Multimodal Transportation Assessment

2500 Wilson Boulevard

Arlington, Virginia

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Executive Summary

The following report is a Multimodal Transportation Assessment (MMTA) for the 2500 Wilson Boulevard development in the Courthouse area of Arlington, Virginia.

Site Location and Study Area

The proposed development site is located in the Courthouse area of Arlington, Virginia. The general extents of the study area are Wilson Boulevard to the north, Clarendon Boulevard to the south, N Cleveland Street to the west, and N Barton Street to the east.

The vehicular study area consists of five (5) intersections along Wilson Boulevard and Clarendon Boulevard at each corner of the site, as well as future site access on N Cleveland Street.

The proposed development site currently consists of a five-story office building. The site is currently zoned C-O-1.5: Commercial Office Building, Hotel, and Apartment Districts, and, according to Arlington County's General Land Use Plan (GLUP), this site is designated "Low Office-Apartment-Hotel."

Proposed Project

The proposed development will raze the existing 2500 Wilson Boulevard building and redevelop with a mixed-use building consisting of up to 323 residential units and up to 20,000 square feet of ground-floor retail space.

The proposed development will provide 237 parking spaces in a below-grade parking garage located on-site. Vehicular access to the below-grade parking garage will be provided via a driveway access on N Cleveland Street. Loading access will be provided along a separate driveway accessed via N Cleveland Street.

The proposed development will provide one (1) 40-foot and two (2) 30-foot loading berths. 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 2007 Clarendon-Courthouse Neighborhood Conservation Plan and the 2015 Courthouse Sector Plan Addendum, developed series of goals and objectives specifically for the Courthouse area. The 2500 Wilson Boulevard development achieves several of the goals and policies of the MTP, Neighborhood Conservation and Sector plans, and other guiding documents for the County.

Multi-Modal Overview

Transit

The subject site is well-served by transit:

- The site is located 0.2 miles from the Court House Metro Station and 0.4 miles from the Clarendon Metro Station, which are served by the Orange and Silver lines.
- The Court House and Clarendon Metro Stations are served by several bus routes provided by WMATA (Metrobus) and ART.
- There are 17 bus stops within a quarter mile of the site. These stops are directly served by WMATA (Metrobus) and ART routes.

Bicycle

The site has access to several on- and off-street bicycle facilities, including protected bike lanes along Clarendon Boulevard between N Garfield Street and N Adams Street and along Wilson Boulevard east of N Uhle Street, designated bike lanes along Wilson Boulevard east of Uhle Street, Clarendon Boulevard east of N Adams Street and west of N Garfield Street, and N Veitch Street, as well as on-street routes along many other nearby roadways. These, in turn, connect to the Custis Trail to the north, which provides regional access to destinations within Virginia and the District.

The recently adopted Bicycle Element of the Arlington County Master Transportation Plan identifies Wilson Boulevard, Clarendon Boulevard, N Veitch Street, and N Courthouse Road as Primary Bicycling Corridors. The plan makes the following recommendations for roadways in the vicinity of the site:

2-23: Key Boulevard Trail Renovation

- Resurface and renovate the Key Boulevard Trail between N. Uhle and N. Scott streets, to provide a wider paved surface with less-abrupt curves. Improve the connection between the east end of the trail an N. Scott Street. Consider addition of trail lighting. (0.4 mile)

3-17: Courthouse Road Bicycle Facility

- Extension and potential upgrade of the bicycle lanes on Courthouse Road between 14th Street and Clarendon/Wilson Boulevards. Also identified in the Court House Sector Plan. (0.4 mile)

3-18: Clarendon Metro Station Access

- Develop an enhanced bicycle facility on N. Highland and N. Herndon Streets, between Key Boulevard and 7th Street North, to provide improved access to the Metrorail station and commercial district. (0.5 mile)

3-19: Wilson Boulevard/Clarendon Boulevard Enhanced Bicycle Facilities

- Upgrade the existing bicycle lanes on Wilson and Clarendon boulevards to provide more separation of bicyclists from motor vehicle traffic in the Rosslyn, Courthouse, and Clarendon areas. Link with an enhanced bikeway on Fairfax Drive to provide a lower-stress bicycle route east-west route through the Rosslyn-Ballston Corridor and across the center of Arlington. (1.4 miles)

3-20: Wilson Boulevard Protected Bicycle Lanes

- Implement protected bicycle lanes on Wilson Boulevard from Arlington Ridge Road to N. Courthouse Road. Also identified in the Rosslyn Sector Plan. (1.1 miles – currently partially implemented)

3-43: Key Boulevard/13th Street Bicycle Boulevard

- Designate a bicycle boulevard on Key Boulevard, N. Jackson and 13th Street North between N. Rhodes and N. Quincy Streets to provide a low-stress circulation within the Rosslyn-Ballston corridor and for access to Washington-Liberty High School and commercial districts. (1.7 mile)

Pedestrian

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

Along Wilson Boulevard and Clarendon Boulevard, sidewalks connect the entire length of the study area in the east-west direction. The majority of intersections along these roads have curb ramps and crosswalks, although some are not within ADA standards. The sidewalks are present along the site's frontage and are all 12 feet or wider. Although great pedestrian infrastructure exists in much of the study area, the gaps throughout reduce the quality of the walking environment surrounding the site. Despite some deficiencies, there is good overall connectivity and facilities.

As a result of the development, pedestrian facilities along the perimeter of the site continue to meet or exceed Arlington County and ADA standards, providing an inviting pedestrian environment.

Vehicular

The site is accessible from several principal arterials such as Wilson Boulevard and Clarendon Boulevard. These arterials create connections to N Glebe Road, I-66, VA-29, VA-50, George Washington Memorial Parkway, and ultimately the Capital Beltway (I-495) and I-95. These principal arterials bring vehicular traffic adjacent to the site, at which N Cleveland Street, a local roadway, provides direct access to the site.

