

Multimodal Transportation Assessment

4420 Fairfax Drive

Arlington, Virginia

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Executive Summary

The following report is a Multimodal Transportation Assessment (MMTA) for the 4420 Fairfax Drive redevelopment in the Ballston neighborhood in Arlington, Virginia proposed by Aria Ballston LLC.

Site Location and Study Area

The proposed development site is located in the Ballston neighborhood of Arlington, Virginia. The general extents of the study area are N Glebe Road to the west, N Taylor Street to the east, Fairfax Drive to the north, and N Glebe Road to the south.

The vehicular study area consists of nine (9) intersections along Fairfax Drive, Wilson Boulevard, N Glebe Road, N Vermont Street, N Utah Street, N Taylor Street, N Fairfax Alley, and N Vermont Alley as vetted by Arlington County during the scoping process.

The proposed development site currently consists of office uses that will be demolished as part of the project. The site is currently zoned as C-O-A: Mixed Use District and is shown as a “Coordinated Mixed-Use Development” in the General Land Use Plan (GLUP).

Proposed Project

The proposed development will raze the existing office building and redevelop with a new site consisting of the following:

- Approximately 302 residential units;
- Approximately 4,957 square feet of ground-floor retail;
- Approximately 98 vehicle parking spaces;
- Two (2) 30-foot loading berths; and
- At least 122 secure long-term and nine (9) short-term bicycle parking spaces.

Vehicular access to the proposed parking garage and surface parking spaces will be via N Fairfax Alley, east of the site.

Loading access will be accessible via the proposed loading driveway on N Vermont Alley, south of the site. Both alleys are accessible via Fairfax Drive and N Vermont Street. The number of on-site loading facilities will accommodate the practical needs of the development.

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. Similarly,

the Ballston Sector Plan adopted by the County Board in 1980, serves as a guide for the development and its surrounding neighborhood. The 4420 Fairfax Drive development achieves several of the goals and policies of both the MTP, the Sector Plan, and other guiding documents for the County.

Multi-Modal Overview

Transit

The subject site is well-served by transit:

- The site is well-served by public transportation with access to various bus lines that connect to the greater Northern Virginia and Washington Metropolitan area.
- There is one (1) Metro Station, Ballston-MU Metro Station, approximately 0.1 miles from the site that serves the Orange and Silver lines.
- Future planned transit improvements in the vicinity of the site include the design and development of the Ballston-MU Metro Station West Entrance at the SW corner of the Fairfax Drive and Vermont Street intersection, adjacent to the proposed development.

Bicycle

The site has access to several on- and off-street bicycle facilities, including:

- On-street routes on 11th Street N, 9th Street N, N Utah Street, N Taylor Street, and N Stafford Street
- Bicycle lanes on Fairfax Drive, N Carlin Springs Road, portions of Wilson Boulevard, and portions of N Quincy Street
- Protected bicycle lanes on portions of N Quincy Street and Fairfax Drive
- Off-street trails including the Custis Trail via I-66 north of the site and the Bluemont Junction Trail via Bluemont Drive west of the site

These, in turn, provide regional access to destinations within Virginia and the District.

The Arlington MTP includes enhancements to the bicycle network in the vicinity of the site:

- Upgraded bike parking at transit stations
- Enhanced bicycle facility on Washington Boulevard that provides connection to Custis Trail

- Enhanced bike facility on N Glebe Road
- Bike boulevard on N Stafford Street
- On-street routes along N Tazewell Street and N Thomas Street

Pedestrian

The site is surrounded by a well-connected pedestrian network. Pedestrian facilities around the site provide a quality walking environment. There is great overall connectivity and facilities.

As a result of the development, pedestrian facilities around the perimeter of the site will be improved to meet or exceed Arlington County and ADA standards. This includes sidewalks that meet or exceed the width requirements, crosswalks at all necessary locations, and curb ramps with detectable warnings. Additional improvements to pedestrian facilities include sidewalk upgrades, new streetlights, street trees. These improvements will provide a more inviting and comfortable pedestrian environment.

Vehicular

The site is accessible from several principal arterials such as N Glebe Road and Wilson Boulevard. These arterials create connections to Washington Boulevard, Arlington Boulevard, I-395, and I-66. These principal arterial roadways bring vehicular traffic within one (1) mile of the site, at which point minor arterials, collectors, and local roads can be used to access the site directly.

Existing Conditions

Intersection capacity analyses were performed for the morning and afternoon peak hours at study area intersections. Synchro version 11 was used to analyze the study intersections based on the *Highway Capacity Manual* (HCM) 2000 methodology. The *Synchro* network models were simulated using *SimTraffic* version 11 in order to determine the maximum queue lengths in addition to Synchro queuing outputs.

The capacity analysis results show that all intersections operate at LOS E or better except for one (1) intersection during both morning and afternoon peak hours, three (3) intersections have 95th percentile queues and four (4) intersections have maximum queues that exceed the available storage length in one or more peak hours 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 following mode splits were assumed in the analysis, as vetted and approved by Arlington County:

- Residential
 - Auto – 35%, Transit – 56%, Bike – 4% Walk – 5%
- Retail
 - Auto – 61%, Transit – 30%, Bike – 4% Walk – 5%

Weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition, as follows:

- Residential
 - ITE Land Use 222, High-Rise Multifamily Housing, setting/location of General Urban/Suburban and Not Close to Rail Transit
- Retail
 - ITE Land Use 822, Strip Retail Plaza (<40 kSF), setting/location of General Urban/Suburban
 - ITE does not provide trip generation rates specific to the neighborhood serving retail being proposed with the development. However, ITE provides three (3) land use codes for general retail uses, with thresholds based on the proposed square footage. In the absence of a specific land use that corresponds with the type of retail proposed as part of the development, ITE Land Use 822 was applied as vetted by Arlington County during the scoping process.

Future Improvements

There are a number of planned transportation improvements in the vicinity of the proposed development site. The full list of improvements is detailed in the report, but examples include:

- Ballston Metro Station West Entrance
- Rosslyn-Ballston Corridor 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 11 was used to analyze the study intersections based on the *Highway Capacity Manual* (HCM) 2000 methodology. The *Synchro* network models were simulated using *SimTraffic* version 11 in

order to determine the maximum queue lengths in addition to Synchro queuing outputs.

Traffic projections for 2029 are based on existing volumes, plus inherent regional growth and traffic generated by approved nearby background developments to account for local growth and traffic generated by the proposed development. The methodology of using background development trips to account for local growth is consistent with other MMTAs in Arlington County and has been vetted by the County.

Based on the capacity and queuing analysis results, at all study intersections, level of service and queues are generally consistent with those shown under Background (2029) Conditions and there are no impacts to any intersections under Future (2029) Conditions. Thus, the proposed development will not have a substantial impact on the surrounding transportation network and roadway network, assuming that all planned site design elements and improvements are implemented.

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, the establishment of ride-sharing programs, and the on-site sale of discounted fare media. Management measures taken by the proposed development can 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 have a manageable impact on the surrounding transportation and

roadway network, assuming that all planned site design elements are implemented.

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

- The proposed development's proximity to the Ballston-MU Metro Station which serves the Orange and Silver line that connects to other parts of Northern Virginia and the District
- The proposed development's proximity to multiple bus lines that connect to other parts of Northern Virginia and the District
- Improvements to the pedestrian facilities adjacent to the site that meet or exceed Arlington County and ADA requirements.
- Inclusion of secure, long-term bicycle parking, meeting Arlington County requirements.
- Installation of short-term bicycle parking spaces around the perimeter of the site, meeting Arlington County requirements.
- Provision of on-site parking, which will meet the practical needs of the proposed development.
- 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 (MMTA) conducted for the proposed 4420 Fairfax Drive redevelopment in Arlington, VA.

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 meeting was held on July 25th, 2025, with representatives from Arlington County. A scoping form dated July 16th, 2025, was submitted by Gorove Slade to Arlington County and updated versions based on County comments were submitted on August 5th, 2025. This scope includes discussions about the parameters of the study and relevant background information. A copy of the signed scoping document is included in the Technical Appendix.
- Field reconnaissance in the vicinity of the site was performed to collect information related to the existing traffic controls, signal timings, roadway geometry, traffic flow characteristics, sidewalk conditions, bicycle facilities, and transit stop amenities.
- Traffic turning movement counts were collected at the study intersections on Thursday, May 22, 2025, and Wednesday, September 10, 2025, during the morning hours between 6:30 and 9:30 AM and evening hours between 4:00 and 7:00 PM.
- 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 (2029) and Future (2029) Conditions.
- Proposed site traffic volumes were generated based on the methodology outlined in *Trip Generation Manual*, 11th Edition published by the Institute of Transportation Engineers (ITE).
- Intersection capacity analyses were performed using the software package Synchro, Version 11 based on the

Highway Capacity Manual (HCM) methodology, and SimTraffic, Version 11. Traffic analyses were performed for existing conditions (2025) and future conditions (2029) 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 in the Ballston neighborhood in Arlington, Virginia. Figure 1 shows the regional location of the project. The project site is bounded by Fairfax Drive to the north, N Fairfax Alley to the east, N Vermont Street to the west, and N Vermont Alley to the south. The site location is shown in Figure 2.

Parcel Information

The existing site is currently comprised of one (1) parcel which is occupied by an office building with ground floor retail and surface parking. A parcel map showing the location of the property is presented in Figure 3.

General Land Use Plan Recommendations

The site is zoned as C-O-A: Mixed Use District per the Arlington County Tax Maps and is shown as a “Coordinated Mixed-Use Development” according to Arlington County’s General Land Use Plan (GLUP). The GLUP map for the site is shown in Figure 4 and the zoning map is shown in Figure 5.

Proposed Site Plan

The proposed development will raze the existing office building and redevelop with a new site consisting of the following:

- Approximately 302 residential units;
- Approximately 4,957 square feet of ground-floor retail;
- Approximately 98 vehicle parking spaces;
- Two (2) 30-foot loading berths; and
- At least 122 secure long-term and nine (9) short-term bicycle parking spaces.

Vehicular access to the proposed parking garage and surface parking spaces will be via N Fairfax Alley, east of the site. Loading access will be accessible via the proposed loading

driveway on N Vermont Alley, south of the site. Both alleys are accessible via Fairfax Drive and N Vermont Street.

The number of on-site loading facilities will accommodate the practical needs of the development.

The proposed build-out year is 2029. The proposed site plan is shown in Figure 6.

Scope and Limits of the Study Area

The following intersections were identified for inclusion in the vehicular study area, as shown in Figure 7.

1. N Glebe Road & Fairfax Drive
2. N Vermont Street & Fairfax Drive
3. Fairfax Drive & N Fairfax Alley
4. Fairfax Drive & N Utah Street
5. Fairfax Drive & N Taylor Street
6. N Vermont Street & N Vermont Alley
7. N Glebe Road & N Vermont Street
8. N Glebe Road & Wilson Boulevard
9. N Taylor Street & Wilson Boulevard

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 Manual*, 11th Edition, Aria Ballston LLC, Bowman, Parker Rodriguez, Hickok Cole, and the office files and field reconnaissance efforts of Gorove Slade Associates, Inc.

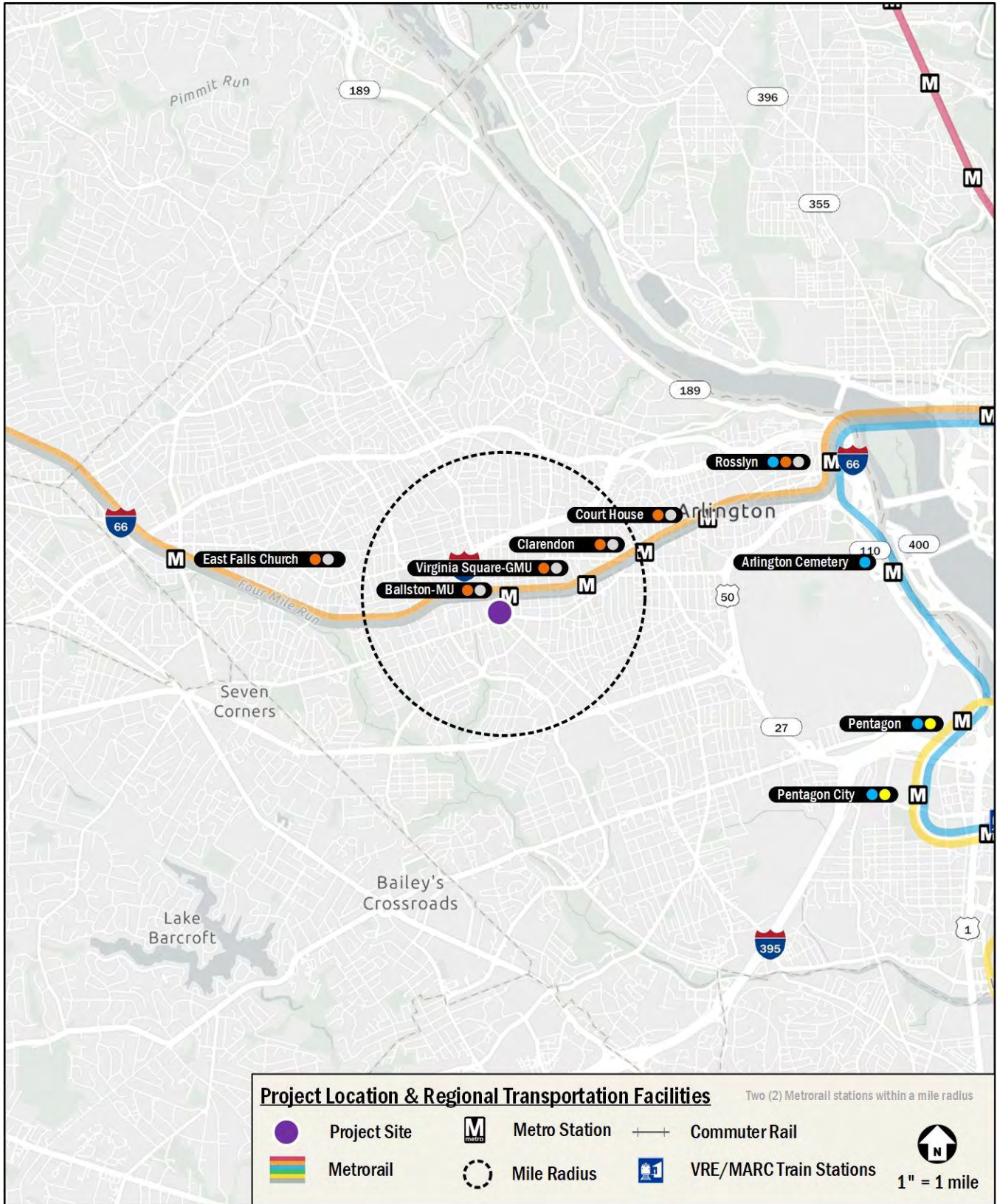


Figure 1: Major Regional Transportation Facilities

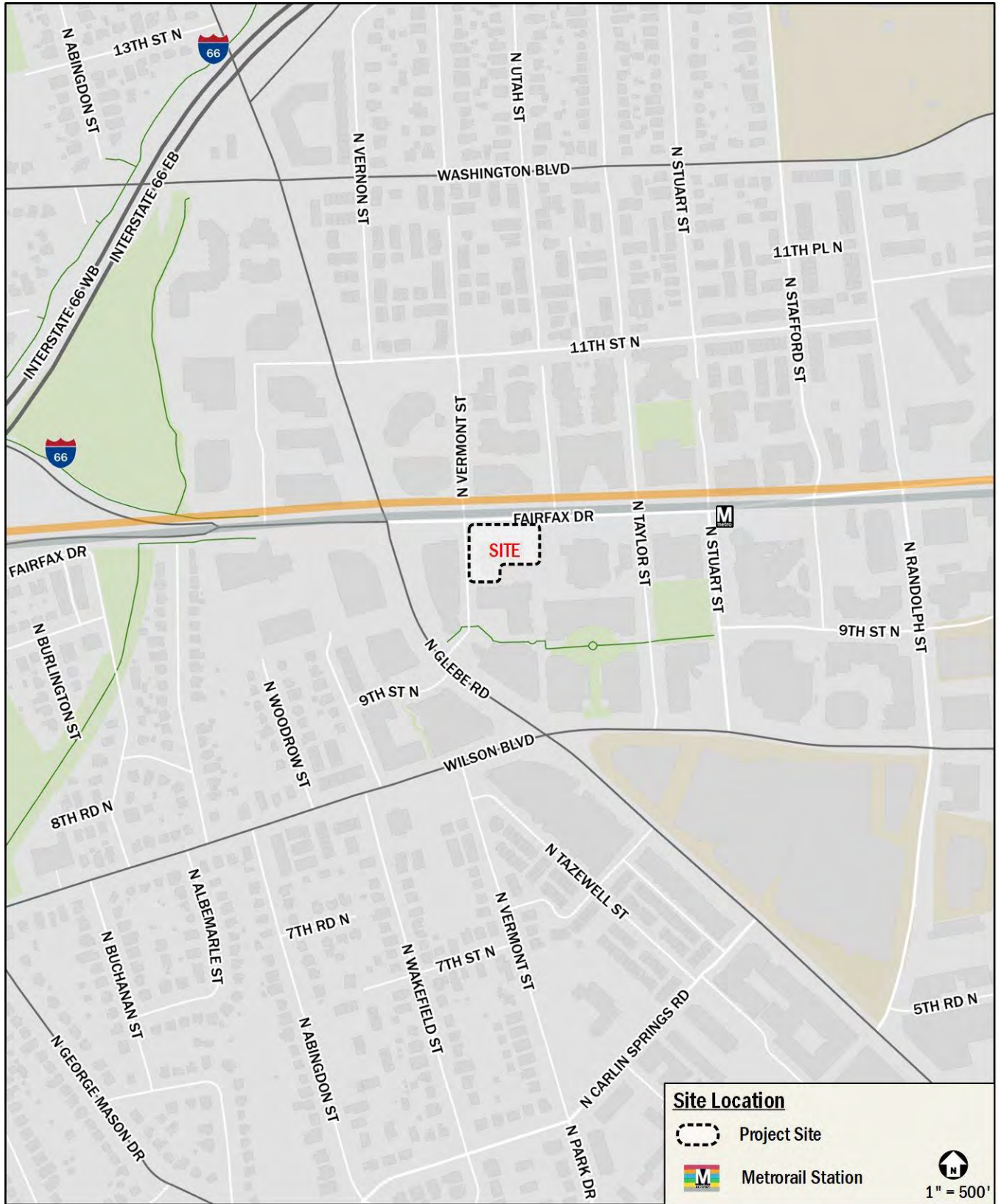


Figure 2: Site Location

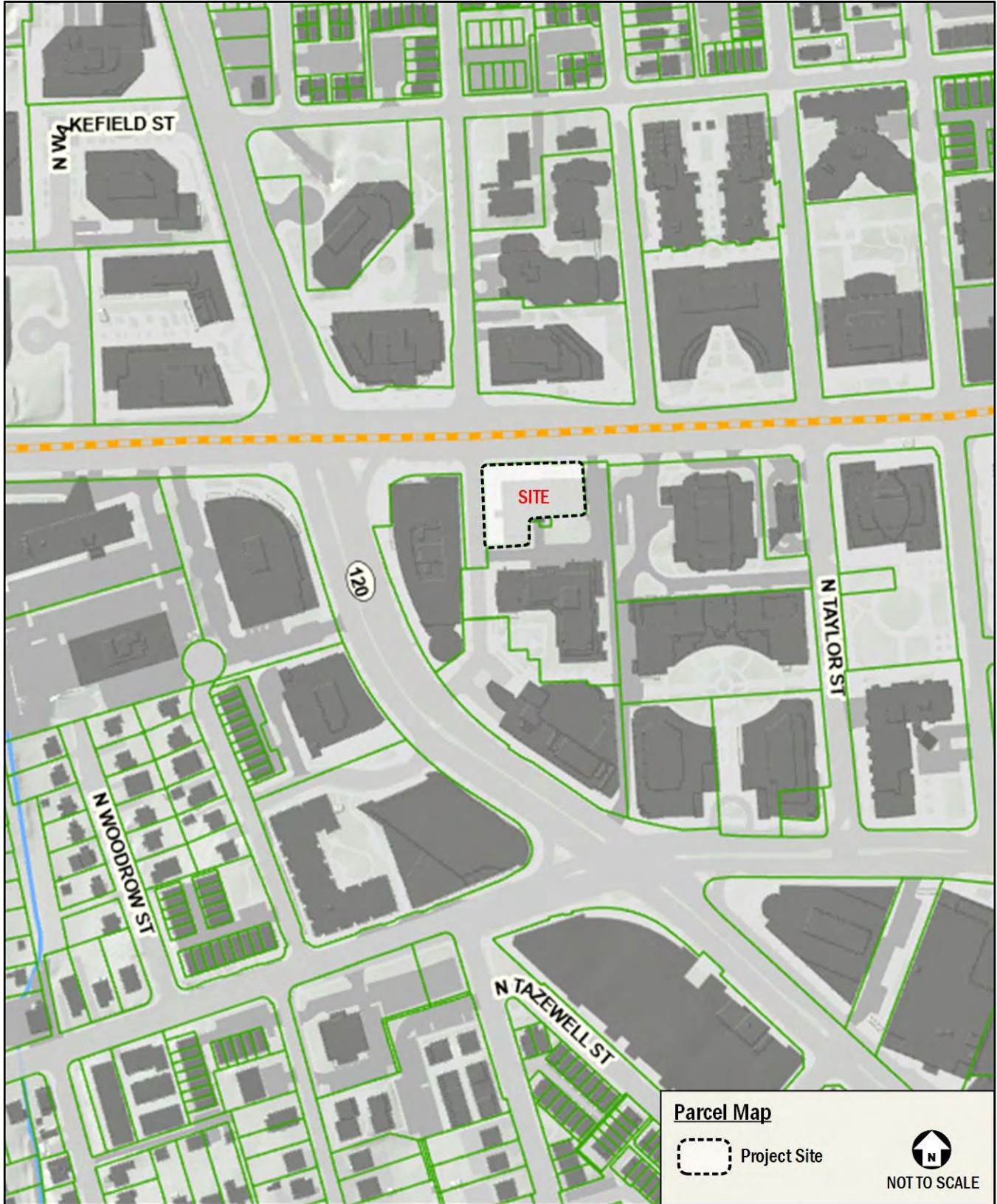


Figure 3: Parcel Map (Source: Arlington County GIS Zoning Map)

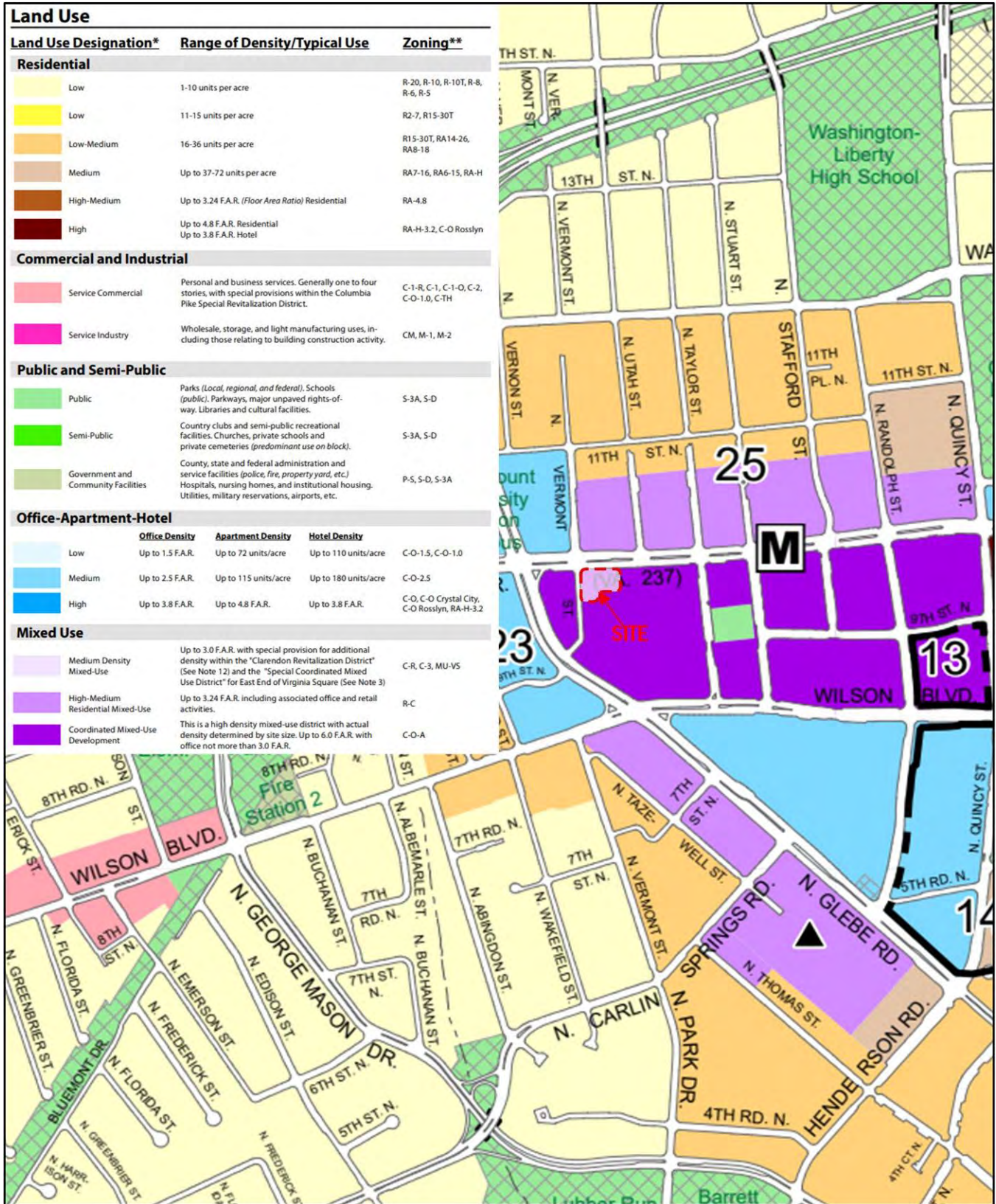


Figure 4: Planned Land Uses (Source: Arlington General Land Use Plan (GLUP), June 2025)

