitions are as follows:

- K: Fatal Injury
- A: Suspected Serious Injury
- B: Suspected Minor Injury
- C: Possible Injury
- O: Property Damage Only (No Apparent Injury)

From 2017 to 2021, 83% were classified as O (Property Damage Only) and 11% were classified as B (Suspected Minor Injury). One (1) crash involved a suspected serious injury, and no reported crashes involved a fatal injury. Table 15 shows the number of crashes according to its severity.

Table 15: Crash Count by Severity (2017-2021)

Crash Severity	Count	%
K	-	0%
A	1	6%
B	2	11%
C	-	0%
O	15	83%
Total	18	100%

Collision Type

The most common type of collision found in the study area was angle collisions, with 53% of crashes occurring in this manner, followed by rear end collisions with 24% of crashes. Table 16 summarizes the collision type for all analyzed crashes.

Table 16: Crash County by Collision Type

Collision Type	Count	%
Angle	9	53%
Rear end	4	24%
Pedestrian	2	12%
Fixed Object - Off Road	1	6%
Fixed Object - In Road	1	6%
Total	17	100%

Crash Factors

Several factors that contribute to crashes were reviewed as part of this safety review. These factors include environmental factors, driver behavior, and vehicle characteristics.

Environmental Factors

Light conditions at the moment of the crash can contribute to the quantity and severity of crashes. For the data analyzed, more

than 85% of the crashes occurred during daylight (35%) or during darkness in a lighted road (53%). This information suggests that, in the majority of crashes, light condition might not have been the primary cause for the crash. Table 17 summarizes the light conditions for crashes in the vicinity of the 2201 Arlington Boulevard site.

Table 17: Crash Count by Light Condition

Light Condition	Count	%
Daylight	6	35%
Darkness - road lighted	9	53%
Dawn	1	6%
Darkness - road not lighted	1	6%
Dusk	0	0%
Total	17	100%

Driver Behavior

The intentional or unintentional characteristics and actions that a driver performs while operating a vehicle also contribute to crashes. As shown in Table 18, a distracted driver was reported in 18% of the analyzed crashes, while both alcohol and speeding were involved in 12% of the crashes. This information suggests that, in the majority of cases, driver behavior might not have been the primary cause of the crash but is a contributing cause.

Table 18: Crash Count by Driver Behavior Factors

Driver Behavior Factors	Count	%
<i>Distracted Driver?</i>		
Yes	3	18%
No	14	82%
<i>Speeding?</i>		
Yes	2	12%
No	15	88%
<i>Alcohol Involved?</i>		
Yes	2	12%
No	15	88%
Total	17	100%

Vehicle Characteristics

Vehicle characteristics including type of vehicle and vehicle size were analyzed to determine their contribution to crashes in the vicinity of the 2201 Arlington Boulevard site. As shown in Table 19, no crashes involving motorcyclists, bicyclists, or large trucks have been reported in the past five (5) years. In terms of transportation modes other than automobiles, two (2) crashes (12%) were reported to involve a pedestrian.

Table 19: Crash Count by Vehicle Characteristics

Vehicle Characteristics Factors	Count	%
<i>Large Truck Involved</i>		
Yes	0	0%
No	17	100%
<i>Motorcycle Involved</i>		
Yes	0	0%
No	17	100%
<i>Bike Involved</i>		
Yes	0	0%
No	17	100%
<i>Pedestrian Involved</i>		
Yes	2	12%
No	15	88%
Total	17	100%

Findings

According to the VDOT historical crash data for the study area, the location with the greatest number of reported crashes was the intersection of N Pershing Drive and Arlington Boulevard, with all 17 (or 100%) reported crashes occurring at or near this intersection. Two (2) of the 17 crashes at this location involved a pedestrian, as shown in Figure 45. No crashes were classified as K (fatal injury), however, one (1) reported crash, involving a pedestrian, was classified as A (suspected serious injury).

As part of the proposed development, new pedestrian facilities that meet or exceed Arlington County requirements will be provided along the site frontage on N Pershing Drive and N Wayne Street. These improvements are consistent with both Arlington Master Transportation Plan requirements and ADA standards to encourage pedestrian safety in the area.

Additionally, the proposed development will construct a new segment of the Arlington Boulevard Trail along the eastern frontage of the site. Currently, this segment of the trail is an on-street, two-way bicycle lane on the east side of Wainwright Road.

Other planned projects in the area will improve pedestrian facilities in the area. The Pershing Drive Complete Street Improvements project has completed various street improvements to the segment of N Pershing Drive from N Oakland Street to N Barton Street; these mainly included pedestrian/streetscape enhancements, added crosswalks protected bike lanes, and bus service efficiencies to improve safety for all roadway users. Additional improvements are

currently under construction at the intersection of N Pershing Drive and Washington Boulevard. Future improvements are planned for the intersections of N Pershing Drive and N Nelson Street, N Kenmore Street, N Jackson Street, and the segment of N Pershing Drive between Washington Boulevard and N Barton Street.



Figure 45: Historical Crash Data (2017-2021)

Transportation Management Plan

A Transportation Management Plan (TMP) has many components that are tailored to accommodate a given facility with the goal being the reduction of automobile trips by encouraging alternative forms of transportation. A few of the typical TMP components include the establishment of a TMP coordinator, the distribution of transit literature, the establishment of ride-sharing programs, and the on-site sale of discounted fare media. Management measures taken by the proposed 2201 Arlington Boulevard development can be monitored and adjusted as needed to continually create opportunities to reduce the amount of vehicular traffic generated by the site.

The TMP will include a schedule and details of implementation and continued operation of the elements in the plan. The location of the site allows for a TMP that may include, but not be limited to, the following:

Participation and Funding

- (1) Establish and maintain an active, ongoing relationship with Arlington Transportation Partners (ATP), or successor entity, at no cost to the developer, on behalf of the property owner.
- (2) Designate and keep current a member of building management as Property Transportation Coordinator (PTC) to be primary point of contact with the County and undertake the responsibility for coordinating and completing all Transportation Management Plan (TMP) obligations. The PTC shall be trained, to the satisfaction of Arlington County Commuter Services (ACCS), to provide, transit, bike, walk, rideshare and other information provided by Arlington County intended to assist with transportation to and from the site.
- (3) Contribute annually to ACCS, or successor, to sustain direct and indirect on-site and off-site services in support of TMP activities. Payment on this commitment shall begin as a condition of issuance of the First Partial Certificate of Occupancy for Tenant Occupancy for each respective building or phase of construction. Subsequent payments shall be made annually.

Facilities and Improvements

- (1) Provide in the lobby or lobbies, a transportation information display(s), the number/content/design/location of which will

be approved by ACCS. The developer agrees that the required transportation information displays shall meet the Arlington County Neighborhood Transportation Information Display Standards in effect on the date of the site plan approval, or equivalent as approved by the County Manager.

- (2) Comply with requirements of the Site Plan conditions to provide bicycle parking/storage facilities, a Parking Management Plan (PMP), a Bicycle Facilities Management Plan, and construction worker parking.

Promotions, Services, Policies

- (1) Prepare, reproduce and distribute, in digital or hard copy, materials provided by Arlington County, which includes site-specific transit, bike, walk, and rideshare related information, to each new residential lessee and retail, property management, or maintenance employee, from initial occupancy through the life of the site plan. These materials shall be distributed as a part of prospective tenant marketing materials, as well as communications associated with lease signing, on-boarding, or similar activities.
- (2) Provide one time, per person, to each new residential lessee and each new retail, property management, or maintenance employee, whether employed part-time or full-time, directly employed or contracted, who begins employment in the building throughout initial occupancy, the choice of one of the following:
 - a. Metro fare on a SmarTrip card or successor fare medium (amount to be determined)
 - b. A one year bikeshare membership
 - c. A one year carshare membership

The County Manager may approve additions to, or substitution of one or more of these choices with a comparable transportation program incentive, as technology and service options change, if he/she finds that an incentive shall be designed to provide the individual with an option other than driving alone in a personal vehicle, either by removing a barrier to program entry, such as a membership

cost, or by providing a similar level of subsidized access to a public or shared transportation system, program or service.

- (3) Provide, administer, or cause the provision of a sustainable commute benefit program for each on-site property management and maintenance employee, whether employed part-time or full-time, directly employed or contracted. This commute benefit program shall offer, at a minimum, a monthly pre-tax transit benefit or a monthly subsidized/direct transit benefit.
- (4) Provide, under a "transportation information" heading on the Developer and property manager's websites regarding this development:
 - a. Links to the most appropriate Arlington County Commuter Services and/or external transportation-related web page(s). Confirmation of most appropriate link will be obtained from ACCS.
 - b. A description of key transportation benefits and services provided at the building, pursuant to the TMP.

generated vehicle traffic, a voluntary mode-split survey, and hourly, monthly, and special event parking rates.

The building owner and/or operator shall notify, assist, and encourage building occupants and visitors on site to participate in mode-split surveys which may be of an on-line or email variety.

Performance and Monitoring

- (1) During the first year of start-up of the TMP and on an annual basis thereafter, the Developer shall submit an annual report, which may be of an online, or e-mail variety, to the County Manager, describing completely and correctly, the TDM related activities of the site and changes in commercial tenants during each year.
- (2) The Developer agrees to conduct and/or participate in, a transportation and parking performance monitoring study at two years, five years, and each subsequent five years (at the County's option), after issuance of the First Certificate of Occupancy for Tenant Occupancy. The County may conduct the study or ask the owner to conduct the study (in the latter case, no reimbursement payment shall be required). As part of the study, a report shall be produced as specified below by the County. The study may include building occupancy rates, average vehicle occupancy, average garage occupancy for various day of the week and times of day, parking availability by time of day, average duration of stay for short term parkers on various days of the week and times of day, pedestrian traffic, a seven-day count of site-

Summary and Conclusions

This report concludes that the proposed development will not have a detrimental impact to the surrounding transportation and roadway network assuming that all planned site design elements and recommended mitigation measures are implemented.

The site is well served by transit and is surrounded by a well-connected pedestrian and bicycle network. The site is primarily accessible from a principal arterial, Arlington Boulevard (US Route 50), and a minor arterial, N Pershing Drive

The proposed development will replace the existing hotel and surface parking lots with a total of 251 residential units and 2,900 square feet of retail. The proposed build-out year is 2026. The proposed building will be served by 207 on-site parking spaces which will be provided in a garage. The proposed development will provide one (1) 30-foot loading berths and one (1) 40-foot loading berth for the residential component; no loading berths are required for the retail component.

As a result of the proposed development, pedestrian facilities along the perimeter of the site will be improved by upgrading sidewalks adjacent to the site so that they meet or exceed Arlington County and ADA standards, crosswalks at all necessary locations, and curb ramps with detectable warnings.

Vehicular access to the project will be provided via the Shared Drive accessed on N Wayne Street and the proposed site driveway on N Pershing Drive. Access to the loading facilities will be provided along the Shared Drive at ground level. East of the loading berths, access to ground level parking as well as the ramp down to the P1 level parking will be provided off of the Shared Drive.

A number of planned transportation improvements in the vicinity of the project are expected to be complete by 2026. The full list of improvements is detailed in the report, but projects include:

- Pershing Drive Complete Street Improvements
- Washington Boulevard Street Improvements
- N Barton Street Improvements

Traffic projections for 2026 are based on existing volumes plus inherent growth on the roadway (representing regional traffic growth) and traffic generated by background developments expected to be completed prior to 2026 (representing local traffic

growth), and traffic generated by the proposed 2201 Arlington Boulevard development.

Impacts and mitigation measures were identified based on Arlington County standards and as outlined in the approved scoping document. Following these guidelines, the proposed development is not considered to have an impact at any study intersection.

The development has many positive elements contained within its design that minimize potential transportation impacts, including:

- The proposed development's close proximity to multiple local and regional bus lines.
- Improvements to the pedestrian facilities adjacent to the site that meet or exceed Arlington County and ADA requirements.
- The project will reduce the number of curb cuts at the site, reducing the number of conflict points between site vehicular traffic and pedestrians.
- Improvements to on-street bicycle facilities around the site, including the addition of eastbound protected bicycle lanes on N Pershing Drive and upgrades to the Arlington Boulevard Trail along the eastern frontage of the site.
- The installation of short- and long-term bicycle parking spaces site that meet zoning requirements.
- A Transportation Management Plan (TMP) that aims to reduce the demand of single-occupancy, private vehicles to/from the proposed development during peak period travel times or shifts single-occupancy vehicular demand to off-peak periods.

As noted above, this report concludes that the proposed development will not have a detrimental impact to the surrounding transportation and roadway network, assuming that all planned site design elements are implemented.



MEMORANDUM

TO:	Rosa Achour, CPHD Zoning		
FROM:	Angela Adams, AED	DATE:	June 6, 2022
	Public Art 4.1 Pre-filing – June 6, 2022		
SUBJECT:	Days Inn \ 2201 Arlington Blvd.		

Arlington staff:

- Angela Adams, AED, Public Art
- Deirdre Ehlen, AED, Public Art
- Kris Krider, CPHD, Urban Design

Developer representatives:

- Ashton Allan, STUDIOS
- Bryan Arias, STUDIOS
- Allen Beall, STUDIOS
- Gabriela Canamar, LAND Design
- Nick Cusimano, STUDIOS
- John Lutostanski, Bowman Consulting
- Matt Roberts, Hirschler Fleischer

Land use attorney Matt Roberts explains that the Days Inn at 2201 Arlington Boulevard will be replaced with 262 multi-family units and approximately 3,000 square feet of retail. STUDIOS Architecture is the architect. Ashton Allan from STUDIOS elaborates that the General Land Use Plan (GLUP) was helpful for the design team in thinking about the history of the site as well as the views of Rosslyn and the monumental core. Prior to becoming a Days Inn, 2201 Arlington Boulevard was the site of the historic ARVA Motor Hotel built in 1955, which became a source of inspiration for the site, as well as the “doo-wop” era modernist design. The improvements to the site include closing Wainwright Road parallel to Arlington Boulevard and transforming it into a greenway as a part of the Arlington Boulevard Trail network. The developer sees this project as a major entryway into Lyon Park. Gabriela Canamar describes that the landscape will play off the architecture and amenities that will be located on all four sides of the building. From a placemaking standpoint, public artwork is most appropriately located in the public open space on the development site at the corner of Pershing Dr. And S. Wayne St.