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 existing conditions analysis shows that all intersections and movements, except two approaches at the intersection of Clarendon Boulevard & N Cleveland Street, operate at an acceptable level of service during the morning and afternoon peak hours. LOS E is typically used as the acceptable LOS threshold in the County; although LOS F is generally accepted in urbanized areas if vehicular improvements would be a detriment to safety or to non-auto modes of transportation. The capacity analysis results show that all but one (1) intersection operate at acceptable levels of service and zero intersections have 95th percentile queues that exceed the available storage length in one or more peak hour in existing conditions:

- Clarendon Boulevard & N Cleveland Street
  - Through/Right (PM Peak Hour)
  - Southbound Left/Through (PM Peak Hour)

Travel Demand Assumptions

Mode split (also called mode share) is the percentage of travelers using a particular type (or mode) of transportation when traveling. The main source of mode split information for this report was the National Household Transportation Survey (NHTS), data contained in the WMATA Ridership Survey and Census data.

The following mode splits were assumed in the analysis, as vetted and approved by Arlington County:

- Residential
  - Auto – 39%, Transit – 52%, Bike – 3% Walk – 6%
- Neighborhood Retail
  - Auto – 5%, Transit – 15%, Bike – 10%, Walk – 70%

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

Residential trip generation is based on the development program of up to 323 residential dwelling units. Residential trip generation was calculated based on ITE Land Use 222 (Multifamily Housing –High-Rise), using the setting/location of General Urban/Suburban and Not Close to Rail Transit, splitting trips into different modes using assumptions outlined in the mode split section of this report.

Retail trip generation is based on the development program of up to 20,000 square feet of retail space. Retail trip generation was calculated based on ITE's baseline vehicular trips for Land Use 822 (Strip Retail Plaza), using the setting/location of General Urban/Suburban, splitting trips into different modes using assumptions outlined in the mode split section of this report.

Future Improvements

A number of planned transportation improvements in the vicinity of the 2500 Wilson Boulevard site are expected to be complete by 2029. The full list of improvements is detailed in the report, but examples include:

- 2050 Wilson Boulevard – Courthouse Landmark Block
- 2025 Clarendon Boulevard – Wendy's Site
- 3200 Wilson Boulevard – Bingham Center/Silver Diner Site

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.

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.

Future traffic operations in the study area are acceptable overall. The 2029 Future conditions with development analysis shows that most intersections and movements operate at an acceptable level of service (LOS E or better) during the morning and afternoon peak hours. However, of the five (5) study intersections, one (1) intersection has at least one (1) lane group operating at LOS F during the morning or afternoon peak hour. The capacity analysis results also show that one (1) intersection has 95th percentile queues that exceed the available storage length in one (1) or more peak hour in future conditions.

Transportation Demand Management/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 not have a detrimental impact to 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 Courthouse Metro Station and multiple bus lines.
- Pedestrian facilities adjacent to the site that meet or exceed Arlington County and ADA requirements.
- The inclusion of secure-long-term bicycle parking meeting zoning requirements.
- The installation of short-term bicycle parking spaces around the perimeter of the site that meet zoning requirements.
- Transportation Demand Management/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 2500 Wilson Boulevard development 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 form dated April 30, 2024, was submitted by Gorove Slade to Arlington County and an updated version based on County comments was submitted on June 20, 2024. This scope includes discussions about the parameters of the study and relevant background information. A copy of the scoping document is included in the Technical Appendix.
- Traffic counts at the study area intersections were conducted on May 8, 2024, during the weekday morning peak period of 6:30 to 9:30 AM and the evening peak period of 4:00 to 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, 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. Traffic analyses were performed for existing conditions (2024) and future conditions (2029) with and without development.
- Transportation Demand Management/Transportation Management Plan framework was developed as a TMP will be necessary to meet County requirements.

Project Summary

Site Location

The proposed development site is located in the Courthouse area of Arlington, Virginia. The general extents of the study area are Wilson Boulevard to the north, Clarendon Boulevard to the south, N Cleveland Street to the west, and N Barton Street to the east.

Parcel Information

The existing site is currently occupied by a five-story office building. A parcel map showing the location of the property is presented in Figure 3.

General Land Use Plan Recommendations

The site is currently zoned C-O-1.5: Commercial Office Building, Hotel, and Apartment Districts, and, according to Arlington County's General Land Use Plan (GLUP), the site is designated Low Office-Apartment-Hotel. 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 site currently consists of an office building. The proposed project will redevelop the site to include a mixed-use building with up to 323 residential units and up to 20,000 square feet of ground-floor retail space. Approximately 237 parking spaces will be provided on-site in a below-grade parking garage. Vehicular access to the below-grade parking garage will be provided via a driveway access on N Cleveland Street. Loading access will be provided along a separate driveway accessed via N Cleveland Street. The proposed build-out year is 2029. The proposed site plan is shown in Figure 6.

Scope and Limits of the Study Area

The study area is generally bounded by Wilson Boulevard to the north, Clarendon Boulevard to the south, N Cleveland Street to the west, and N Barton Street to the east. The following intersections were identified for inclusion in the vehicular study area, as shown in Figure 7.

1. N Cleveland Street & Wilson Boulevard
2. N Barton Street & Wilson Boulevard
3. N Cleveland Street & Clarendon Boulevard
4. N Barton Street & Clarendon Boulevard
5. N Cleveland Street & Site Access (Planned)

Data Sources

Sources of data for this study include Arlington County, the Virginia Department of Transportation (VDOT), the Institute of Transportation Engineers (ITE) Trip Generation, 11th Edition, Census Transportation Planning Products (CTPP), Studios Architecture, Bowman, and the office files and field reconnaissance efforts of Gorove Slade Associates, Inc.