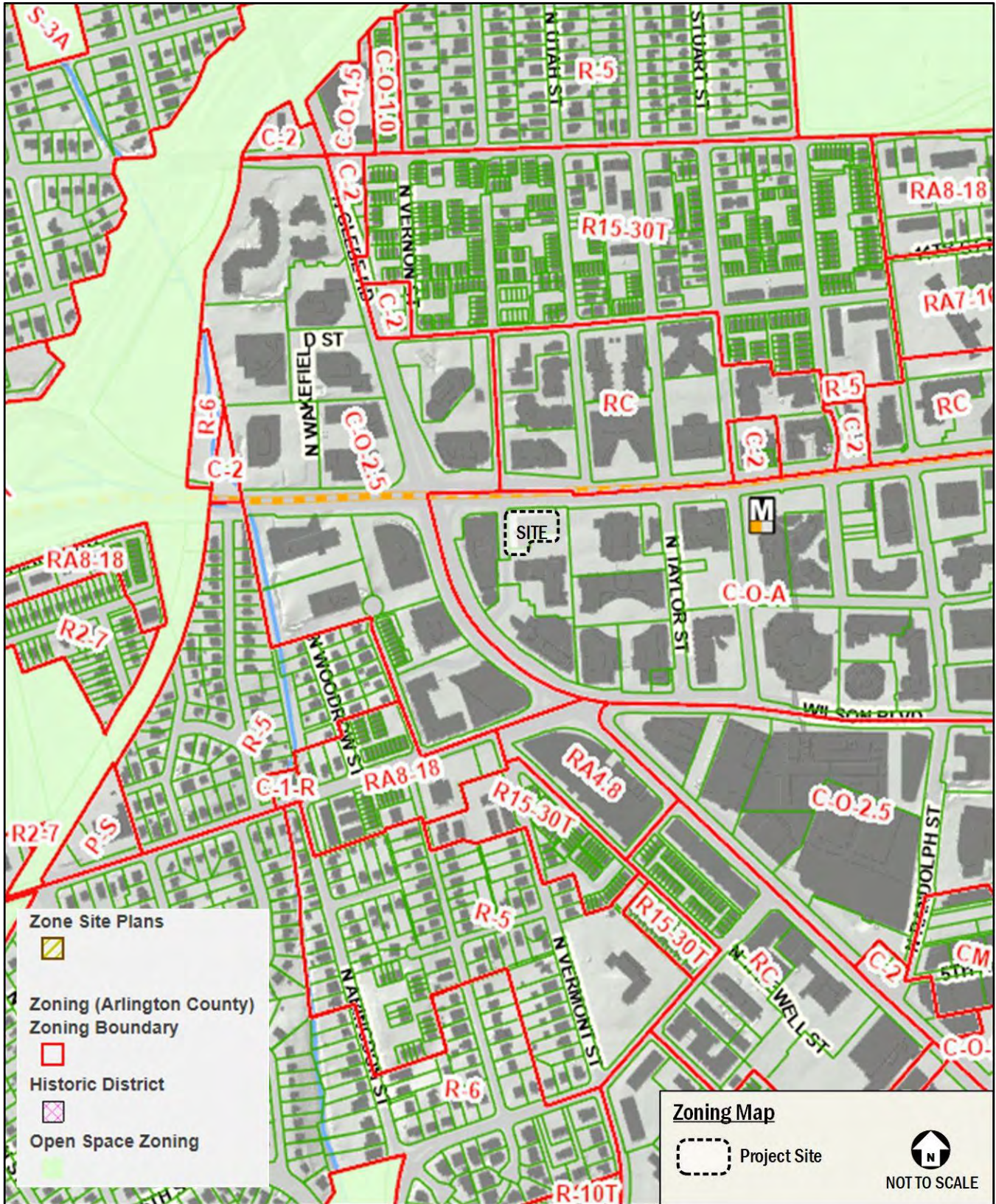


Figure 5: Zoning Map (Source: Arlington County GIS Zoning Map)

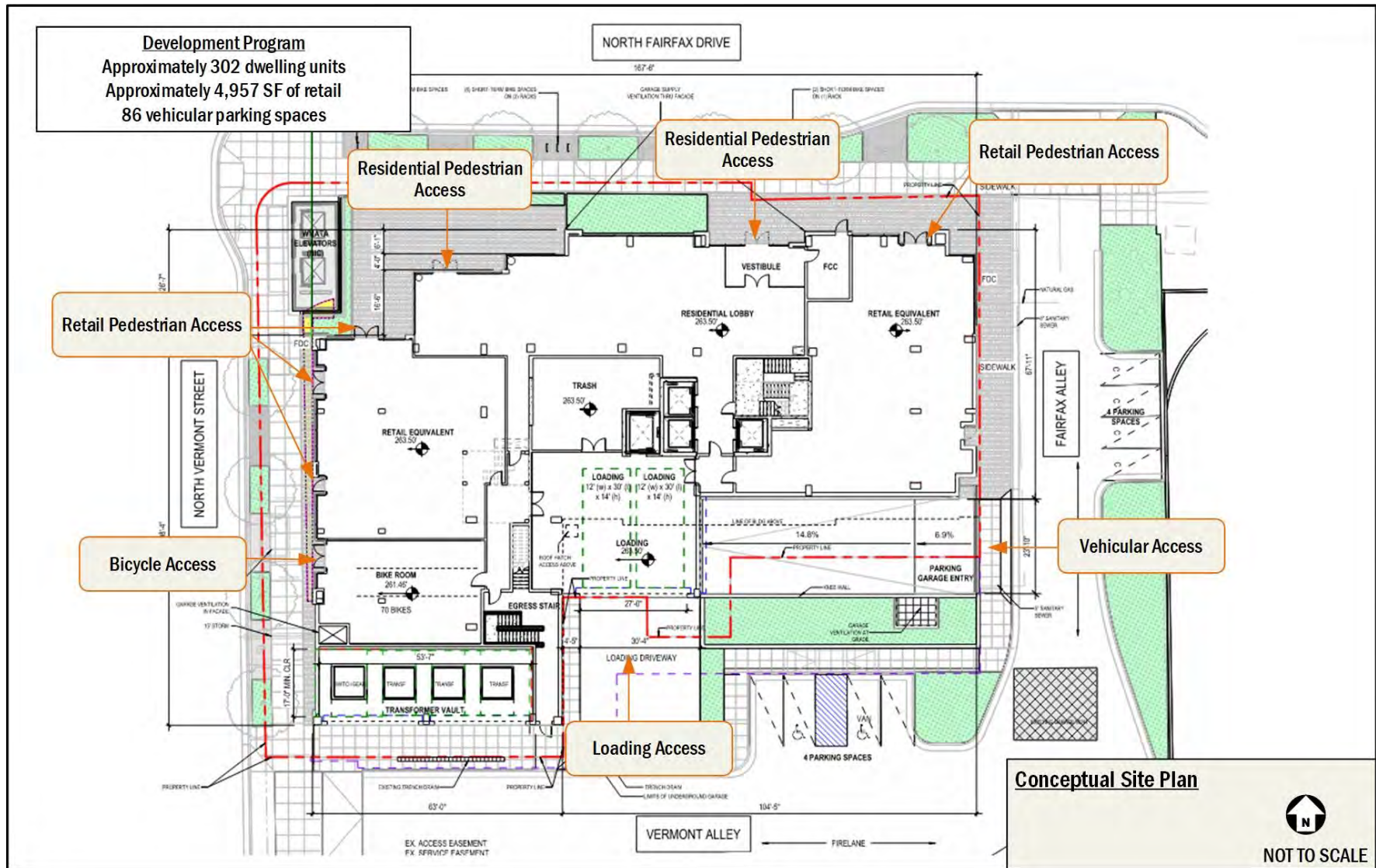


Figure 6: Conceptual Site Plan

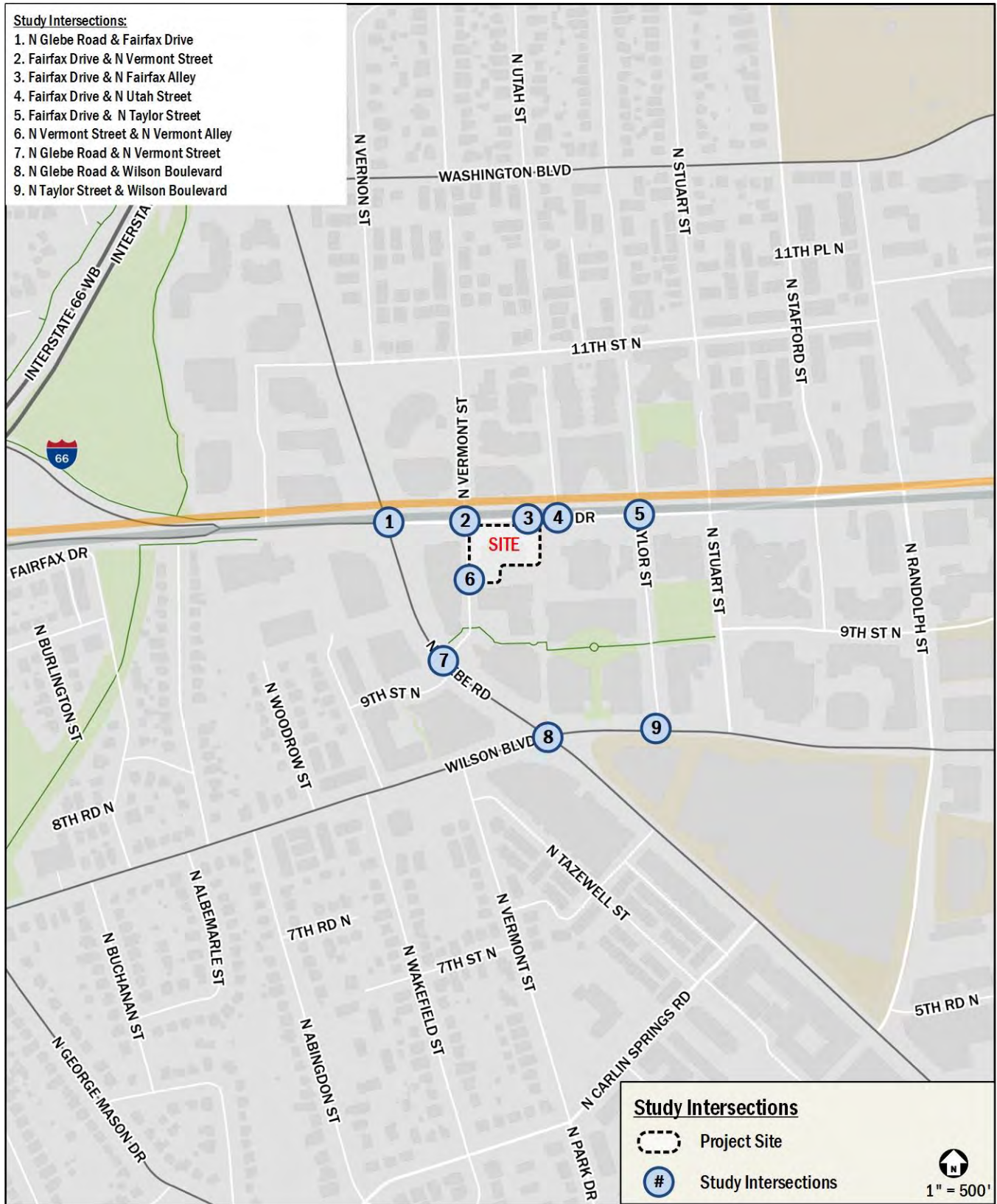


Figure 7: Study Intersections

County-wide and Local Initiatives

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

County-wide Initiatives

Arlington Master Transportation Plan (2011)

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 4420 Fairfax Drive redevelopment 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 8.
- **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 9.
- **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:**
 - Proposed curb extension at the southeast corner of the intersection of Fairfax Drive and N Vermont Street along the site frontage, which will shorten distance for pedestrians to cross Fairfax Drive and N Vermont Street and provide an improved pedestrian crossing experience
 - Proposed improvements to crosswalk across Fairfax Drive on the east side of the intersection of Fairfax Drive and N Vermont Street
 - Proposed sidewalk along N Fairfax Alley and N Vermont Alley along the site frontage

- Bicycle:
 - Short-term bicycle parking will be provided along the perimeter of the site on Fairfax Drive.
 - Secure, long-term bike parking will be provided in bike rooms on the ground level and in the garage.
- Parking and Curb Space:
 - On-site parking will be located in a below-grade parking garage and on the surface to the east and south of the proposed building.
 - On-street parking will be provided on Fairfax Drive and N Vermont Street along the site frontage.
 - N Vermont Street to be widened to facilitate wider curbside parking lane and improved vehicular circulation.
 - A curb extension will be provided where N Fairfax Alley meets Fairfax Drive, improving sight lines for vehicles exiting N Fairfax Alley, which is used by the adjacent residential building south of the site, and will also be used by the proposed development.
- Transportation Demand Management:
 - A TMP will be implemented for the development to discourage auto travel and encourage travel by other modes.

The MTP also identifies the following recommendations in the vicinity of the proposed development:

- Transit:
 - Ballston-MU Metro Rail Station West Entrance
 - Redesign of Ballston-MU Metro station to enhance pedestrian and bicyclist access and improve the convenience of vehicle transfers
 - Upgrade service frequency, span of service, reliability and quality along Primary Transit Network (PTN) corridors.
 - Implement transit signal priority along the PTN corridor to speed travel times for buses.
 - Implement a Secondary Transit Network (STN) along Fairfax Drive and 9th Street N.
 - Expand pedestrian access to transit facilities through measures such as improved sidewalks, new station entrances, upgraded street crossings, and new elevators and escalators.
 - Work with WMATA to deploy additional 8-car trains on both the Orange and Blue lines. Work with

WMATA to ensure that sufficient train capacity is provided for all peak demand periods.

- Increase access to the Metrorail stations so that at least two elevators are in operation at all stations by the year 2030.
- Bicycle:
 - Add or upgrade covered bicycle parking at transit stations (bus and rail) and incorporate some overhead cover for weather protection. Develop secure bicycle stations at the Ballston Metro Rail Station
 - Develop a north-south route through the west side of Ballston that includes construction of new trail sections between Fairfax Drive and Wilson Boulevard, and along the south side of Wilson Boulevard near N Wakefield and Vermont/Tazewell streets. Link with the Bluemont Junction, Custis and Ballston Pond trails at Fairfax Drive and via on-street bicycle facilities on N Wakefield, and at Vermont and Tazewell streets.
 - Provide a connection to the Custis Trail and Waycroft-Woodlawn neighborhood via an enhanced bicycle facility on Washington Boulevard between N Glebe Road and N Aberdeen and N Abingdon Streets. Link with the Ballston Beaver Pond Trail to enhance north-south access.
 - Implement an enhanced bicycle facility on N Glebe Road between Old Glebe Road and Arlington Boulevard to provide better north-south bicycle connectivity within Arlington. The N Glebe Road bikeway would link existing or planned bikeways on Langston Boulevard, Wilson Boulevard, the Custis and Arlington Boulevard trails and S Glebe Road, as well as provide direct bicycle access to commercial centers including Ballston and Buckingham.
 - Upgrade existing bike lanes on Wilson Boulevard and Clarendon Boulevard and link to Fairfax Drive to provide lower stress bike route through the Rosslyn-Ballston Corridor
 - Enhance the bicycle lanes on Fairfax Drive between N Glebe Road and Washington Boulevard to include additional separation and protection of bicyclists from motor vehicle traffic. The facility should provide a lower-stress route through the Ballston and Virginia Square areas and connect the Custis and Bluemont Junction trails to enhanced bicycle facilities on Wilson and Clarendon boulevards in the Clarendon, Courthouse and Rosslyn areas

- Develop a bicycle boulevard on N Stafford Street to connect Cherry Hill Road and the Ballston area. Provide for improved bicycle access to Washington-Liberty High School, the Custis Trail, Ballston Metrorail station and Ballston Quarter mall

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

Local Initiatives

Ballston Station Multimodal Study (2013)

This document is a joint study by Washington Metropolitan Area Transit Authority (WMATA) and Arlington County to identify station area improvements that would provide safer and more effective transit operations and pedestrian access to Ballston Station. The report documents the process and results of the Ballston Station Multimodal Study, which would recommend improvements for both the multimodal transportation and public space activities at Ballston Station. The following improvement alternatives were proposed for Fairfax Drive:

- A transit zone would be located on the section closest to the edge of the curb, providing the necessary bus passenger amenities and space to allow safe and comfortable circulation and passenger activities.
- A calm and comfortable café/retail zone would be located adjacent to the building, attracting pedestrians and users that are non-transit related to Ballston Station.
- A generous open and/or pedestrian space would be located in between the transit and the café/retail zones promoting easy pedestrian circulation, access to both the transit and café/ retail zones and providing a buffer area that would mitigate possible conflicts between transit and retail users.
- Urban design features such as landscaping elements would be used to help highlight the different zones (e.g., retail vs. transit zones). Landscaping and screening features would buffer the noisy and busy transit activities to provide a calmer and more comfortable retail and pedestrian space.

VDOT Glebe Road STARS Study (2025)

VDOT's Transportation and Mobility Planning Division initiated a Strategically Targeted Affordable Solutions (STARS) study to evaluate operational and safety conditions along Route 120 (Glebe Road) between Route 244 (Columbia Pike) to I-66 ramps. The study assesses safety and operational improvements for all users—including drivers, pedestrians, cyclists, and transit riders—along Glebe Road, a critical north-south corridor in Arlington County and also a High-Injury Network corridor. The intent of the study is to serve as a guiding document for VDOT and Arlington County to identify deficiencies in the network under present and short-term conditions.

This final report, dated September 2025, includes an operational and safety analysis of existing and future congestion and safety issues along the corridor. This study recommended the following improvements within the vicinity of the proposed project:

Route 120 (N Glebe Road) and Fairfax Drive

- Adjust median to shorten westbound left turn storage at N Wakefield Street and provide longer storage for eastbound left turn at N Glebe Road.
- Install porkchop islands with right-out only to prevent through movement across Fairfax Drive from N Vermont.
- Signal timing/phasing improvements at this intersection to reduce conflicts between vehicles and pedestrians.

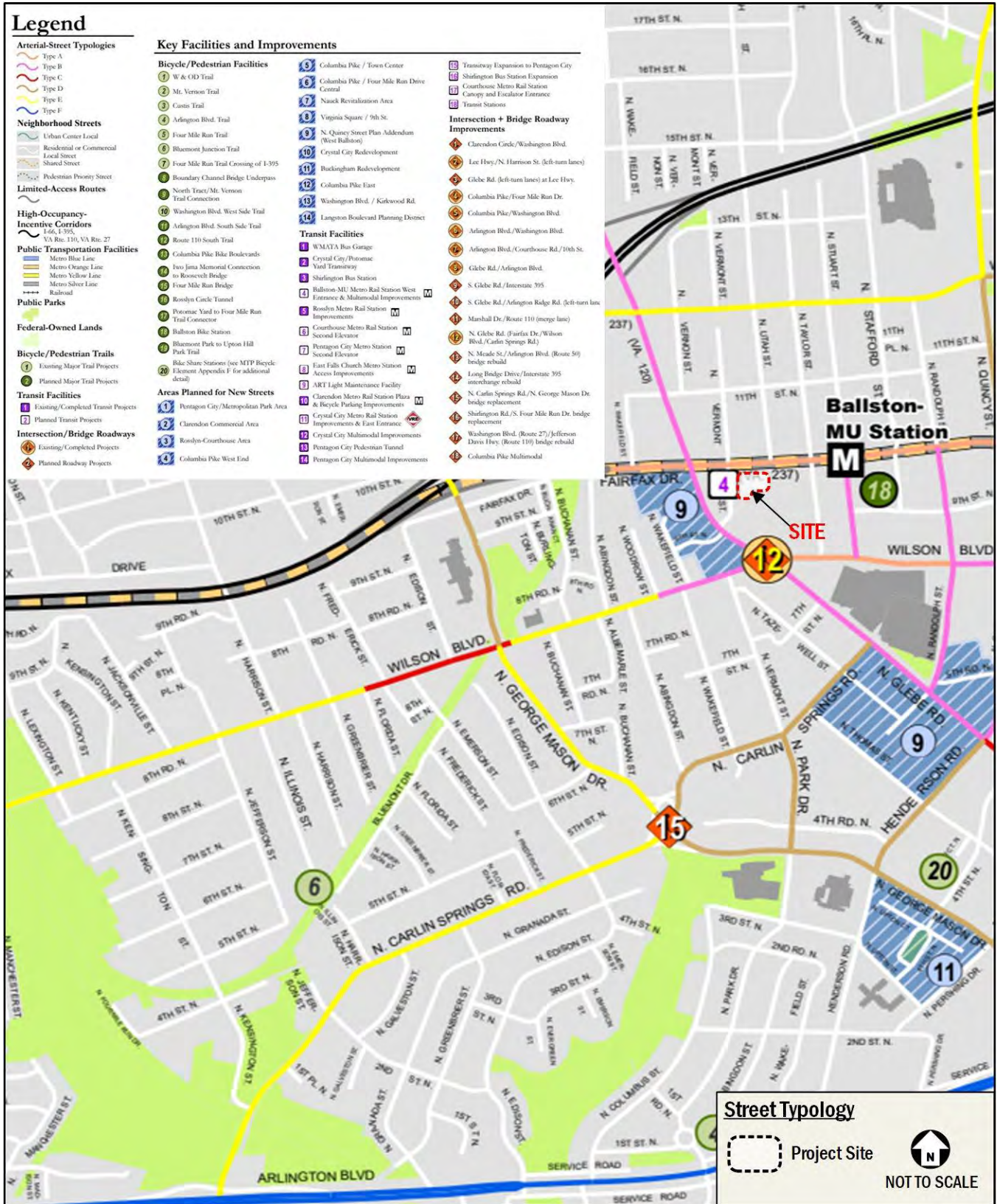


Figure 8: Street Typology (Source: Arlington Master Transportation Plan, March 2025)



Figure 9: Existing and Planned Bike Facilities (Source: Arlington Master Transportation Plan, March 2025)

Existing Multimodal Transportation Facilities

This chapter reviews the existing conditions of the transportation network in the vicinity of the site. The chapter evaluates accessibility to the facilities, and the overall multimodal impacts of the project detail by each mode of transportation.

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 and employees of the proposed development, as shown in Figure 10.
- The site is well-served by public transportation with access to various bus lines that connect to the greater Northern Virginia and Washington Metropolitan area.
- The site is surrounded by a well-connected pedestrian environment.
- There are several local transportation options near the site that serve vehicular, transit, walking, and cycling trips under existing conditions, as shown on Figure 10.

Vehicular Facilities

Regional and Local Roadways

The site is accessible from several principal arterials such as N Glebe Road and Wilson Boulevard. These arterials create connections to Washington Boulevard, Arlington Boulevard, I-395, and I-66, which bring vehicular traffic within one (1) mile of the site. From there, access to the site is available via minor arterials, collectors, and local roads.

In addition to several principal arterials, the site is served by a local vehicular network that includes several minor arterials and collectors such as Fairfax Drive, N Randolph Street, N Stafford Street, and N George Mason Drive. In addition, there is an existing network of local roadways that provide access to the site.

Roadway characteristics, including classification, number of lanes, speed limit, the presence of on-street parking and average annual daily traffic volumes (AADT) are outlined in Table 2.

Car-sharing

Car-sharing service in Arlington is provided by Zipcar and Free2Move:

- Zipcar is a private company that provides registered users access to a variety of automobiles. Zipcar has designated spaces for their vehicles. Four (4) Zipcar locations are

located within a half-mile radius of the site. These locations and the number of vehicles available are listed in Table 1.

- Free2Move currently has a fleet located within areas of the District and Arlington County. Free2Move vehicles may park in any non-restricted metered curbside parking space in any zone throughout the defined "Home Area". Members do not have to pay for the meters or pay stations. Free2Move does not have permanent designated spaces for their vehicles; however, availability is tracked through their website and mobile phone application, which provides an additional option for car-sharing patrons. The development site is located in the Free2Move current Home Area.

Table 1: Carshare Locations

Zipcar Carshare Location	Number of Vehicles
1000 N Vermont Street	2 vehicles
4149 9 th Street N	4 vehicles
3901 9 th Street N	2 vehicles
3810 10 th Street N	1 vehicle
Total	9 vehicles

Table 2: Existing Roadway Network

Roadway	Classification*	Lanes	Speed Limit	On-Street Parking	AADT**
Fairfax Drive	Type A Arterial (Arlington)	4-6	30 mph	Yes	18,000
	Minor Arterial (VDOT)				
N Glebe Road	Type B Arterial (Arlington)	6-7	30 mph	Yes	23,000
	Other Principal Arterial (VDOT)				
Wilson Boulevard	Type A/Type B Arterial (Arlington)	4-6	25/30 mph	Yes	12,000
	Other Principal Arterial (VDOT)				
N Randolph Street	Type B Arterial (Arlington)	3	25 mph	Yes	5,600
	Major Collector (VDOT)				
N Quincy Street	Type B/Type D Arterial (Arlington)	2	25 mph	Yes	9,200
	Minor Arterial (VDOT)				

* From VDOT and Arlington MTP

** VDOT ADT Data from 2023

N/A – Data unavailable

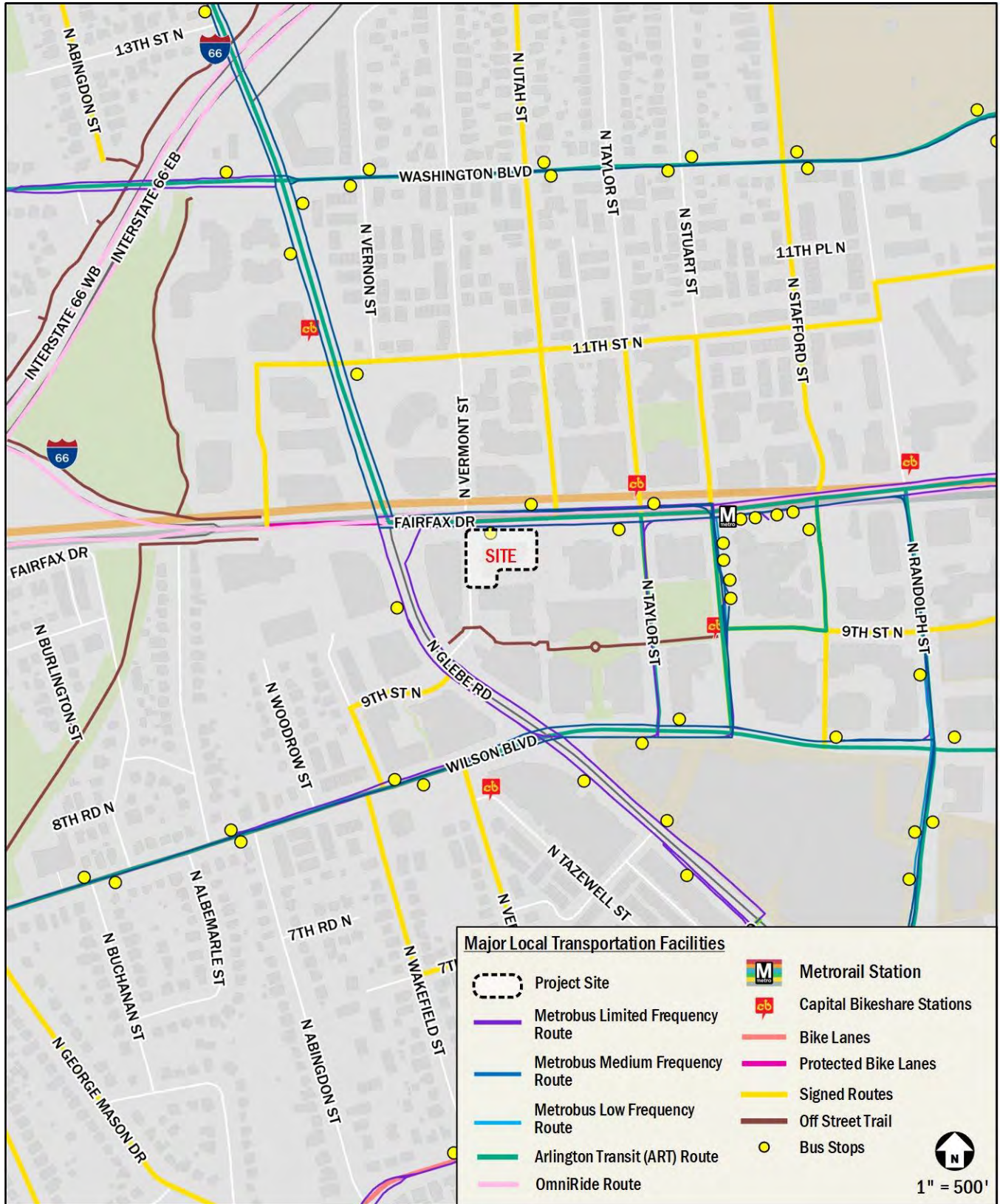


Figure 10: Major Local Transportation Facilities

Transit Facilities

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 11 identifies the major transit routes, stations, and stops in the study area.

Metrorail Service

The site is located approximately 0.1 miles from the Ballston-MU Metrorail Station.

The Ballston-MU Metrorail Station serves the Orange and Silver Lines. The Orange line connects Vienna, VA with New Carrollton, MD and the Silver Line connects Ashburn, VA with Largo, MD, with both the lines providing access to the District core. Table 3 and Table 4 provide details of Metrorail information, including service hours and timetables. Future planned transit improvements in the vicinity of the site include the design and development of the new Ballston-MU Metro Station West Entrance adjacent to the proposed development.