Kris Krider begins by stating that the GLUP asks the Developer to consider the inclusion of public art commissioned through the site plan process in privately-owned, publicly accessible spaces and concurs with Gabriela Canamar that the ideal location for artwork is the public open space. He also asks if NCPC has been consulted due to the height of the project and viewshed alignment with the monumental core. Angela Adams inquires further about how the community process will be led and Matt Roberts answers that the Department of Parks and Recreation (DPR) will likely be heading that effort. Angela Adams continues that we have had successful joint projects with DPR as well as developers on the following public art projects: [Wheelhouse](#) at Jennie Dean Park, [Ridge](#) at Oakland Park, and [Fire Lines](#) at Fire 10. Ms. Adams recommends that the design team speak with [Arlington Historic Preservation](#) as much of the project inspiration is rooted in local history.

Ms. Adams noted that the decision to pursue on site public art should be made after site plan approval and to keep all options open to avoid the need for further amendments. Ms. Adams recommends retaining both the on-site and payment in lieu options (A and B of the standard public art condition language) and keeping Arlington Public Art looped in at each step. Arlington Public Art has recently updated their Master Plan and is happy to meet with the applicant’s design team to review the plan’s overarching goals and those for this location.



Matthew G. Roberts
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mroberts@hirschlerlaw.com

Hirschler Fleischer | hirschlerlaw.com
8270 Greensboro Drive, Suite 700 | Tysons, VA 22102
P: 703.584.8900 | F: 703.584.8901

June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

**Re: Preliminary Affordable Housing Plan
Application for General Land Use Plan Amendment, Rezoning, and
4.1 Site Plan**

**Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025**

Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the “Applicant”), please accept this letter in fulfillment of the Administrative Regulation 4.1 filing requirements regarding affordable housing. The Applicant intends to work with staff and the community during the 4.1 Site Plan process to develop an affordable housing plan, inclusive of any affordable housing required with an amendment the General Land Use Plan for the Property. The Applicant will comply with Section 15.5.8 of the Zoning Ordinance.

Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

Matthew G. Roberts, Esq.
Counsel for Applicant



Matthew G. Roberts
D: 804.771.9570
mroberts@hirschlerlaw.com

Hirschler Fleischer | hirschlerlaw.com
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June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

**Re: Community Benefits Letter
Application for General Land Use Plan Amendment, Rezoning, and
4.1 Site Plan**

**Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025**

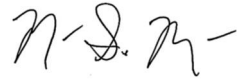
Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the “Applicant”), please accept this letter as a preliminary list of anticipated community benefits that may be realized in relation to the Administrative Regulation 4.1 Site Plan application (the “Application”) filed concurrently herewith. This list is being provided solely to fully the requirements of Administrative Regulation 4.1 and shall not be deemed a definitive or final list of community benefits. The final community benefits package will be negotiated throughout the Application process.

1. The transformation of Wainwright Road into a new greenway that is part of the Arlington Boulevard Trail network;
2. Substantial onsite public open space of approximately 10,000 square feet;
3. Affordable housing contribution and/or onsite units;
4. Public art or in-kind contribution;
5. Utility undergrounding;
6. Public right of way improvements, including new sidewalks and substantial curb cut reductions around the site perimeter;
7. Public transportation improvements, including the improvement of the off-site bus stop on Arlington Boulevard and off-site protected bike lanes;
8. Contribution to Arlington County Commuter Services;
9. Transportation performance monitoring;
10. Green building certification and sustainable design;
11. Job creation; and
12. Increased real estate and sales tax revenue.

Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

A handwritten signature in black ink, appearing to read "M.G. Roberts". The signature is written in a cursive style with a horizontal line at the end.

Matthew G. Roberts, Esq.
Counsel for Applicant

THE ARVA
DENSITY TABULATIONS

By-Right Tabulation: C-2/RA6-15

District	Land Area	Density	Yield
C-2	65,723 SF/1.51 AC	1.5 FAR	98,584.5 SF
RA6-15	37,843 SF/0.86 AC	48.4 U/A	41 units

4.1 Site Plan Density Allocations: C-O-1.5

	Site Area	Base (1.5 FAR) (72 u/a)	LEED (.25 FAR)	Section 15.5.9	TOTAL
Retail	1,684 SF/0.0386 SF	2,526 SF	421 SF	0	2,947 SF
Residential	101,820.95 SF/2.3375 AC	168 units	24 units	59	251 units

*Usable Site Area = 2.3761 AC/103,504.95 SF

** Average Unit Size (GFA) = 1,022 SF

DISCLOSURE STATEMENT

ARLINGTON COUNTY ZONING ORDINANCE §15.1.4

Department of Community Planning, Housing & Development – Zoning Division
 2100 Clarendon Boulevard, Suite 1000, Arlington, Virginia 22201
 building.arlingtonva.us | contactzoning@arlingtonva.us
 Phone (703) 228-3883 | Fax (703) 228-3896



Revised July 2019

REAL PROPERTY IDENTIFICATION

2201 Arlington Boulevard, Arlington, Virginia 22201

ADDRESS(ES)
18-059-020

REAL PROPERTY CODE(S) [RPC]
Alexander Estates n/a

SUBDIVISION NAME	LOT(S)	BLOCK	SECTION
See Attachment 1			

LEGAL DESCRIPTION

OWNERSHIP INTEREST(S)

Please provide the: full name, full address, and nature of ownership interest of ALL persons and/or entities having equitable ownership of the identified real estate. For properties owned by general or limited partnerships, limited liability companies (LLCs), or other corporate entities, please list the full names of all stockholders, officers, and directors [for exceptions see below], and please provide staff the state incorporation paperwork for the corporation. Please attach any additional documentation as necessary.

SUBJECT PARCEL ADDRESS/RPC	NAME OF OWNER	FULL ADDRESS OF OWNER	NATURE OF OWNERSHIP INTEREST
RPC No. 18-059-020	Arlington Boulevard, LLC, a Virginia limited liability company	6912 Elm St., McLean, VA, 22101	Fee simple title owner
RPC No. 18-059-020	See Attachment 2		

Corporations with: (1) more than 500 shareholders; and, (2) having stock traded on a national or local stock exchange are not required to list all stockholders, officers, and directors. Please indicate any corporations listed above which meet these criteria:

CERTIFICATION

I hereby certify that this is a true and accurate disclosure of all persons and/or entities having equitable ownership interest in the real property identified above.

M. S. R.
 SIGNATURE

8270 Greensboro Drive, Suite 700, Tysons, VA 22102
 ADDRESS

STATE OF Virginia, CITY Richmond, COUNTY OF Richmond, TO WITNESS Matthew G. Roberts

Subscribed and sworn before me this 10th day of June, 20 22



Notary Brenda M. Holmes
 My commission expires 9-30-2023

THE ARVA
Disclosure Statement
Attachment 1

SURVEYED DESCRIPTION

ALL OF THAT CERTAIN TRACT OR PARCEL OF LAND SITUATE IN ARLINGTON COUNTY, VIRGINIA, AS RECORDED IN DEED BOOK 2519 AT PAGE 1190, AMONG THE LAND RECORDS OF ARLINGTON COUNTY, VIRGINIA AND FURTHER DESCRIBED BELOW:

BEGINNING AT A POINT IN THE WEST LINE OF ARLINGTON BOULEVARD (FORMERLY LEE BOULEVARD), SAID POINT MARKING THE SOUTHEAST CORNER OF THE PROPERTY BEING DESCRIBED, AND BEING ALSO IN THE NORTH LINE OF THE PROPERTY OF THE WASHINGTON & LEE APARTMENTS, THENCE, DEPARTING FROM ARLINGTON BOULEVARD AND FOLLOWING LINES COMMON TO SAID APARTMENTS AND THE PROPERTY BEING DESCRIBED: S. 80° 12' 59"W. 97.00 FEET TO A POINT, N. 9° 47' 01"W. 129.66 FEET TO A POINT, AND S. 80° 12' 59"W. 271.63 FEET TO A POINT IN THE EAST SIDE OF NORTH WAYNE STREET; THENCE, WITH SAID SIDE OF SAID STREET, N. 01° 43' 46"W. 242.41 FEET TO A POINT IN THE SOUTH LINE OF NORTH PERSHING DRIVE, SAID POINT BEING ALSO IN THE ORIGINAL CENTER LINE OF OLD GEORGETOWN ROAD THENCE; FOLLOWING THE SOUTH LINE OF NORTH PERSHING DRIVE AND SAID ORIGINAL CENTER LINE. N. 71° 04' 19"E. 225.48 FEET TO A POINT; THENCE, N. 49° 15' 49"E 17.75 FEET TO A POINT; THENCE, S. 9° 47' 01"E. 23.69 FEET TO A POINT ON A 228.00 FOOT RADIUS CURVE IN THE NEW SOUTH LINE OF NORTH PERSHING DRIVE; THENCE, ALONG THE ARC OF SAID CURVE TO THE LEFT (THE CHORD OF WHICH BEARS N. 62° 25' 42.5"E FOR A DISTANCE OF 41.51 FEET) 41.57 FEET TO A P.T.; THENCE, N. 57° 26' 29"E. 25.32 FEET TO A POINT IN THE NEW WEST LINE OF ARLINGTON BOULEVARD; THENCE, S. 30° 32' 01"E. 97.29 FEET TO AN ANGLE POINT; THENCE, WITH THE WEST LINE OF ARLINGTON BOULEVARD, S. 9° 47' 01"E. 323.59 FEET TO THE POINT AND PLACE OF BEGINNING CONTAINING 103,566 SQUARE FEET OR 2.3775 ACRES.

THE ARVA
Disclosure Statement
Attachment 2

<i>Subject Parcel Address/RPC</i>	<i>Name of Owner</i>	<i>Full Address of Owner</i>	<i>Nature of Ownership Interest</i>
RPC No. 18-059-020	Nayan S. Patel	6912 Elm St., McLean, VA, 22101	Member of Arlington Boulevard, LLC; Trustee of the Prasanna Patel Irrevocable Trust and the Brijesh Patel Irrevocable Trust
RPC No. 18-059-020	Shanker Patel	6912 Elm St., McLean, VA, 22101	Member of Arlington Boulevard, LLC
RPC No. 18-059-020	Prasanna Patel Irrevocable Trust	6912 Elm St., McLean, VA, 22101	Member of Arlington Boulevard, LLC
RPC No. 18-059-020	Brijesh Patel Irrevocable Trust	6912 Elm St., McLean, VA, 22101	Member of Arlington Boulevard, LLC
RPC No. 18-059-020	Prasanna Patel	6912 Elm St., McLean, VA, 22101	Sole beneficiary of the Prasanna Patel Irrevocable Trust
RPC No. 18-059-020	Brijesh Patel	6912 Elm St., McLean, VA, 22101	Sole beneficiary of the Brijesh Patel Irrevocable Trust



Matthew G. Roberts
D: 804.771.9570
mroberts@hirschlerlaw.com

Hirschler Fleischer | hirschlerlaw.com
8270 Greensboro Drive, Suite 700 | Tysons, VA 22102
P: 703.584.8900 | F: 703.584.8901

June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

**Re: Historic Preservation Letter
Application for General Land Use Plan Amendment, Rezoning, and
4.1 Site Plan**

**Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025**

Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the “Applicant”), please accept this letter in fulfillment of the Administrative Regulation 4.1 filing requirements regarding historic preservation. The Property is listed on the Arlington County Historic Resources Inventory as “Notable.” The Property is further subject to planning guidance for historic preservation contained in that certain Special GLUP Study adopted by the County Board in July 2021. While the lobby and blade sign cannot be directly preserved, due to construction and durability issues, the Applicant will pay homage to these features with a distinguishing lobby and new blade sign. The Applicant also intends to honor the site’s history in the branding for the building, to be known as “The Arva.” The Applicant will work with staff and the community during the 4.1 Site Plan process to identify other opportunities for preservation or donation of existing building elements.

Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

Matthew G. Roberts, Esq.
Counsel for Applicant

**ATTACHMENT P
HISTORIC RESOURCES INVENTORY (HRI) INFORMATIONAL FORM**

For questions, please call the County's Historic Preservation Program Office at 703.228.3830 or see the County website: www.arlingtonva.us/departments/CPHD/ons/hp/page82412.aspx

Applicant: Arlington Boulevard, LLC

Application Property Name: Days Inn

Application Property Address: 2201 Arlington Boulevard, Arlington, VA 22201

HRI Ranking Category (please circle): ESSENTIAL

IMPORTANT

NOTABLE X

MINOR

ALTERED/NOT HISTORIC

Scope of Proposed Project (please circle, and explain below):

Renovation/Rehabilitation

Addition

Partial Demolition

Full Demolition X

New construction X

Proposed mixed-use multifamily residential and retail building will replace existing Days Inn motel.

Contact Information for Applicant:

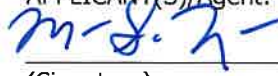
Name: Matthew G. Roberts, Esq./Hirschler

Phone: 804-771-9570

E-mail: mroberts@hirschlerlaw.com

CERTIFICATION: I/We hereby certify that all statements and information provided herein are true, accurate, and complete to the best of my/our knowledge. I/We understand that depending on the HRI status of the building(s), County staff may request additional information about potential impacts to historic properties on the site.

APPLICANT(S)/Agent:



(Signature)

June 10, 2022

(Date)

Matthew G. Roberts, Esq., Agent/Attorney

Print Name



Matthew G. Roberts
D: 804.771.9570
mroberts@hirschlerlaw.com

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P: 703.584.8900 | F: 703.584.8901

June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

**Re: Public Art Letter
Application for General Land Use Plan Amendment, Rezoning, and
4.1 Site Plan**

**Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025**

Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the “Applicant”), this letter will discuss the Applicant’s discussions with the Arlington Public Art staff of Arlington Economic Development. The Applicant and project team met virtually with Public Art staff on June 6, 2022. The parties discussed opportunities for public art in the project, in light of that certain Special GLUP Study approved by the County Board in July 2021 affecting the Property (the “Study”). The Applicant will continue to study opportunities for public art as the proposed 4.1 Site Plan application progresses.

Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

Matthew G. Roberts, Esq.
Counsel for Applicant



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mroberts@hirschlerlaw.com

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June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

**Re: Retail Program Letter
Application for General Land Use Plan Amendment, Rezoning, and
4.1 Site Plan**

**Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025**

Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the “Applicant”), this letter will discuss the Applicant’s preliminary programming for retail uses at the Property. The Property is currently developed with a Days Inn motel, and there are no existing retail tenants onsite. The Property is subject to that certain Special GLUP Study approved by the County Board in July 2021 (the “Study”). The Study identifies the North Pershing Drive frontage as a “Gold” street under the Arlington County Retail Plan. This designation permits all categories of retail or retail equivalent uses. To that end, the Applicant presently proposes to include 2,947 square feet of retail or retail equivalent uses along this frontage.

Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

Matthew G. Roberts, Esq.
Counsel for Applicant



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D: 804.771.9570
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June 10, 2022

VIA PERMIT ARLINGTON

Arlova Vonhm
Zoning Administrator
2100 Clarendon Boulevard, 10th Floor
Arlington, Virginia 22201

**Re: Modifications and Exclusion Letter
Application for General Land Use Plan Amendment, Rezoning, and
4.1 Site Plan**

**Property: 2201 Arlington Boulevard, Arlington, VA 22201
RPC No. 16-033-025**

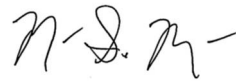
Dear Ms. Vonhm:

On behalf of Arlington Boulevard, LLC (the “Applicant”), we are requesting the following Zoning Ordinance modifications in relation to the Administrative Regulation 4.1 Site Plan application (the “Application”) filed concurrently herewith:

- (a) Pursuant to Section 15.5.7.A.1 of the Zoning Ordinance, the Applicant requests bonus density for LEED Gold certification of building construction and for other green building elements in accordance with Arlington County’s Green Building Incentive Policy (2020);
- (b) Pursuant to Section 15.5.8 of the Zoning Ordinance, the Applicant requests an additional 59 multifamily residential units as bonus density in light of the substantial community benefits proposed with the Application;
- (c) Pursuant to Section 15.5.7.A of the Zoning Ordinance, and in light of the Property’s proximity to multiple forms of alternative transportation methods, the Applicant requests a reduced parking ratio of 0.80 parking spaces per multifamily residential units and 1 parking space per 580 square feet of retail gross floor area; and
- (d) Modification of Section 14.3.3.F of the Zoning Ordinance to permit greater than 15% of all residential parking spaces to be compact parking spaces.
- (e) All other modifications necessary to achieve the proposed development.

Please do not hesitate to contact me if you have any questions. As always, thank you for your time and attention to this matter.

Very truly yours,

A handwritten signature in black ink, appearing to read "M.G.R.", with a horizontal line extending from the end of the signature.

Matthew G. Roberts, Esq.
Counsel for Applicant



September 02, 2022

Mr. Ashton Allan, AIA, LEED AP
Studios Architecture
1625 M St. NW
Washington, DC 20036

**RE: ARVA_ACO Existing Condition Feasibility Assessment
M&A No. 4068**

Dear Ashton:

Studios Architecture is working on the redevelopment of the Days Inn site in Arlington, VA. The site was originally the Arva Motel, followed by the Imperial 400 Hotel, and is now the Days Inn. The original building has been renovated many times over the years and its current condition is described within this report. The proposed redevelopment includes a mixed-use plan with apartments, retail, and varying heights and densities intended to pay tribute to the character of the original building. Included in the proposed redevelopment is the implementation of a new underground parking structure.

The redevelopment is being governed by a Special General Land Use Plan Study (GLUP). A structural assessment is required to determine if the original building components identified in the GLUP Study to be restored or repurposed are feasible to remain with the planned redevelopment and any new underground parking. McMullan was tasked to perform a structural condition assessment of the two-story glass corner lobby and the triangular blade sign.

Existing Building

The original building and blade sign are located at the corner of Arlington Boulevard and North Pershing Drive and were constructed in the late 1950s. Currently, the original building is a Days Inn Hotel. Due to the age and significance, the building lobby and signage structure are listed in the County's Historic Resources Inventory (HRI) under the "Notable" category. Notable, in the HRI, is defined as having historic elements related to County's history, but lack sufficient historic context, integrity, and/or significance compared to Essential and Important. Featured within the building is the two-story lobby. Two-story aluminum-glass curtain walls are located on the North and East side of the lobby.

The blade sign structure was constructed at the same time as the original building. The structure of the blade sign consists of steel panels riveted and bolted to a steel angle frame and has been altered over its lifetime.

Observations

Curtain Wall Observations

McMullan performed a visual assessment on June 21st, 2022. The curtain wall is 17 feet high and sits on top of a 3 feet high masonry knee wall. The curtain wall is 13 feet wide on the North side and 36.5 feet on the East side. The existing curtain walls are comprised of aluminum mullions and plate glass panels with an estimated 3/8" thickness. The vertical mullions are spaced 6 feet apart with horizontal mullions spanning in between at 4 feet 3 inch spacing. Cracks were found in multiple glass panels of the curtain wall and ranged from being 10 inches long to full height. Bullseye cracks were also evident in two of the glass panels. In each glass panel, the gaskets were showing severe cracks and deterioration. Screws were missing in various places within the curtain wall assembly. In the lobby's east corner, damage due to water is evident in the wallpaper and ceiling panels. The wallpaper has

begun to peel off at the top of the wall. Both the wallpaper and ceiling panels showed slight water staining in the surrounding area. Water damage in these areas shows that water infiltration could be compromising the curtain wall and supporting structure.

Item # Observation

1. Curtain wall glass panels – The existing curtain wall is roughly 36.5 feet wide on the East side and roughly 13 feet wide on the North side. Vertical mullions were measured to be 3 1/4” deep and 1 3/4” thick and roughly equally spaced 6 feet apart. The horizontal mullions were measured to be 2 3/4” deep and 1 5/8” thick and were roughly equally spaced 4’-3” apart. The glass panel is estimated to be 3/8” thick.

Photo



2. Crack in glass panels - Cracks were seen in a few locations of the glass panels. The cracks range from 10 inches long to full depth. Bullseye cracks were also evident in a couple of glass panels. In the East end of the North side curtainwall, the glass panel tilted out of plane. The glass panel is estimated to be 3/8” thick.





3. Glass panel out of alignment - In the East end of the North side curtainwall, the glass panel is tilted out of plane.



4. Deteriorated gaskets – Deterioration in the existing curtain wall gaskets were evident in all the sides the glass panels.

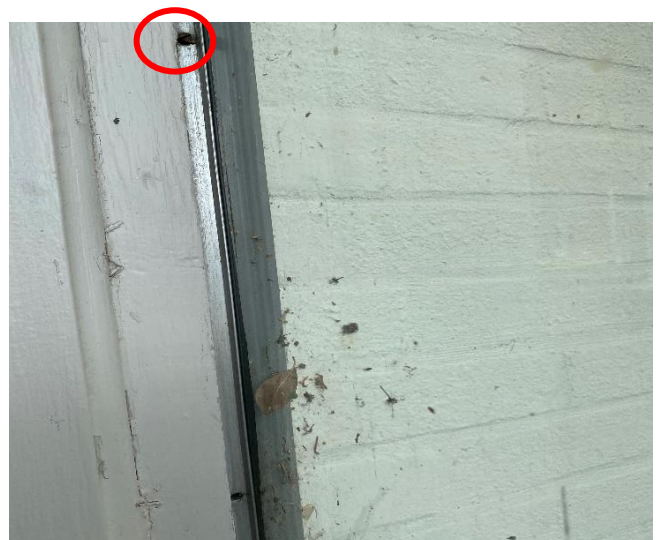


5. Water Infiltration – Damage to the wallpaper was found in the East corner of the lobby.
- The wallpaper has started to peel off at top of the wall and the existing drywall can be viewed. In the exterior side of the corner is the attachment of the signage to the existing structure. Portions in the wallpaper are visibly darker than the surrounding area.
 - Staining of ceiling panels observed at East end of the ceiling. Ceiling panels show slight discoloration along the length of the wall.
 - Based on the age of the building, ceiling tiles likely contain asbestos. Due to this fact, the area above the ceiling could not be accessed and the curtain wall connection to the existing building could not be viewed.



6. Rusted/missing screws – Rusted and missing screws were found in a few locations of the curtainwall mullions.





Signage Observations

The blade sign was measured to have a 24"x24" base with the width increasing along the height of the structure to create the iconic triangular blade shape. Upon viewing the signage structure, water damage could be found where the carport and signage meet. The steel panels have peeling paint and corrosion at the edges of the steel panels. Located on the upper portion of the sign, the panels show signs of distortion and discoloration. The screws attaching the panels to the steel angles were missing in multiple locations. At the base of the signage structure, the steel angle frame has buckled.

1. Deterioration at base of signage – Water damage was observed where the existing carport intersects the signage.
 - Rusting of the panels and peeling paint was observed



2. Corrosion of the signage panels – Corrosion was found near the edge of signage panels.
 - Rusting of panels at seams
 - Peeling paint and deterioration of metal



3. Missing screws in signage – Missing screws were found at the base of the sign. In these location, the screw holes have shown slight corrosion and deterioration.



4. Buckled angle at base of signage – A buckled angle was found at the base of the signage structure.



5. Deterioration in panels – Deterioration can be viewed in the upper portion of the signage.
- Distortion of the panels evident
 - Discoloration at the panel seams
 - Peeling paint and deterioration of metal



Evaluation

Curtain Wall

The redevelopment plan for the site is a major renovation that requires the new building and existing components to meet current International Building code requirements. The curtain wall system was evaluated for current wind loads as well as condition and modifications needed to refurbish the system.

McMullan reached out to multiple curtain wall manufacturers to determine the most likely materials used for the curtain wall based on the photos, measurements, and time of constructions. Based on our correspondence, the mullions were most likely constructed of aluminum alloy 6063-T5. Based on the approximate age of the building, the wind loads used for design was most likely 15 psf. Using current codes, the wind loads the mullions need to resist is 26 psf. Using the properties of the assumed aluminum alloy and the current wind loads, the mullions are not sufficient to resist the wind loads.

The cracks in the curtain wall's glass panels are most likely due to multiple causes. Based on the shape of the bullseye cracks, the cause is mostly likely small debris striking into the curtain wall. Other longitudinal cracks are most likely stress cracks due to the difference in temperature of interior and exterior area and/or lateral movements of the frame under wind loads. The sealants between the glass and frame are cracked and brittle.

Due to the age of the building, the ceiling panels possibly contain asbestos and were not removed for observation of the structural framing. Due to the limited visibility within the lobby, the structural members supporting the curtain wall could not be assessed. Water damage could be seen in a few ceiling panels and at the top of the wall coverings inside the lobby. Water infiltration could result in deterioration of the curtain wall where it attaches to the roof structure.

Signage

The signage structure was evaluated to ensure adequate resistance of current day wind loads. The signage is constructed of steel panels hung from an interior steel angle frame. The angle frame is attached to the building's east lobby corner column. At the base of the signage, a steel angle was observed to be buckled out of plane. The buckling of the steel angle was most likely due to the overstress of compression load due to wind loads.

Recommendations

Curtain Wall Recommendations

Due to the extensive repairs and modifications to the existing curtain wall system to ensure its feasibility to be utilized successfully in the new development for another 75 years, we recommend replacement in lieu of restoration. The replacement system can keep the same profile and appearance but use new material and methods of attachment that will provide protection against wind and water infiltration and provide better thermal properties. The existing curtain wall system does not have any significant design elements and can be replaced with a similar modern day system that meets current energy goals and design loads.

If the curtain wall is reused, the following items would need to be performed.

1. The glass panels should be removed and replaced with new panels to repair the damaged glass and provide insulated glass to meet current code and energy efficiency requirements.
2. Modifications to the existing mullions will be required to accommodate thicker glass panels with new gaskets.

3. Missing fasteners and rusted fasteners require replacement.
4. Strengthening of the existing mullions will be required to meet current wind load requirements for strength and serviceability.

The changes required to the curtain wall frame and glass make it an unlikely candidate for restoration in place. If the curtain wall is reused, it should be removed and restored and modified off site. The planned redevelopment includes new structures adjacent to the lobby and new underground parking. The proximity of the new construction and undermining of the existing foundation to add underground parking leaves the curtain wall susceptible to potential building settlements that can further damage the curtain wall system.

Therefore, based on the condition of the curtainwall, the required strengthening, and modifications of the existing to reuse the curtainwall components, and the limits of constructability of the restoration, we recommend the curtainwall be replaced with a new system that meets current design loads.

Lobby Guardrails

The lobby guardrails were also assessed to ensure they meet current code. The guardrails were shown to not meet code requirements. For the existing guardrail to be reused, portions of the guardrails will need to be removed to ensure the guardrail height and spacing between posts are adequate. Additional modifications will be needed to confirm all structural code requirements are met. Due to extensive modifications, we recommend replacing the guardrail system with a new system that represents the look and character of the existing railings.

Lobby Structure

The existing lobby area was also investigated for potential impacts of the new development above and below the existing building. Potential impacts such as additional building settlement and shoring should be considered due parking structures proposed below the existing building. The existing soil below the existing lobby structure may be undermined which may cause future building settlement. Any future settlement may cause weaknesses in the building superstructure. Similarly, the existing lobby roof framing will be affected by any future building story additions. The existing building was not designed for any future additions or additional loading from snow drifting caused by new adjacent structures. The new building will be constructed using type 1a construction (to meet the height and area requirements), which is the most stringent construction type. The lobby will need to be brought up to code to meet the same criteria. As a result, the existing building will need additional reinforcing. Further investigation is required to verify the extent of the reinforcing.

Signage Recommendations

Due to the extensive repairs required to reutilize the existing blade sign to ensure its feasibility to be utilized successfully in the new development for another 75 years, we recommend replacement in lieu of restoration.

If the signage is to be reused, the following items would need to be performed.

1. The buckled angle at the base indicates that the signage frame is not sufficient to resist the wind loads. The signage interior frame should be strengthened with new steel members that are strong enough to resist current wind loads.
2. The panels will need to be cleaned, the areas showing deterioration and corrosion will need to be repaired, and the panels will need to be repainted.
3. Fasteners will need to be replaced with larger fasteners to account for the loss of steel due to corrosion at the current locations.

To strengthen the frame and reuse the sign, the sign will need to be disassembled, a new frame constructed, and the panels reinstalled. Due to the deterioration of the panels and the observed warping of the panels, the reconstruction will not yield a smooth appearance. Distortions in the panels and seams will be visible.

The steel angle frame for the blade sign is currently hung from the brick corner wall of the lobby. Like the curtain wall, the proposed redevelopment with underground parking and new adjacent building will subject the building to settlements that may negatively impact the stability of the brick wall that supports the sign.