Contents of Study

This report contains 10 chapters as follows:

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

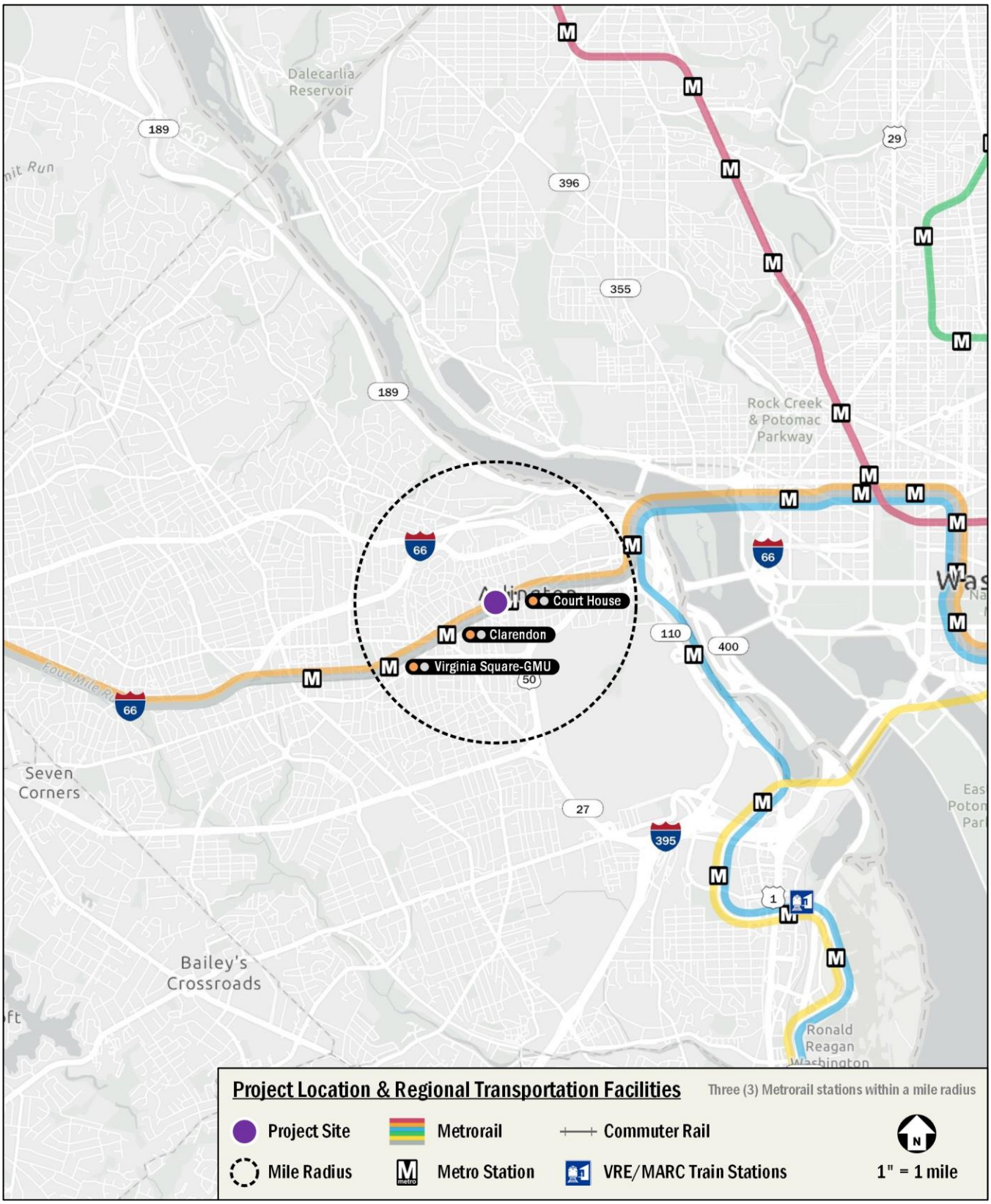

Figure 1: Major Regional Transportation Facilities