Bus Service

A review of the existing transit within a quarter-mile radius of the site is shown in Figure 11. Table 5 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.

The site is served by eight (8) WMATA, five (5) ART, and three (3) OmniRide routes. 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.

Figure 12 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, most of the District and Northern Virginia area is accessible via transit within 30 minutes of the proposed development.

Transit Score

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions for an area. This project site is located in an area that has a transit score of 74 (or "Excellent Transit"). The proposed development is located in an area with an "excellent transit" transit score due to its proximity to

bus lines and the Metrorail Station which all provide direct connections to different regions within the DC Metro Area.

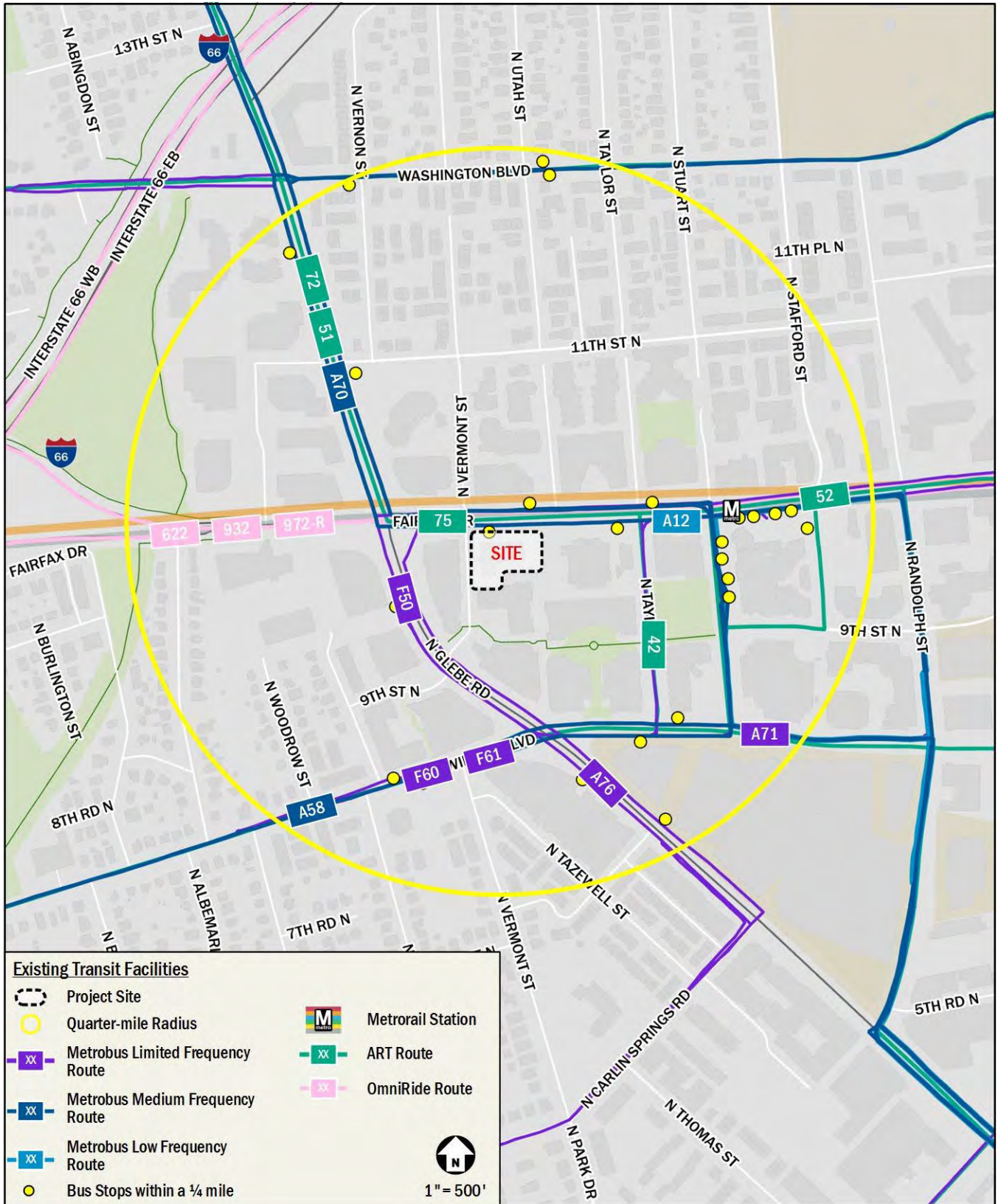


Figure 11: Existing Transit Service

Table 3: Metrorail Service Hours

Day	Time
Monday – Thursday	5 AM – midnight
Friday	5 AM – 2 AM
Saturday	6 AM – 2 AM
Sunday	6 AM - midnight

Table 4: Metrorail Service Intervals (in minutes)

Rail Line	Monday - Friday	Saturday	Sunday
Orange, Silver	5 AM – 9:30 PM: 10-12 min 9:30 PM – close: 15 min	7 AM – 9:30 PM: 12 min 9:30 PM – 1 AM: 15 min	7 AM – 9:30 PM: 12 min 9:30 PM – 12 AM: 15 min

Table 5: Bus Route Information

Route Number	Route Name	Service Hours	Headway	Walking Distance to Nearest Bus Stop
ART 42	Ballston - Pentagon	Weekdays: 6:00AM-8:38PM	15-30 min	0.2 miles, 4 minutes
		Saturday: 6:45AM-8:09:PM		
		Sunday: 7:00AM-7:24PM		
ART 51	Ballston – Virginia Hospital Center	Weekdays: 6:05AM-12:30AM	30 min	<0.1 miles, 1 minute
		Saturday: 6:05AM-12:13AM		
		Sunday: 6:45AM-10:34PM		
ART 52	Ballston – East Falls Church	Weekdays: 5:51AM-9:26PM	30-45 min	0.2 miles, 4 minutes
		Weekend: Not Operational		
ART 72	Rock Spring – Ballston - Shirlington	Weekdays: 6:35AM-9:33PM	30 min	<0.1 miles, 1 minute
		Weekend: Not Operational		
ART 75	Shirlington – Ballston – Virginia Square	Weekdays: 5:30AM-10:47PM	25-30 min	0.2 miles, 4 minutes
		Weekends: Not Operational		
OmniRide 622	Haymarket-Rosslyn/Ballston	Weekdays: 5:30AM-7:16PM	45-60 min	0.1 miles, 3 minutes
		Weekend: Not operational		
OmniRide 932	Falmouth-Rosslyn/Ballston	Weekday: 4:20AM-7:10PM	30-60 min	0.1 miles, 3 minutes
		Weekend: Not operational		
OmniRide 972-R	Dale City-Pentagon & Rosslyn/Ballston	Weekday: 4:35AM-7:18PM	60 min	0.1 miles, 3 minutes
		Weekend: Not operational		
Metrobus A12	Ballston – Hunting Point	Weekdays: 5:18AM-12:53AM	30-60 min	0.2 miles, 4 minutes
		Saturday: 6:00AM-12:51AM		
		Sunday: 5:55AM-11:01PM		
Metrobus A58	Wilson Boulevard - Farragut Square	Weekday: 5:40AM-2:34AM	15-40 min	<0.1 miles, 1 minute
		Saturday: 5:45AM-2:19AM		
		Sunday: 5:45AM-2:48AM		
Metrobus A70	Tysons – Potomac Yard	Weekdays: 5:12AM-1:00AM	15-30 min	<0.1 miles, 1 minute
		Saturday: 6:04AM-1:24AM		
		Sunday: 6:00AM-1:22AM		
Metrobus A71	Ballston – King Street Old Town	Weekdays: 6:30AM-10:09PM	30 min	0.2 miles, 4 minutes
		Saturday: 7:30AM-8:14PM		
		Sunday: 7:30AM-8:12PM		
Metrobus A76	Mark Center - Rosslyn	Weekday: 5:30AM-11:06PM	30 min	<0.1 miles, 1 minute
		Saturday: 6:02AM-8:45PM		
		Sunday: 7:00AM-8:48PM		
Metrobus F50	George Mason/Vienna - Ballston	Weekday: 5:18AM-12:18AM	30 min	0.2 miles, 4 minutes
		Saturday: 5:50AM-12:39AM		
		Sunday: 6:00AM-10:10PM		
Metrobus F60	Fair Oaks Mall - Ballston	Weekday: 5:40AM-11:30PM	40 min	0.2 miles, 4 minutes
		Saturday: 7:00AM-10:48PM		
		Sunday: 7:00AM-10:13PM		
Metrobus F61	Fair Oaks Mall - Ballston	Weekday: 6:00AM-2:43AM	40 min	0.2 miles, 4 minutes
		Saturday: 6:40AM-2:43AM		
		Sunday: 7:20AM-2:45AM		

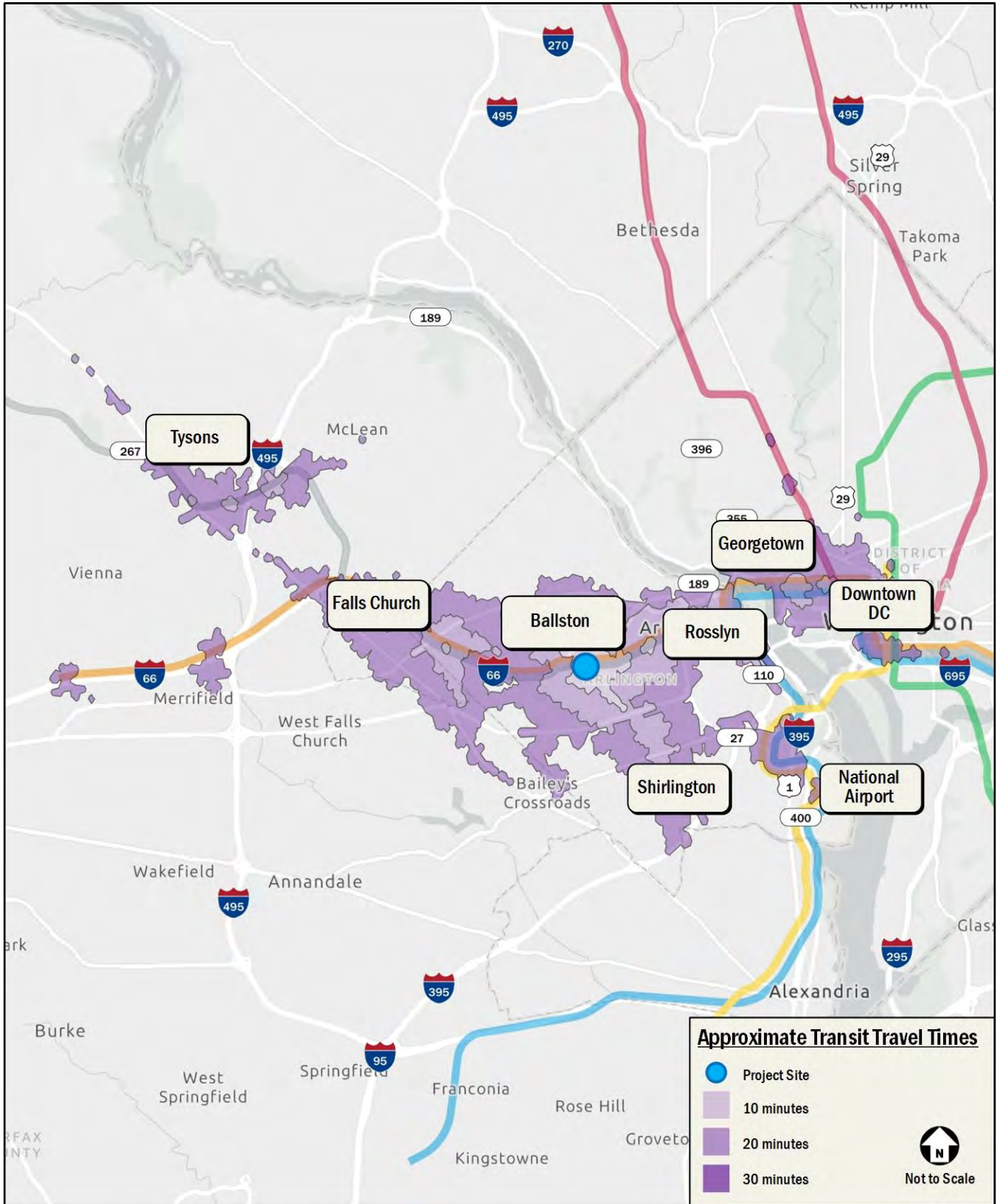


Figure 12: Approximate Transit Travel Times

Bicycle Facilities

As shown in Figure 13, the site has access to several existing on- and off-street bicycle facilities, including:

- On-street routes on 11th Street N, 9th Street N, N Utah Street, N Taylor Street, and N Stafford Street
- Bicycle lanes on Fairfax Drive, N Carlin Springs Road, portions of Wilson Boulevard, and portions of N Quincy Street
- Protected bicycle lanes on portions of N Quincy Street and Fairfax Drive
- Off-street trails including the Custis Trail via I-66 north of the site and the Bluemont Junction Trail via Bluemont Drive west of the site

Figure 14 shows the future planned bicycle facilities based on the MTP, including bicycle lanes along N Glebe Road, Washington Boulevard, and on-street routes along N Tazewell Street and N Thomas Street. These facilities aim to enhance connectivity and promote safer, more accessible routes for cyclists within the study area.

Figure 15 shows the 10-minute, 20-minute, and 30-minute bicycle travel shed for the proposed development. As shown in the bicycle travel shed, most of Arlington and several destinations in the District including Georgetown and Downtown are accessible within 30 minutes from the proposed development.

Bicycle Comfort Level

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 ‘Most Comfortable,’ ‘Comfortable,’ ‘Less Comfortable,’ ‘Not Recommended,’ or ‘Major Traffic Thoroughfare.’ The following are the notable ratings for streets and bicycle trails near the site:

Most Comfortable

- 11th Street N between N Stuart Street to N Quincy Street
- 9th Street N between N Oakland Street to N Stafford Street
- N Quincy Street
- N Stafford Street between 13th Street N and 11th Street N

Comfortable

- 11th Street N between N Wakefield Street to N Stuart Street

- N Taylor Street
- N Utah Street between 15th Street N and Washington Boulevard
- N Stuart Street
- N Stafford Street between Cherry Hill Road and 13th Street N

Less Comfortable

- Fairfax Drive

Not Recommended

- N Glebe Road
- Wilson Boulevard

Capital Bikeshare

The Capital Bikeshare program provides additional cycling options for residents and patrons of the proposed development. The Bikeshare program has placed over 700 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 6,000 bicycles provided. There are 10 existing Capital Bikeshare stations within a half-mile of the site.

E-Scooters and Dockless E-Bicycles

As of August 2025, three (3) electric-assist scooter (e-scooter) and electric-assist bicycle (e-bike) companies provide Shared Mobility Device (SMD) service in Arlington County: Bird, Lime, 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).

Bike Score

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions for an area. This project site is located in an area that has a bike score of 88 (or “Very Bikeable”). The site is situated in an area with a “bikeable” bike score due to its proximity to low volume roadways, a number of bike lanes and trails, including the Custis Trail and the Bluemont Junction Trail.

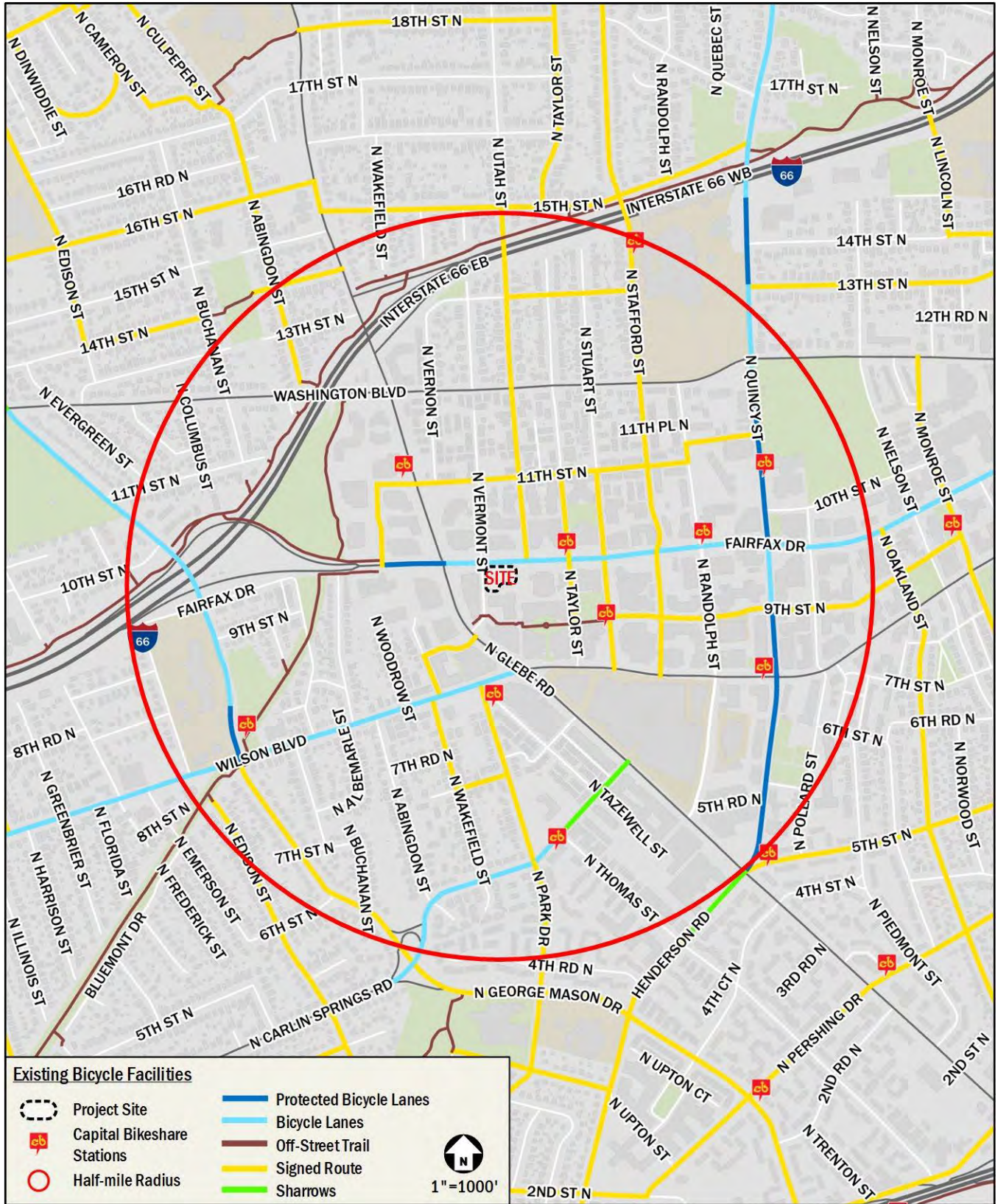


Figure 13: Existing Bicycle Facilities

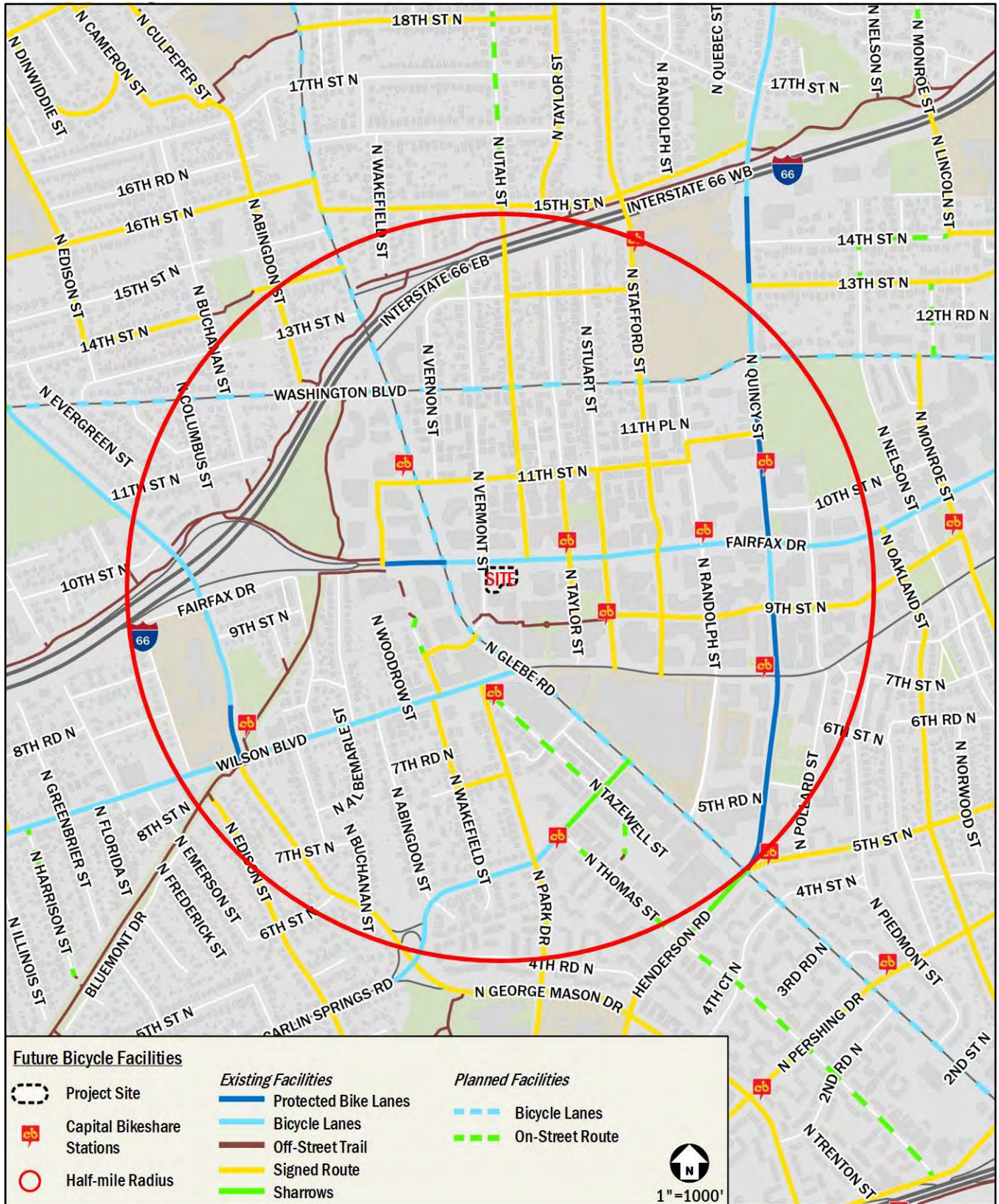


Figure 14: Future Bicycle Facilities

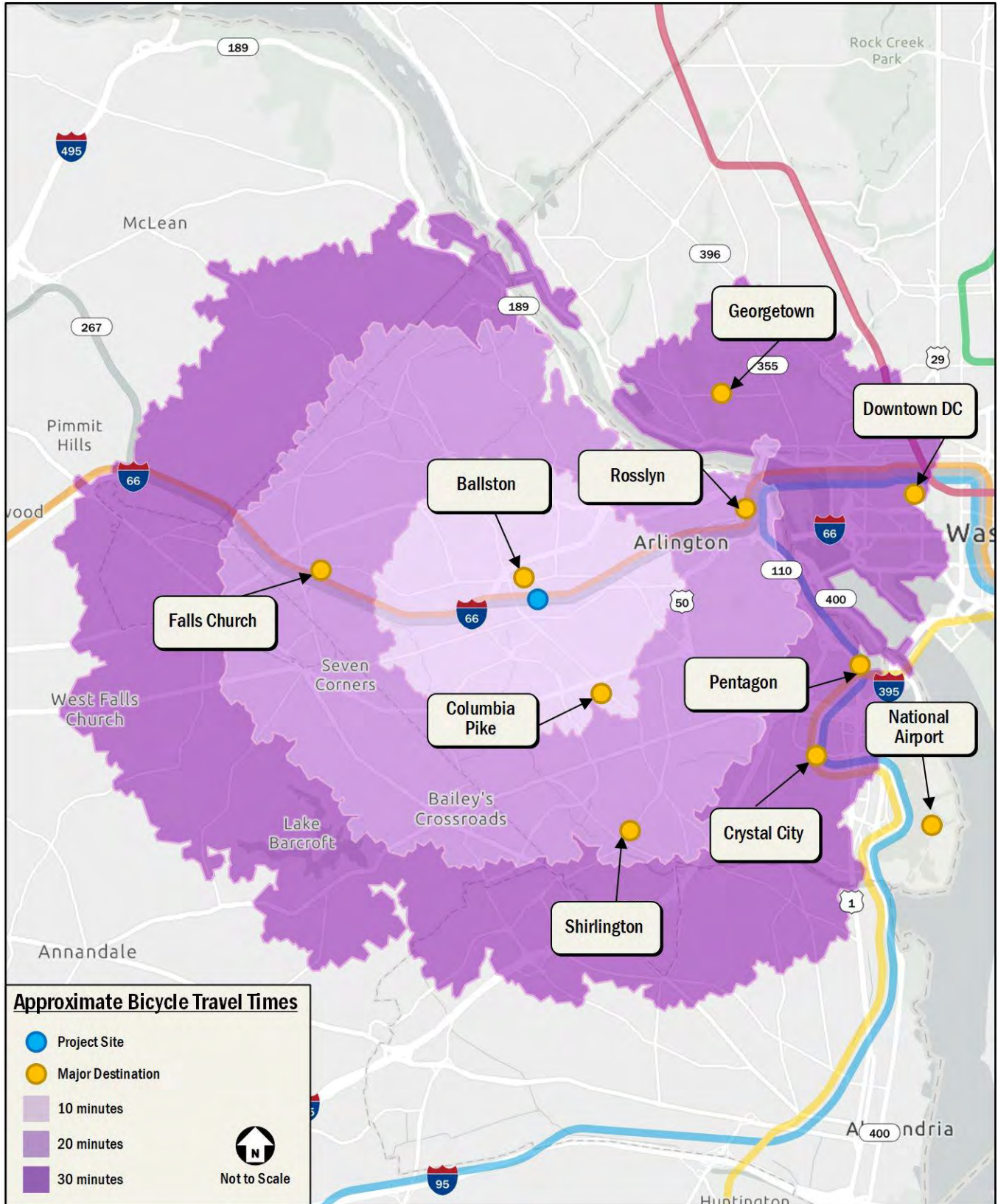


Figure 15: Approximate Bicycle Travel Times

Pedestrian Facilities

A review of pedestrian facilities surrounding the proposed development shows that many facilities provide a high-quality walking environment. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by the Arlington County, and ADA standards. Figure 16 shows expected pedestrian pathways and walking time and distances.

Figure 17 shows the 10-minute, 20-minute, and 30-minute walk travel shed for the proposed development. As shown in the pedestrian travel shed, several destinations including grocery stores, parks, hotels, schools, and other significant local destinations are accessible within a 30-minute walk of the proposed development.

Sidewalks

Figure 18 shows a detailed inventory of the existing pedestrian infrastructure surrounding the site with a summary of sidewalk and buffer width requirements, per the Master Transportation Plan, shown in Table 6.

Table 6: Sidewalk and Buffer Requirements

Street Typology	Minimum Requirement
Arterials	
Type A	10-16 ft sidewalk 6 ft buffer
Type B	6-12 ft sidewalk 6 ft buffer
Type C	6-8 ft sidewalk 6 ft buffer
Type D	6-8 ft sidewalk 5-6 ft buffer with breaks
Type E	5-6 ft sidewalk 4-6 buffer
Type F	6 ft sidewalk or 10 ft shared-use path 8+ ft buffer
Non-Arterial	
Urban Center Local	6-8 ft sidewalk 4-6 ft buffer
Neighborhood	4-6 ft sidewalk 2-4 ft buffer
Alley/Service	None/5 ft sidewalk with limited landscaping
Transitway	10-12 ft shared-use path on each side 6 ft buffer

Within the study area, most of the roadways have existing sidewalks on both sides, with minimal deficiencies. Overall, the site is situated within an urban transportation network, with quality pedestrian access.