Therefore, based on the condition of the sign structure, the required strengthening, and repairs to reuse the sign structure, and the limits of constructability of the restoration, we recommend the sign be replaced with a new sign with new materials that meets current design loads.

Conclusion

The elements in the GLUP Study that have been identified as having historic importance, are not in good condition due to age and typical weather exposure and will require repairs, restoration, and strengthening to reuse. The restoration of these elements is limited and will modify the original look and design of the elements. Therefore, it is recommended that these elements be replaced with new elements using current materials that meet today's code and structural load requirements, while maintaining the historic character and matching scale, proportion, and layout where possible.

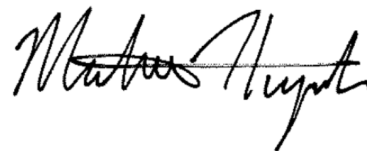
Please feel free to contact our office with any questions regarding the information provided.

Sincerely,

McMullan
Consulting Engineers

A handwritten signature in black ink that reads 'Colleen Nasta' with a long horizontal flourish extending to the right.

Colleen Nasta, PE
Principal

A handwritten signature in black ink that reads 'Michael Huynh' in a cursive style.

Michael Huynh, PE
Structural Engineer



LEED for Homes v4: Multifamily Mid-Rise
 Arva Apartments
 June 3, 2022



2	0	0	Integrative Process		Possible Points: 2
Y	?	N			
2			Credit	Integrative Process	

14.0	0	1	Location and Transportation		Possible Points: 15
Y	?	N			
Y			Prereq	Floodplain Avoidance	Required
8			Credit	Site Selection	8
3			Credit	Compact Development	3
2			Credit	Community Resources	2
1		1	Credit	Access to Transit	2

2	3.5	1.5	Sustainable Sites		Possible Points: 7
Y	?	N			
Y			Prereq	Construction Activity Pollution Prevention	Required
Y			Prereq	No Invasive Plants	Required
1		1	Credit	Heat Island Reduction	2
	3		Credit	Rainwater Management	3
1	0.5	0.5	Credit	Non-Toxic Pest Control	2

5	2	5	Water Efficiency		Possible Points: 12
Y	?	N			
Y			Prereq	Water Metering	Required
5	2	5	Credit	Total Water Use	12

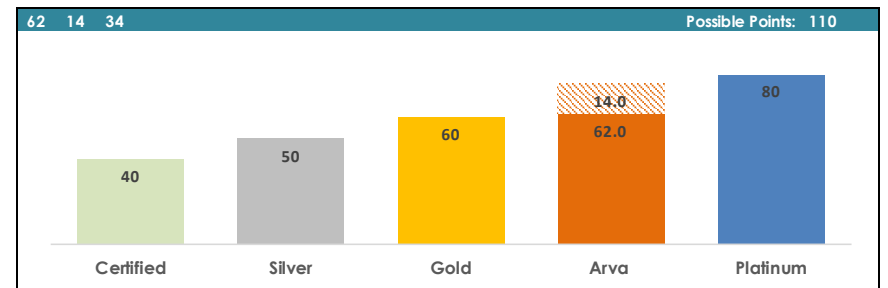
22	5	10	Energy and Atmosphere		Possible Points: 37
Y	?	N			
Y			Prereq	Minimum Energy Performance	Required
Y			Prereq	Energy Metering	Required
Y			Prereq	Education of the Homeowner, Tenant or Building Manager	Required
21	4	5	Credit	Annual Energy Use	30
		5	Credit	Efficient Hot Water Distribution	5
1	1		Credit	Advanced Utility Tracking	2

3.5	0	5.5	Materials and Resources		Possible Points: 9
Y	?	N			
Y			Prereq	Certified Tropical Wood	Required
Y			Prereq	Durability Management	Required
1			Credit	Durability Management Verification	1
0.5		4.5	Credit	Environmentally Preferable Products	5
2		1	Credit	Construction Waste Management	3

7.5	0.5	10	Indoor Environmental Quality		Possible Points: 18
Y	?	N			
Y			Prereq	Ventilation	Required
Y			Prereq	Combustion Venting	Required
Y			Prereq	Garage Pollutant Protection	Required
Y			Prereq	Radon-Resistant Construction	Required
Y			Prereq	Air Filtering	Required
Y			Prereq	Environmental Tobacco Smoke	Required
Y			Prereq	Compartmentalization	Required
1		2	Credit	Enhanced Ventilation	3
	0.5	1.5	Credit	Contaminant Control	2
1		2	Credit	Balancing of Heating and Cooling Distribution Systems	3
		3	Credit	Enhanced Compartmentalization	3
2			Credit	Enhanced Combustion Venting	2
1			Credit	Enhanced Garage Pollutant Protection	1
1.5		1.5	Credit	Low Emitting Products	3
1			Credit	No Environmental Tobacco Smoke	1

4	2	0	Innovation		Possible Points: 6
Y	?	N			
3	2		Credit	Innovation	5
1			Credit	LEED AP Homes	1

2	1	1	Regional Priority Credits		Possible Points: 4
Y	?	N			
1			Credit	Site Selection (8 pts)	1
1			Credit	Community Resources (2 pts)	1
		1	Credit	Access to Transit (2 pts)	1
	1		Credit	Total Water Use (12), Rainwater M. (3), Const. Waste M. (3)	1



Note:
 - min 8 points total in LT and EA required
 - min 3 points in WE required
 - min 3 points in EQ required



Arva Apartments

LEED-Homes v4: Multifamily Midrise

June 3, 2022

Arlington 4.1 Submission



Scorecard

Credit	Requirement & Comments	Responsible Party	Yes	Maybe	Action	Drawing Reference
General Information						
2020 Green Incentive Policy	0.25 FAR Targeted, summary of key elements (more included in full policy) - LEED Gold - ENERGY STAR Score 75 - 20% Energy cost Savings - In-unit ENERGY STAR Appliances and Fixtures (clothes washers, dishwashers, clothes dryers, refrigerators, and 90% of lighting) - WaterSense labeled in-unit toilets, lavatory faucets, and showerheads - Refrigerant leakage verification by CxA - Air sealing of ventilation supply and exhaust w/ aerosized duct sealant - Human interaction with nature - Bird Friendly Glass - 4% EV Charging Stations & 15% EV Ready - Renewable Energy (2W/sf, or 12% green roof w/ 1.5 W/sf, or 1 pt under LEED v4.1 Renewable Energy Credit(Tier 2). Tier 2 is currently off-site purchase of new renewable energy built within past 5 years representing a 10% offset of annual energy use over 10 years). - Light pollution reduction for 90% of exterior fixtures (do not emit above 90 degrees with no sag/drop lenses or side light panels and <3000K temperature; must also be placed on motion/photo/timelock control - Equity, diversion, and inclusion program	Team	Y		Team acknowledges full 2020 Green Incentive Policy requirements. Note the following updates on requirements not addressed in the credits below: - Project team is confirming entity who will demonstrate compliance with equity, diversion, and inclusion program - Studios has confirmed bird-friendly glass requirements will be included in design - Unit/room air leakage testing of conditioned spaces that abut the envelope (units and common area spaces) will occur to meet the whole building Air Leakage testing requirement - Exterior light fixtures will be selected and placed on appropriate controls to meet requirements	--
Area / Occupancy	Project Areas - Retail = 3,288 sf - Residential (Units + Amenity) = 267,903 sf Residential Units = 251 - Studio = 18 - 1 BR JR = 28 - 1 BR = 108 - 1 BR + Den = 20 - 2 BR Loft = 20 - 2 BR = 48 - 2 BR + Den = 9	Team	Y		Project team to confirm project GSF and unit count/type.	--
LEED Boundary	LEED Project Boundary to follow the building footprint.	Team	Y		No Action Required	--
Specifications	Specifications have not been provided at this time.	Studios	Y		SBP will provide Div 1 Specs to be incorporated into Project Manual. Will perform full specification reviews.	--
Integrative Process						
Credit 1	Integrative Process	Option 1. Integrative Project Team (1 pt) - Team includes 3 skill sets - Team involved in 3 phases of design and construction - Team conducts monthly meetings Option 2. Design Charrette (1 pt) - 1 full day or 2 half day workshop no later than DD Option 3. Trades Training (1 pt) - Combined 8 hours of green training for subcontractors	SBP	2	Maintain list of meetings (date, attendees, length, agenda) Note: SBP will conduct trades training before start of construction.	--



Arva Apartments

LEED-Homes v4: Multifamily Midrise

June 3, 2022

Arlington 4.1 Submission



Scorecard

Credit		Requirement & Comments	Responsible Party	Yes	Maybe	Action	Drawing Reference
Location and Transportation (min 8 pts total in LT and EA reqd)							
Prereq 1	Floodplain Avoidance	<p>Option 1. Project is not built in 100-year floodplain</p> <p>Option 2. Project building in flood hazard area iaw local flood provisions</p> <p>Option 3. Project is previously developed building and hardscape</p> <p>Observed: Project not built in 100-year floodplain</p>	SBP	Y		No Action Required	Web Research
Credit 1	Site Selection v4.1	<p>Option 1. Sensitive Land Protection (3-4 pts)</p> <p>Path 1. Previously Developed (4 pts) - 75% of buildable land located on previously developed land.</p> <p>Path 2. Avoidance of Sensitive Land (3 pts) - Project does not consist of prime farmland, public parkland, 100-year floodplain, endangered species habitat, w/in 50' wetlands, w/in 100' water</p> <p>Observed: Project is built on previously developed land.</p>	SBP	4		No Action Required	Web Research
		<p>Option 2. Infill Development (2 pts) - 75% of land w/in 1/2 mi of project boundary is previously developed</p> <p>Observed: <75% of land w/in 1/2 mile of the project is previously developed</p>	SBP	2		No Action Required	Web Research
		<p>Option 3. Open Space (1 pt) - Built w/in 1/2 mi public open space > 3/4 acres or public open space provided on project</p> <p>Observed: Project is built within 1/2 mile walking distance from Lyon Park</p>	SBP	1		No Action Required	Web Research
		<p>Option 5. Bicycle Network (1 pt) - Meet all of the following:</p> <ul style="list-style-type: none"> - Provide bike storage w/in 200 yds of bike network that connects to ≥ 10 uses, school or employment center, or bus rapid transit/rail/ferry terminal w/in 3 mi of project - Short term bike parking = (2.5% occupants, min 4 spaces) - Long term bike parking = (1.5% occupants, min 1 per 3 res units) 	Studios	1		Provide 91 long term bike storage spaces and 15 short term bike storage spaces.	--
		+1 EP for earning all 9 points	SBP	1		No Action Required	
Credit 2	Compact Development	<p>Required: Meet the following density (dwelling units/acre)</p> <ul style="list-style-type: none"> ≥ 30 (1 pt) ≥ 55 (2 pts) ≥ 80 (3 pts) <p>Observed:</p> <ul style="list-style-type: none"> Lot Size = 2.37 acres # of Units = 251 105.91 DU/acre 	SBP	3		No Action Required	C03.00



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Credit 3	Community Resources <u>Required:</u> Provide community resources w/in 1/2 mi walking distance: 4-7 uses (1 pt) 8-11 uses (1.5 pt) 12-15 uses (2 pt) 16-19 uses (+0.5 pt EP) 20 uses (+1 pt EP) <u>Observed:</u> Projects located within 1/2 mi walking distance of 16 use categories.	SBP	2		No Action Required	Web Research
Credit 4	Access to Transit <u>Required:</u> - 1/4 mi walking distance of bus OR - 1/2 mi walking distance of bus rapid, It/hvy rail, ferry AND - Meet min transit stops below <u>Multiple Transit</u> Weekday Weekend Trips Multifamily Points 72 30 1 100 70 1.5 144 108 2 <u>Observed:</u> The project is within walking distance of several bus stops and lines.	SBP	1		No Action Required	Web Research
Sustainable Sites						
Prereq 1	Construction Activity Pollution Prevention <u>Required:</u> 1. Include ESC measures in drawings - stockpiling topsoil - manage path/velocity of runoff - protect storm sewers/streams/lakes - divert surface water from hills - stabilize soils +15% slope - prevent air pollution from dust) 2. Provide ESC drawings that meet 2012 EPA CGP or local codes	Bowman	Y		Include ESC drawings	--
Prereq 2	No Invasive Plants <u>Required:</u> Do not install invasive plants	LandDesign	Y		Design for all native plants. Include plant list in drawings and a third party resource for comparison.	--
Credit 1	Heat Island Reduction <i>AriCo GIP Alignment</i> <u>Option 1, Shading:</u> Shade hardscape and roof w/ 10 year plant canopy <u>Option 2, Nonabsorptive Materials:</u> Use any of the following for hardscape and roof: - ENERGY STAR roofing material - Vegetated Roof - Open Pavers - Paving w/ 3-year SR \geq 0.28 (or initial SR \geq 0.33) Total Area met by Option 1 or Option 2: 50-75% (1 pt) >75% (2 pts) <i>GIP Requirement - incorporate elements of human connection with nature</i> <u>Observed:</u> Drawings indicate there will be amenity areas on the roof with planters. 1 pt on track with high-SRI products on remaining penthouse roof areas.	Studios	1		Design for at least 50% compliant roofing. Will require a combination of green roof, Energy Star roofing, and/or SR compliant terrace pavers. A weighted calculation will be performed at DDs to refine quantity of each roofing material. GIP - consider how roof design will implement human interaction with nature.	A3.11



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Credit 2	<p>Rainwater Management</p> <p>Case 1. Low Impact Development (1-2 pts): Minimize stormwater run-off using low-impact development techniques including: - native or adaptive plantings - vegetated roof - permeable paving - permanent infiltration collection feature that can handle 100% of run-off from 2-yr, 24-hr storm</p> <p>Percent of permeable area total lot area - 50-64% (1 pt) - 65-79% (2 pts) - >80% (3 pts)</p> <p>Case 2. NPDES Projects (2-3 pts): Use low-impact development and green infrastructure to replace natural site hydrology and manage the percentile rainfall event: - 95th percentile (2 pts) - 98th percentile (3 pts) - 85th percentile (3 pts for zero lot line projects)</p>	Bowman		3	Advise if the project can manage on-site runoff for the 85th percentile storm event via infiltration and rainwater re-use for irrigation.	--
Credit 3	<p>Nontoxic Pest Control</p> <p>Required: - Implement IPM Plan (Reqd)</p> <p>Up to (2 pts, each additional +0.5 pt EP up to 1 EP): - Steel mesh barrier termite control system (1 pt) - Physical termite barrier system (1 pt) - Below grade walls solid concrete, masonry w/ bond beam, concrete filled block (0.5 pt) - Post-tension slabs (0.5 pt) - Borate treatment of wood framing (0.5 pt) - Non-wood structural elements (0.5 pt) - Parts/openings at slab plumbing penetrations (0.5 pt) - 6"+ space btw landscape grade/nonmasonry siding (0.5 pt) - Seal cracks/joints/penetrations, install pest screens (0.5 pt) - Water discharge points 24"+ from foundation (0.5 pt) - 18"+ btwn landscape and exterior wall (0.5 pt)</p>	Team	1	.5	<p>Implement and IPM at occupancy. SBP can provide for review and approval or provide copy of one currently in use.</p> <p>Include drawing details for the following measures: - Solid concrete below grade walls (0.5 pt) - Seal all cracks/joints/penetrations, install pest proof screens (0.5 pt) - Water discharge points 24"+ from foundation (0.5 pt)</p>	--