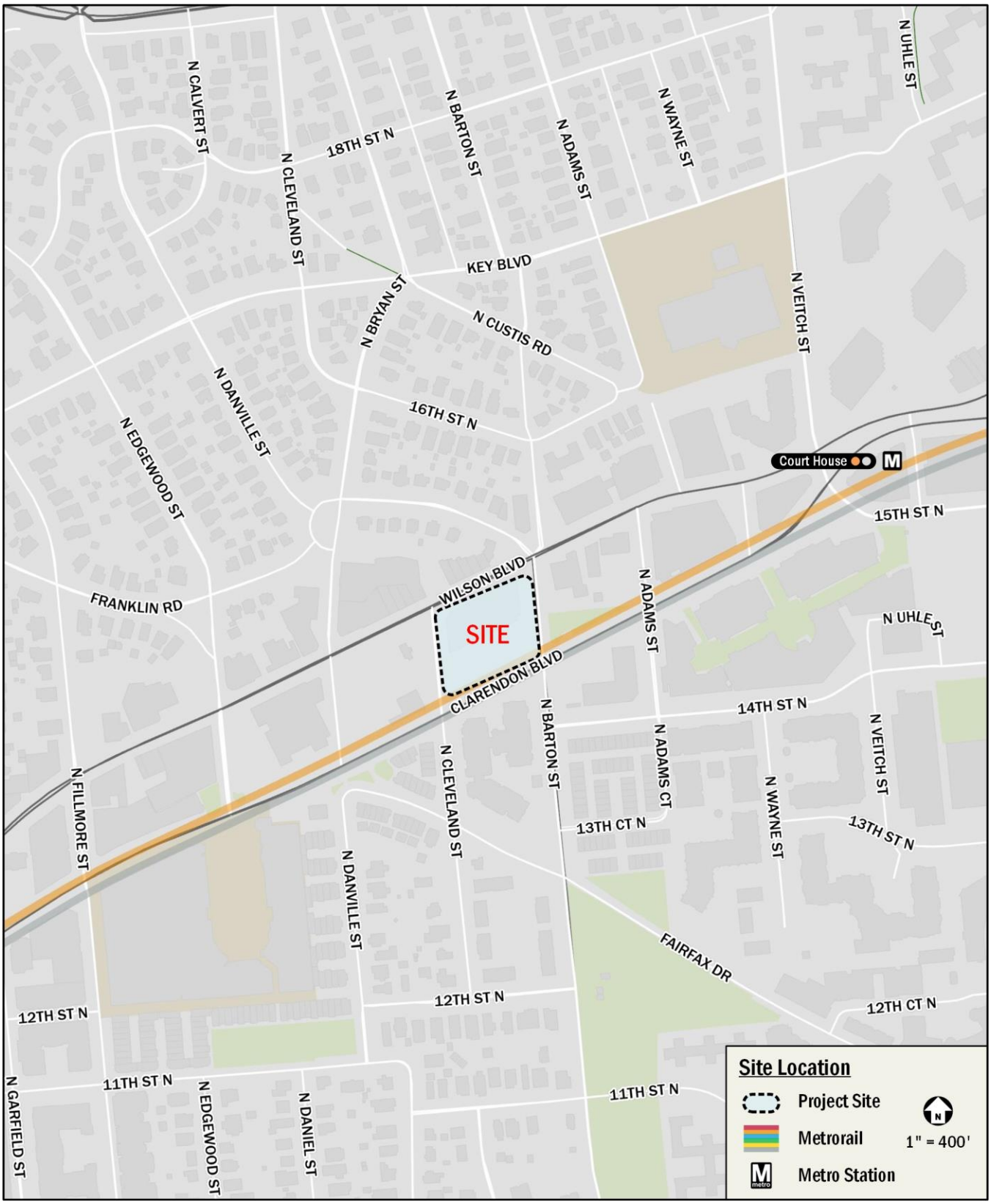

Figure 2: Site Location

Figure 3: Parcel Map

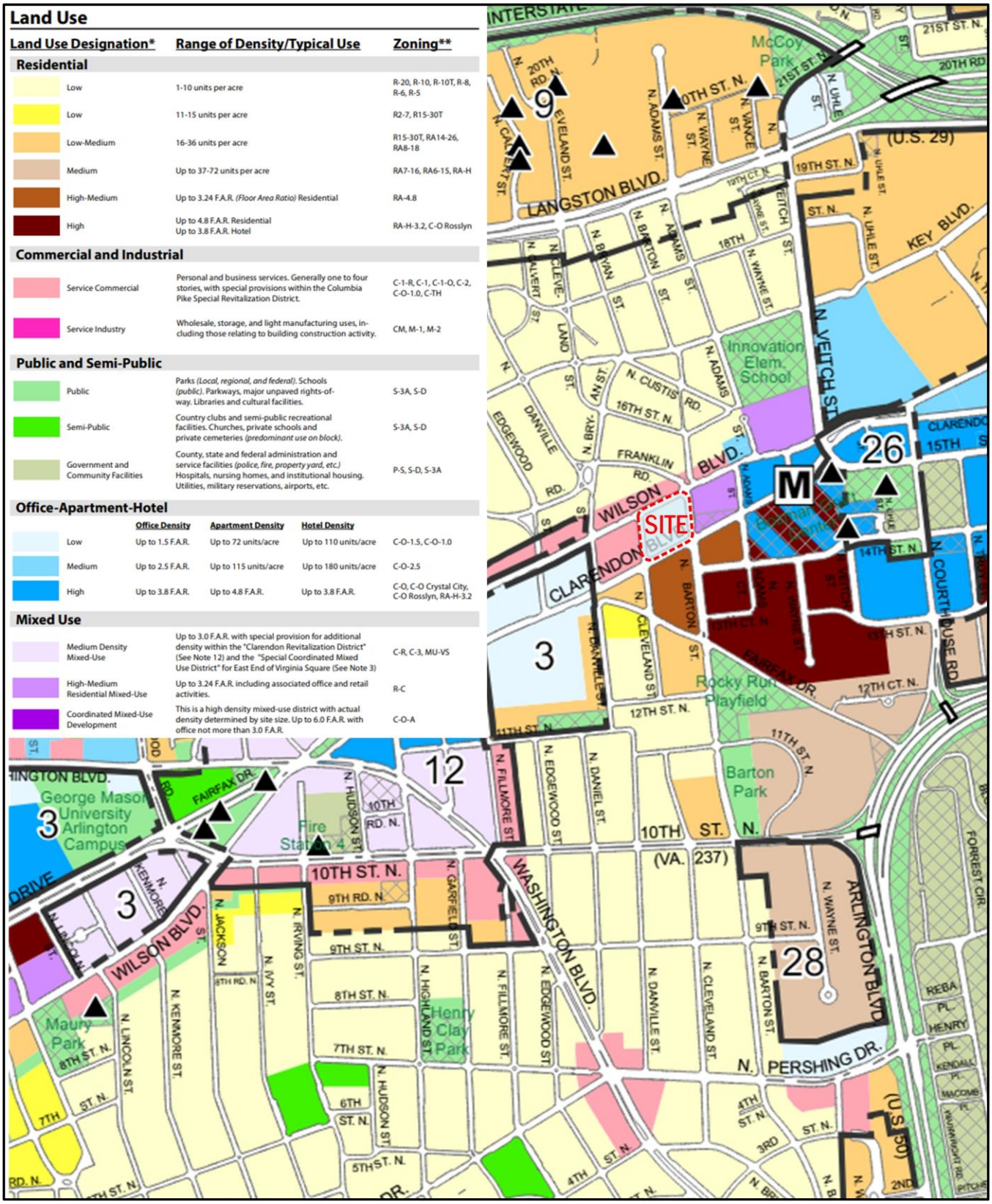

Figure 4: Planned Land Uses (Source: Arlington General Land Use Plan (GLUP), December 2023)