The sidewalk widths considered in Figure 18 reflect the total sidewalk widths based on observations in the field taken from curb to building.

Curb Ramps

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 (2) crosswalks are not desired. As shown in Figure 18, under existing conditions, most of the curb ramps within the study area meet ADA standards with very few deficiencies. All primary pedestrian destinations are accessible via routes with sidewalks, most of which meet Arlington County and ADA standards.

Peak Hour Pedestrian Volumes

Figure 19 shows the existing pedestrian peak hour volumes at study area intersections. The most heavily used crosswalk in the study area is at the intersection of Fairfax Drive and N Taylor Street. This is most likely a result of the proximity to the Ballston-MU Metrorail station.

Walk Score

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions for an area. This project site is located in an area that has a walk score of 96 (or "Walker's Paradise"). The site is situated in an area with a "walker's paradise" walk score because of the abundance of neighborhood serving retail locations, where daily errands can be completed by walking, as well as its proximity to public transportation stops and the Metro station which provide direct access to other areas in the DC Metro Area.

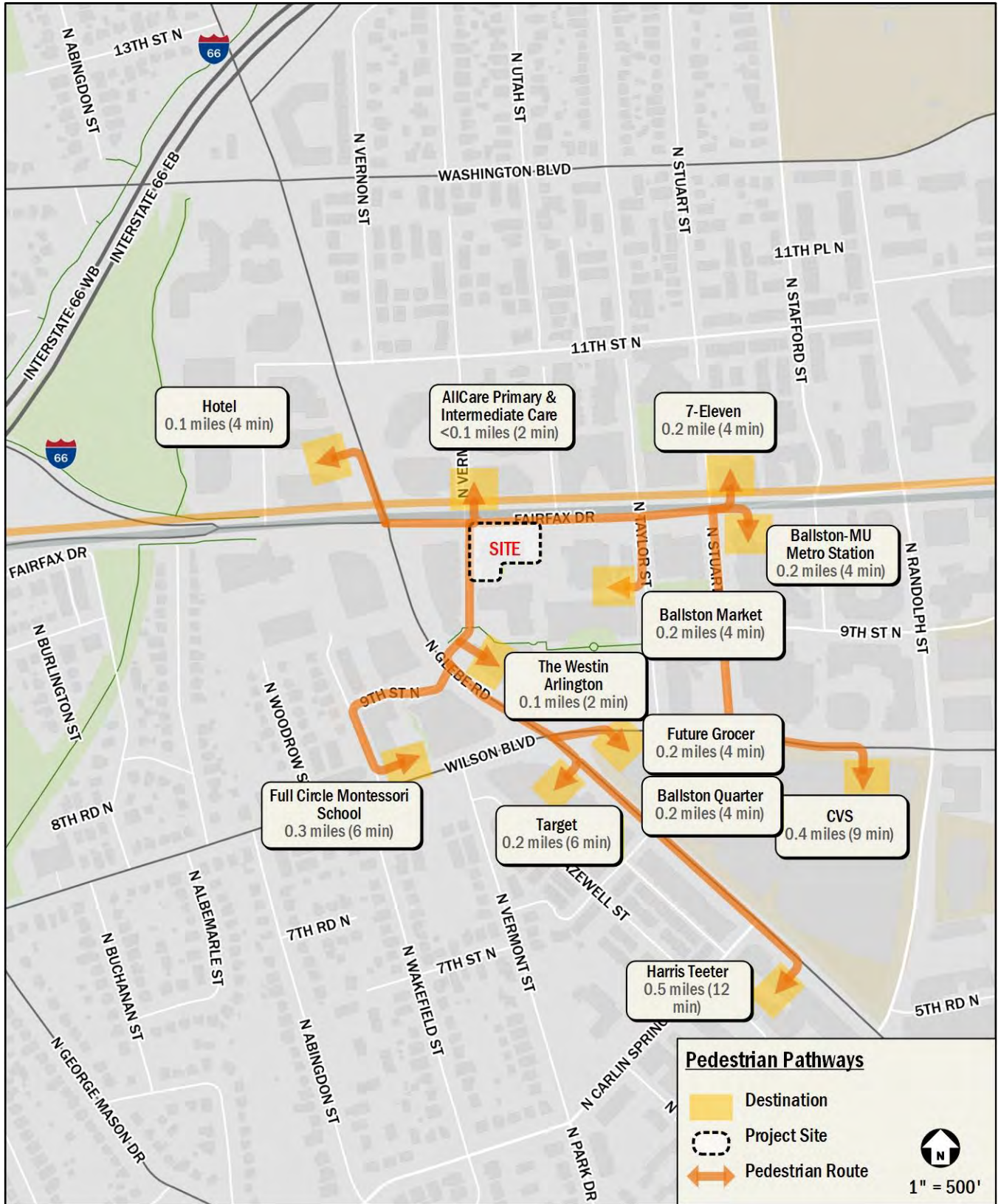


Figure 16: Pedestrian Pathways

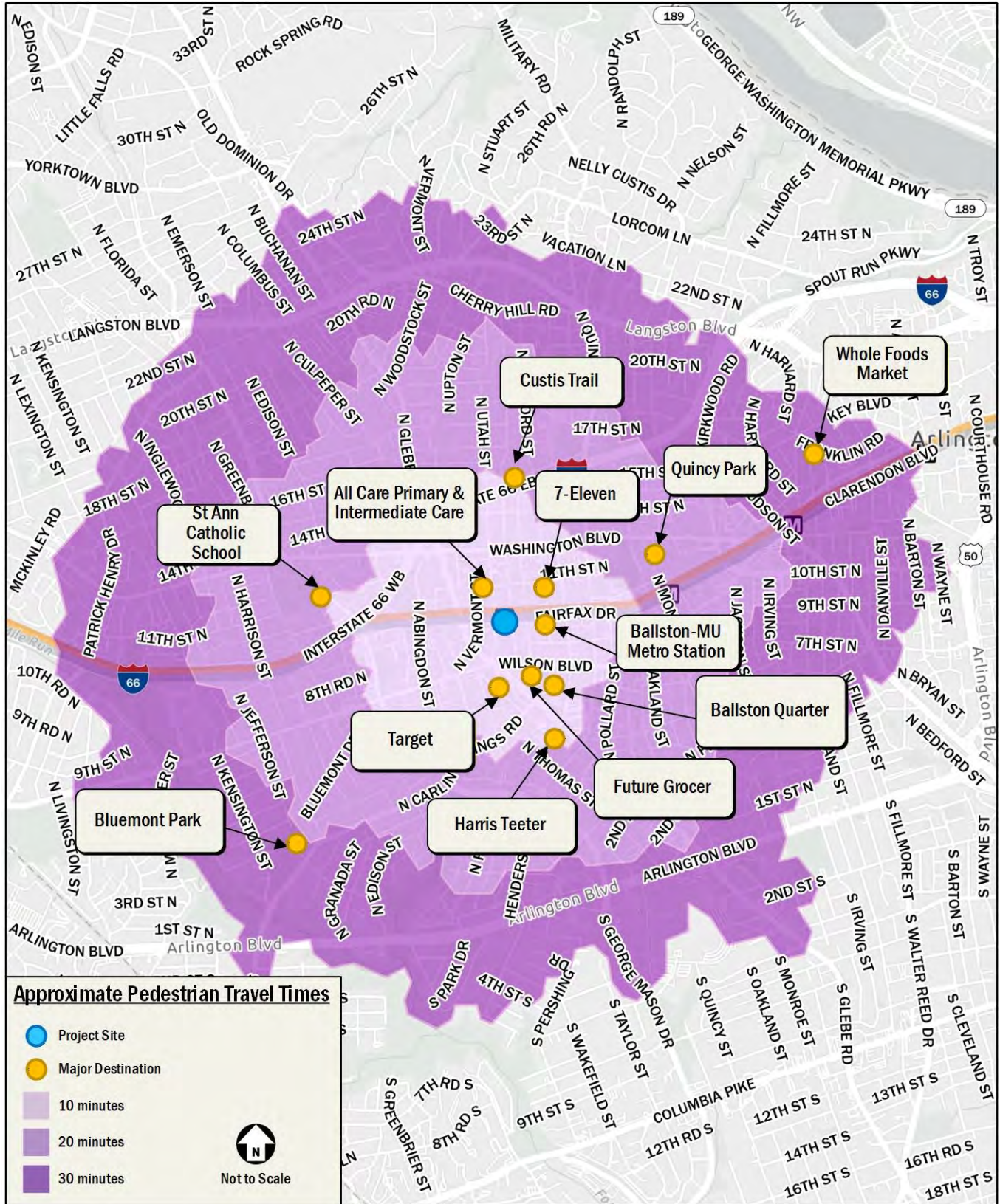


Figure 17: Approximate Pedestrian Travel Times



Figure 18: Existing Pedestrian Facilities

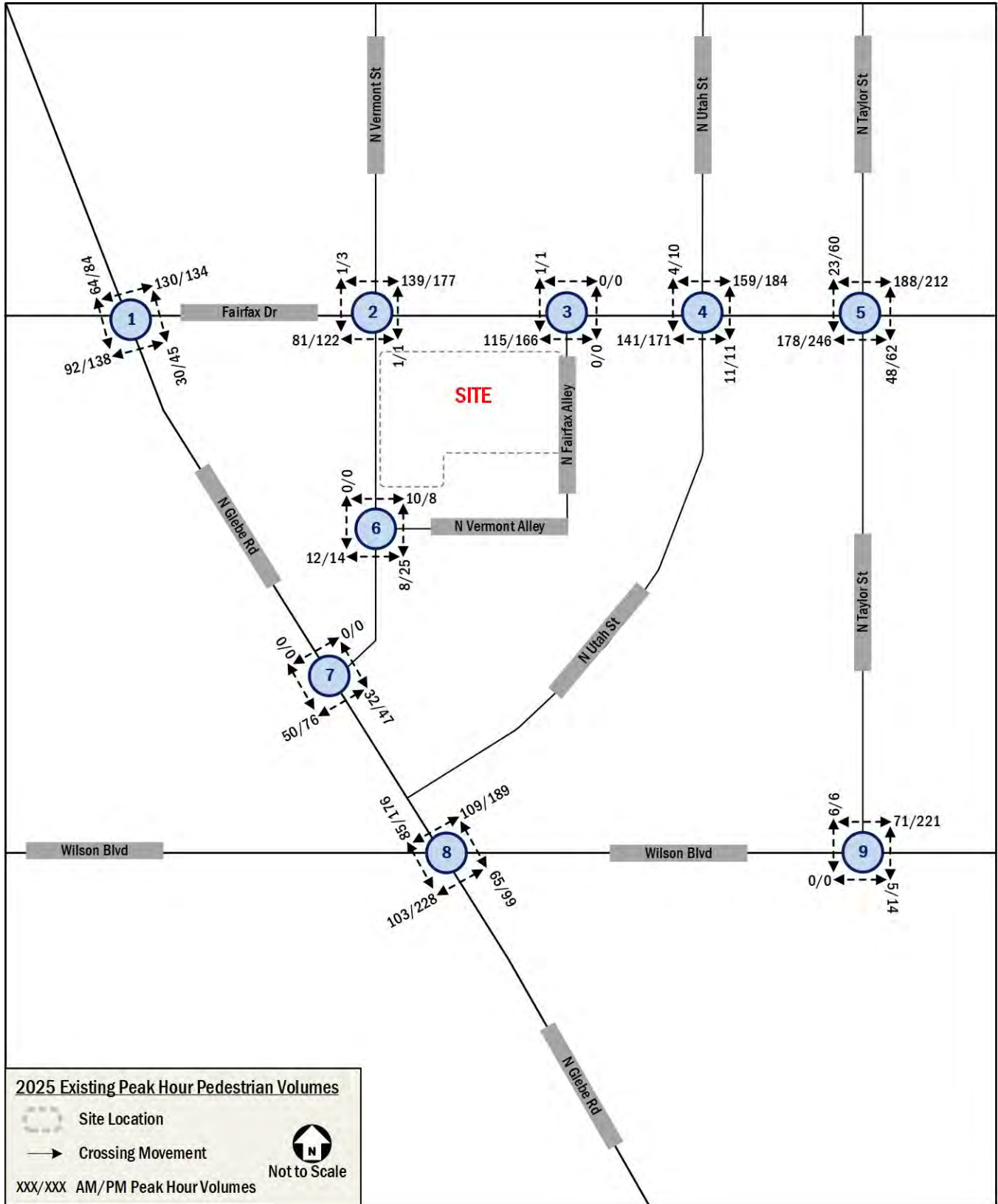


Figure 19: 2025 Existing Peak Hour Pedestrian Volumes

Planned Improvements

Ballston Metro Station West Entrance

As part of the WMATA project, a full entrance will be designed and constructed at the west end of the existing Ballston-MU Metrorail Station to improve access from the N Glebe Road area and supporting the growing development in the western part of Ballston. The new entrance will also improve emergency egress in the event of an incident requiring evacuation from the station and train platforms.

The new entrance will be located at the northwestern corner of the 4420 Fairfax Drive site, at the intersection of North Fairfax Drive and North Vermont Street. It will include two street-level elevators, stairs connecting to an underground passageway, and a new mezzanine with additional stairs and elevators to the train platform. The new entrance will have fare gates, fare vending machines, and a station manager kiosk. Additionally, street-level improvements will provide transit connections, allowing for greater accessibility for all of Arlington's residents.

The project is currently in the design stage and preparing for the next step to further the project, with the phase of soliciting proposals for design build contractors underway by Arlington County. This project is one of the planned improvements proposed in Arlington County's Master Transportation Plan for 2030.

Rosslyn-Ballston Corridor Improvements

The Rosslyn-Ballston corridor illustrates the type of transit-oriented development that concentrates high-density, mixed-use development along a major transit corridor, while preserving and enhancing existing residential neighborhoods. This corridor aims to connect one of the major east-west primary transit networks in Arlington along Wilson Boulevard, Clarendon Boulevard, and Fairfax Drive and to the rest of Northern Virginia and the District

Core. Sector plans were created to guide the development of each of the Metro Station areas which would help retain and enhance the unique characteristics of each neighborhood.

The goals of this project are to:

- Create a safe and consistent travel experience for people walking, taking transit, biking, and driving through the Rosslyn-Ballston corridor
- Improve accessibility for people walking and rolling by upgrading curbs and ramps to be compliant with the Americans with Disabilities Act (ADA)
- Provide enhanced bicycle facilities to fill in a "missing link" between each of the Metro Station Areas
- Improve safety and accessibility for people taking transit by providing improvements to bus stops and facilities near the Metro Stations
- Review and provide adequate end of trip facilities for bicycles and shared mobility devices
- Review and consider potential upgrades to traffic signals
- Enhance the design and increase the use of public spaces, viability of retail, maximize green space and increase user comfort
- Enhance the attractiveness of transportation choices; provide for low-impact development, where possible
- Upgrading sidewalks, adding protected bike lanes, and improving intersections to better serve pedestrians, cyclists, and transit users

The Corridor Improvement project will improve pedestrian and bicycle infrastructure which will enhance accessibility and connectivity along the corridor. The upgraded streetscape will complement the mixed-use nature of the area, providing a more walkable community environment.

Project Design

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

Site Overview

The proposed development will raze the existing office building and redevelop with a new site consisting of the following:

- Approximately 302 residential units;
- Approximately 4,957 square feet of ground-floor retail;
- Approximately 98 vehicle parking spaces;
- Two (2) 30-foot loading berths; and
- At least 122 secure long-term and nine (9) short-term bicycle parking spaces.

The proposed conceptual site plan is shown in Figure 6.

Adjacent Roadways

The proposed development will provide improved multimodal infrastructure along the adjacent roadways, including Fairfax Drive, N Vermont Street, N Fairfax Alley & N Vermont Alley.

Figure 20 shows the key map for the proposed cross sections. Figure 21, Figure 22, and Figure 23 show the typical cross-section and design elements that can be expected along each street when fully complete.

Site Access and Circulation

Pedestrian Access

The primary pedestrian access is shown in Figure 24. Residential pedestrian access will be provided via Fairfax Drive while retail pedestrian access will be provided via Fairfax Drive and N Vermont Street. A circulation plan showing expected pedestrian routes is shown in Figure 25.

Bicycle Access

Bicycle access to secure long-term bike room on the ground level will be accessed via N Vermont Street. An additional secure bike room will be located in the proposed below-grade garage. Short-term bicycle parking spaces will be placed along the site’s frontage on Fairfax Drive. A circulation plan showing expected bicycle routes is shown in Figure 25.

Vehicular Access

Vehicular access to the proposed parking garage will be via N Fairfax Alley, east of the site. Surface parking spaces will be located on both N Fairfax Alley and N Vermont Alley. Loading access will be accessible via the proposed loading driveway on N Vermont Alley, south of the site. Both alleys are accessible via Fairfax Drive and N Vermont Street. Access to the proposed garage and loading facilities is shown on Figure 24. A circulation plan showing expected vehicular routes is shown in Figure 25.

Loading

Per the Arlington County Zoning Ordinance (ACZO) §14.3.8, the following outlines the loading facility requirements for land uses of the development:

Table 7: Proposed Loading Calculations

Land Use	Size	Required Off-Street Loading Spaces	
		ACZO Ratio	Supply
Residential (du)	302	More than 50 du, 1 sp for each 200 units	2 sp
Retail (sf)	4,957	>3ksf, 1 sp; >15ksf plus 1 sp; >50ksf, plus 1 sp; 100ksf plus 1 sp	1 sp
Total			3 sp

The proposed development will provide two (2) 30-foot loading berths. The number of on-site loading facilities will accommodate the practical needs of the development. Figure 24 shows the locations of the loading berths.

Vehicular Parking

The parking provided by the proposed development has been designed to meet the site’s parking needs. The requirements of the ACZO §7.14.5 per C-O-A: Mixed Use District, Off-Street Parking Guidelines for Multi-Family Residential Projects, and the previous 2006 Site Plan Approval are shown in Table 8.

Off-Street Parking Guidelines for Multi-Family Residential Projects

The County Board adopted the Off-Street Parking Guidelines for Multi-Family Residential Projects in November 2017 which recommend reduced parking requirements from those required by the Zoning Ordinance. These guidelines recognize that a lower on-site parking ratio may be appropriate for a project,

among other considerations, and may range from 0.2 to 0.6 spaces per unit depending on a project site’s distance to Metro.

Based on the site location and per these guidelines, a minimum of 0.2 spaces per unit is recommended for the proposed development. These guidelines also recommend 0.05 visitor parking spaces for the first 200 dwelling units.

The proposed development will provide 84 residential spaces, six (6) residential visitor spaces, and eight (8) retail spaces for a total of 98 parking spaces, which will meet the practical needs of the proposed development. The parking spaces will be provided in the proposed on-site parking garage and surface parking.

Table 8: Proposed Parking Supply Calculations

Land Use	Size	Vehicle Parking Spaces ³							
		ACZO Requirements ¹		Off-Street Parking Guidelines ²		2006 Site Plan Approval		Proposed	
		Ratio ³	Supply ³	Ratio ³	Supply ³	Ratio ³	Supply ³	Ratio ³	Supply ³
Residential	302 du	1/du	302	0.2/du	61	--	--	0.278/du	84
Residential Visitors		--	--	0.05/du for 1 st 200 units	10	0.02/du	6	0.02/du	6
Retail	4,957 sf	1/580 sf	9	--	--	1/522 sf	10	1/619 sf	8
Total									98

¹The ACZO minimum vehicle parking supply is calculated based on the requirements of §7.14.5.

²The Off-Street Parking Guidelines minimum vehicle parking supply is calculated based on Figure 1.4 of Arlington County Off-Street Parking Guideline.

³Supply is measured in *spaces*, while ratio is measured in *spaces/du* or *spaces/ksf*.

Curbside Management

Existing curbside management was reviewed around the site frontage and is shown on Figure 26. Currently, on-street parking is provided along the site frontage on Fairfax Drive, 15-minute Pick Up and Drop Off (PUDO) is provided during certain hours on N Vermont Street, and reserved parking is provided along the alleys. The proposed development proposes the following modification along the site’s frontage:

- Increase in parking spaces along N Vermont Street from three (3) spaces to five (5) spaces. Increase in width of N Vermont Street to facilitate wider curbside parking lane and improved vehicular circulation
- Increase in parking spaces along Fairfax Drive from four (4) to five (5) spaces
- Reduction of parking spaces on N Fairfax Alley from 15 spaces to four (4) spaces
- Removal of reserved parking spaces on N Vermont Alley from 14 to four (4) parking spaces, which includes two (2) ADA parking spaces

The proposed curbside management is shown on Figure 27.

Proposed Bicycle and Pedestrian Facilities

Bicycle Facilities

Bicycle Parking

Per the Arlington County Bike Parking Standards Guide, the proposed development is required to provide at least the minimum Class 1, Class 2, or Class 3 bicycle parking spaces for the proposed uses.

- **Class 1 (Long-Term):** Class 1 bicycle parking is to be provided in a secure storage room where entry is controlled via locking mechanism for long-term use.
- **Class 2 (Short-Term):** Class 2 bicycle parking is to be provided in the form of “inverted U” style racks in a protected or covered, but not enclosed, area that serves as short-term storage.
- **Class 3 (Short-Term):** Class 3 bicycle parking is to be provided in the form of uncovered “inverted U” style racks that serves as short-term storage.

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 space for every 25,000 square feet; and two (2) short-term spaces for every 10,000 square feet of the first 50,000 square feet of retail floor area; and one (1) additional visitor space for every 12,500 square feet of additional retail floor area.

- Proposed crosswalk across Fairfax Drive on the east side of the intersection of Fairfax Drive and N Vermont Street
- Proposed sidewalk along N Fairfax Alley and N Vermont Alley along the site frontage
- Proposed bike racks placed along site frontage on Fairfax Drive

Table 9: Proposed Bicycle Parking Calculations

Land Use	Size	Spaces Required	Class
Residential	302 du	121	1
		7	2 or 3
Retail	4,957 sf	1	1
		2	2 or 3
Total Required Bicycle Parking Spaces		131	

The proposed development will provide at least 122 long-term bicycle parking spaces for the proposed development and at least nine (9) short-term bicycle parking spaces for the proposed development, meeting requirements.

Secure long-term bicycle parking for the development will be located in the bicycle room located on the ground level, accessible via N Vermont Street or internally from the residential lobby, and in a second secured room in the below-grade parking garage. Short-term bicycle parking spaces will be provided along the site frontage on Fairfax Drive.

Bicycle Showers and Lockers

Per the Standard Site Plan Conditions, no showers or lockers are required for the non-residential use of the development as less than 25,000 square feet of retail space is proposed.

Pedestrian Facilities

The existing pedestrian facilities around the site provide a high-quality walking environment with minimal sidewalk width deficiencies. Pedestrian facilities directly surrounding the site will be improved along the frontages of the project. The following are proposed improvements to the pedestrian facilities with the site development:

- Proposed curb extension at the southeast corner of the intersection of Fairfax Drive and N Vermont Street along the site frontage, which will shorten the distance for pedestrians to cross Fairfax Drive and N Vermont Street and provide an improved crossing experience

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. These improvements enables to achieve a more inviting and safer pedestrian environment.

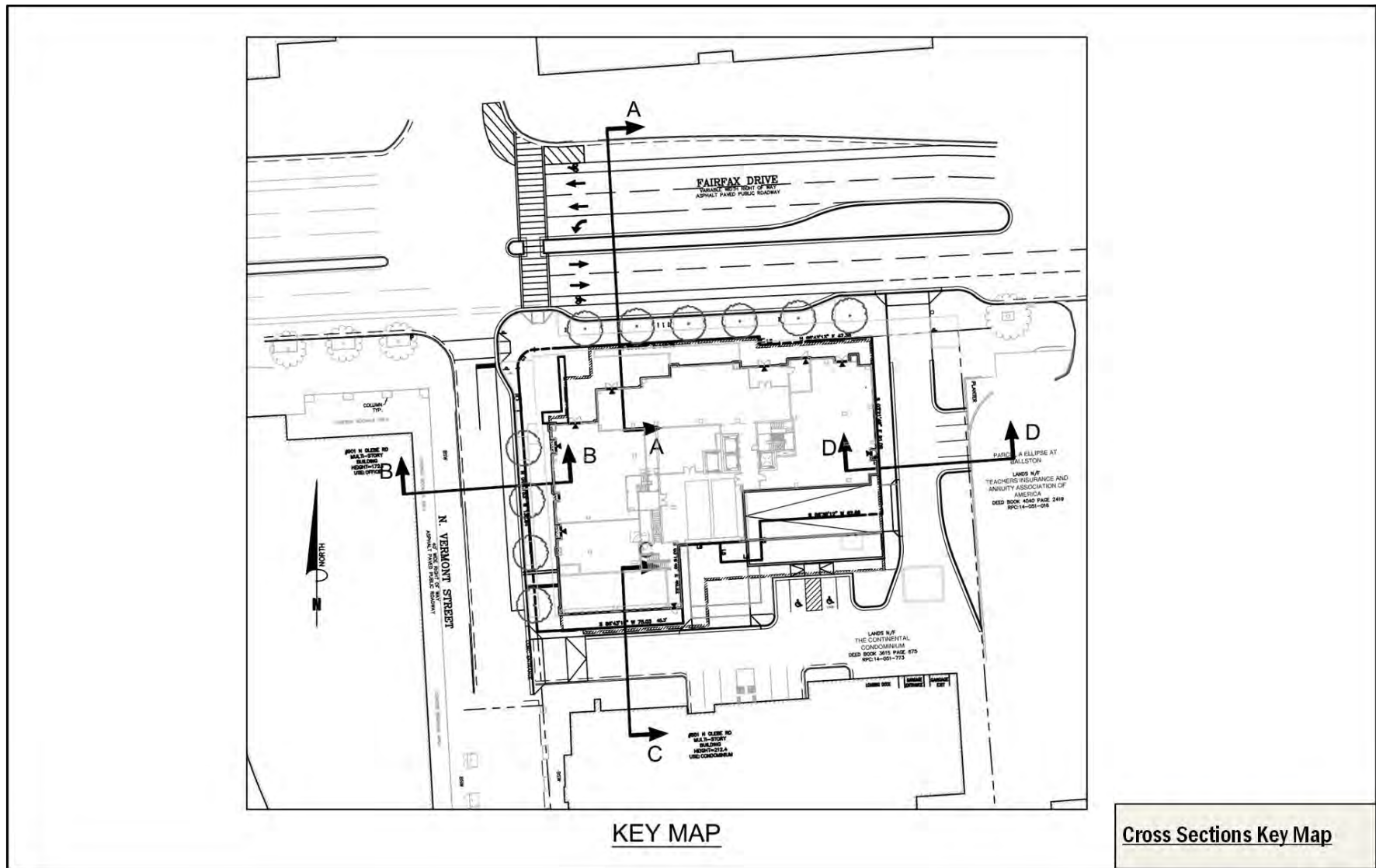


Figure 20: Cross Sections Key Map

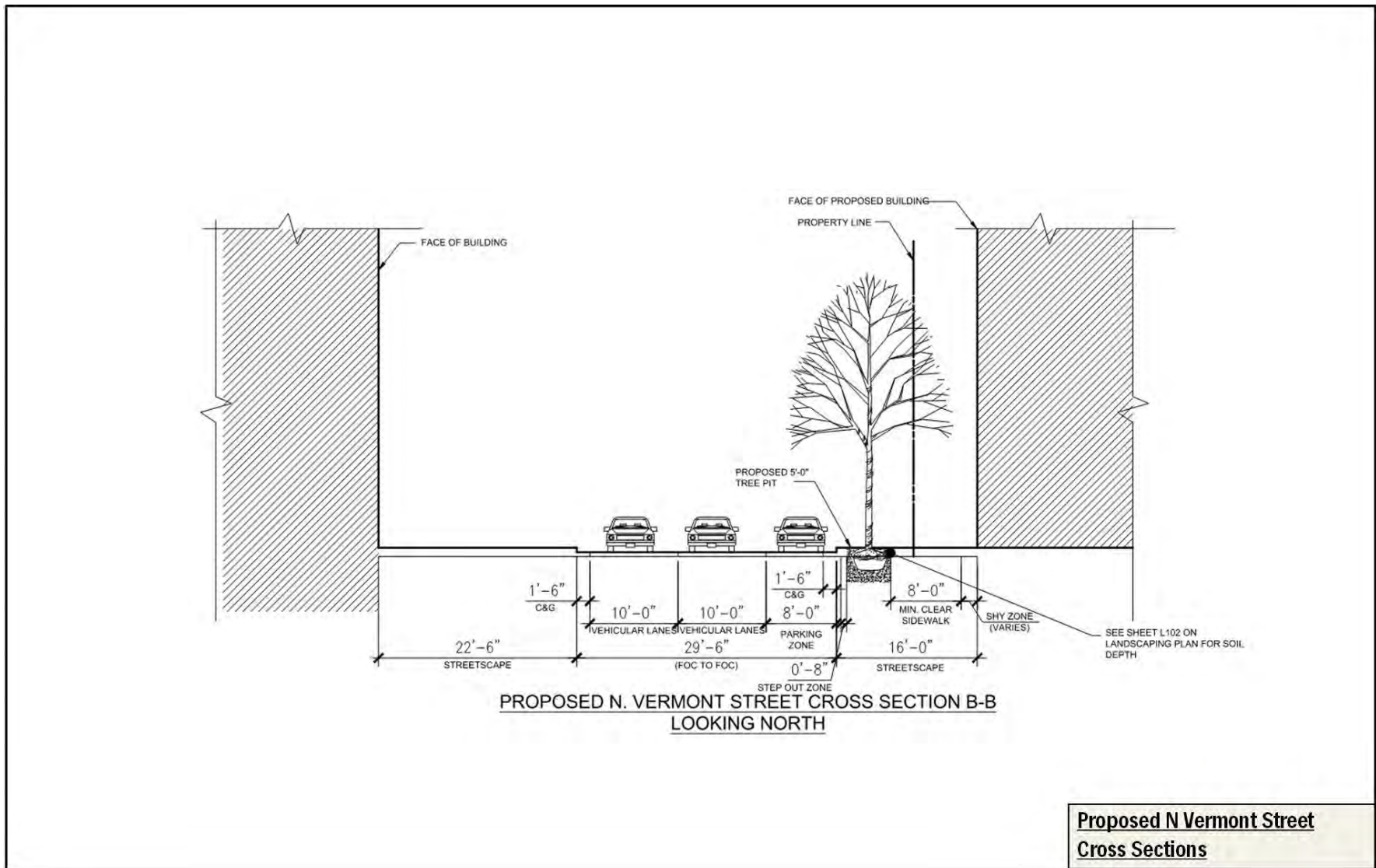


Figure 21: Proposed N Vermont Street Cross Sections (B-B)