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Credit		Requirement & Comments	Responsible Party	Yes	Maybe	Action	Drawing Reference
Water Efficiency (min 3 pts reqd)							
Prereq 1	Water Metering	<u>Required:</u> Install water meter for each unit or entire building	EDG2	Y		Clarify whether a whole building water meter or individual unit water meters will be provided.	--
Credit 1	Total Water Use <i>Performance Path</i> <i>AriCo GIP Alignment</i>	<p><u>Required:</u> Reduce total water use (indoor + outdoor) 10% (1 pt) to 65% (12 pts), 70% (+1 EP).</p> <p>30% - 5 pts 35% - 6 pts 40% - 7 pts</p> <p><u>GIP Requirements - WaterSense showerhead, lavatory, and toilet and ENERGY STAR dishwashers, clothes washers, refrigerators, and dryer.</u></p> <p><u>Observed:</u> Team to have all Energy Star Appliances and applicable WaterSense fixtures. ADA units to have side by side washer/dryer and units to have stacked washer and dry (not combo).</p>	Team	5	2	<p>1. Incorporate low-flow plumbing fixture selections and Energy Star appliances. Target the following: - WC = 1.28gpf + WaterSense - Lav = 1.0 gpm + WaterSense - Kitchen = 1.5 gpm - Shwr = 1.75 gpm + WaterSense - CW = Energy Star - DW = Energy Star</p> <p>2. Clarify irrigation strategy. Design for drip irrigation, moisture sensors, and controller or NO irrigation.</p> <p>Note, to perform preliminary calculations at DD, provide: - Area of each irrigation zone (shrubs, groundcover, trees) - Irrigation type for each zone (drip, sprinkler) - Confirm smart controller with efficiency of 0.7 can be installed.</p> <p><u>Arlington Site Plan Conditions</u> - Select WaterSense labeled WC, Lav, Shower and Energy Star CW, DW, Refrigerator (and clothes dryer).</p>	--
Energy and Atmosphere (min 8 pts total in LT and EA reqd)							
Prereq 1	Minimum Energy Performance <i>AriCo GIP Alignment</i>	<p><u>Required:</u> Energy Model 1. Meet mandatory provisions of ASHRAE 90.1-2010 2. Achieve 5% (prereq) to 90% (29 pts). Over 65% earns project +1 EP energy cost savings over ASHRAE 90.1-2010</p> <p><u>AND</u> Option 1. ENERGY STAR MFHR Testing and Verification Protocols</p> <p><u>OR</u> Option 2. Commissioning 1. In-Unit Duck Leakage (4 cfm25 per 100 sf of conditioned floor area) (6 cfm25 per 100 sf for units smaller than 1,200 sf) (8 cfm25 per 100 sf of conditioned floor area total) 2. Central HVAC - meet NC v4 requirements</p> <p>3. Include air barrier, compartmentalization sheet, and elements to be sealed.</p> <p>4. Provide load calculations, system selection, and duct sizing calculations.</p> <p><u>GIP Requirements - 20% energy cost savings, ENERGY STAR Score 75, aerosized duct sealant of ventilation supply and exhaust, refrigerant leakage verification by CxA, on-site or off-site renewables.</u></p> <p><u>EMR:</u> Shows 20% (15 pts) energy cost savings and ENERGY STAR Score of 75-80 for current design. EEOs included to be discussed throughout design development. <u>On-site vs Off-site renewables:</u> Team is exploring options for PV on the Upper Penthouse but the current plan to meet the GIP is to purchase RECs and Carbon Offset.</p>	Team	Y		<p>MEP: - Review the Energy Star v3 checklists. Meet or exceed these requirements. - Provide load calculations, system selection, and duct sizing calculations.</p> <p>Studios: - Include air sealing and compartmentalization details in the drawings.</p> <p>SBP: - SBP will do a full energy model update at DDs. Will provide the team a list of EEOs to increase efficiency and energy cost savings if necessary, to meet target.</p>	--



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Credit	Requirement & Comments	Responsible Party	Yes	Maybe	Action	Drawing Reference	
Prereq 2	Energy Metering <i>ArCo GIP Alignment</i>	<u>Required:</u> 1. Electric submeters in each Unit 2. Whole building gas meter or submeter in each Unit <i>GIP Requirements - whole building energy and water metering</i>	EDG2	Y		Include drawing details demonstrating the location of meters and metering strategy.	--
Prereq 3	Education of Homeowner, Tenant or Building Manager	<u>Required:</u> 1. Provide O&M binder/CD to those responsible for maintaining Units 2. Perform 1-hr walkthrough of home with occupants and building manager	Team	Y		Confirm O&M material will be provided and 1-hour walk-through will occur with tenants and building manager.	--
Credit 1	Annual Energy Use	<u>Required:</u> Achieve savings from 1% (1pt) to 90% (29 pts). Over 65% earns project +1 EP	SBP	21	4	Target 20% energy cost savings. SBP will complete energy model at mid-DDs and provide a list of EEOs to increase energy efficiency and energy cost saving. Project will incorporate measures into design to meet target.	--
Credit 3	Advanced Utility Tracking <i>ArCo GIP Alignment</i>	<u>Option 1, Electric and Water (1 pt):</u> Meet one: - Units: permanent energy-monitoring system at 1-hr interval - Irrigation: irrigated area 1,000sf+ w/ submeter AND/OR <u>Option 2, Third Party Utility Reporting (1 pt):</u> Meet one: - Share utility data with USGBC - 50% of unit owner share utility data with USGBC for 1 year +1 EP for metering 4 end uses (i.e. space heating, DHW, lighting, plug loads) <i>GIP - share whole building energy usage data achieve</i>	Team	1	1	1. Confirm an area ≥1,000 sf will be provided and irrigation submeter will be installed. 2. Share utility data with USGBC for 5 years. Show whole-building and end-use meters on riser diagram.	--
Materials and Resources							
Prereq 1	Certified Tropical Wood	<u>Required:</u> All wood is nontropical, reused/reclaimed, FSC	Studios	Y		Determine if tropical wood will be installed on the project (i.e. IPE). Include requirements for FSC Certification if tropical wood is planned.	--
Prereq 2	Durability Management	<u>Required:</u> 1. Complete ENERGY STAR for Homes v3 Water Management System Checklist 2. Implement the following: - Nonpaper faced backer board in baths/showers/spas - Water-resistant flooring in kitchen/bath/laundry/spa - Water-resistant flooring in entry w/in 3 feet exterior door - Drain+pan, pan+auto water shut off, or FD+slope for tank water heaters and clothes washers over living space - Exhaust clothes dryers	Team	Y		Arch: 1. Confirm non-paper faced backer board is used at shower/tub. Include note in drawings or specifications. 2. Include the requirements of Water Management System Checklist in drawings (attached). MEP: Confirm drain+pan OR pan+auto water shut-off provided at clothes washer and water heaters.	--
Credit 1	Durability Management Verification	<u>Required:</u> ENERGY STAR for Homes v3 Water Management System Checklist verified by Verification Team	SBP	1		No Action Required <i>Construction Activity</i>	--



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Credit		Requirement & Comments	Responsible Party	Yes	Maybe	Action	Drawing Reference
Credit 2	Environmentally Preferable Products	<p>Option 1. Local Production: 50% of products extracted, processed, and manufactured w/in 100 mi project site</p> <ul style="list-style-type: none"> - Framing (0.5 pt) - Concrete aggregate (0.5 pt) - Drywall and interior sheathing (0.5 pt) <p>Option 2. Environmental Preferable Products: Provide 25% reclaimed / extended producer responsibility, 25% pre and 50% post consumer, FSC, sustainable agriculture standard, 30% fly ash/slag+50% recycled aggregate/90% recycled for 90% of the following</p> <ul style="list-style-type: none"> - no floor covering (2 pts) - flooring (1 pt) - insulation (1 pt) - sheathing (1 pt) - framing (1 pt) - drywall (1 pt) - concrete (1 pt) - roofing (1 pt) - siding (1 pt) - 3 of the following (1 pt): doors, cabinets, counters, interior trim, decking/patio, windows <p>For Option 2, earn 4 points to earn another +2 EP</p>	Studios		.5	Local concrete aggregate expected. Include Spec 018113 in Project Manual or add notes to drawings.	--
Credit 3	Construction Waste Management v4.1	<p>Required: - Divert at least 50% (1 pt) or 75% (2 pts) of construction waste from landfill (CIR 10479).</p>	SBP		2	SBP will provide specification language.	--
Indoor Environmental Quality (min 3 pts reqd)							
Prereq 1	Ventilation	<p>Required:</p> <ol style="list-style-type: none"> Local exhaust <ul style="list-style-type: none"> - Meets ASHRAE 62.2-2010 Sections 5-7 for baths (50 cfm) and kitchens (100 cfm) - Exhausted to outdoors - Bath fans ENERGY STAR - Kitchen exhaust > 400 cfm as makeup air Whole Unit mechanical ventilation that meets ASHRAE 62.2-2010 Sections 4-7 Non-Unit spaces met ASHRAE 62.1-2010 Sections 4-7 	EDG2		Y	<ol style="list-style-type: none"> Design the ventilation strategy to meet the requirements. OA must be ducted to residential units and compliance demonstrated as follows: <ul style="list-style-type: none"> - Units using ASHRAE 62.2-2010 - Common Spaces using ASHRAE 62.1-2010 using the USGBC Calculator Specify ENERGY STAR bath fans that exhaust at 50 cfm to outdoors Specify kitchen exhaust fans that exhaust at 100 cfm to outdoors 	--
Prereq 2	Combustion Venting	<p>Required:</p> <ol style="list-style-type: none"> No unvented combustion appliances (ovens/range excl) CO monitor in each unit Fireplaces must have doors or glass enclosure, closed-combustion or power-vented or passes BPI/RESNET Combustion space and water heating must have closed combustion, or power-vented exhaust, or in detached building/open air facility 	EDG2		Y	<ol style="list-style-type: none"> Include CO sensor in Units. Clarify whether any fireplaces will be installed. 	--
Prereq 3	Garage Pollutant Protection	<p>Required:</p> <ol style="list-style-type: none"> Locate all AHU equipment and ductwork outside garage For conditioned space next to/above garage <ul style="list-style-type: none"> - Seal surfaces - Seal penetrations and connecting floors/ceilings - Weather strip doors - CO detectors in rooms that share door w/ garage - Seal penetrations and cracks 	EDG2		Y	Include requirements in the drawings. Provide mechanical drawings indicating all of the requirements within the parking garage spaces.	--



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Prereq 4	Radon-Resistant Construction <u>Required:</u> For Zone 1, design and build with radon-resistant construction techniques. Follow all the requirements listed in Indoor airPLUS, 2.1: - Provide a capillary break per the Indoor airPLUS 2.1: - Provide an electrical outlet near vent piping in the attic to facilitate future fan installation - Install a 3- or 4-inc diameter gas tight vertical vent pipe with no bends greater than 45 degrees extending up through the conditioned spaces. *A garage under a building is an acceptable alternative. <u>Observed:</u> Project located in Zone 1 and a parking garage is located under the building.	EDG2	Y		No Action Required.	--
Prereq 5	Air Filtering <u>Required:</u> Recirculating Space Conditioning - MERV 8 filters OA Systems - MERV 6 filters	EDG2	Y		Specify minimum MERV 8 filters on Unit HVAC systems and MERV 6 on OA systems	--
Prereq 6	Environmental Tobacco Smoke v4.1 <u>Required:</u> Include signage that prohibits smoking in - interior common areas - outside the building except in designated smoking areas within 25 feet of all entries, OA intakes, operable windows	Team	Y		1. Provide lease agreement that indicates smoking is prohibited in common areas (and Units for credit) 2. Advise if a designated smoking area will be provided outside. Must be >25' from the building. 3. Include signage detail in drawings that states "No smoking within 25 feet of building"	--
Prereq 7	Compartmentalization <i>ArCo GIP Alignment</i> <u>Required:</u> Meet all of the following for Units: 1. Seal all penetrations 2. Weatherstrip all doors to common halls 3. Weatherstrip all exterior door and operable windows 4. Achieve max leakage rate of 0.23 cfm50 per sqft (if average unit size is < 1,200 sf max 0.30 cfm50 per sqft)	Studios	Y		1. Include compartmentalization sheet in drawings for units and common area spaces. Include details on: - Top/bottom plates to sheathing and common walls - Floor joist cavities blocked and sealed - Vertical studs sealed to exterior sheathing and common walls (at panel joints) - Ducts, exhaust (kitchen, bath) housings sealed (any penetration) 2. Add weather-stripping requirement to door schedule, window schedule, and/or specifications for all Unit entry doors, exterior doors, and operable windows.	--
Credit 1	Enhanced Ventilation <u>Option 1. Enhanced Local Exhaust (1 pt):</u> Provide one of the following for bath exhaust fans in Units: - occupancy sensor - automatic humidistat controller - continuous fan - timer that runs fan for 20+ min post occupancy AND/OR <u>Option 2. Enhanced Whole-House Ventilation (2 pts):</u> Provide whole-house ventilation system that meets ASHRAE 62.20-2010 Sections 4-7 in each Unit. Do not exceed requirements by more than 10%. Note: Exhaust only and Supply only systems not eligible.	EDG2	1		Specify Bath Exhaust Fan to meet one of the following: - occupancy sensor - automatic humidistat controller - continuous fan - timer that runs fan for 20+ min post occupancy	--