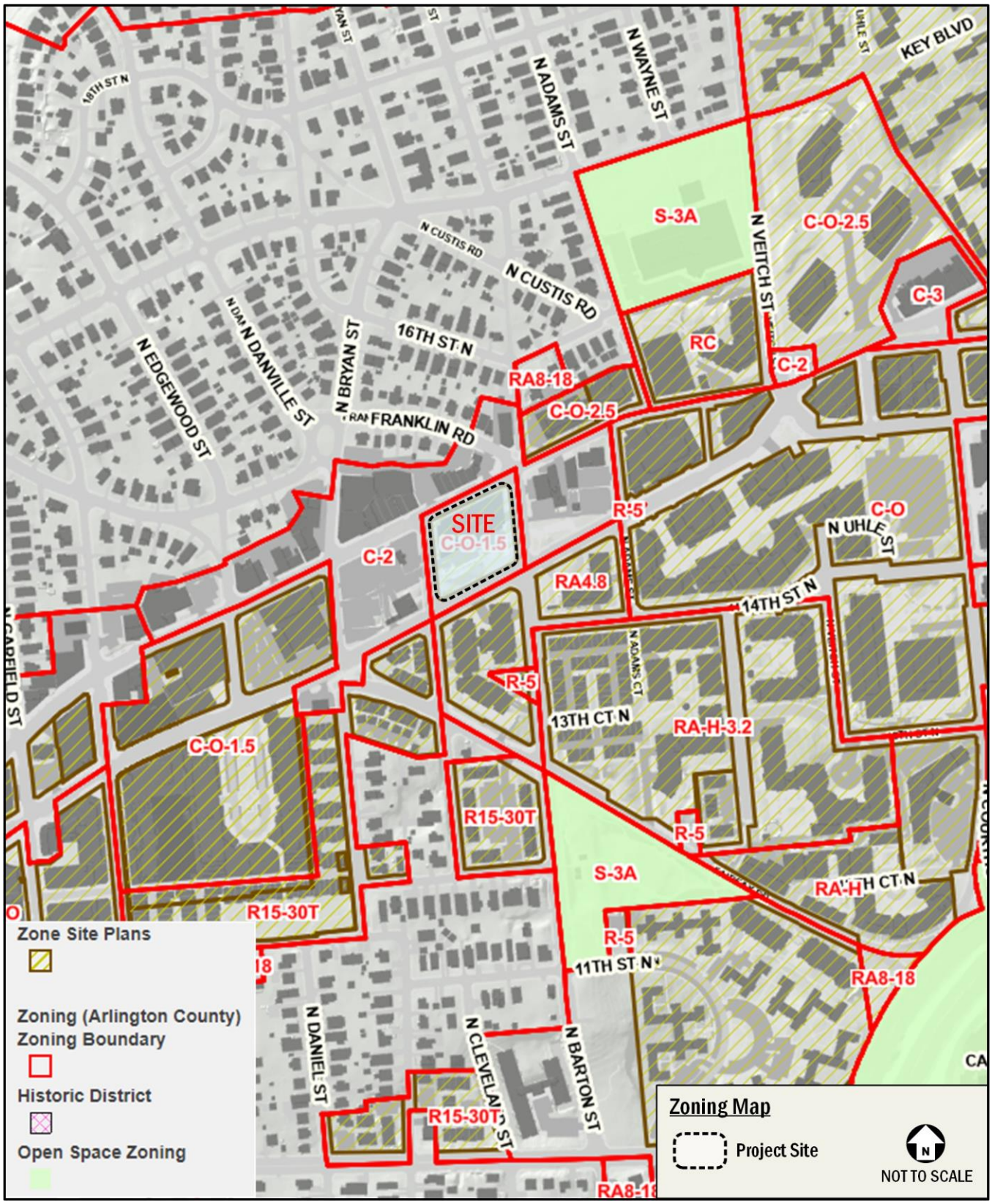

Figure 5: Zoning Map (Source: Arlington County)