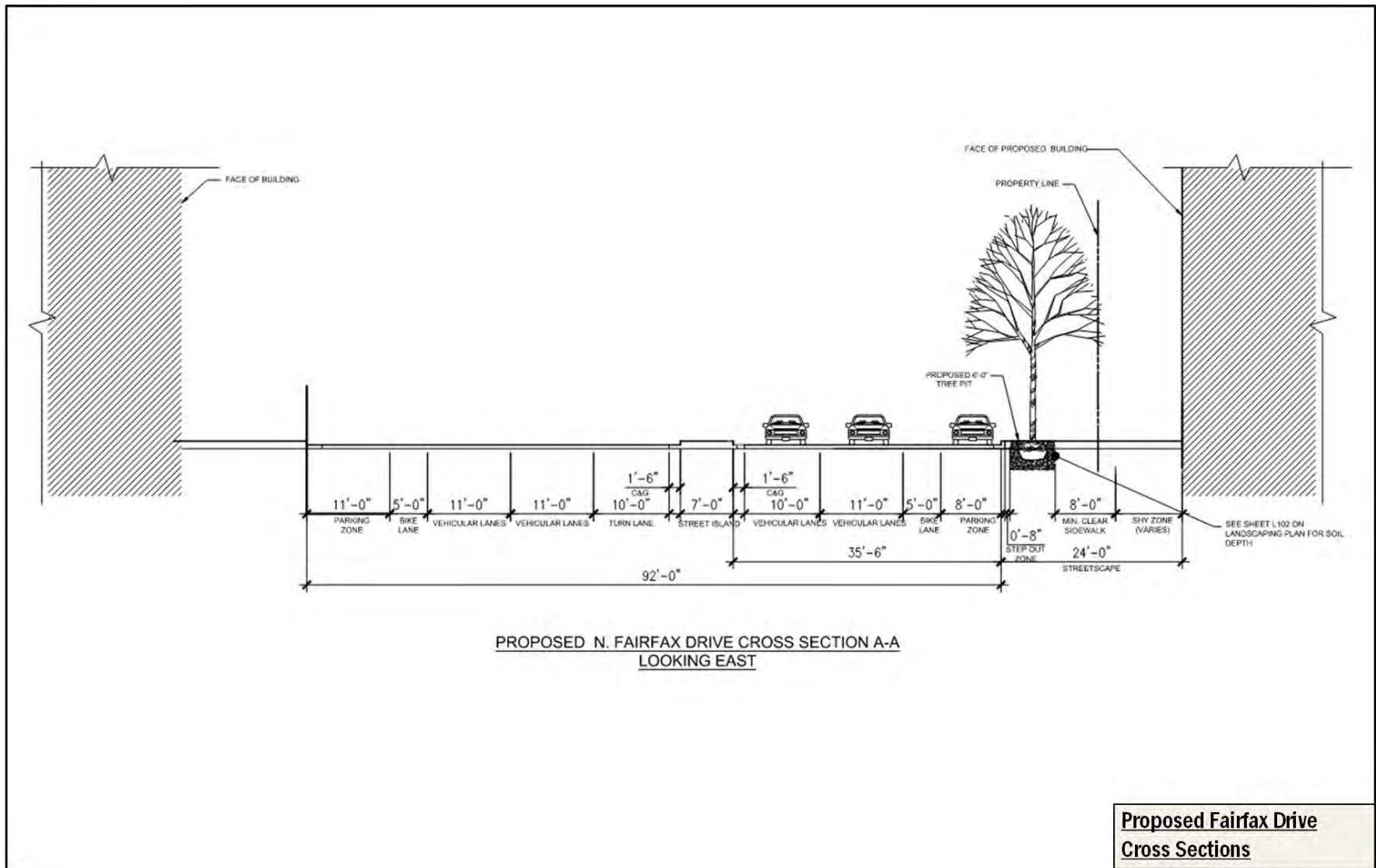


Figure 22: Proposed Fairfax Drive Cross Sections (A-A)

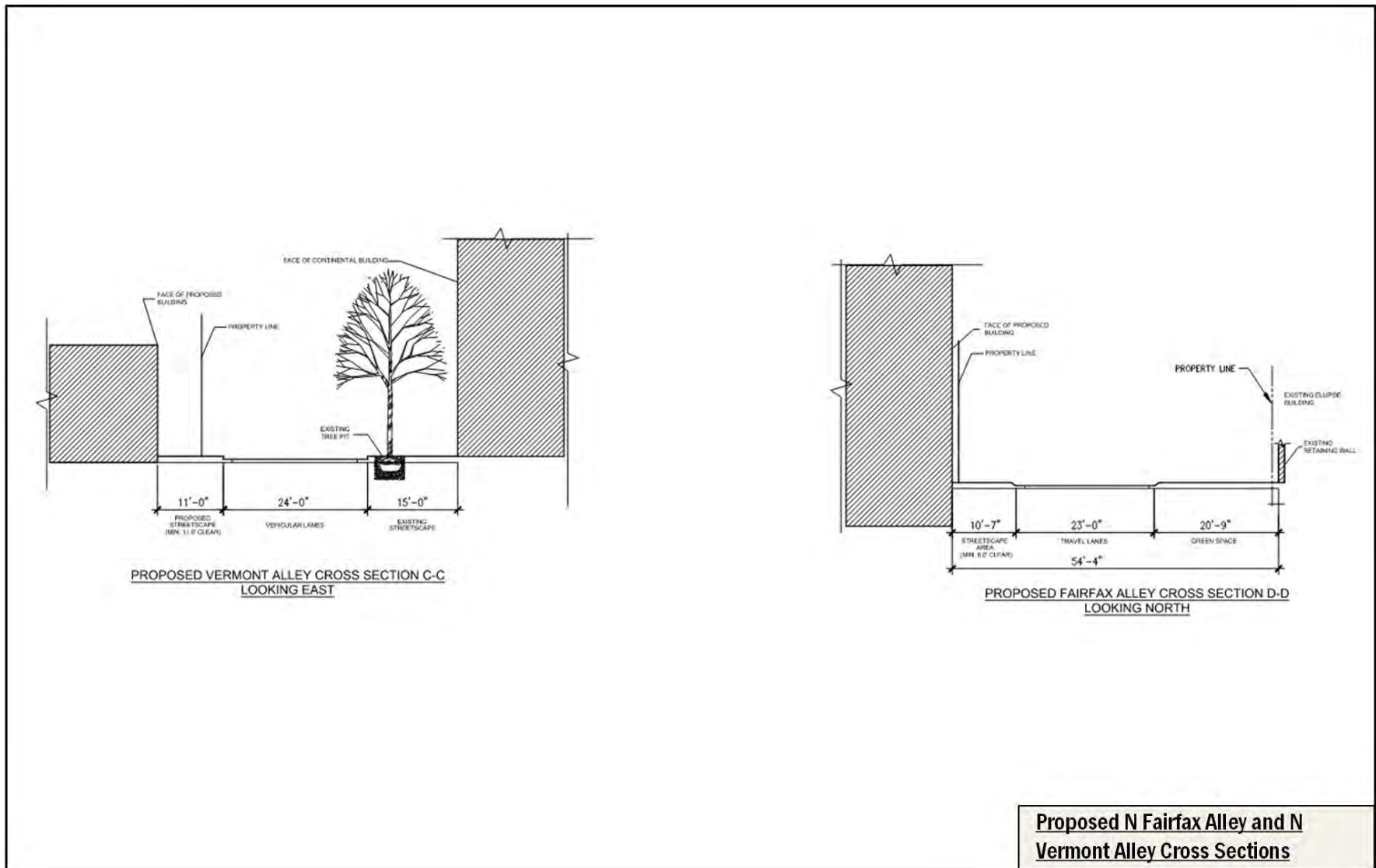


Figure 23: Proposed N Fairfax Alley and N Vermont Alley Cross Sections (C-C and D-D)

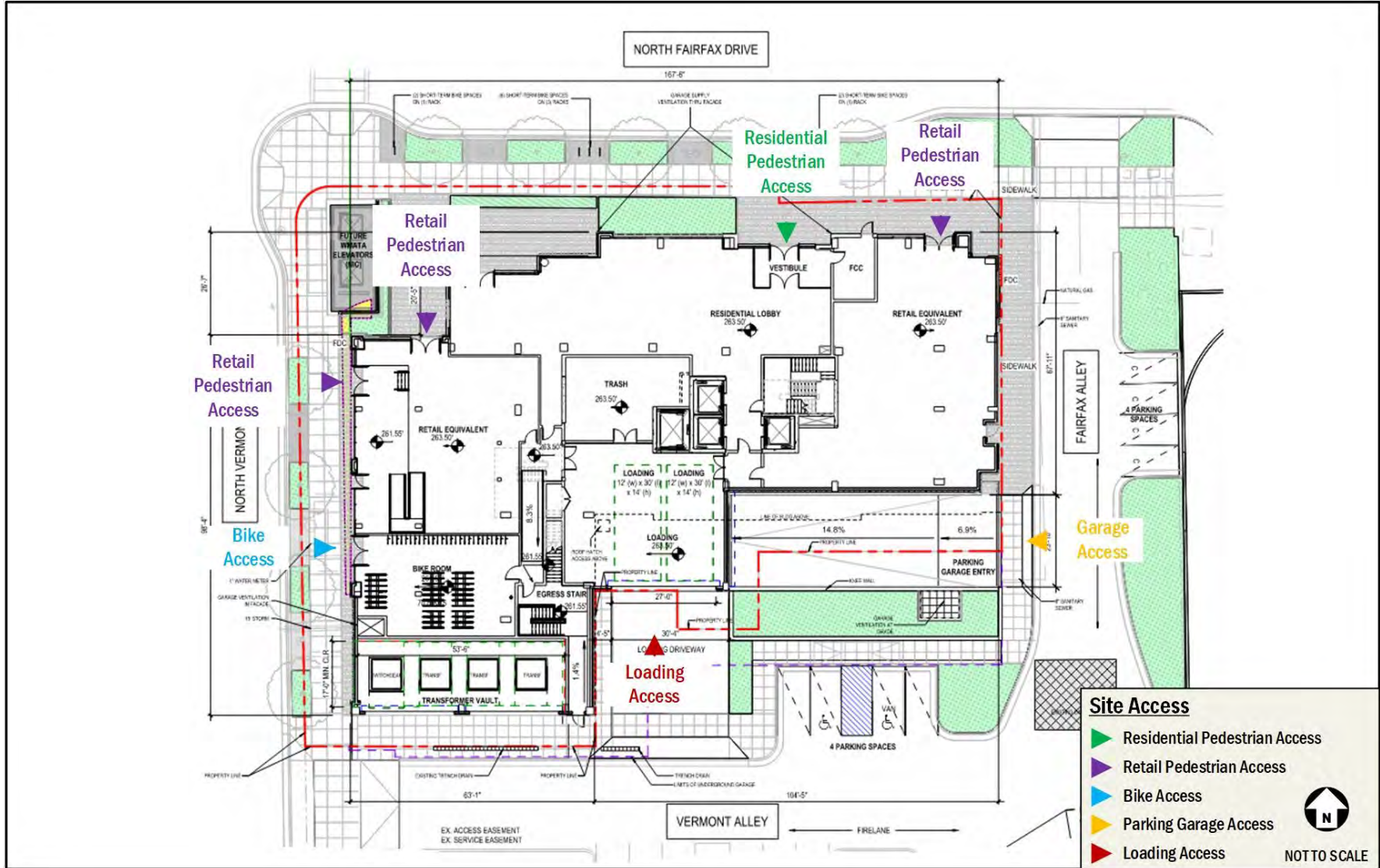


Figure 24: Site Access

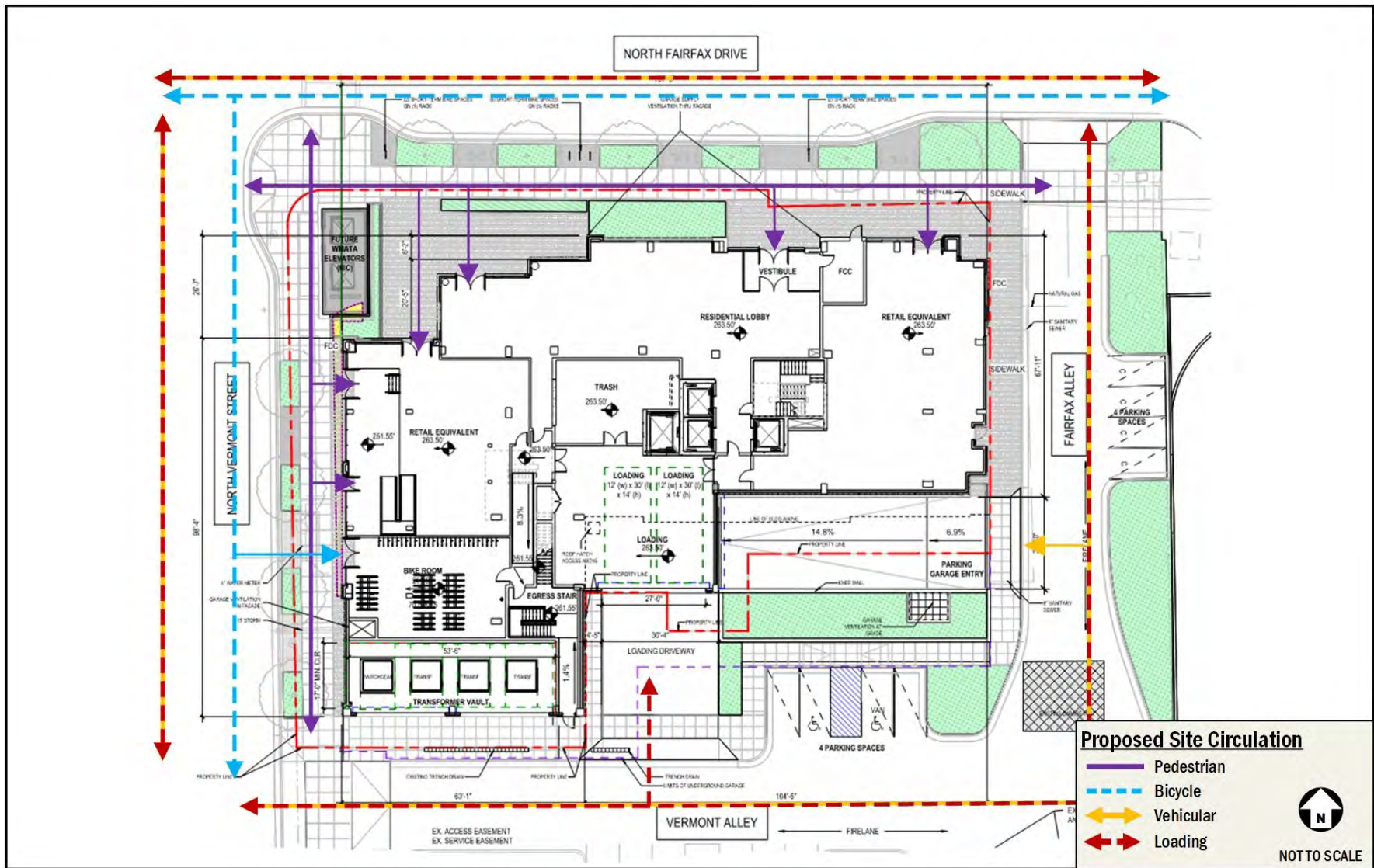


Figure 25: Proposed Site Circulation

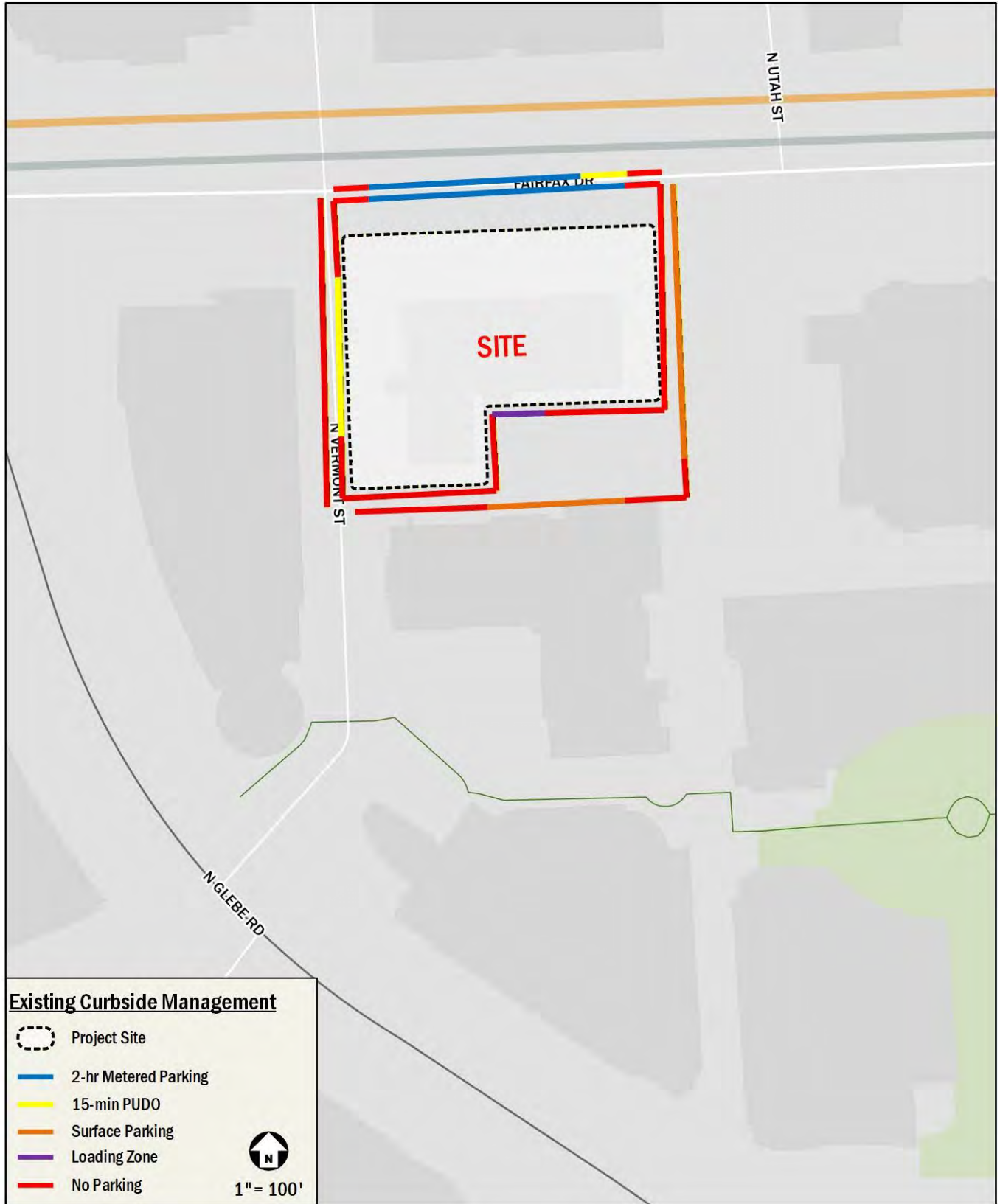


Figure 26: Existing Curbside Management

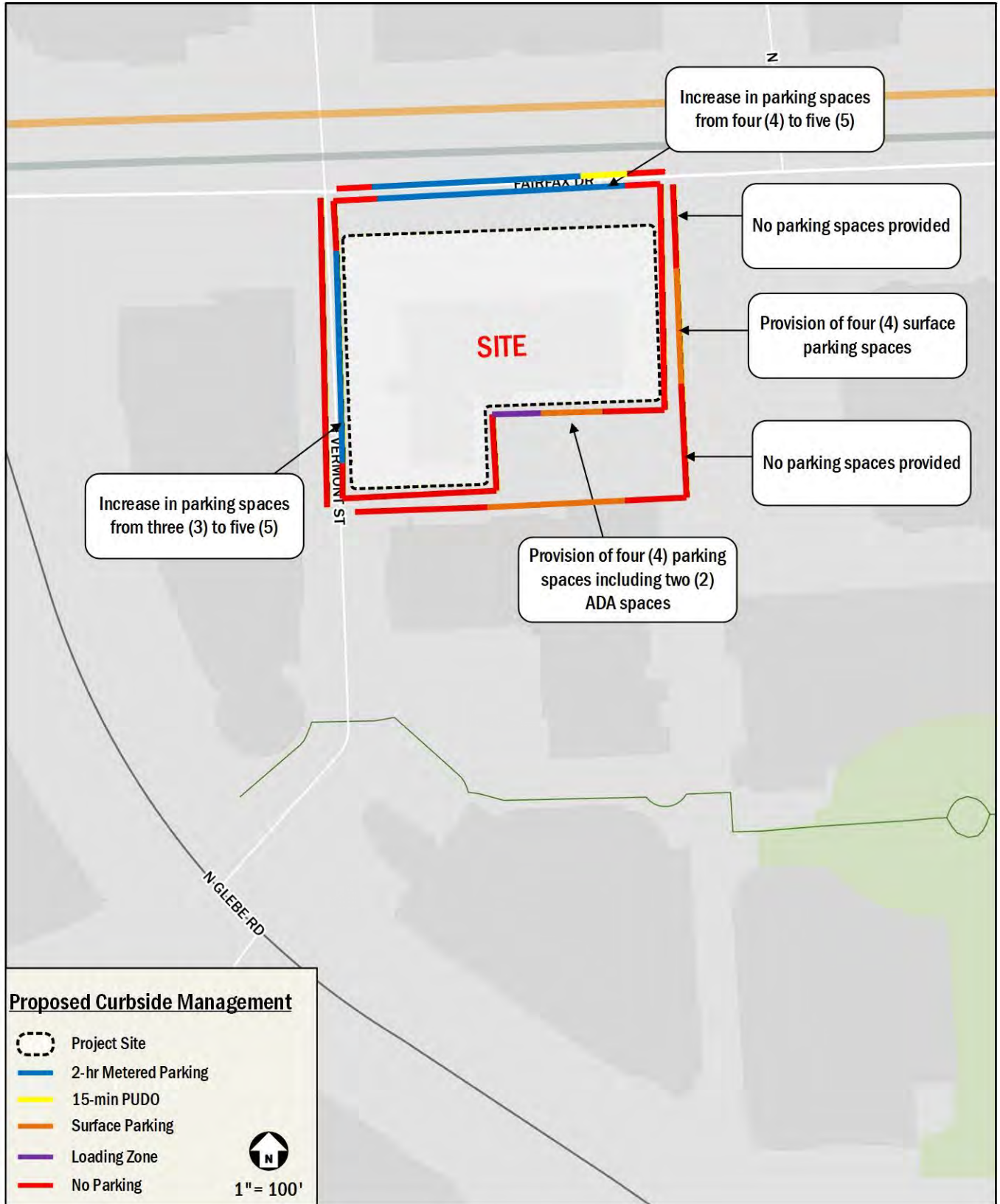


Figure 27: Proposed Curbside Management

Travel Demand Assumptions

This chapter outlines the transportation demand of the proposed 4420 Fairfax Drive redevelopment. It reviews the expected mode splits, multimodal trip generation, and the trip distribution and routing assumptions, which form 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 site has multiple bus stops in the vicinity. It is expected that a significant portion of trips will be by bus, bicycle, or on foot during the morning and afternoon peak hours, rather than by personal vehicle. Table 10 shows the mode split assumptions for the development. The proposed mode splits were vetted by Arlington County during the scoping process.

Trip Generation Methodology

Weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. This methodology was supplemented to account for the urban nature of the project and to generate trips for multiple modes, as vetted by Arlington County.

The proposed trip generation was calculated based on the following:

- Residential
 - ITE Land Use 222, High-Rise Multifamily Housing, setting/location of General Urban/Suburban and Not Close to Rail Transit
- Retail
 - ITE Land Use 822, Strip Retail Plaza (<40ksf), setting/location of General Urban/Suburban

- ITE does not provide trip generation rates specific to the neighborhood serving retail being proposed with the development. However, ITE provides three (3) land use codes for general retail uses, with thresholds based on the proposed square footage. In the absence of a specific land use that corresponds with the type of retail proposed as part of the development, ITE Land Use 822 was applied as vetted by Arlington County during the scoping process.

The trips were then split into different modes using assumptions outlined in the mode split section of this report. A summary of the multi-modal trip generation for the proposed development is shown in Table 11 for the weekday morning and weekday afternoon peak hours. Given the shared alleys with adjacent buildings, existing trips were not removed from network for the purposes of the analysis.