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Credit 2	<p>Contaminant Control</p> <p>Option 1. Walk-off Mats (0.5 pt): Provide the following: - 4' permanent walk-off mat at primary Unit entryways from outdoors - 10' permanent entryway system at publicly accessible exterior entries to common space</p> <p>AND/OR</p> <p>Option 2. Shoe Removal and Storage (0.5 pt): Provide permanent architectural shoe removal and storage system in Unit entryway without carpet.</p> <p>AND/OR</p> <p>Option 3. Preoccupancy Flush (0.5 pt): - During Construction: seal all ducts and vents - After Construction: remove dust/debris from ducts and flush Unit for 48+ hours w/ all windows open and a continuous fan or all HVAC fans/exhaust fans</p> <p>AND/OR</p> <p>Option 4. Air Testing (1 pt): Testing building for air contaminants</p> <p>Achieve 2.5 pts for earn +0.5 EP</p>	Studios		.5	<p><u>Walk of Mats</u> Provide 10' long entry mats at publicly accessible entrances.</p> <p>Note: Roll-out mats are acceptable as long as they are cleaned 1x/week.</p>	--
Credit 3	<p>Balancing of Heating and Cooling Distribution Systems</p> <p>For Forced-Air Systems (up to 3 pts)</p> <p>Option 1. Multiple Zones (1 pt): Meet one of the following: - 2 space-conditioning zones with independent thermostats - Average unit size is < 1,200 sf</p> <p>AND/OR</p> <p>Option 2. Supply-Air Flow Testing (1 pt): Supply airflow rates are within +/- 20% (or +/- 25 cfm) of Manual J calculations</p> <p>AND/OR</p> <p>Option 3. Pressure Balancing (1 pt): Pressure differential between bedroom and rest of Unit is < 3 Pa (transfer grilles)</p>	EDG2	1		<p>No Action Required Average unit size is < 1,200 sf. Advise of any changes.</p>	--
Credit 5	<p>Enhanced Combustion Venting</p> <p>Option 1. No Fireplaces or Woodstoves (2 pts)</p> <p>OR</p> <p>Option 2. Enhanced Combustion Venting Measures (1 pt): Meet the following: - wood/pellet burning fireplace is power or direct vented - gas/propane/alcohol stove is approved by testing facility and is power or direct vented - gas/propane/alcohol stove has permanently fixed glass front or gasketed door and electronic pilot</p>	EDG2	2		Clarify whether any fireplaces are planned.	--
Credit 6	<p>Enhanced Garage Pollutant Protection</p> <p>Option 1. Exhaust Fan on Controls for Garage (1 pt): Meet all of the following: - ASHRAE 62.1-2010 garage ventilation requirements - Negative pressure created - Self-closing doors - Deck-to-deck partitions or hard lid ceiling - Continuous exhaust fan OR CO sensor activated at 35 ppm</p> <p>OR</p> <p>Option 2. Detached Garage or No Garage or Carport (1 pt): No garage or a detached garage has been constructed</p>	Studios EDG2	1		<ol style="list-style-type: none"> 1. Meet ASHRAE 62.1-2010 garage ventilation requirements. 2. Include CO sensors in conditioned areas that connect to garage. 3. Include requirement for door closers 	--



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Credit 7	Low-Emitting Products v4.1	<p><u>Required:</u> Meet requirement for at least 90% of the following components (up to 3 pts):</p> <ul style="list-style-type: none"> - Site-applied interior paints/coatings: CA 1350 (0.5 pt) - Site-applied interior adhesives/sealants: CA 1350 (0.5 pt) - Flooring: CA 1350 (0.5 pt) - Insulation: CA 1350 (0.5 pt) - Composite wood products: CARB ULEF (1 pt) 	Studios EDG2	2		Include Specification 018113 to be provided by SBP. (SBP can review finish schedule).	--
Credit 8	No Environmental Tobacco Smoke v4.1	<u>Required:</u> Prohibit smoking in the entire building (including units).	Arlington Blvd	1		Confirm no smoking in units. Provide lease language that prohibits smoking in Units. Language must include restrictions and provisions for enforcement	
Innovation In Design							
Credit 1	Exemplary Performance	Community Resources - 16 uses	SBP	1		No Action Required	--
Credit 2	Innovation in Design	Whole Building LCA	Team	1		Will document at end of construction.	--
Credit 3	v4.1 Credit Substitution Requested <i>ArtCo GIP Alignment</i>	<p><u>Electric Vehicles:</u></p> <p>Install electrical vehicle supply equipment (EVSE) in 2% (4 spaces) of all parking spaces. The EVSE must:</p> <ul style="list-style-type: none"> - Provide a Level 2 charging capacity - Comply with J1772 - Be vehicle to grid connected and network connection. <p>Or, provide EV infrastructure for 6% (12 spaces) of all parking spaces.</p> <p><i>GIP requirement: Provide EV charging stations for 4% (8 spaces) of parking spaces and 15% EV-ready infrastructure (30 spaces) of parking spaces</i></p>	Team	1		Show 8 EV charging station spaces and 30 EV ready spaces	A3.03
Credit 4	Innovation in Design	<p><u>Identify a credit</u></p> <ul style="list-style-type: none"> - EPDs (20 products) - Enhanced Commissioning - Purchase Protected Land - Water Restoration Certificates - Material Ingredients (20 products) 	Team		1	Project team to identify possible credits to pursue.	--
Credit 6	LEED AP for Homes	LEED AP	SBP	1		No Action Required	--
Regional Priority							
Credit 1	Regional Priority	Site Selection (8 pts)	SBP	1		No Action Required	--
Credit 2	Regional Priority	Community Resources	SBP	1		No Action Required	--
Credit 3	Regional Priority	Access to Transit	SBP			See credit requirements.	--
Credit 4	Regional Priority	Total Water Use (12), Rainwater Management (3), Construction Waste M. (3)	SBP		1	See credit requirements.	--



ENERGY STAR[®] Statement of Energy Design Intent (SEDI)¹

Arva Apartments

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75

Primary Property Type: Multifamily Housing
Gross Floor Area (ft²): 270,000
Estimated Date of Certification of Occupancy: _____

Date Generated: September 01, 2022

ENERGY STAR[®]
Design Score²

1. This form is required when applying for Designed to Earn the ENERGY STAR recognition. It was generated from ENERGY STAR Portfolio Manager.

2. The ENERGY STAR 1 – 100 Score is based on total annual Source Energy. To be eligible for Designed to Earn the ENERGY STAR recognition you must score at least 75.

Property & Contact Information for Design Project

Property Address Arva Apartments 2201 Arlington Blvd _____, Virginia 22201	Project Architect _____ (____)____-____ _____	Owner Contact _____ (____)____-____ _____
Property ID: 22490102	Architect Of Record _____ _____ (____)____-____ _____	Property Owner _____ (____)____-____ _____

Estimated Design Energy

Fuel Type	Usage	Energy Rate (\$/Unit)
Electric - Grid	2,800,000 kWh (thousand Watt-hours)	\$ 0.12/kWh (thousand Watt-hours)
Natural Gas	30,000 therms	\$ 1.00/therms

Estimated Design Use Details

★ This Use Detail is used to calculate the 1-100 ENERGY STAR Score.

Multifamily Housing		Parking	
Number of Laundry Hookups in Common Area(s)	10	★ Partially Enclosed Parking Garage Size	0 Sq. Ft.
Percent That Can Be Cooled	All of it - 100%	★ Open Parking Lot Size	0 Sq. Ft.
Common Entrance	Yes	★ Completely Enclosed Parking Garage	85,000 Sq. Ft.
Resident Population Type	No specific resident population	★ Supplemental Heating	No
★ Number of Residential Living Units in a Low-rise Building (1-4 stories)	0		
★ Total Number of Residential Living Units	251		
Number of Laundry Hookups in All Units	502		
★ Number of Bedrooms	335		
★ Number of Residential Living Units in a Mid-rise Building (5-9 stories)	251		
Percent That Can Be Heated	All of it - 100%		
★ Gross Floor Area	265,000 Sq. Ft.		
★ Number of Residential Living Units in a High-rise Building (10 or more stories)	0		
Government Subsidized Housing	No		

Retail Store

★ Number of Workers on Main Shift	15
★ Percent That Can Be Cooled	All of it - 100% ← default value
Number of Computers	10
Length of All Open or Closed Refrigeration/ Freezer Units	0 Ft. ← default value
★ Number of Walk-in Refrigeration/Freezer Units	1
Number of Cash Registers	5
Cooking Facilities	Yes
★ Number of Open or Closed Refrigeration/ Freezer Units	2
★ Weekly Operating Hours	90
★ Percent That Can Be Heated	All of it - 100% ← default value
★ Gross Floor Area	5,000 Sq. Ft.
★ Exterior Entrance to the Public	Yes ← default value
★ Single Store	Yes ← default value
Area of All Walk-in Refrigeration/Freezer Units	

Design Energy and Emission Results

Metric	Design Project	Median Property	Estimated Savings
ENERGY STAR Score (1-100)	75	50	N/A
Energy Reduction (from Median)(%)	-15.5	0	N/A
Source Energy Use Intensity (kBtu/ft ² /yr)	110	131	21
Site Energy Use Intensity (kBtu/ft ² /yr)	46	55	9
Source Energy Use (kBtu/yr)	29,900,083	35,389,325	5,489,242
Site Energy Use (kBtu/yr)	12,553,601	14,858,268	2,304,667
Energy Costs (\$)	366,000	433,192	67,192
Total GHG Emissions (Metric Tons CO ₂ e)	954	1,130	176

Designed to Earn the ENERGY STAR: Application Checklist

This section is only required if you are using this document to apply for Designed to Earn the ENERGY STAR. All design projects that achieve an EPA energy performance score of 75 or higher are eligible for this certification.

- 1) Does your [property type](#) match the function or use of a property that's eligibility to receive an ENERGY STAR design score? Yes No/Not Sure

If you are not sure your project is eligible for an ENERGY STAR design score, please describe the property's major functions or use:

- 2) Is the design project at least 95% complete with construction documents? Yes No

If no, please explain:

- 3) Is the property currently unoccupied and not yet generating energy bills? Yes No

- 4) Do energy calculations account for the whole building intended operations and all energy sources? Yes No

- 5) Is the Architect of Record (AOR) applying for ENERGY STAR partnership? Yes No

- 6) Was the design record created in the owner's Portfolio Manager account? Yes No

- 7) Are you seeking other qualifications for this design project? Yes No

If so, please select all that apply:

- AIA 2030 Commitment
- Architecture 2030 Challenge
- Federal, State or Local Disclosure Ordinance
- Green Globes
- LEED
- Other, please indicate: _____

Professional Verification

I _____ (Name) verify that the above information is true and correct to the best of my knowledge.

Signature: _____ Date: _____

Verifying Professional

,
(____)____ - _____



**Verifying Professional Stamp
(if applicable)**

Note: When applying for the ENERGY STAR Designed to Earn, the signature of the Verifying Professional must match the stamp.

I agree to adhere to the ENERGY STAR Identity Guidelines when using the Designed to Earn the ENERGY STAR recognition graphic in association with this project.

Architect of Record Acknowledgement

As the Architect of Record representative, I confirm that the information on this SEDI is true and accurate to the best of my knowledge. It is our best estimate for all energy use of specified systems and processes but does not guarantee the operational performance of this building. Instead, this project has been specified to achieve Designed to Earn the ENERGY STAR recognition in an effort to assist the Owner/Developer in meeting their operational performance goal for the building to earn ENERGY STAR certification.

Signature: _____

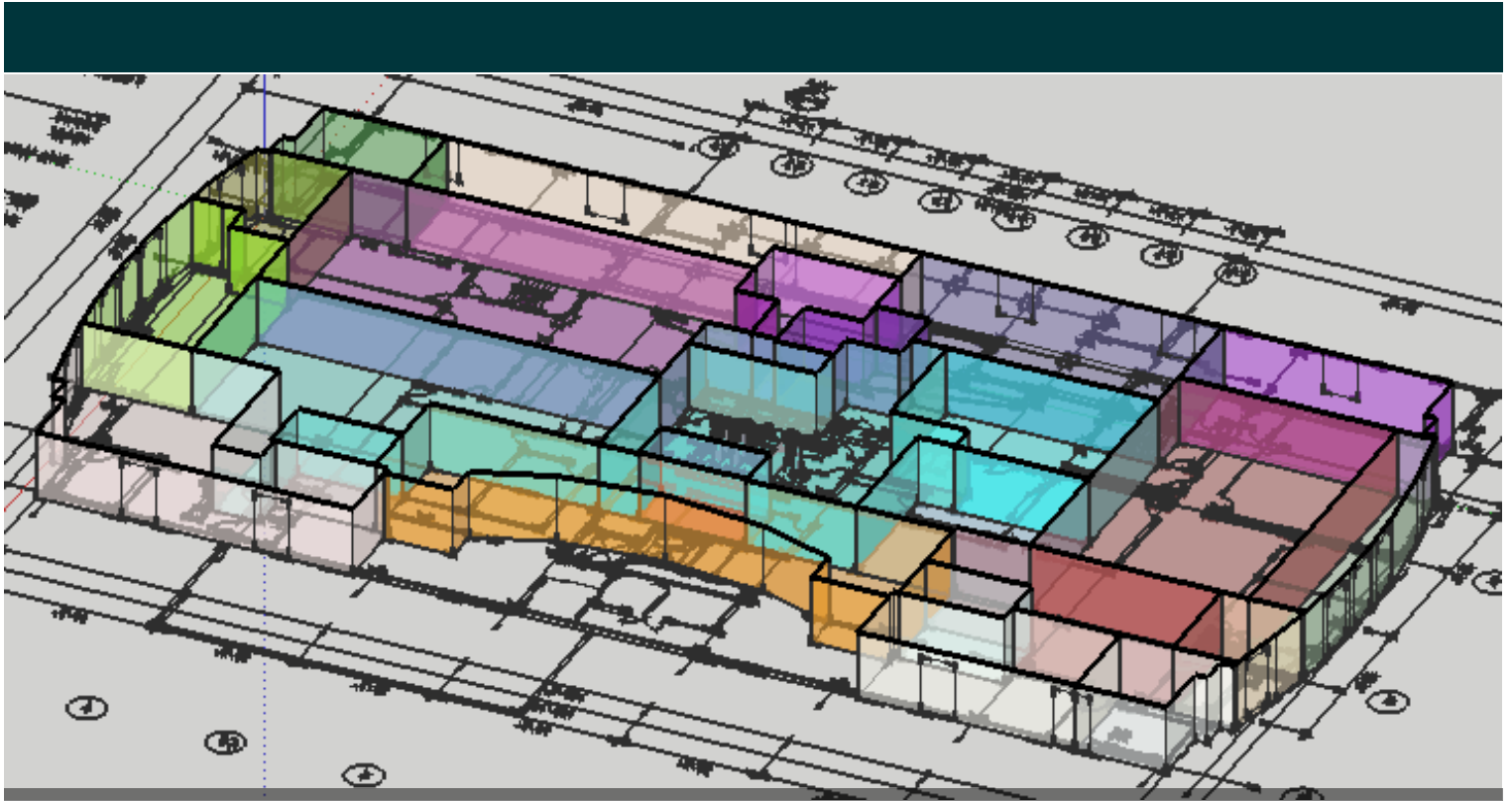
Date: _____

Building Owner/Developer Acknowledgement

As the Building Owner/Developer representative, I concur that this project be nominated for Designed to Earn the ENERGY STAR recognition. Our organization understands the importance of measuring actual energy use in Portfolio Manager after receiving the Certificate of Occupancy to verify that this property is performing as intended. We understand that once the building earns an ENERGY STAR score of 75 or higher, it may be eligible for ENERGY STAR certification.