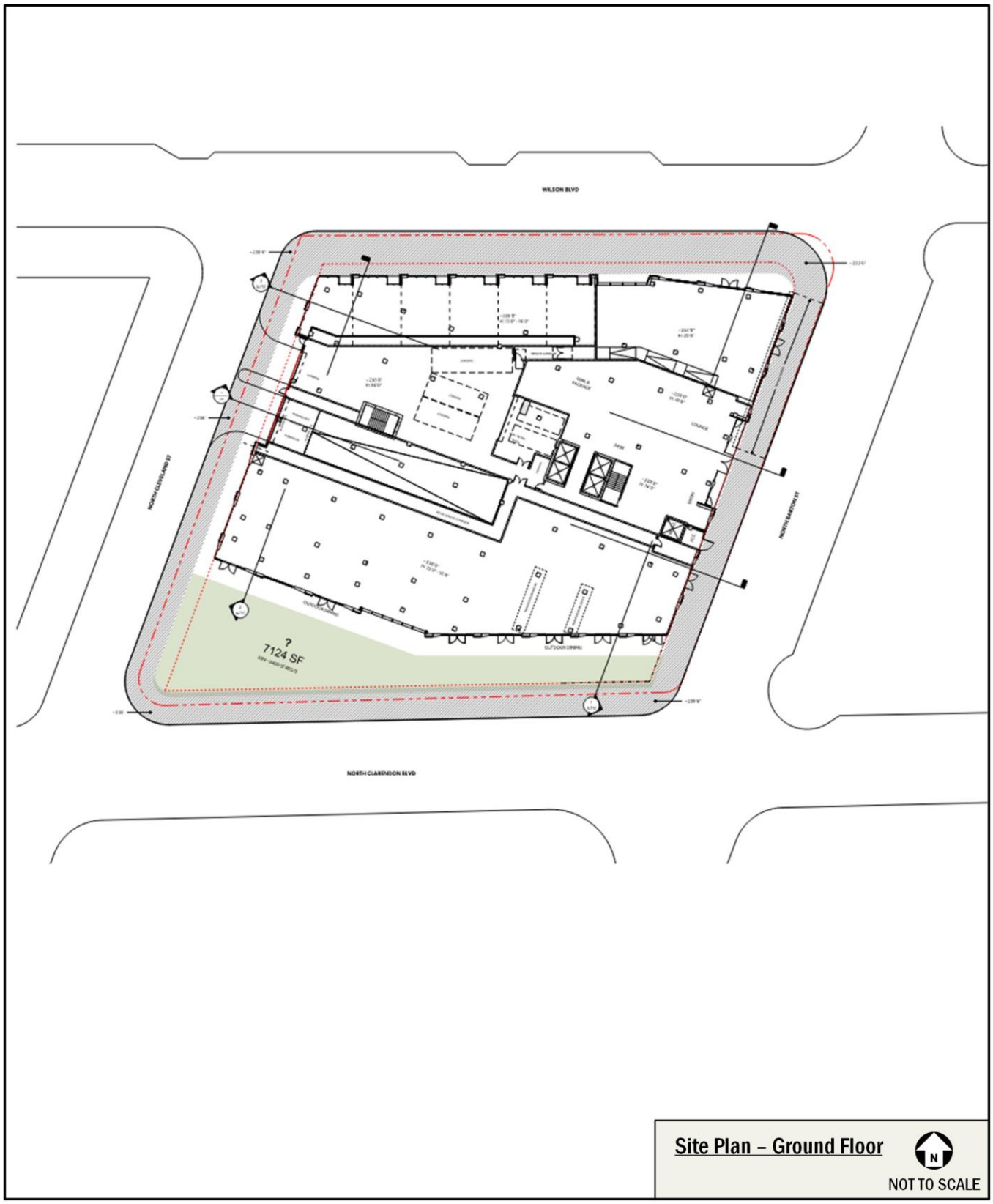

Figure 6: Site Plan

Figure 7: Study Intersections

Study Area Overview

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

The following conclusions are reached within this chapter:

- The site is surrounded by an extensive regional and local transportation system that will accommodate the residents and employees of the proposed development.
- The site is well-served by public transportation with access to the Metrorail's Orange and Silver Lines and several local and regional bus lines.
- The site is surrounded by a well-connected pedestrian environment. In the vicinity of the site, sidewalks generally meet standards recommended by the Arlington County Master Transportation Plan with some gaps in the system.
- The site has access to several on- and off-street bicycle facilities.
- Several local initiatives will positively impact the study area, including the Courthouse Multimodal Connectivity Project and the Safety and Innovation Zone Demonstration Project.

Major Transportation Features

Overview of Regional Access

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

The site is accessible from several principal arterials such as Wilson Boulevard and Clarendon Boulevard, which are along the site frontage, I-66, VA-120 (N Glebe Road), VA-50 (Arlington Boulevard), VA-29 (Langston Boulevard), VA-27 (Washington Boulevard), and George Washington Memorial Parkway. The arterials create connections to I-395, VA-267 (Dulles Toll Road) and ultimately the Capital Beltway (I-495) and I-95. 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.

The site has most direct access to the Orange and Silver Lines via the Court House Metro Station, which provides connections to areas in Virginia, the District, and Maryland. The site is located approximately 0.2 miles from the Court House Metro Station. The Orange Line travels east from Vienna, VA and continues east to New Carrolton, MD. The Silver Line travels southeast from Ashburn, VA and continues east to Largo, MD. Both lines run the same track from the West Falls Church Metro Station, through Arlington and central DC, before finally going their separate ways at the Stadium-Armory Metro Station. Both lines provide connections to the Blue Line at the Rosslyn Metro Station, as well as the Green and Yellow Lines at L'Enfant Plaza Metro Station. In effect, the site has easy access to most of the areas served by the WMATA metro network.

The proposed development is located approximately 0.6 miles from the Custis Trail, a 6-mile off-street bicycle trail running along the I-66 corridor, to the Francis Scott Key Bridge, which connects Arlington to Washington, DC in Georgetown. The Custis Trail connects to the W&OD and Mount Vernon Trails in Arlington County, as well as the Capital Crescent Trail in Washington, DC, providing regional bicycle connectivity to Arlington, Alexandria, and the District. A detailed review of existing bicycle infrastructure is provided in a later chapter of this report.

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

Overview of Local Access

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

In addition to several principal arterials, the site is served by a local vehicular network that includes several minor arterials and collectors such as N Barton Street, 14th Street N, 15th Street N, 10th Street N, and N Kirkwood Road. In addition, there is an existing network of local roadways that provide access to the site.

Several bus systems provide local transit service in the vicinity of the site, including connections to several neighborhoods within Virginia, the District, and additional Metro stations. As shown in Figure 8, there are multiple bus routes that serve the site. A

detailed review of existing and proposed access and infrastructure is provided in a later chapter of this report.

There are existing bicycle facilities that connect the site to areas within Arlington, Virginia, and the District, most notably the Custis Trail. A detailed review of existing and proposed bicycle access and infrastructure is provided in a later chapter of this report.