Table 10: Summary of Mode Split Assumptions by Land Use

Land Use	Mode			
	Auto	Transit	Bike	Walk
Residential	35%	56%	4%	5%
Retail	61%	30%	4%	5%

Table 11: Proposed Multi-Modal Trip Generation

Mode	Land Use	Quantity	AM Peak Hour			PM Peak Hour			Weekday Total
			In	Out	Total	In	Out	Total	
Auto	Residential	302 units	8 veh/hr	22 veh/hr	30 veh/hr	22 veh/hr	14 veh/hr	36 veh/hr	530 veh
	Retail	4,957 sf	7 veh/hr	4 veh/hr	11 veh/hr	15 veh/hr	14 veh/hr	29 veh/hr	268 veh
	Total Proposed		15 veh/hr	26 veh/hr	41 veh/hr	37 veh/hr	28 veh/hr	65 veh/hr	798 veh
Transit	Residential	302 units	14 ppl/hr	39 ppl/hr	53 ppl/hr	40 ppl/hr	27 ppl/hr	67 ppl/hr	958 ppl
	Retail	4,957 sf	4 ppl/hr	2 ppl/hr	6 ppl/hr	9 ppl/hr	8 ppl/hr	17 ppl/hr	154 ppl
	Total Proposed		18 ppl/hr	41 ppl/hr	59 ppl/hr	49 ppl/hr	35 ppl/hr	84 ppl/hr	1,112 ppl
Bike	Residential	302 units	1 ppl/hr	3 ppl/hr	4 ppl/hr	3 ppl/hr	2 ppl/hr	5 ppl/hr	68 ppl
	Retail	4,957 sf	1 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr	21 ppl
	Total Proposed		2 ppl/hr	3 ppl/hr	5 ppl/hr	4 ppl/hr	3 ppl/hr	7 ppl/hr	89 ppl
Walk	Residential	302 units	1 ppl/hr	3 ppl/hr	4 ppl/hr	4 ppl/hr	1 ppl/hr	5 ppl/hr	85 ppl
	Retail	4,957 sf	0 ppl/hr	1 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	25 ppl
	Total Proposed		1 ppl/hr	4 ppl/hr	5 ppl/hr	5 ppl/hr	3 ppl/hr	8 ppl/hr	110 ppl

Traffic Operations

This chapter provides a summary of an analysis of the existing and future roadway capacity in the study area for the 2029 analysis year. Included is an analysis of potential vehicular impacts of the proposed 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 following conclusions are reached within this chapter:

- There are no significant impacts to any study intersections as a result of the proposed development.
- Overall, this report concludes that the project will have a manageable impact on the surrounding transportation network, assuming that all planned site design elements are implemented.

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 Arlington County staff as part of the scoping process. 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. 2025 Existing Conditions
2. 2029 Future Conditions without the development (2029 Background)
3. 2029 Future Conditions with the development (2029 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 impact 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 process, the following intersections were chosen for analysis:

1. N Glebe Road and Fairfax Drive
2. Fairfax Drive and N Vermont Street
3. Fairfax Drive and N Fairfax Alley
4. Fairfax Drive and N Utah Street
5. Fairfax Drive and N Taylor Street
6. N Vermont Street and N Vermont Alley
7. N Glebe Road and N Vermont Street
8. N Glebe Road and Wilson Boulevard
9. N Taylor Street and Wilson Boulevard

Figure 7 shows the vehicular study area intersections.

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 on Thursday, May 22, 2025, and Wednesday, September 10, 2025, from 6:30 AM to 9:30 AM and 4:00 PM to 7:00 PM.

For all intersections, the system peak hours were used. Based on the turning movement counts, the weekday morning system peak hour was from 7:45 to 8:45 AM, and the weekday afternoon system peak hour was from 5:00 to 6:00 PM. The existing

volumes were balanced across the roadway network for purposes of *SimTraffic* simulation.

The existing peak hour traffic volumes for intersections within the vehicular study area are shown in Figure 28. The existing turning movement counts are included in the Technical Appendix.

2029 Traffic Volumes

2029 Background Traffic Volumes (without the proposed development)

Traffic projections for the 2029 Background Conditions consist of the existing volumes with the two (2) additions:

- Inherent growth along the roadways in the study area (representing regional traffic growth);
- The impacts of background developments expected to be completed prior to 2029, which is the expected buildout year for the proposed development, if any.

Inherent Regional Growth

The growth rate used in this analysis were derived using VDOT's Annual Average Daily Traffic (AADT) data and guidance from Arlington County staff during the scoping process. An annual growth rate of 0.5% was added for all movements at each intersection based on guidance from Arlington County, compounded annually from 2025 to 2029 for a total growth rate of 2.02%.

Background Developments

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 2029 Background Conditions scenario. These developments are:

1. 4600 Fairfax Drive – Ballston Holiday Inn
2. 701 N Glebe Road – Ballston Macy's

3. 4601 Fairfax Drive – Ballston One
4. 600 N Glebe Road (Phases 2 & 3)

The location of the background developments included in the 2029 Background Conditions scenario in relation to the proposed development is shown on Figure 29. Transportation studies were available for the background developments included in the 2029 Background Conditions.

Trips generated by the approved background developments are shown in Table 12 and included in the Technical Appendix. The traffic volumes generated by background developments along the network were added to the existing traffic volumes in order to establish the 2029 Background traffic volumes. The traffic volumes for the 2029 Background conditions are shown on Figure 30.

2029 Future Traffic Volumes (with the proposed development)

The 2029 Future Conditions traffic volumes consist of the 2029 Background volumes and the addition of the traffic volumes generated by the proposed development (site-generated trips). Thus, the 2029 Future Conditions traffic volumes include traffic generated by: the existing volumes, inherent regional growth, background developments, and the proposed development.

Trip distribution and assignments for site-generated traffic were primarily determined using existing volumes, anticipated traffic patterns, and other recent studies conducted in the area. A summary of the inbound and outbound trip distribution assumptions is shown on Figure 31 for the proposed development. Trip distribution and assignment assumptions were vetted by Arlington County.

Based on the trip distribution and assignment assumptions, site-generated trips were distributed through the study area intersections. The site-generated traffic volumes for the 2029 build-out year are shown on Figure 32. The 2029 Future Conditions traffic volumes are shown on Figure 33.

Table 12: Traffic Generated by 2029 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>
4600 Fairfax Drive – Ballston Holiday Inn ⁽¹⁾						
Total New Vehicle Trips	18	63	81	63	22	85
701 N Glebe Road – Ballston Macy’s ⁽²⁾						
Total New Vehicle Trips	68	77	145	113	104	217
4601 Fairfax Drive - Ballston One ⁽³⁾						
Total New Vehicle Trips	6	43	49	34	12	46
600 N Glebe Road – Phases 2 & 3 ⁽⁴⁾						
Total New Vehicle Trips	26	64	90	67	49	116
Total Background Trips	118	247	365	277	187	464

(1): Extracted from 4600 Fairfax Drive MTIA (05.17.2023) prepared by Wells + Associates

(2): Extracted from Ballston Macy’s Redevelopment MMTA (01.25.2024) prepared by Gorove Slade Associates

(3): Extracted from 4601 Fairfax Drive MMTA (11.19.2024) prepared by Wells + Associates

(4): Extracted from 600 N Glebe MMTA (05.21.2019) prepared by Gorove Slade Associates and using ITE 11th Edition Trip Generation

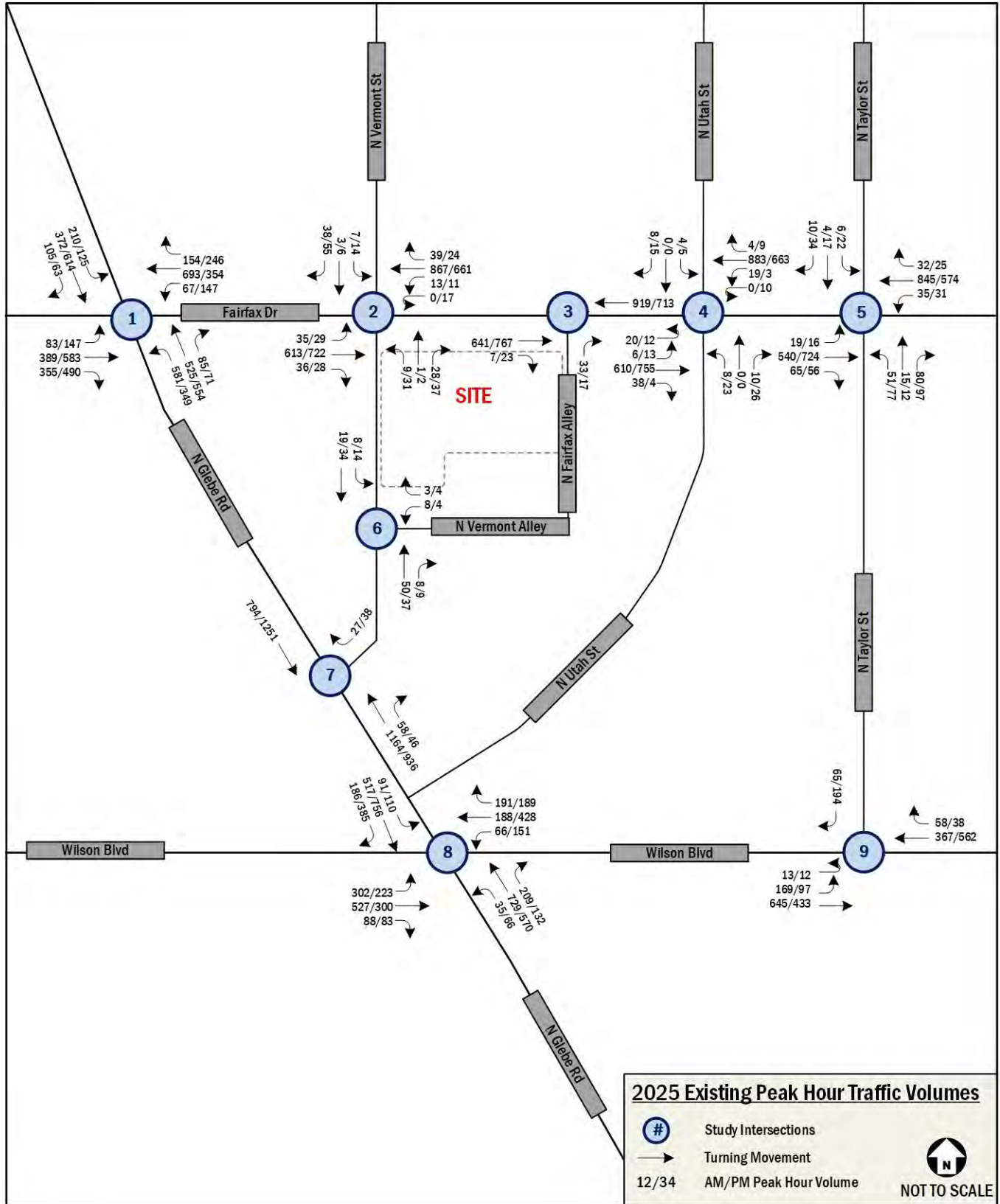


Figure 28: 2025 Existing Peak Hour Traffic Volumes

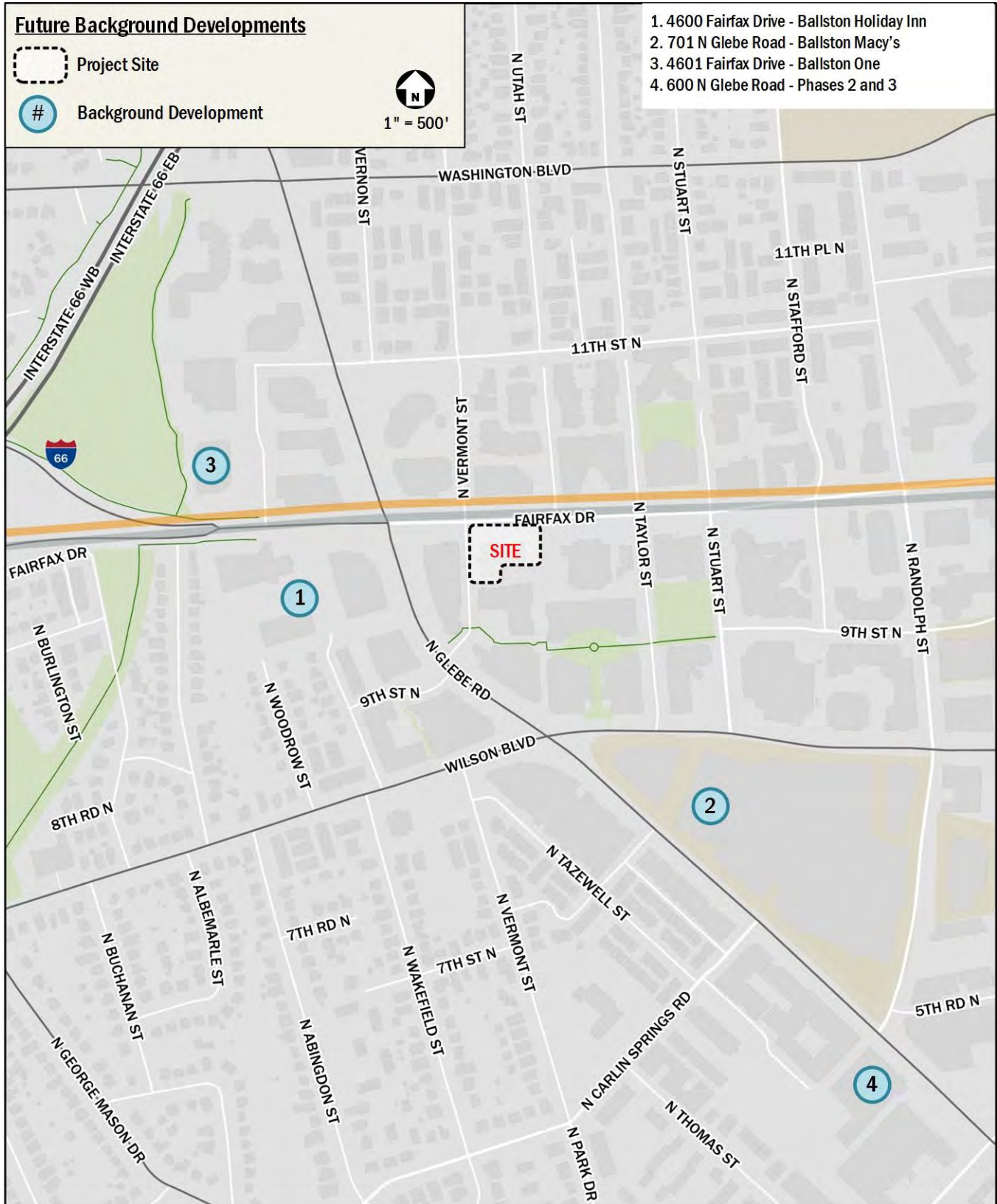


Figure 29: Future Background Developments

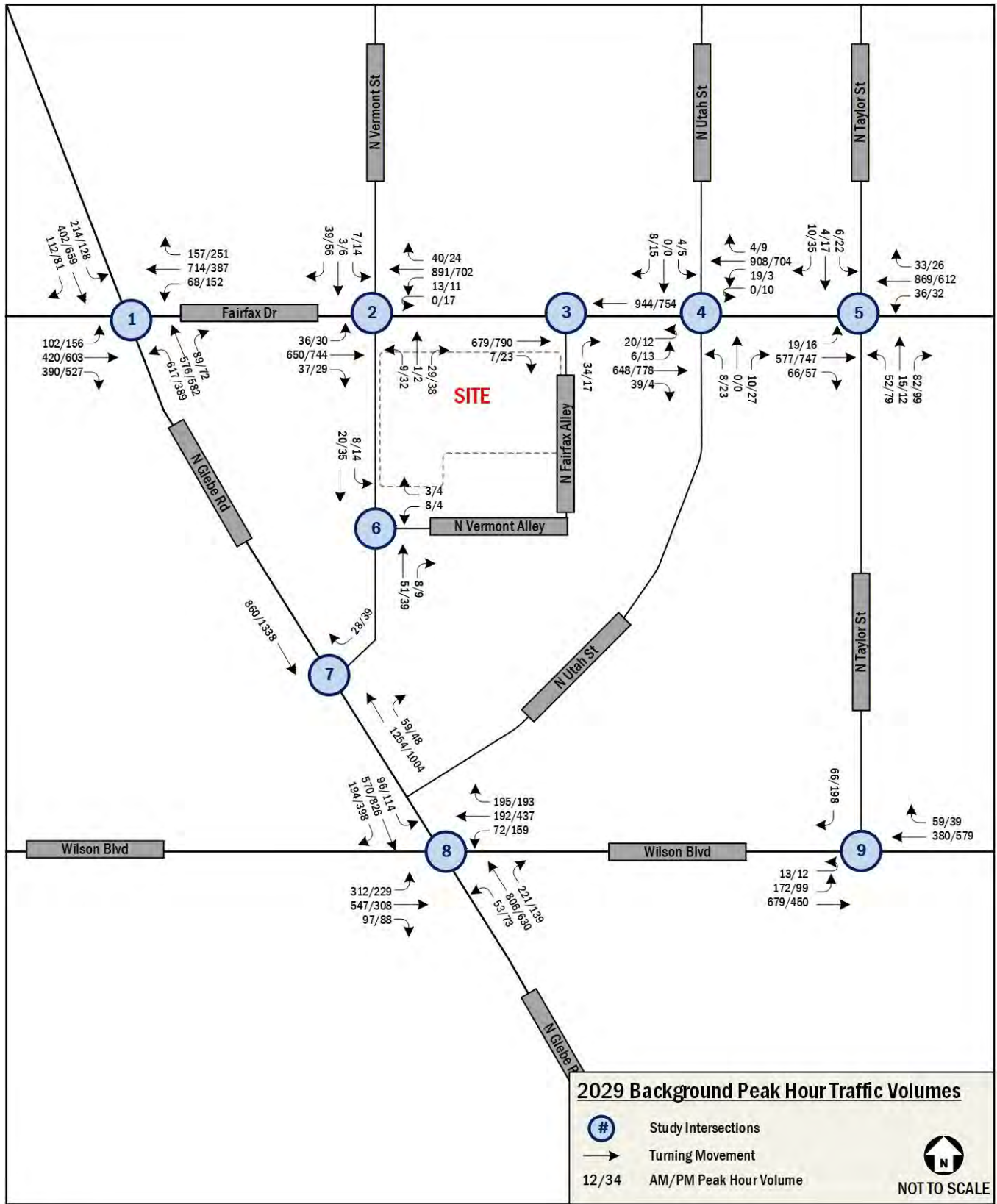


Figure 30: 2029 Background Peak Hour Traffic Volumes (without the proposed development)

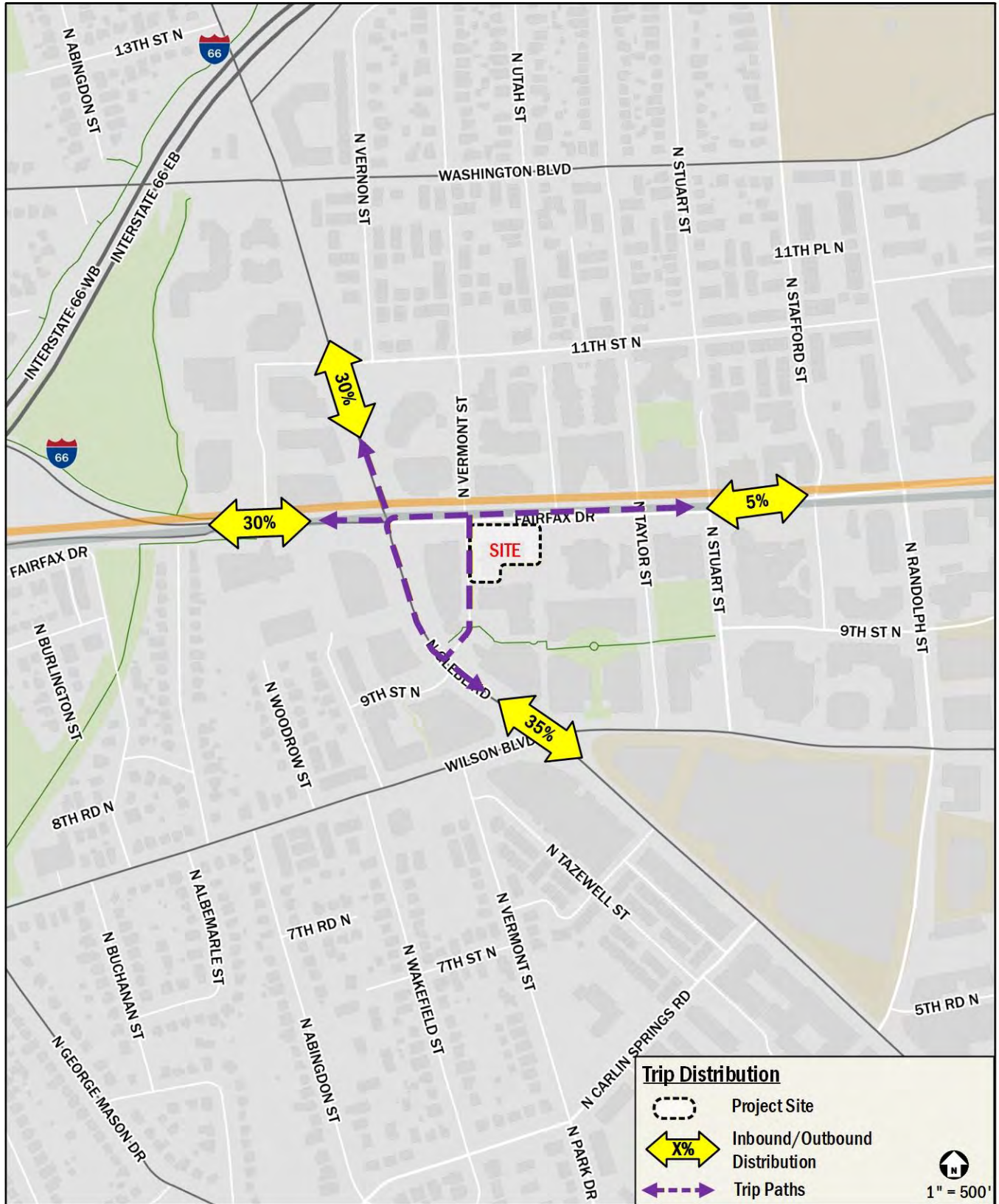


Figure 31: Inbound and Outbound Trip Distribution

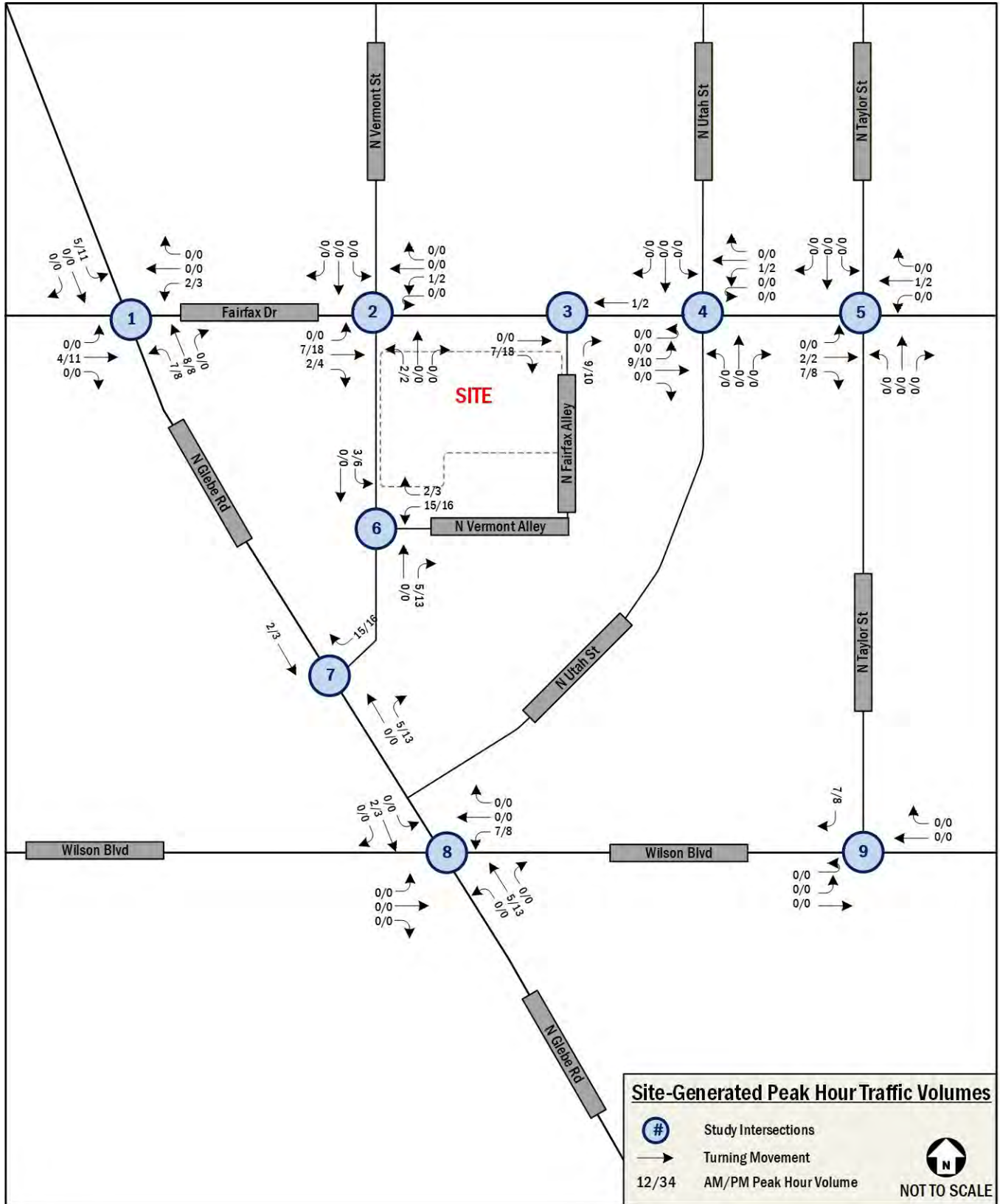


Figure 32: Site-Generated Peak Hour Traffic Volumes

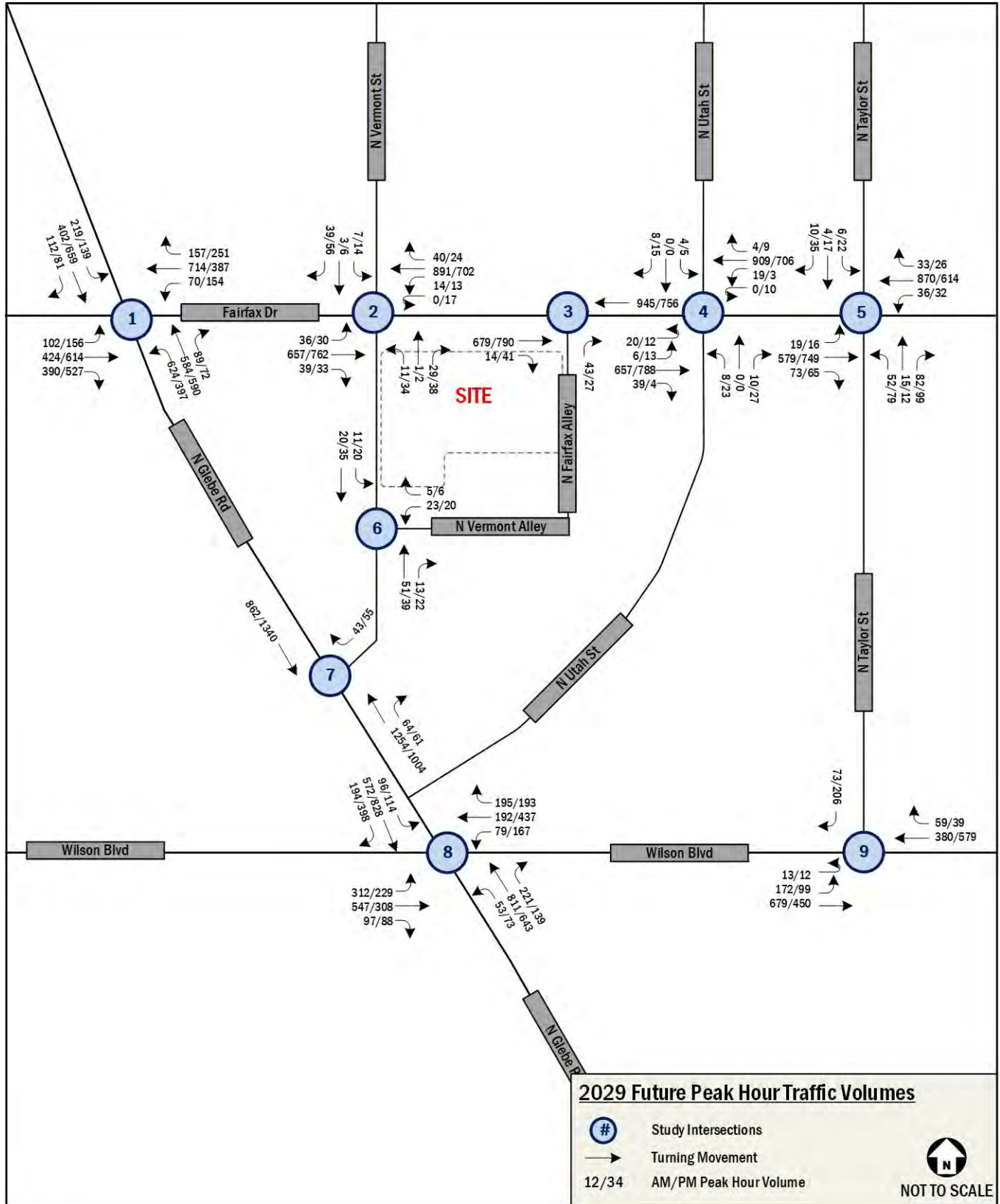


Figure 33: 2029 Future Peak Hour Traffic Volumes (with the proposed development)

Geometry and Operations Assumptions

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

2025 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.