Signature: _____

Date: _____



Preliminary Energy Performance Analysis

Arlington County 4.1 Site Plan Submission **(DRAFT)**

Arva Apartments – 2201 Arlington Boulevard

Arlington, VA

Arlington 4.1 SP Report v1.0 - DRAFT

May 2nd, 2022



2701 Prosperity Ave, Ste. 100
Fairfax, Virginia 22031

www.sustainbldgs.com



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Purpose

Sustainable Building Partners, LLC (SBP) has developed a whole building energy simulation using Energy Plus v9.6 via the Open Studio v1.3 interface for the proposed Arva Apartments multifamily building in Alexandria, VA. SBP utilizes the model as a design tool for the purpose of enhancing the energy performance of the facility and to increase LEED Energy & Atmosphere Credit 1 points. SBP's modeling methodology is consistent with LEED and ASHRAE 90.1-2010 Appendix G modeling protocol and best practices.

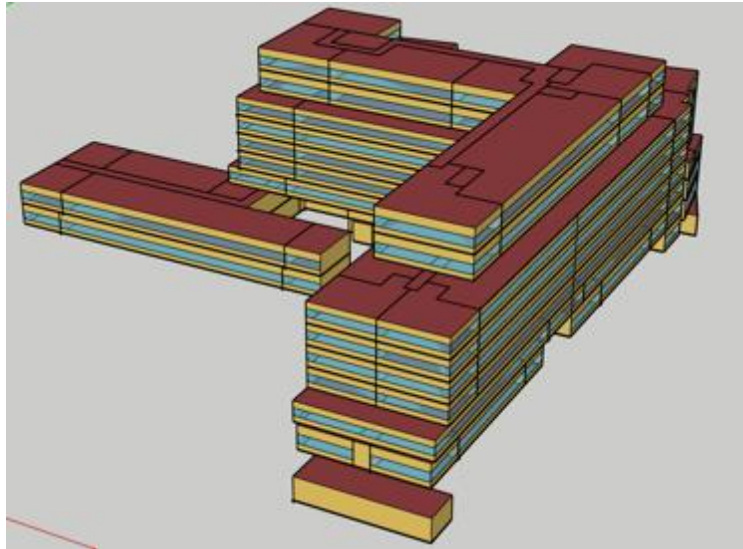


Figure 1: Energy Model Rendering of Arva Apartments

Arlington County 4.1 Site Plan Submission

As part of the conditions packaged for the Arlington 4.1 Site Plan Submission (SPC), the project is required to demonstrate compliance the following energy performance targets:

- **20% Energy Cost Savings as compared to a LEED Baseline design (ASHRAE 90.1-2010 Appendix G)**

Performance Disclaimer

This analysis is based on an early Schematic Design thus all results and benchmarking should be viewed as relative order-of-magnitude (RoM). This report works to establish high-level performance targets and general design standards but does not guarantee future performance.



Preliminary Energy Estimates

This section of the report summarizes the results and benchmarking of the preliminary whole building hourly energy simulations. Table 1 provides the results of the hourly energy simulations.

Summary of Performance & Primary Design Alternates

Performance Statement: This facility is on track to achieve ≥20% energy cost savings as compared to an ASHRAE 90.1-2010 Appendix G Baseline design.

Table 1: Annual Energy Consumption & Performance Benchmarking

Description ⁽³⁾	Total Energy Cost (\$/sqft)	Energy Cost Savings ⁽¹⁾	Site EUI (kBtu/sf)	Source EUI (kBtu/sf)	GHG ⁽²⁾ (Tons CO2e)	Energy Star Score
Base Design as of 50% SD	\$1.10 – \$1.20	20 - 25%	40 - 45	100 - 105	1,100+	75 - 80
Tier 2 Design (≥25%) ⁽³⁾	≤\$1.10	25%+	≤40	≤100	≤1,100	80 – 85+

(1) ASHRAE 90.1-2010 (LEED) Baseline design

(2) Estimated based on Year 1 (current) electric grid profile (EGRID projections)

(3) The design schemes are as follows:

- **Base Design:** The current design as of the SD set plus anticipated features included based on standard design practices. See [basis of design](#) section below.
- **Tier 2:** Proposed design plus additional load reduction and energy saving strategies that would increase the overall energy performance of the building and maintain a high level of confidence that the design obtains at least 25%+ energy cost savings. **This design package includes the Base Design PLUS a ≥20% interior lighting power reduction.**

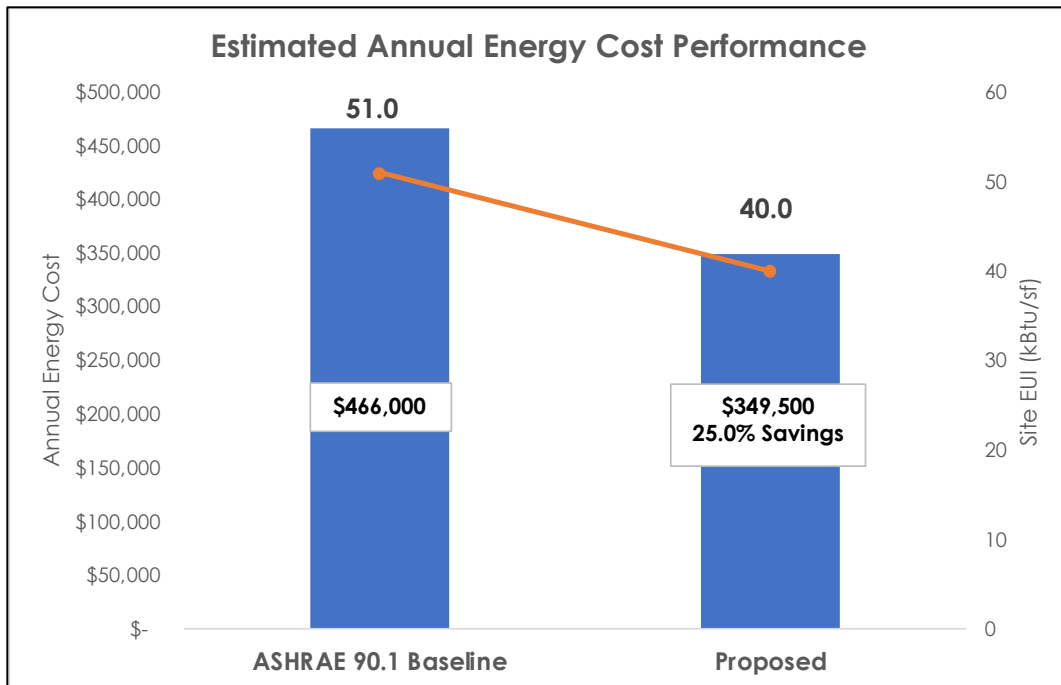


Figure 2: Annual Energy Cost Savings & Preliminary ASHRAE 90.1 App G. Performance



Design Considerations

The following subsections summarize the primary limiting factors and other unique conditions associated with this design.

Preliminary Design

Throughout the early-design process, the project team has worked to optimize the building design through the quantitative and qualitative evaluation of various Energy Efficiency Opportunities (EEOs). Many of the discussed EEOs have already been built into the base design (e.g. heat pump DOAS), will be incorporated later in the design process (e.g. lighting), or are still being actively evaluated at this stage. All measures are evaluated based on energy savings, first cost, maintenance considerations, operational considerations, and infrastructure limitations.

Primary Features Driving Energy Performance

Please see the [BOD](#) section for full design details. This sections a provide a summary of the specific items driving overall energy performance.

Air-cooled variable refrigerant flow systems

- Premium part-load operation (18+ IEER)
- Heat recovery capabilities during simultaneous heating/cooling
- Heat pump heating capacity can be maintained at low ambient temperatures without requiring auxiliary system

Decoupled ventilation strategy

- Allows local recirculating VRFs fans to run independent of ventilation requirements
- More effective control of outside air volume
- More effective dehumidification

Heat Pump DOAS

- See below

Garage Lighting Power Reductions

- Estimated $\geq 40\%$ reduction in designed lighting power (anticipated)

EnergyStar Appliances

- Fridge, dishwasher, clothes washer

Low Flow Plumbing Fixtures

- 1.75 GPM Showers, 1.5 GPM Faucets

Gas-Fired Condensing Boilers

- $\geq 20\%$ improvement in nominal thermal efficiency over standard boilers
- See below



Domestic Hot Water

Current BOD: Gas-fired condensing water heaters (central)

Design Alternates:

- In-unit electric-resistance storage (market standard)
- Heat pumps (in-unit or clustered)
- Heat pumps (central)

Table 2: DHW Performance Comparison (annualized, per unit)

DHW System	Annual Energy Per Unit (avg)	Annual Cost Per Unit (avg)	Source Energy Per Unit (kBtu/yr)	GHG Per Unit (lbs CO ₂ e/yr) ⁽¹⁾
In-Unit Electric Storage	2,015 kWh/yr	\$240	21,400	1,300
Gas-fired Condensing	95 thm/yr	\$95	10,100	1,100
Heat Pump	705 kWh/yr	\$85	7,500	440

(1) Estimated based on Year 1 (current) EGRID projections

Challenges/Limiting Factors

- In-unit Electric: Highest operating energy, cost, short- and mid-term emissions
- In-unit or clustered HPWHs: Challenging space and venting requirements
- Central HPWHs (ganged plant): Scalability, plant size
- Central HPWHs (commercial): Cost, low-temperature operation, limited number of manufacturers
- Gas-Fired: Highest first cost, counter to long-term electrification initiatives

Dedicated Outside Air System (DOAS)

Current BOD: Air-source heat pump with gas-fired auxiliary

Design Alternates:

- Air-cooled DX with gas-fired furnace (market standard)
- Air-source heat pump with electric-resistance auxiliary
- Air-cooled DX with electric resistance heating

Table 3: DOAS Performance Comparison (Annualized, per 1k CFM)

DOAS Configuration	Energy Cost Per 1k CFM	Source Energy Per 1k CFM (mmBtu/yr)	GHG Emissions (tons CO ₂ e/yr) ⁽¹⁾
Gas-Fired Furnace	\$2,400	240	11
Heat Pump with Gas Auxiliary	\$2,400	219	7
Heat Pump with Electric Auxiliary	\$2,800	250	8
Electric-Resistance	\$7,000	639	19

(1) Estimated based on Year 1 (current) EGRID projections

Challenges/Limiting Factors

- Gas-fired Furnace: Counter to long-term electrification initiatives
- Heat Pumps: Size limitations (≤70-tons), auxiliary systems at low ambient temps
- Electric-Resistance: Highest operating energy, cost, and short- and mid-term emissions

Energy Efficiency Opportunities

The following is a list of specific load reduction and energy savings strategies that could increase the overall energy performance of the building. **At this phase of design, measures should be evaluated for RoM only.**

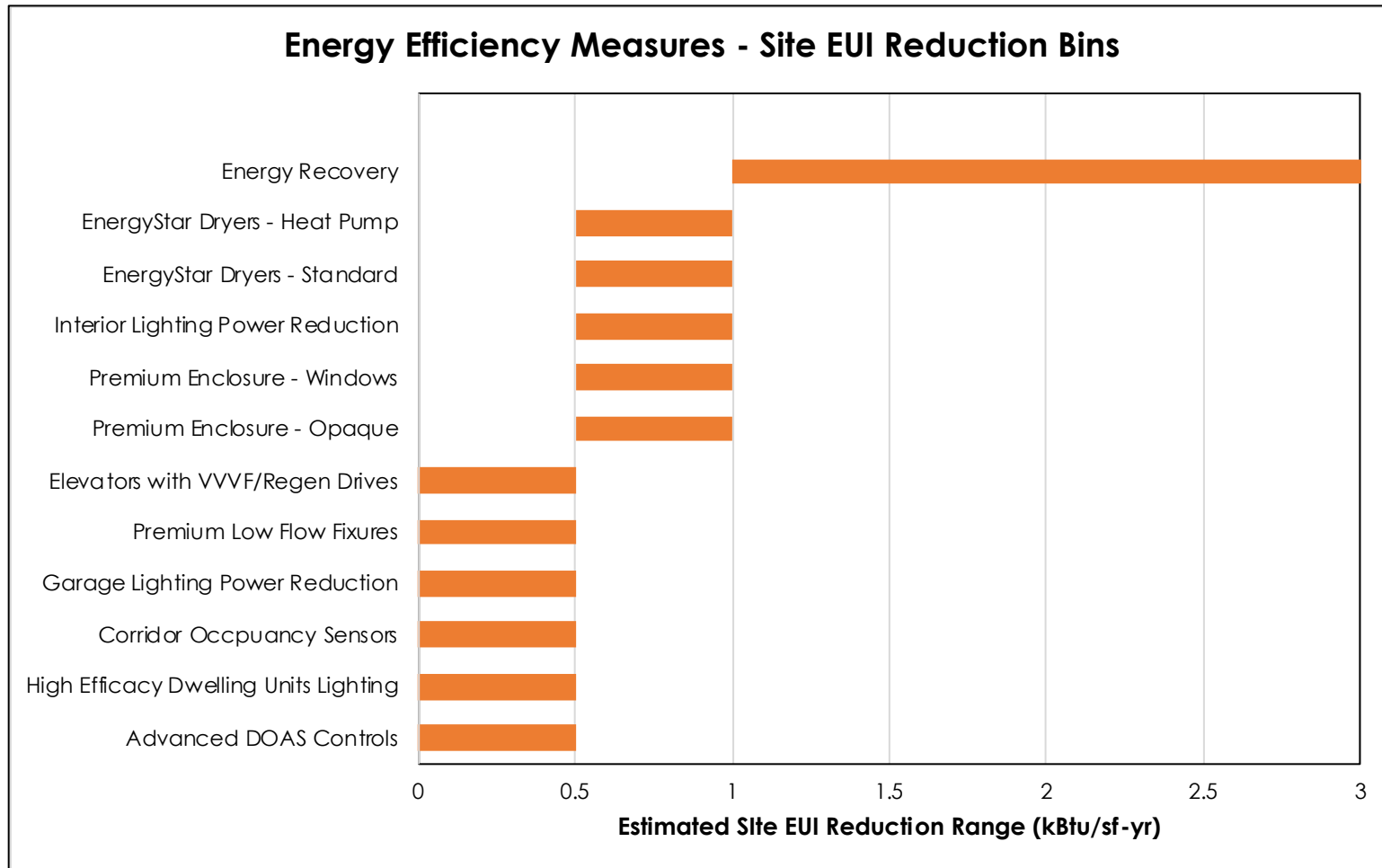


Figure 3: Estimated EEO Energy Reductions



Measure Narrative Descriptions

The subsequent tables provide general descriptions of the measures list in Figure 3 above.