The existing local roadway network including lane configurations and intersection control is detailed in and illustrated in Figure 34.

2029 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 assumed improvements within the roadway network. The 2029 Background Conditions lane configurations and traffic controls are consistent with that assumed under 2025 Existing Conditions, as detailed in Figure 34.

2029 Future Geometry and Operations Assumptions (with the proposed development)

The configurations and traffic controls assumed in the 2029 Future Conditions are based on the 2029 Background Conditions with the addition of the proposed development. However, there are no modifications to the roadway network; therefore, the lane configurations and traffic control will remain consistent with 2025 Existing Conditions as shown in Figure 34.

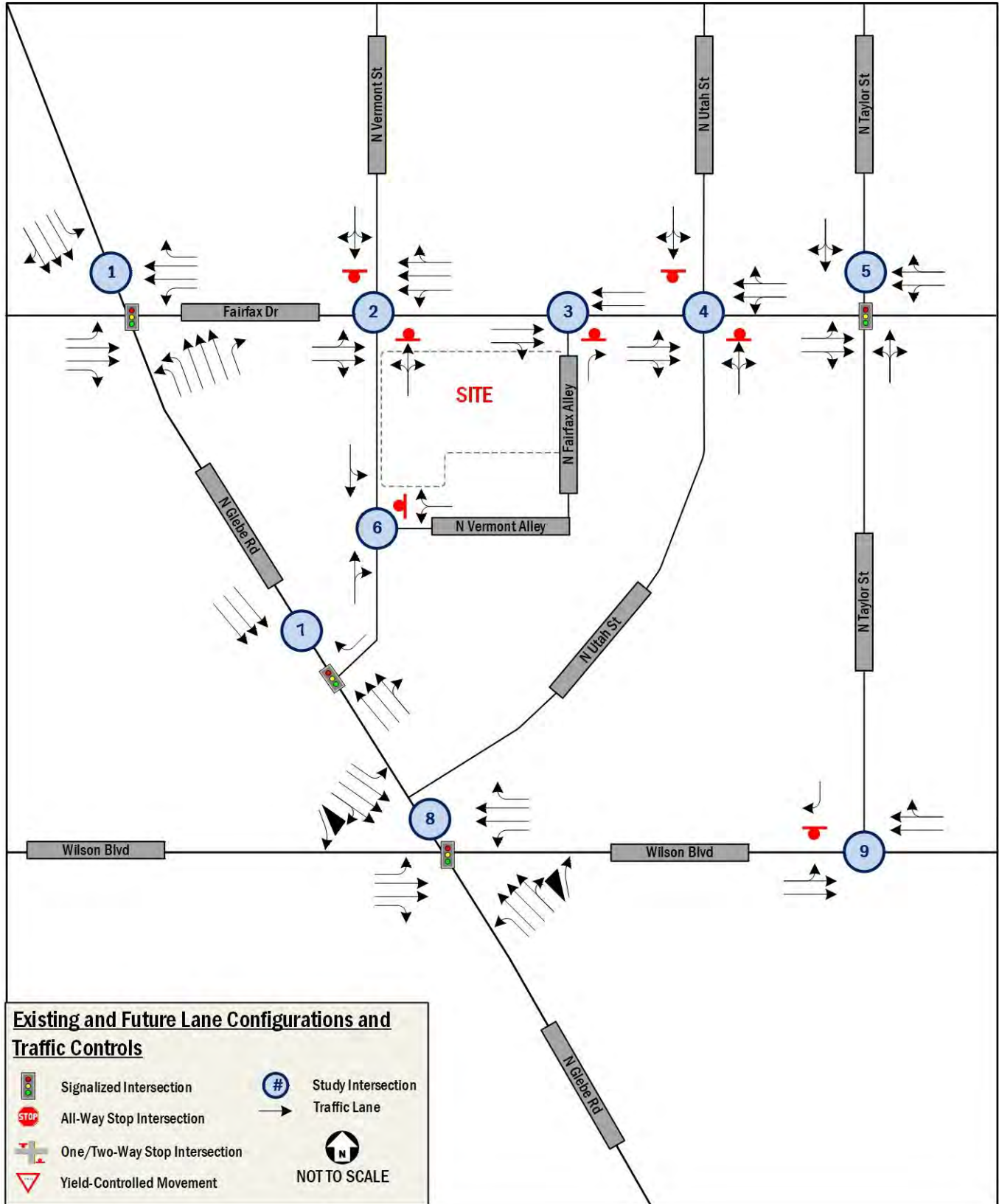


Figure 34: Existing and Future Lane Configurations and Traffic Controls

Vehicular Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for the three (3) scenarios outlined previously at the intersections contained within the study area during the morning and afternoon peak hours. *Synchro*, version 11 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.

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. The standard reporting for a two-way stop-controlled intersection is to report the average delay for each approach. 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 2000 calculations. Queuing analysis worksheets are contained in the Technical Appendix.

At the request of the County, SimTraffic maximum queue length results are reported for each scenario. SimTraffic analysis calibration parameters, including PHF/AntiPHF adjustments, seeding time, number of recording intervals were determined based on TOSAM Version 2.0. The average results for 10 simulation runs were reported. SimTraffic analysis worksheets are contained in the Technical Appendix.

2025 Analysis Results

The Existing (2025) 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 all intersections except for one (1) intersection operate at LOS E or better under the Existing (2025) Conditions:

- N Glebe Road & Wilson Boulevard
 - Southbound Left (PM)

The Existing (2025) queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 14. Three (3) intersections have at least one movement with 95th percentile queues that exceed the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (PM)
 - Eastbound Thru (PM)
 - Eastbound Right (AM/PM)
 - Northbound Left (AM)
 - Southbound Left (AM)
- N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (PM)
 - Westbound Left/Thru/Right (AM)
- N Glebe Road & Wilson Boulevard
 - Eastbound Left (AM)
 - Eastbound Thru (AM)
 - Westbound Right (PM)

The Existing (2025) SimTraffic maximum queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 15. Four (4) intersections have at least one movement with maximum queues that exceed the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (AM/PM)
 - Eastbound Thru (AM/PM)
 - Eastbound Right (AM/PM)
 - Westbound Right (AM/PM)
 - Southbound Left (AM)
- N Vermont Street & Fairfax Drive
 - Eastbound Left/Thru (AM)
 - Eastbound Thru/Right (AM)
- N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (AM/PM)

- Westbound Left/Thru/Right (AM/PM)

- N Glebe Road & Wilson Boulevard
 - Eastbound Thru (AM/PM)
 - Northbound Left (AM)
 - Northbound Thru/Right (AM)

2029 Analysis Results

2029 Background Analysis Results (without the proposed development)

The Background (2029) 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 all intersections except for three (3) intersections operate at LOS E or better under the Background (2029) Conditions:

- N Glebe Road & Fairfax Drive
 - Northbound Left (AM)
- N Vermont Street & Fairfax Drive
 - Northbound Left/Thru/Right (PM)
- N Glebe Road & Wilson Boulevard
 - Southbound Left (PM)

The Background (2029) queuing results for the AM and PM peak hours are expressed by movement and are presented in in Table 14. Three (3) intersections have at least one movement with 95th percentile queues that exceed the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (AM/PM)
 - Eastbound Thru (PM)
 - Eastbound Right (AM/PM)
 - Westbound Thru (AM)
 - Northbound Left (AM)
 - Southbound Left (AM)
- N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (PM)
 - Westbound Left/Thru/Right (AM/PM)
- N Glebe Road & Wilson Boulevard

- Eastbound Left (AM)
- Eastbound Thru (AM)
- Westbound Right (PM)
- Southbound Thru/Right (PM)

The Background (2029) SimTraffic maximum queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 15. Four (4) intersections have at least one movement with maximum queues that exceed the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (AM)
 - Eastbound Thru (AM/PM)
 - Eastbound Right (AM/PM)
 - Westbound Right (AM/PM)
 - Northbound Left (AM)
 - Southbound Left (AM)
- N Vermont Street & Fairfax Drive
 - Eastbound Left/Thru (AM)
 - Eastbound Thru/Right (AM/PM)
- N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (AM/PM)
 - Westbound Left/Thru/Right (AM/PM)
- N Glebe Road & Wilson Boulevard
 - Eastbound Thru (AM/PM)
 - Northbound Left (AM)
 - Northbound Thru/Right (AM/PM)

2029 Future Analysis Results (with the proposed development)

The Future (2029) 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 all intersections except for three (3) intersections operate at LOS E or better under the Future (2029) Conditions:

- N Glebe Road & Fairfax Drive
 - Northbound Left (AM)

- N Vermont Street & Fairfax Drive
 - Northbound Left/Thru/Right (PM)
- N Glebe Road & Wilson Boulevard
 - Southbound Left (PM)

The Future (2029) queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 14. Three (3) intersections have at least one movement with 95th percentile queues that exceed the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (AM/PM)
 - Eastbound Thru (PM)
 - Eastbound Right (AM/PM)
 - Westbound Thru (AM)
 - Northbound Left (AM)
 - Southbound Left (AM)
- N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (PM)
 - Westbound Left/Thru/Right (AM/PM)
- N Glebe Road & Wilson Boulevard
 - Eastbound Left (AM)
 - Eastbound Thru (AM)
 - Westbound Right (PM)
 - Southbound Thru/Right (PM)

The Future (2029) SimTraffic maximum queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 15. Four (4) intersections have at least one movement with maximum queues that exceed the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (AM/PM)
 - Eastbound Thru (AM/PM)
 - Eastbound Right (AM/PM)
 - Westbound Right (AM/PM)
 - Northbound Left (AM)
 - Southbound Left (AM/PM)

-
- N Vermont Street & Fairfax Drive
 - Eastbound Left/Thru (AM)
 - Eastbound Thru/Right (AM)
 - N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (AM/PM)
 - Westbound Left/Thru/Right (AM/PM)
 - N Glebe Road & Wilson Boulevard
 - Eastbound Thru (AM/PM)
 - Northbound Left (AM)
 - Northbound Thru/Right (AM)

2029 Future Mitigations

Based on Arlington County guidelines for mitigation, there are no significant impacts to the study intersections as a result of the proposed development under Future (2029) Conditions.

The proposed development will have a manageable impact to the surrounding transportation and roadway network, assuming that all planned site design elements and improvements are implemented.

Table 13: Capacity Analysis Results

Intersection and Movement	Existing (2025)				Background (2029)				Future (2029)			
	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 Glebe Road & Fairfax Drive												
Overall	52.6	D	45.0	D	55.3	E	47.4	D	55.8	E	47.7	D
Eastbound L	49.0	D	31.4	C	64.0	E	31.8	C	64.0	E	31.8	C
Eastbound T	49.9	D	43.6	D	50.5	D	44.2	D	50.7	D	44.6	D
Eastbound R	33.4	C	50.3	D	35.3	D	59.2	E	35.3	D	58.5	E
Westbound L	40.9	D	34.3	C	42.0	D	35.8	D	42.1	D	36.4	D
Westbound T	65.4	E	39.2	D	68.6	E	39.7	D	68.6	E	39.7	D
Westbound R	21.5	C	26.2	C	22.1	C	26.4	C	22.1	C	26.4	C
Northbound L	74.7	E	60.2	E	82.6	F	64.0	E	84.8	F	65.5	E
Northbound TR	50.9	D	53.4	D	52.1	D	55.1	E	52.2	D	55.3	E
Southbound L	48.0	D	50.5	D	48.1	D	50.8	D	48.5	D	51.7	D
Southbound TR	40.1	D	40.9	D	40.6	D	42.4	D	40.6	D	42.5	D
2. N Vermont Street & Fairfax Drive												
Eastbound LT	2.4	A	1.5	A	2.5	A	1.6	A	2.5	A	1.6	A
Eastbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Westbound LT	0.7	A	0.8	A	0.7	A	0.8	A	0.7	A	0.9	A
Westbound T	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Westbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Northbound LTR	21.2	C	45.1	E	22.3	C	52.1	F	24.3	C	61.1	F
Southbound LTR	32.9	D	39.0	E	35.5	E	44.4	E	35.9	E	46.0	E
3. N Fairfax Alley & Fairfax Drive												
Eastbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Westbound T	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Northbound R	11.3	B	11.2	B	11.1	B	11.1	B	11.2	B	11.3	B
4. N Utah Street/Alley & Fairfax Drive												
Eastbound LT	0.3	A	0.6	A	0.3	A	0.6	A	0.3	A	0.6	A
Eastbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Westbound LT	0.8	A	0.1	A	0.8	A	0.1	A	0.8	A	0.1	A
Westbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Northbound LTR	20.2	C	26.4	D	19.9	C	25.5	D	20.1	C	25.9	D
Southbound LTR	20.0	C	18.3	C	19.6	C	17.8	C	19.7	C	17.9	C
5. N Taylor Street & Fairfax Drive												
Overall	11.6	B	13.4	B	11.8	B	13.4	B	11.8	B	13.4	B
Eastbound LTR	8.8	A	10.5	B	9.0	A	10.5	B	9.0	A	10.6	B
Westbound LTR	10.2	B	9.8	A	10.4	B	9.9	A	10.5	B	9.9	A
Northbound LTR	30.7	C	32.6	C	30.7	C	32.4	C	30.7	C	32.4	C

Intersection and Movement	Existing (2025)				Background (2029)				Future (2029)			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Southbound LTR	27.5	C	27.7	C	27.5	C	27.7	C	27.5	C	27.7	C
6. N Vermont Street & N Vermont Alley												
Westbound LR	9.2	A	9.2	A	9.2	A	9.2	A	9.3	A	9.6	A
Northbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound LT	2.2	A	2.2	A	2.2	A	2.2	A	2.7	A	2.8	A
7. N Glebe Road & N Vermont Street												
Westbound R	9.1	A	9.0	A	9.2	A	9.1	A	9.3	A	9.2	A
Northbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound T	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
8. N Glebe Road & Wilson Boulevard												
Overall	33.7	C	44.7	D	35.8	D	47.5	D	35.8	D	47.5	D
Eastbound L	27.1	C	26.6	C	27.9	C	27.2	C	27.9	C	27.2	C
Eastbound T	32.5	C	32.8	C	32.8	C	32.8	C	32.8	C	32.8	C
Eastbound R	25.2	C	23.9	C	24.2	C	23.9	C	24.2	C	23.9	C
Westbound L	25.9	C	32.5	C	26.1	C	32.8	C	26.1	C	33.1	C
Westbound T	31.8	C	39.9	D	31.9	C	40.0	D	31.9	C	40.0	D
Westbound R	27.8	C	32.7	C	27.9	C	32.6	C	27.9	C	32.6	C
Northbound L	66.8	E	58.3	E	69.2	E	60.3	E	69.2	E	60.3	E
Northbound TR	44.0	D	39.8	D	47.1	D	41.0	D	47.3	D	41.2	D
Southbound L	62.1	E	118.5	F	66.8	E	118.7	F	66.5	E	118.6	F
Southbound TR	22.4	C	53.4	D	25.0	C	60.3	E	25.1	C	60.4	E
9. N Taylor Street & Wilson Boulevard												
Eastbound LT	5.6	A	6.5	A	5.6	A	6.6	A	5.6	A	6.6	A
Westbound TR	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Southbound R	11.6	B	25.9	D	11.7	B	27.1	D	11.8	B	28.2	D

Table 14: 50th and 95th Percentile Queuing Results (in feet)

Intersection and Lane Group	Storage Length (ft)	Existing (2025)				Background (2029)				Future (2029)			
		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 Glebe Road & Fairfax Drive													
Eastbound L	115	59	#105	83	133	74	#155	89	142	74	#155	89	142
Eastbound T	280	183	238	238	303	200	257	248	316	201	259	254	322
Eastbound R	280	242	337	325	#535	274	379	362	#462	274	379	362	#462
Westbound L	345	48	88	83	134	49	89	86	138	50	91	87	139
Westbound T	465	363	#448	134	182	376	#484	148	198	376	#484	148	198
Westbound R	150	59	92	90	137	61	94	93	139	61	95	93	139
Northbound L	400	304	#404	112	142	326	#445	127	170	331	#454	131	#185
Northbound TR	470	196	240	133	160	218	265	143	186	221	268	146	194
Southbound L	225	185	273	100	167	188	277	103	171	194	285	113	184
Southbound TR	470	125	161	183	227	137	173	203	249	137	173	203	249
2. N Vermont Street & Fairfax Drive													
Eastbound LT	160	--	6	--	4	--	6	--	4	--	6	--	4
Eastbound TR	160	--	0	--	0	--	0	--	0	--	0	--	0
Westbound LT	130	--	1	--	1	--	1	--	1	--	1	--	1
Westbound T	240	--	0	--	0	--	0	--	0	--	0	--	0
Westbound TR	240	--	0	--	0	--	0	--	0	--	0	--	0
Northbound LTR	140	--	14	--	54	--	15	--	62	--	17	--	73
Southbound LTR	480	--	28	--	50	--	31	--	57	--	32	--	59
3. N Fairfax Alley & Fairfax Drive													
Eastbound TR	140	--	0	--	0	--	0	--	0	--	0	--	0
Westbound T	240	--	0	--	0	--	0	--	0	--	0	--	0
Northbound R	150	--	5	--	2	--	5	--	2	--	6	--	4
4. N Utah Street/Alley & Fairfax Drive													
Eastbound LT	230	--	1	--	2	--	1	--	2	--	1	--	2
Eastbound TR	230	--	0	--	0	--	0	--	0	--	0	--	0
Westbound LT	200	--	2	--	0	--	2	--	0	--	2	--	0
Westbound TR	200	--	0	--	0	--	0	--	0	--	0	--	0
Northbound LTR	150	--	6	--	24	--	6	--	22	--	6	--	23
Southbound LTR	300	--	4	--	6	--	4	--	6	--	4	--	6
5. N Taylor Street & Fairfax Drive													
Eastbound LTR	200	115	155	170	219	124	166	169	221	126	170	172	226
Westbound LTR	170	187	246	127	169	196	258	132	177	196	258	132	178
Northbound LTR	390	67	120	98	163	69	122	97	165	69	122	97	165
Southbound LTR	490	8	24	34	69	8	24	34	68	8	24	34	68
6. N Vermont Street & N Vermont Alley													

Intersection and Lane Group	Storage Length (ft)	Existing (2025)				Background (2029)				Future (2029)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Westbound LR	150	--	1	--	1	--	1	--	1	--	3	--	3
Northbound TR	150	--	0	--	0	--	0	--	0	--	0	--	0
Southbound LT	240	--	0	--	1	--	0	--	1	--	1	--	1
7. N Glebe Road & N Vermont Street													
Westbound R	240	--	3	--	4	--	3	--	4	--	4	--	5
Northbound TR	335	--	0	--	0	--	0	--	0	--	0	--	0
Southbound T	450	--	0	--	0	--	0	--	0	--	0	--	0
8. N Glebe Road & Wilson Boulevard													
Eastbound L	215	160	235	126	190	166	243	130	194	166	243	130	194
Eastbound T	215	178	233	104	144	186	242	106	147	186	242	106	147
Eastbound R	80	0	19	0	0	0	24	0	0	0	24	0	0
Westbound L	230	30	58	81	130	32	62	86	136	36	67	91	143
Westbound T	265	59	90	167	222	60	92	172	226	60	92	172	226
Westbound R	160	96	153	112	174	99	156	115	177	99	156	115	177
Northbound L	250	28	63	55	106	42	87	62	116	42	87	62	116
Northbound TR	350	243	297	182	226	276	334	205	251	277	335	209	256
Southbound L	260	41	#135	102	#202	44	#143	106	#214	44	#143	106	#214
Southbound TR	325	155	202	220	#286	176	224	~248	#334	177	225	~249	#336
9. N Taylor Street & Wilson Boulevard													
Eastbound LT	230	--	18	--	16	--	19	--	17	--	19	--	17
Westbound TR	170	--	0	--	0	--	0	--	0	--	0	--	0
Southbound R	240	--	10	--	81	--	10	--	86	--	11	--	93

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

Table 15: SimTraffic Maximum Queuing Results (in feet)

Intersection and Lane Group	Storage Length (ft)	Existing (2025)		Background (2029)		Future (2029)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
		Max Queue	Max Queue	Max Queue	Max Queue	Max Queue	Max Queue
1. N Glebe Road & Fairfax Drive							
Eastbound L	115	119	120	120	108	120	120
Eastbound T	280	366	952	316	1158	285	1175
Eastbound R	280	440	1031	409	1165	371	1168
Westbound L	345	127	185	142	168	143	192
Westbound T	465	234	184	235	186	236	194
Westbound R	150	163	193	167	176	161	206
Northbound L	400	391	200	425	241	425	232
Northbound TR	470	343	192	444	225	446	206
Southbound L	225	228	224	229	222	228	227
Southbound TR	470	395	251	343	371	313	306
2. N Vermont Street & Fairfax Drive							
Eastbound LT	160	162	135	175	154	161	132
Eastbound TR	160	172	127	192	162	170	135
Westbound LT	130	118	84	112	82	110	93
Westbound T	240	204	42	203	46	201	85
Westbound TR	240	195	82	202	79	202	107
Northbound LTR	140	72	75	70	75	72	76
Southbound LTR	480	126	84	105	132	89	101
3. N Fairfax Alley & Fairfax Drive							
Eastbound TR	140	66	77	64	80	68	67
Westbound T	240	78	24	90	26	85	18
Northbound R	150	60	39	59	36	57	54
4. N Utah Street/Alley & Fairfax Drive							
Eastbound LT	230	82	83	82	77	81	87
Eastbound TR	230	85	80	84	84	77	86
Westbound LT	200	138	106	138	126	152	146
Westbound TR	200	134	99	159	115	157	152
Northbound LTR	150	70	91	63	87	64	91
Southbound LTR	300	72	40	50	89	66	46
5. N Taylor Street & Fairfax Drive							
Eastbound LTR	200	224	261	243	234	238	264
Westbound LTR	170	357	258	312	318	282	254
Northbound LTR	390	179	209	179	206	191	198
Southbound LTR	490	87	106	76	151	59	125
6. N Vermont Street & N Vermont Alley							

Intersection and Lane Group	Storage Length (ft)	Existing (2025)		Background (2029)		Future (2029)	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
		Max Queue	Max Queue	Max Queue	Max Queue	Max Queue	Max Queue
Westbound LR	150	44	30	37	34	64	44
Northbound TR	150	8	9	22	25	6	8
Southbound LT	240	17	22	6	18	9	27
7. N Glebe Road & N Vermont Street							
Westbound R	240	43	48	52	54	70	54
Northbound TR	335	22	37	37	37	38	22
Southbound T	450	206	156	194	183	195	202
8. N Glebe Road & Wilson Boulevard							
Eastbound L	215	194	193	195	189	195	191
Eastbound T	215	488	256	487	300	500	260
Eastbound R	80	80	80	80	79	80	80
Westbound L	230	88	157	80	174	112	167
Westbound T	265	182	243	172	264	167	234
Westbound R	160	150	150	147	150	150	144
Northbound L	250	264	244	264	239	265	229
Northbound TR	350	458	332	538	413	539	339
Southbound L	260	170	221	177	201	199	237
Southbound TR	325	260	297	272	278	266	298
9. N Taylor Street & Wilson Boulevard							
Eastbound LT	230	167	129	169	115	175	121
Westbound TR	170	153	59	52	144	48	55
Southbound R	240	16	16	0	25	0	9

Alternative Vermont Street & Fairfax Drive Analysis (For Informational Purposes Only)

This chapter provides an alternative scenario analysis that studies the geometry changes recommended by the *VDOT Route 120 (Glebe Road) Corridor Improvement STARS Study*, finalized on September 15, 2025. The VDOT STARS study provides recommendations for multiple intersections on or within N Glebe Road. The intent of the VDOT STARS study is to serve as a guiding document for VDOT and Arlington County to identify deficiencies in the network under present and short-term conditions.

Within the vicinity of the proposed development, the VDOT STARS study recommended that porkchop islands be installed on the north and south leg of the intersection of Fairfax Drive and N Vermont Street (Intersection 2), restricting left-out and through movements from N Vermont Street. An excerpt of the VDOT STARS study is included in the Technical Appendix.

Purpose of Study

This chapter provides a summary of an alternative analysis of the future roadway capacity for a scenario where the VDOT STARS study recommendations are implemented at the intersection of Fairfax Drive and N Vermont Street (Intersection 2).

The lane configurations and traffic controls for this alternative scenario assuming the VDOT STARS study recommendations are detailed in Figure 35.

It is important to note that this alternative analysis is provided for informational purposes only. The timing and implementation of the improvements recommended by the VDOT STARS study will be determined by Arlington County in the future and these improvements are not proposed as part of the proposed 4420 Fairfax Drive development. Any mitigation measures associated with the proposed 4420 Fairfax Drive development are based on the main analysis detailed in the previous 'Traffic Operations' chapter.

Traffic Volume Assumptions

Existing, background, and site-generated peak hour traffic volumes at the intersection of Fairfax Drive and N Vermont Street were rerouted throughout the study area to reflect the left-out and through restrictions for the northbound and southbound

approaches of Fairfax Drive and N Vermont Street. The regional trip distribution for site-generated trips under this alternative scenario is consistent with that approved in scoping document, as shown in Figure 31. The rerouted peak hour trips are included in the Technical Appendix.

The 2029 Alternative Future Conditions traffic volumes are shown on Figure 36.

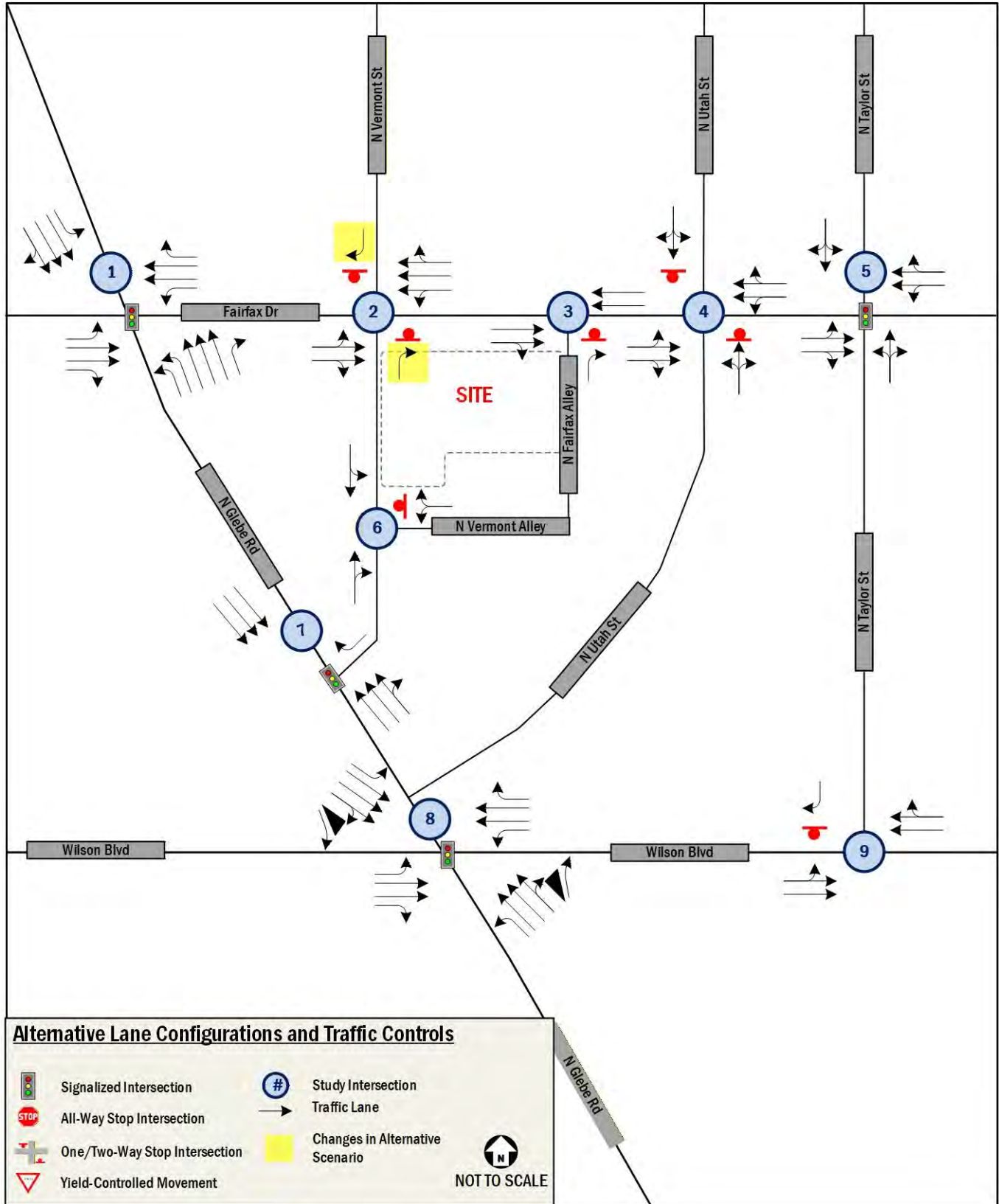


Figure 35: Alternative Lane Configurations and Traffic Controls

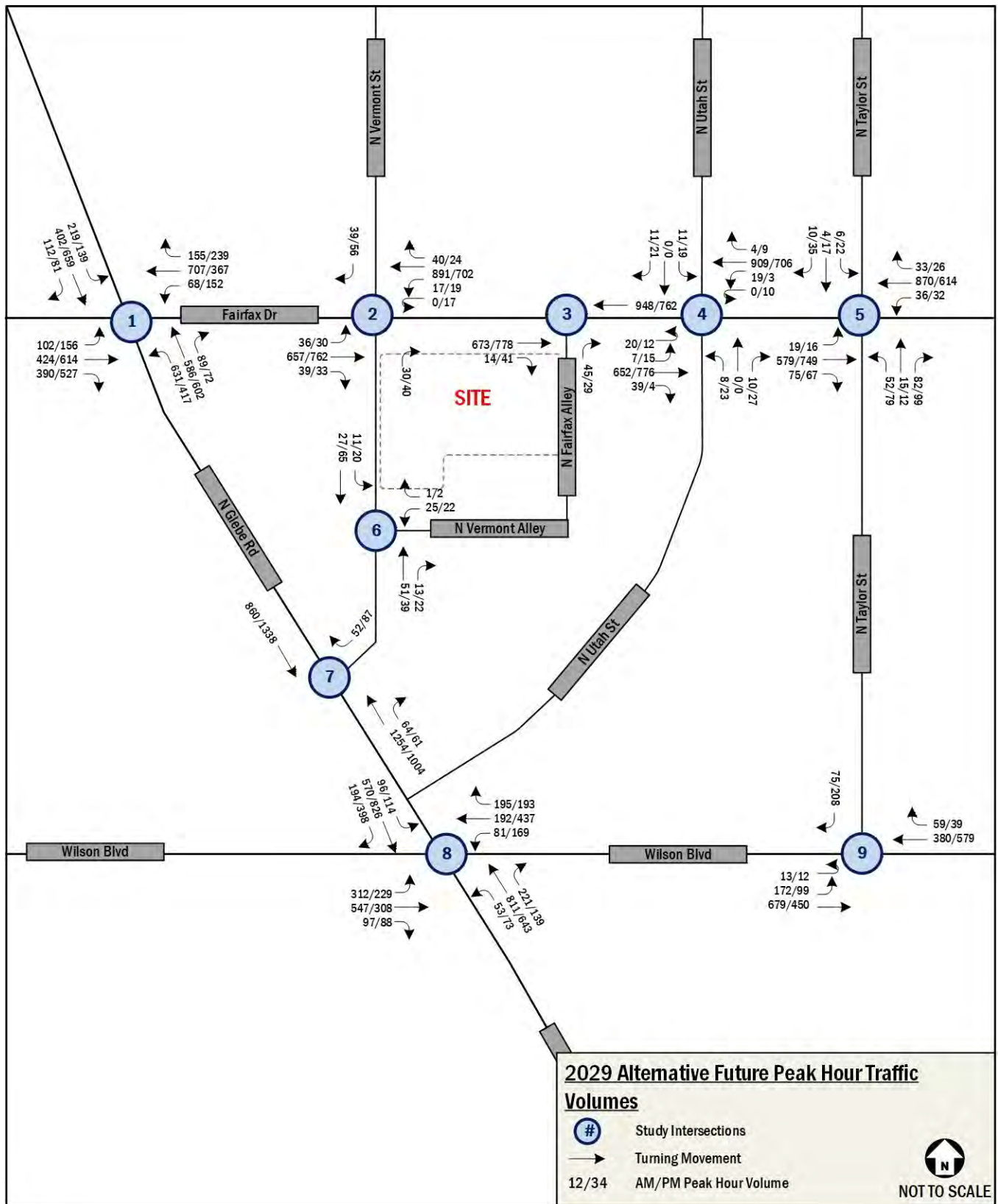


Figure 36: 2029 Alternative Future Peak Hour Traffic Volumes

Vehicular Analysis Results

2029 Alternative Future Analysis Results

The Alternative Future (2029) 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 16. The capacity analysis results indicate all intersections except for two 2) intersections operate at LOS E or better under the Alternative Future (2029) Conditions:

- N Glebe Road & Fairfax Drive
 - Northbound Left (AM)
- N Glebe Road & Wilson Boulevard
 - Southbound Left (PM)

The Alternative Future (2029) queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 17. Three (3) intersections have at least one movement with 95th percentile queues that exceed the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (AM/PM)
 - Eastbound Thru (PM)
 - Eastbound Right (AM/PM)
 - Westbound Thru (AM)
 - Northbound Left (AM)
 - Southbound Left (AM)
- N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (PM)
 - Westbound Left/Thru/Right (AM/PM)
- N Glebe Road & Wilson Boulevard
 - Eastbound Left (AM)
 - Eastbound Thru (AM)
 - Westbound Right (PM)
 - Southbound Thru/Right (PM)

The Alternative Future (2029) SimTraffic maximum queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 18. Four (4) intersections have at least one movement with maximum queues that exceed

the available storage length in the morning and/or afternoon peak hour:

- N Glebe Road & Fairfax Drive
 - Eastbound Left (AM/PM)
 - Eastbound Thru (AM/PM)
 - Eastbound Right (AM/PM)
 - Westbound Right (AM/PM)
 - Northbound Left (AM)
 - Southbound Left (AM)
- N Vermont Street & Fairfax Drive
 - Eastbound Thru/Right (AM)
- N Taylor Street & Fairfax Drive
 - Eastbound Left/Thru/Right (AM/PM)
 - Westbound Left/Thru/Right (AM/PM)
- N Glebe Road & Wilson Boulevard
 - Eastbound Thru (AM)
 - Northbound Left (AM)
 - Northbound Thru/Right (AM)

Table 16: Capacity Analysis Results

Intersection and Movement	Alternative Future (2029)			
	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
1. N Glebe Road & Fairfax Drive				
Overall	55.9	E	48.0	D
Eastbound L	63.9	E	31.7	C
Eastbound T	50.7	D	44.6	D
Eastbound R	35.3	D	57.8	E
Westbound L	42.0	D	36.1	D
Westbound T	67.4	E	39.4	D
Westbound R	22.1	C	26.0	C
Northbound L	86.9	F	68.1	E
Northbound TR	52.3	D	55.2	E
Southbound L	48.5	D	51.7	D
Southbound TR	40.6	D	42.7	D
2. N Vermont Street & Fairfax Drive				
Eastbound LT	2.5	A	1.6	A
Eastbound TR	0.0	A	0.0	A
Westbound LT	0.9	A	1.2	A
Westbound T	0.0	A	0.0	A
Westbound TR	0.0	A	0.0	A
Northbound R	10.3	B	10.4	B
Southbound R	13.6	B	13.9	B
3. N Fairfax Alley & Fairfax Drive				
Eastbound TR	0.0	A	0.0	A
Westbound T	0.0	A	0.0	A
Northbound R	11.2	B	11.2	B
4. N Utah Street/Alley & Fairfax Drive				
Eastbound LT	0.4	A	0.7	A
Eastbound TR	0.0	A	0.0	A
Westbound LT	0.8	A	0.1	A
Westbound TR	0.0	A	0.0	A
Northbound LTR	20.2	C	26.0	D
Southbound LTR	25.9	D	25.7	D
5. N Taylor Street & Fairfax Drive				
Overall	11.8	B	13.4	B
Eastbound LTR	9.1	A	10.6	B
Westbound LTR	10.5	B	9.9	A

Intersection and Movement	Alternative Future (2029)			
	AM Peak		PM Peak	
	Delay	LOS	Delay	LOS
Northbound LTR	30.7	C	32.4	C
Southbound LTR	27.5	C	27.7	C
6. N Vermont Street & N Vermont Alley				
Westbound LR	9.4	A	10.0	A
Northbound TR	0.0	A	0.0	A
Southbound LT	2.2	A	1.9	A
7. N Glebe Road & N Vermont Street				
Westbound R	9.3	A	9.3	A
Northbound TR	0.0	A	0.0	A
Southbound T	0.0	A	0.0	A
8. N Glebe Road & Wilson Boulevard				
Overall	35.8	D	47.4	D
Eastbound L	27.9	C	27.2	C
Eastbound T	32.8	C	32.8	C
Eastbound R	24.2	C	23.9	C
Westbound L	26.2	C	33.1	C
Westbound T	31.9	C	40.0	D
Westbound R	27.9	C	32.6	C
Northbound L	69.2	E	60.3	E
Northbound TR	47.3	D	41.2	D
Southbound L	66.8	E	118.6	F
Southbound TR	25.0	C	60.2	E
9. N Taylor Street & Wilson Boulevard				
Eastbound LT	5.6	A	6.6	A
Westbound TR	0.0	A	0.0	A
Southbound R	11.8	B	28.5	D

Table 17: 50th and 95th Percentile Queuing Results (in feet)

Intersection and Lane Group	Storage Length (ft)	Alternative Future (2029)			
		AM Peak		PM Peak	
		50th	95th	50th	95th
1. N Glebe Road & Fairfax Drive					
Eastbound L	115	74	#154	89	142
Eastbound T	280	201	259	254	322
Eastbound R	280	274	379	362	#462
Westbound L	345	49	89	86	138
Westbound T	465	372	#475	139	187
Westbound R	150	60	94	87	132
Northbound L	400	336	#461	139	#251
Northbound TR	470	222	269	150	205
Southbound L	225	194	285	113	184
Southbound TR	470	137	173	203	249
2. N Vermont Street & Fairfax Drive					
Eastbound LT	160	--	6	--	4
Eastbound TR	160	--	0	--	0
Westbound LT	130	--	2	--	2
Westbound T	240	--	0	--	0
Westbound TR	240	--	0	--	0
Northbound R	140	--	4	--	5
Southbound R	480	--	7	--	11
3. N Fairfax Alley & Fairfax Drive					
Eastbound TR	140	--	0	--	0
Westbound T	240	--	0	--	0
Northbound R	150	--	6	--	4
4. N Utah Street/Alley & Fairfax Drive					
Eastbound LT	230	--	1	--	2
Eastbound TR	230	--	0	--	0
Westbound LT	200	--	2	--	0
Westbound TR	200	--	0	--	0
Northbound LTR	150	--	6	--	23
Southbound LTR	300	--	10	--	18
5. N Taylor Street & Fairfax Drive					
Eastbound LTR	200	126	170	173	227
Westbound LTR	170	196	258	132	178
Northbound LTR	390	69	122	97	165
Southbound LTR	490	8	24	34	68

Intersection and Lane Group	Storage Length (ft)	Alternative Future (2029)			
		AM Peak		PM Peak	
		50th	95th	50th	95th
6. N Vermont Street & N Vermont Alley					
Westbound LR	150	--	3	--	3
Northbound TR	150	--	0	--	0
Southbound LT	240	--	1	--	1
7. N Glebe Road & N Vermont Street					
Westbound R	240	--	5	--	9
Northbound TR	335	--	0	--	0
Southbound T	450	--	0	--	0
8. N Glebe Road & Wilson Boulevard					
Eastbound L	215	166	243	130	194
Eastbound T	215	186	242	106	147
Eastbound R	80	0	24	0	0
Westbound L	230	37	68	92	145
Westbound T	265	60	92	172	226
Westbound R	160	99	156	115	177
Northbound L	250	42	87	62	116
Northbound TR	350	277	335	209	256
Southbound L	260	44	#143	106	#214
Southbound TR	325	176	224	~248	#334
9. N Taylor Street & Wilson Boulevard					
Eastbound LT	230	--	19	--	17
Westbound TR	170	--	0	--	0
Southbound R	240	--	12	--	95

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

Table 18: SimTraffic Maximum Queuing Results (in feet)

Intersection and Lane Group	Storage Length (ft)	Alternative Future (2029)	
		AM Peak	PM Peak
		Max Queue	Max Queue
1. N Glebe Road & Fairfax Drive			
Eastbound L	115	120	120
Eastbound T	280	305	1169
Eastbound R	280	416	1174
Westbound L	345	136	188
Westbound T	465	236	186
Westbound R	150	160	184
Northbound L	400	425	269
Northbound TR	470	446	218
Southbound L	225	228	221
Southbound TR	470	356	319
2. N Vermont Street & Fairfax Drive			
Eastbound LT	160	151	117
Eastbound TR	160	170	131
Westbound LT	130	120	95
Westbound T	240	205	38
Westbound TR	240	210	81
Northbound R	140	62	65
Southbound R	480	83	69
3. N Fairfax Alley & Fairfax Drive			
Eastbound TR	140	74	72
Westbound T	240	90	26
Northbound R	150	62	59
4. N Utah Street/Alley & Fairfax Drive			
Eastbound LT	230	85	91
Eastbound TR	230	87	87
Westbound LT	200	172	117
Westbound TR	200	174	101
Northbound LTR	150	58	74
Southbound LTR	300	64	80
5. N Taylor Street & Fairfax Drive			
Eastbound LTR	200	225	254
Westbound LTR	170	309	249
Northbound LTR	390	186	199
Southbound LTR	490	68	106

Intersection and Lane Group	Storage Length (ft)	Alternative Future (2029)	
		AM Peak	PM Peak
		Max Queue	Max Queue
6. N Vermont Street & N Vermont Alley			
Westbound LR	150	49	40
Northbound TR	150	12	12
Southbound LT	240	26	37
7. N Glebe Road & N Vermont Street			
Westbound R	240	87	70
Northbound TR	335	36	39
Southbound T	450	204	176
8. N Glebe Road & Wilson Boulevard			
Eastbound L	215	195	192
Eastbound T	215	559	200
Eastbound R	80	80	80
Westbound L	230	103	174
Westbound T	265	221	196
Westbound R	160	147	145
Northbound L	250	264	229
Northbound TR	350	624	341
Southbound L	260	211	212
Southbound TR	325	278	302
9. N Taylor Street & Wilson Boulevard			
Eastbound LT	230	180	106
Westbound TR	170	58	51
Southbound R	240	0	22

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 2020 to 2024 was obtained from the VDOT Crash Analysis Tool for crashes occurring at study intersections and roadway segments adjacent to the site.

Based on historical crash data, a total of eight (8) crashes occurred at intersections adjacent to the proposed site and along the site’s frontage between 2020 and 2024. Figure 37 shows the number of crashes per year in the study area over the last five years. The data obtained from VDOT shows that the number of reported crashes varies from year to year but has generally decreased in the last year.

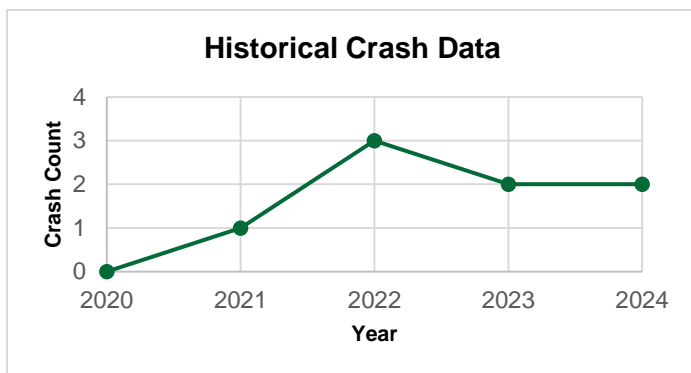


Figure 37: Historical Crash Data

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 2020 to 2024, 50% were classified as O (Property Damage Only), and 50% were classified as B (Suspected Minor Injury). No reported crashes involved fatal injury. Table 19 shows the number of crashes according to their severity.

Table 19: Crash Count by Severity

Crash Severity	Count	%
K – Fatal Injury	0	0%
A – Suspected Serious Injury	0	0%
B – Suspected Minor Injury	4	50%
C – Possible Injury	0	0%
O – Property Damage Only	4	50%
Total	8	100%

Collision Type

The most common type of collision found in the study area were angle collisions with 88%. Table 20 summarizes the collision type for all analyzed crashes.

Table 20: Crash Count by Collision Type

Collision Type	Count	%
Rear End	0	0%
Angle	7	88%
Head On	0	0%
Sideswipe - Same Direction	0	0%
Fixed Object - Off Road	0	0%
Ped	1	12%
Bicyclist	0	0%
Backed Into	0	0%
Other	0	0%
Total	8	100%

Crash Factors

Several factors that contribute to crashes were reviewed as part of this safety analysis. 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, 12% of the crashes occurred during darkness with a lighted road and

88% of the crashes occurred in daylight. This information suggests that, in the majority of crashes, lighting conditions might not have been the primary cause for the crash. Table 21 summarizes the light conditions for crashes in the vicinity of the proposed project site.

Table 21: Crash Count by Light Condition

Light Condition	Count	%
Dawn	0	0%
Daylight	7	88%
Dusk	0	0%
Darkness - Road Lighted	1	12%
Darkness - Road Not Lighted	0	0%
Total	8	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 22, two (2) drivers were found to be speeding. However, there were no distracted drivers and no driver was found to be under the influence. This information suggests that, in the majority of cases, driver behavior might not have been the primary cause of the crash.

Table 22: Crash Count by Driver Behavior Factors

Driver Behavior Factors	Count	%
<i>Distracted Driver?</i>		
Yes	0	0%
No	8	100%
<i>Speeding?</i>		
Yes	2	25%
No	6	75%
<i>Alcohol Involved?</i>		
Yes	0	0%
No	8	100%
Total	8	100%

Vehicle Characteristics

Vehicle characteristics including type of vehicle and vehicle size were analyzed to determine their contribution to crashes. As shown in Table 23, one (1) crash involving a motorcycle and a pedestrian have been reported in the past five (5) years.

Table 23: Crash Count by Vehicle Characteristics

Vehicle Characteristics Factors	Count	%
<i>Large Truck Involved</i>		
Yes	0	0%
No	8	100%
<i>Motorcycle Involved</i>		
Yes	0	0%
No	8	100%
<i>Bike Involved</i>		
Yes	1	12%
No	7	88%
<i>Pedestrian Involved</i>		
Yes	1	12%
No	7	88%
Total	8	100%

Findings

As part of the proposed development, new pedestrian facilities that meet or exceed Arlington County requirements will be provided along the street frontage of the site, and short- and long-term bicycle parking will be provided on-site. Furthermore, the proposed curb extension and improved crosswalk at the intersection of Fairfax Drive and N Vermont Drive can be beneficial as a speed calming measure and to reduce pedestrian crossing distance. Additional width will be provided on N Vermont Street to facilitate greater maneuverability and circulation between vehicles in the travel lanes and parking lane.

As noted in the report earlier, separate vehicle, loading, bike, and pedestrian access points are proposed, which are anticipated to help minimize vehicle conflicts with non-auto modes. As such, it is not anticipated that safety will be negatively impacted within the vicinity of the site.

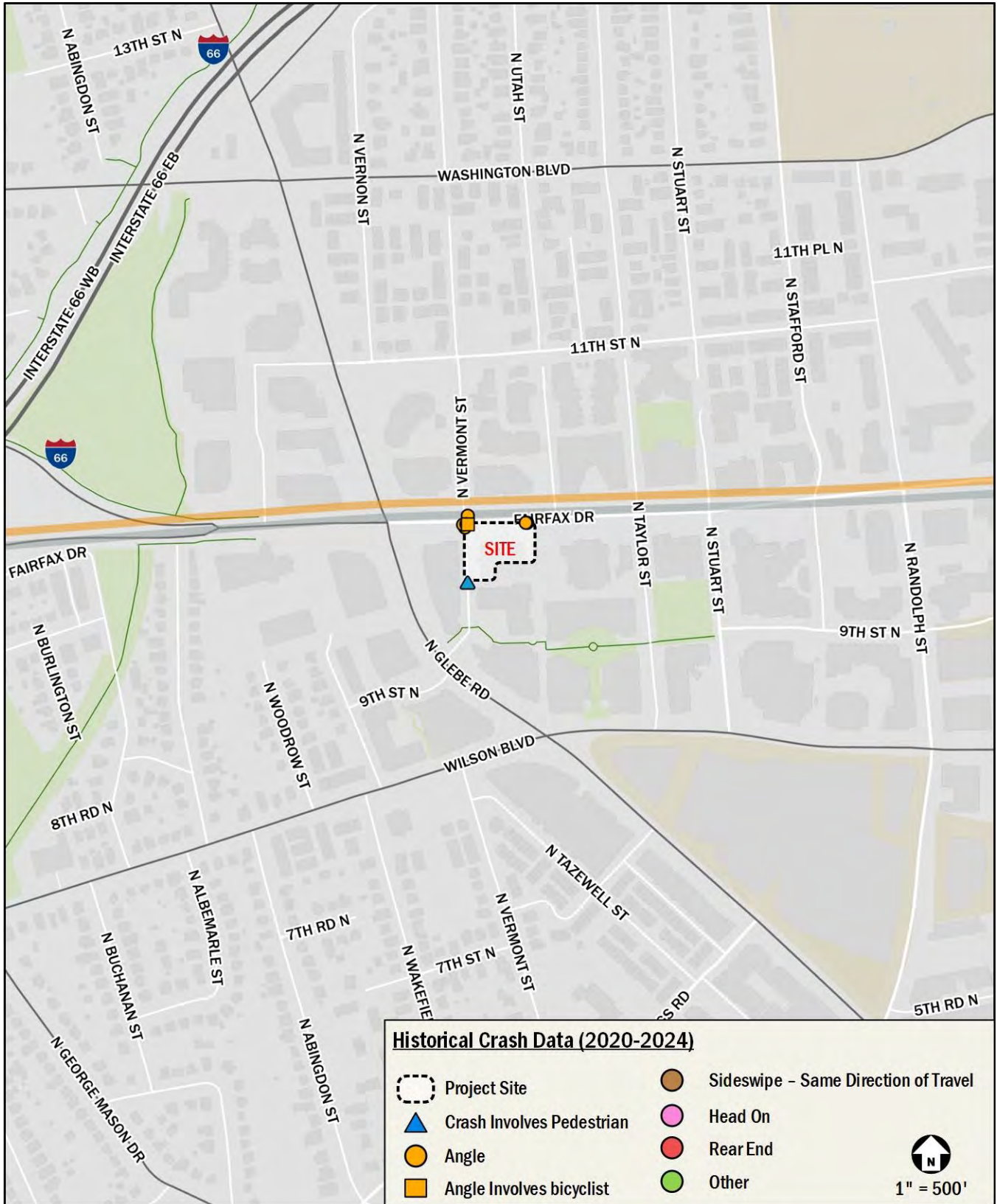


Figure 38: Historical Crash Data (2020-2024)

Transportation Management Plan Framework

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 4420 Fairfax Drive 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 proposed development 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), and a Bicycle Facilities Management Plan.

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 community service 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 community service 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 the 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.

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-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.

Summary and Conclusions

This report concludes that the proposed development will have a manageable impact on the surrounding transportation and roadway network, assuming that all planned site design elements are implemented. The proposed development will also bring positive improvements to the pedestrian and vehicular facilities adjacent to the proposed development.

The 4420 Fairfax Drive development site is well-served by transit and is surrounded by a well-connected pedestrian and bicycle network. The site is located near several arterials that create connections to Washington Boulevard, Arlington Boulevard, I-395, and I-66.

The proposed development will raze the existing office building and redevelop with a new site consisting of the following:

- Approximately 302 residential units;
- Approximately 4,957 square feet of ground-floor retail;
- Approximately 98 vehicle parking spaces;
- Two (2) 30-foot loading berths; and
- At least 122 secure long-term and nine (9) short-term bicycle parking spaces.

Vehicular access to the proposed parking garage and surface parking spaces will be via N Fairfax Alley, east of the site. Loading access will be accessible via the proposed loading driveway on N Vermont Alley, south of the site. Both alleys are accessible via Fairfax Drive and N Vermont Street.

There are a number of planned transportation improvements in the vicinity of the proposed development site. The full list of improvements is detailed in the report, but projects include:

- Ballston Metro Station West Entrance
- Rosslyn-Ballston Corridor Improvements

A capacity analysis was developed to compare the future roadway network with and without the proposed development. Traffic projections for 2029 are based on existing volumes, plus traffic generated by approved nearby background developments, and traffic generated by the proposed development.

Based on the capacity and queuing analysis results, at all study intersections, level of service and queues are generally consistent with those shown under Background (2029) Conditions and there are no significant impacts to study intersections under Future (2029) Conditions. Thus, the

proposed development will not have a substantial impact on the surrounding transportation network and roadway network, assuming that all planned site design elements and improvements are implemented.

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

- The proposed development's proximity to the Ballston-MU Metro Station which serves the Orange and Silver line that connects to other parts of Northern Virginia and the District
- The proposed development's proximity to multiple bus lines that connect to other parts of Northern Virginia and the District
- Improvements to the pedestrian facilities adjacent to the site that meet or exceed Arlington County and ADA requirements specifically the curb extension at Fairfax Drive and N Vermont Street, the crosswalk across Fairfax Drive and curb extension at Fairfax Drive and N Fairfax Alley.
- Inclusion of secure, long-term bicycle parking, meeting Arlington County requirements
- Installation of short-term bicycle parking spaces around the perimeter of the site, meeting Arlington County requirements
- Provision of on-site and on-street parking, which will meet the practical needs of the proposed development. Specifically the widening of N Vermont Street to increase space for curb land and greater circulation for cars and parked vehicles.
- 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 have a manageable impact on the surrounding transportation and roadway network assuming that all planned site design elements are implemented.