Table 4: Energy Efficiency Opportunity (EEO) Summary

EEO	Measure	Category	Base Design	Measure Description
1	Premium Enclosure - Opaque	Building Enclosure	See enclosure section.	Roof: R-40+ Walls: ≥3" C.I. + No signif. points of thermal bridging
2	Premium Enclosure - Windows			U-0.35 / 0.25 SHGC
3	Interior Lighting Reduction	Lighting	0.60 W/sf (common & BOH areas)	0.48 W/sf
4	High Efficacy Dwelling Unit Lighting		40-50 lumens/Watt	≥60-70 lumens/Watt
5	Garage Lighting Reduction		0.15 W/sf	0.08 W/sf
6	Corridor Occupancy Controls		24/7 operation	Bi-level lighting controls (50% when unocc.)
7	EnergyStar Dryers	Process & Equipment	Standard Electric	Moisture Sensing OR Ventless Condensing HP
8	Elevators – VVVF & Regen. Drives		Standard traction	VVVF controls + regenerative drives
9	Premium Low Flow Fixtures	Plumbing	Shower – 1.75 GPM Faucets: 1.50 GPM	Showers – 1.5 GPM Lav. Faucets: 0.5 GPM
10	Discharge Air Temp. Reset Controls	HVAC	Fixed DAT: 70°F	Reset based on OAT 60°F DAT @ ≥76°F
11	Ventilation Energy Recovery		No Energy Recovery	Enthalpy wheel pretreats all incoming outdoor air



Preliminary Basis of Design

Many assumptions and placeholders have been used in this analysis given the early nature of the design. The intent of this type of analysis is relative order of magnitude (RoM), so small adjustments to design inputs or schedules likely won't change overall findings and takeaways from the analysis. SBP asks that the subsequent section be reviewed for general accuracy.

General Design & Operational Parameters

Table 5: General Project Parameters

Project Types	Mixed-Use: Multifamily & Retail
Modeling Software	EnergyPlus V9.6 / OpenStudio V1.3.0
Project Location	Arlington, VA
Climate Zone/Weather	4A / TMY3 – Washington, DC
Design Day Conditions	Cooling – 92°F / 77°F, Heating – 15°F
Design Temperatures	75°F – Cooling / 70°F Heating
Quantity of Floors	7 Floors + PH & Below-Grade Parking
Building Area (GSF)	~340,000 GSF
Dwelling Units	~250 Units
Electric Utility Rates	EIA, 2021 VA avg – Residential: \$0.1214/kWh EIA, 2021 VA avg – Commercial: \$0.0782/kWh
Gas Utility Rates	EIA, 2020 VA avg – Commercial: \$0.78/therm

Exterior Opaque Constructions

All assemblies have been developed in accordance with the SD design package, ASHRAE RP-1365, 2017 DC Energy Code, and ASHRAE 90.1 Appendix A.

Table 6: Opaque Envelope Performance Summary

Assembly Name	Assembly Type	Description	Proposed Performance	Points of Thermal Bridging
Brick Wall Assembly	Ext. Wall	Brick/Metal Stud 3" C.I + R-19 Batt	U-0.049	Metal studs, SS brick ties (nominal condition)
Typical Brick at Slab Edge	Ext. Wall	Brick/Metal Stud 3" C.I + R-19 Batt	U-0.091	Metal studs, SS brick ties, shelf angles, concrete slab edge
Typical Brick at Balcony	Ext. Wall	Brick/Metal Stud 3" C.I + R-19 Batt	U-0.136	Metal studs, SS brick ties, shelf angles, concrete cant. balcony
Metal Wall Assembly	Ext. Wall	MP/Metal Stud 3" C.I + R-19 Batt	0.046	Metal studs, Thermally broken Z- girts
MP at Slab Edge	Ext. Wall	MP/Metal Stud 3" C.I + R-19 Batt	0.071	Metal studs, Thermally broken Z- girts, concrete slab edge
Base Roof	Roof	Insulation above conc. deck, 5" XPS	0.038	--
Floor over garage	Floor	Est. R-12.6 insulation below conc. slab	0.071	--

See [Enclosure Calculation](#) section for full layer-by-layer sections.



Window Assemblies

All performance has been estimated based performance specifications provided by the design team.

Window Area:

Glass%:
— Retail & Lobby: 60%
— Residential Level 1-2: 50%
— Residential Level 3-6: 40%
— Residential Level 7: 60%



Basis of Design - Glazing:

1" IGU, Double-pane, low-E, argon
Residential – Guardian SNX 62/27
Lobby/Retail – Guardian SN68

Basis of Design – Framing:

Residential: Peerless G200 Series
Lobby/Retail: Kawneer 1600



Table 7: Window Assembly Performance (frame + glass)



Window System	U-value	SHGC
Residential	0.40	0.26
Lobby/Retail	0.38	0.37

Lighting Systems

The lighting design was not available for this analysis and has been approximated based on a standard market design

Table 8: Lighting Summary

Use Type	Lighting Power (W/sf)	Occupancy / Daylighting Controls	Design Target LPD (W/sf) EEOs
Multifamily (common & BOH)	0.60	As required by 2015 VECC	0.48
Parking Garage	0.15	OS / Bi-Level	0.08
Dwelling Units (not regulated by 90.1)	40-50 lm/W	N/A	~60-70 lm/W



Equipment & Appliances

Table 9: Process & Equipment Summary

Component	Description
Dwelling Unit Appliances	<ul style="list-style-type: none"> • Fridge: EnergyStar • Dishwasher: EnergyStar • Clothes Washer: EnergyStar • Dryer: Electric, standard • Range: Electric, standard
Misc. Plug Loads	Modeled in accordance with LEED Multifamily Midrise Guidelines
Elevators	MRL Gearless Traction
Garage Ventilation	<ul style="list-style-type: none"> • 0.75 CFM/sf • DCV with VFD Controls

Domestic Hot Water System


The DHW system was described in the system narrative as follows.

Table 10: DHW Summary

Component	Description
Water Heater Type	Gas-fired condensing storage water heaters
Configuration	Central plant
Storage Capacity	130-gallons (per heater)
Efficiency	~95% Et

Base Building HVAC Narrative

Table 11: HVAC Basis of Design

Design Component	Description
Primary System	<u>Variable Refrigerant Volume (VRV) Heat Pumps</u> <ul style="list-style-type: none"> • BOD: Samsun • 18+ IEER • Heat recovery • Indoor units: primarily vertical ducted AHUs
Ventilation System	<u>100% Dedicated Outside Air Unit</u> <ul style="list-style-type: none"> • Air-source Heat Pump  • Gas-fired Auxiliary • Hot gas reheat • Fixed discharge air temperature (70°F)
Ventilation Rates	<ul style="list-style-type: none"> • Dwelling Units – ASHRAE 62.2 • Common – ASHRAE 62.1 • Corridors – 0.10 CFM/sf (<i>decoupled from space conditioning</i>)



Appendix – Opaque Assembly Calculations

Modeled assemblies have been developed consistent with Appendix A of ASHRAE 90.1-2010.

Brick Veneer Wall	
R-Value	Layer
0.17	Exterior Air Film
0.00	Brick Veneer with SS Brick Ties - Outside Thermal Boundary
11.34	3" C.I. derated for brick ties (R-12.6 nominal)
0.56	5/8" Sheathing
7.10	R-19 Batt Insulation between metal studs at 16" OC
0.56	5/8" GWB
0.68	Interior Air Film
20.41	Total R-Value
0.049	Assembly U-Value (nominal wall)
0.091	Assembly U-value (at slab edge) → predominant cond.
0.136	Assembly U-value (at balcony)

Metal Panel Wall Assembly	
R-Value	Layer
0.17	Exterior Air Film
0.00	Metal Panel w/ thermally-broken Z-girts
12.60	3" C.I. (R-12.6 nominal)
0.56	5/8" Sheathing
7.10	R-19 Batt Insulation Between Metal Studs at 16" OC
0.56	5/8" GWB
0.68	Interior Air Film
21.67	Total R-Value
0.046	Assembly U-Value (nominal wall)
0.071	Assembly U-value (at slab edge) → predominant cond.



Base Roof Assembly	
R-Value	Layer
0.17	Exterior Air Film
0.00	Ballast/Cover System (e.g. green, paver, etc)
25.00	5" XPS
0.38	Concrete roof deck
0.61	Interior Air Film
26.16	Total R-Value
0.038	Assembly U-Value

Typical Floor Assembly (over parking)	
R-Value	Layer
0.17	Exterior Air Film
12.60	3" mineral fiber (assumed)
0.38	Concrete Slab
0.92	Interior Air Film
14.07	Total R-Value
0.071	Assembly U-Value



Appendix - Simulation Output Files

The following screen captures are selected simulation output files for the Design Energy Cost (DEC) or Proposed case as well as those from the Performance Rating Method (PRM) or Baseline case.

Proposed Model Output Reports

	Electricity Energy Use [kWh]	Electricity Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]
Heating -- General	673960.22	646013.49	0.00	0.00
Cooling -- General	292816.85	352369.59	0.00	0.00
Interior Lighting -- General	298416.38	44476.07	0.00	0.00
Interior Lighting -- Residential	161031.62	40913.05	0.00	0.00
Exterior Lighting -- Elevators	74902.44	27180.40	0.00	0.00
Exterior Lighting -- Exterior Lighting	21780.02	5000.00	0.00	0.00
Exterior Lighting -- Garage Fans	106328.14	18855.00	0.00	0.00
Exterior Lighting -- Garage Lighting	82584.97	12570.00	0.00	0.00
Interior Equipment -- General	94104.83	19083.51	0.00	0.00
Interior Equipment -- Residential	763939.66	180429.63	0.00	0.00
Exterior Equipment -- Not Subdivided	0.00	0.00	0.00	0.00
Fans -- General	253387.63	28925.51	0.00	0.00
Pumps -- General	0.00	0.00	0.00	0.00
Heat Rejection -- Not Subdivided	0.00	0.00	0.00	0.00
Humidification -- Not Subdivided	0.00	0.00	0.00	0.00
Heat Recovery -- General	0.00	0.00	0.00	0.00
Water Systems -- General	0.00	0.00	0.00	0.00
Water Systems -- Service Hot Water Heating	0.00	0.00	31289.44	590618.96



ASHRAE Baseline Building Output Reports

EAp2-4/5. Performance Rating Method Compliance

	Electricity Energy Use [kWh]	Electricity Demand [W]	Natural Gas Energy Use [therm]	Natural Gas Demand [Btu/h]
Heating -- General	883884.27	1165858.21	0.00	0.00
Cooling -- General	562817.50	422959.34	0.00	0.00
Interior Lighting -- General	298416.38	44476.07	0.00	0.00
Interior Lighting -- Residential	161031.62	40913.05	0.00	0.00
Exterior Lighting -- Elevators	74902.44	27180.40	0.00	0.00
Exterior Lighting -- Exterior Lighting	21780.02	5000.00	0.00	0.00
Exterior Lighting -- Garage Fans	106328.14	18855.00	0.00	0.00
Exterior Lighting -- Garage Lighting	137641.61	20950.00	0.00	0.00
Interior Equipment -- General	94104.83	19083.51	0.00	0.00
Interior Equipment -- Residential	810117.82	191336.13	0.00	0.00
Exterior Equipment -- Not Subdivided	0.00	0.00	0.00	0.00
Fans -- General	698762.43	79767.34	0.00	0.00
Pumps -- General	0.00	0.00	0.00	0.00
Heat Rejection -- Not Subdivided	0.00	0.00	0.00	0.00
Humidification -- Not Subdivided	0.00	0.00	0.00	0.00
Heat Recovery -- Not Subdivided	0.00	0.00	0.00	0.00
Water Systems -- General	0.00	0.00	0.00	0.00
Water Systems -- Service Hot Water Heating	0.00	0.00	41163.15	1385157.60



Acronym Legend

AHU	Air-Handling Unit
CHW	Chilled Water
COP	Coefficient of Performance
CRI	Color Rendering Index
CS	Core & Shell
CW	Condenser Water
DEC	Design Energy Cost
DHW	Domestic Hot Water
EA	Energy & Atmosphere
ECM	Electronically Commutated Motor
EEO	Energy Efficiency Opportunity
EER	Energy Efficiency Ratio
EF	Energy Factor
EUI	Energy Use Index (kBtu/sf)
FCU	Fan Coil Unit
FP	Fan-Powered
HP	Heat Pump OR Horsepower
HSPF	Heating Seasonal Performance Factor
HW	Hot Water
LPD	Lighting Power Density
NC	New Construction
PRM	Performance Rating Method
REC	Renewable Energy Credit
RTU	Rooftop Unit
SAT	Supply Air Temperature
SC	Shading Coefficient
SEER	Seasonal Energy Efficiency Ratio
SHGC	Solar Heat Gain Coefficient
VAV	Variable Air Volume
VFD	Variable Frequency Drive
VSD	Variable Speed Drive
VT	Visible Transmittance