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

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

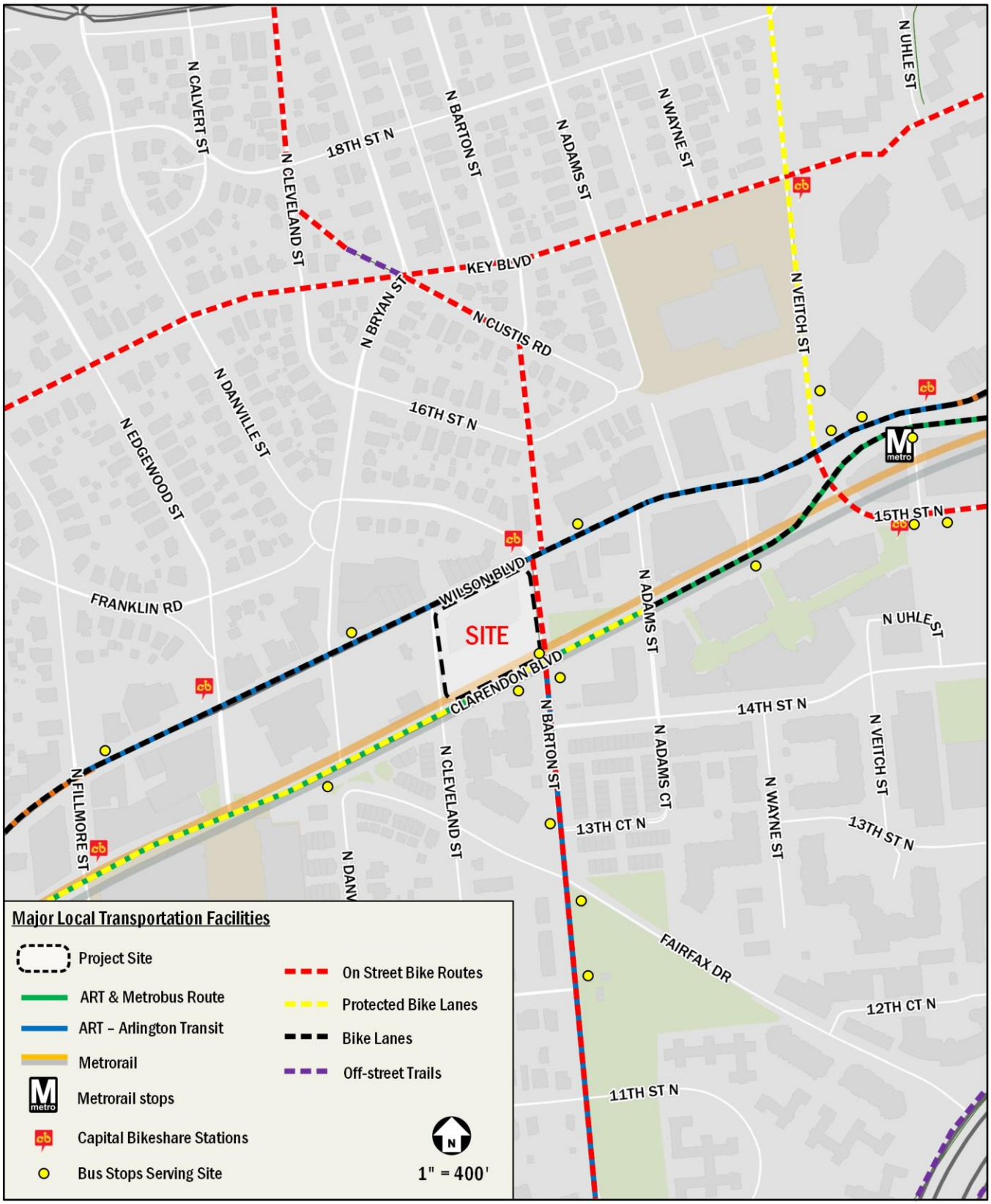

Figure 8: Major Local Transportation Facilities

Car-sharing

Car-sharing service in Arlington is provided by Zipcar. This is a private company that provides registered users access to a variety of automobiles. Zipcar has designated spaces for their vehicles. Four (4) Zipcar locations are located within a half-mile of the site. These locations and the number of available vehicles are listed in Table 1.

Table 1: Carshare Locations

Zipcar Carshare Location	Number of Vehicles
1401 N Barton Street	2 vehicles
2221 14th Street N	1 vehicle
2088 15th Street N	1 vehicle
Total	**4 vehicles**

E-Scooters and Dockless E-Bicycles

As of August 2024, 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).

Walk Score and Bike Score

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions for an area. This project site is located in an area that has a walk score of 98 (or "Walker's Paradise"), transit score of 71 (or "Excellent Transit"), and a bike score of 83 (or "Very Bikeable"). Figure 9 shows the neighborhood borders in relation to the site location and displays a heat map for walkability and bikeability. The following conclusions can be made based on the data obtained from Walkscore.com:

- 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.
- The proposed development is located in an area with an "Excellent Transit" transit score because of its proximity to the Court House and Clarendon Metro Stations as well as its proximity to other bus lines.
- The site is situated in an area with a "Very Bikeable" bike score due to its proximity to low volume roadways, a number of bike lanes and trails, including the Custis Trail, and flat topography.

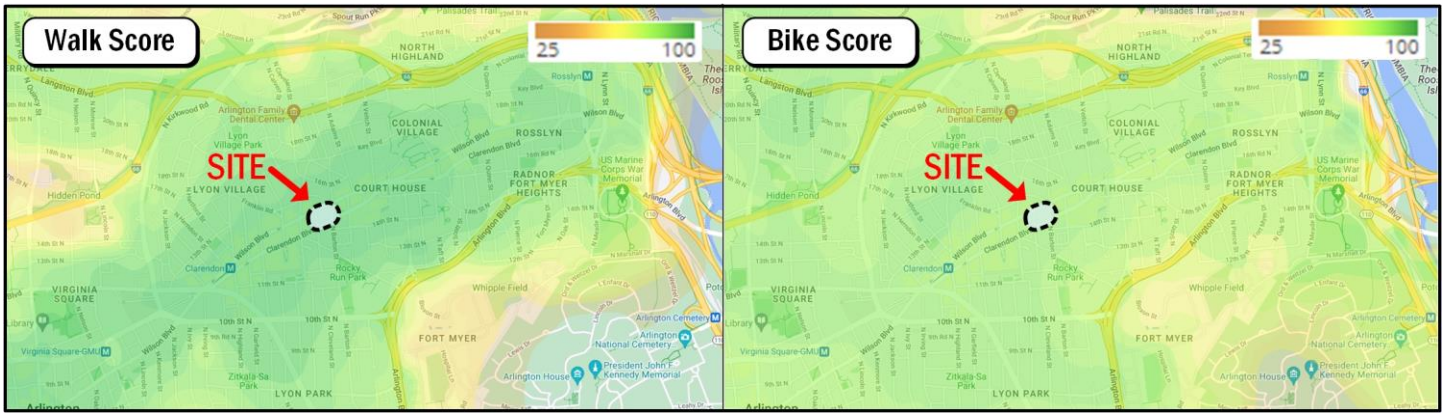

Figure 9: Summary of Walkscore and Bikescore

Future Projects

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

County-wide Initiatives

Arlington Master Transportation Plan (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 2500 Wilson Boulevard development are outlined as follows:

- Streets (2016) – The County will address the street system and enhance the transportation network by: (1) Utilizing the plan's street typology to guide street planning and ensure each street type supports the general policies of complete streets and adjacent land uses; (2) Including appropriate facilities to meet and balance the needs of all modes; (3) Constructing/converting some local streets to a pedestrian priority or a shared street; (4) Accommodating travel growth through shifts to non-auto modes; (5) Designing streets to favor lower vehicular speeds; and (6) Maintaining a grid-style network to enhance connectivity. The planned improvements included in the MTP in the vicinity of the site are shown in Figure 10.
- Transit (2016) – The County will address the transit system by: (1) Developing a Premium Transit Network of high-frequency service connecting major destinations; (2) Operating a Secondary Transit Network of fixed route services that improves access to destinations across Arlington; (3) Making transit more accessible and convenient to all through enhanced facilities and transit-oriented land use policies; (4) Improving Metrorail services and stations; and (5) Expanding pedestrian access to transit facilities.
- Pedestrian (2011) – The County will address the pedestrian system by: (1) Completing the walkway network with appropriate facilities on both sides of arterial streets and at least one side of neighborhood streets; (2) Upgrading existing pedestrian facilities to comply with current standards; (3) Implementing measures aimed at changing motorist behavior to manage vehicular speed and minimize vehicle/pedestrian conflicts; and (4) Developing strategies to encourage more people to walk.
- Bicycle (2019) – The County will address the bicycle system by: (1) Making existing streets safer and more comfortable for bicycling by all users; (2) Expanding travel safety education programs; (3) Providing a network of low-traffic-stress bicycle routes that connect all land uses; (4) Accommodating bicycle infrastructure as part of all street improvement projects; (5) Establishing bicycles as a mainstream travel mode; and (6) Encouraging bicycle facilities, including parking, showers, and lockers. The improvements planned for the bicycle facilities surrounding the site as part of the Plan are shown in Figure 11.
- Parking and Curb Space (2009) – The County will address the parking system by: (1) Prioritizing the use of curb space, matching the various types of uses to the most appropriate locations; (2) Promoting on-street parking within residential neighborhoods and on commercial streets to calm traffic; (3) Ensuring the minimum parking needs are met and limit excessive parking; (4) Discouraging off-street surface parking; and (5) Allowing reduced parking space requirements for new developments in close proximity to frequent transit service and requiring enhanced TDM measures.
- Transportation Demand Management (2008) – The County will address transportation demand management by: (1) Incorporating comprehensive TDM plans for all site plans to minimize vehicular trips and maximize the use of other modes; (2) Exploring strategies and incentives to achieve TDM measures in existing private buildings; and (3) Applying TDM programs to non-work travel, as well as commuting, through marketing strategies.

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

- Pedestrian:
    - Improvements to the adjacent sidewalks to meet or exceed Arlington County standards.
- Bicycle:
    - Short-term bicycle parking will be provided along the perimeter of the site.
    - Secure, long-term bike parking will be provided in a bike room on the P1 level of the proposed below-grade parking garage.

- Parking and Curb Space:
    - On-site parking will be located in an off-street, below-grade parking garage.
- Transportation Demand Management:
    - A TMP will be implemented for the development to discourage auto travel and encourage the travel by other modes.

The MTP Bicycle Element also identifies the following recommendations in the vicinity of the 2500 Wilson Boulevard development:

2-23: Key Boulevard Trail Renovation

- Resurface and renovate the Key Boulevard Trail between N. Uhle and N. Scott streets, to provide a wider paved surface with less-abrupt curves. Improve the connection between the east end of the trail an N. Scott Street. Consider addition of trail lighting. (0.4 mile)

3-17: Courthouse Road Bicycle Facility

- Extension and potential upgrade of the bicycle lanes on Courthouse Road between 14th Street and Clarendon/Wilson Boulevards. Also identified in the Court House Sector Plan. (0.4 mile)

3-18: Clarendon Metro Station Access

- Develop an enhanced bicycle facility on N. Highland and N. Herndon Streets, between Key Boulevard and 7th Street North, to provide improved access to the Metrorail station and commercial district. (0.5 mile)

3-19: Wilson Boulevard/Clarendon Boulevard Enhanced Bicycle Facilities

- Upgrade the existing bicycle lanes on Wilson and Clarendon boulevards to provide more separation of bicyclists from motor vehicle traffic in the Rosslyn, Courthouse, and Clarendon areas. Link with an enhanced bikeway on Fairfax Drive to provide a lower-stress bicycle route east-west route through the Rosslyn-Ballsont Corridor and across the center of Arlington. (1.4 miles)

3-20: Wilson Boulevard Protected Bicycle Lanes

- Implement protected bicycle lanes on Wilson Boulevard from Arlington Ridge Road to N. Courthouse Road. Also identified in the Rosslyn Sector Plan. (1.1 miles – currently partially implemented)

3-43: Key Boulevard/13th Street Bicycle Boulevard

- Designate a bicycle boulevard on Key Boulevard, N. Jackson and 13th Street North between N. Rhodes and N. Quincy Streets to provide a low-stress circulation within the Rosslyn-Ballston corridor and for access to Washington-Liberty High School and commercial districts. (1.7 mile)

In direct relation to the 2500 Wilson Boulevard development, these recommendations would create additional multi-modal capacity and connectivity to/from the site.

Local Initiatives

Clarendon-Courthouse Neighborhood Conservation Plan (2007)

As development in the Metro Corridor continues, Clarendon-Courthouse should serve as an example of how neighborhood values can be preserved in the face of major growth and increased density. With this Neighborhood Conservation Plan, the residents of Clarendon-Courthouse set the following objectives to meet the overall goal of accommodating commercial redevelopment while preserving the neighborhood's traditions of livability and community values:

- Pedestrian safety and neighborhood walkability:
    - Sidewalk installation and maintenance.
    - Effective and attractive pedestrian lighting.
- A balance of locally owned and nation-wide business.
- Improved access to public parking including signage that encourages vehicular use of specified non-residential routes to additional parking facilities.
- Measures to decrease speeding and commercial/non-local traffic on neighborhood streets.
- Enhanced County services and infrastructure to meet the needs of a rapidly growing population.
- Encourage and maintain a full range of services within a 5-10 minute walk of every residence. At minimum, this would include grocery stores, farmer's markets, restaurants, parks, dry cleaners, personal services, entertainment, and cultural activities – all in an attractive, friendly atmosphere.
- Beautified streetscapes and open spaces and updated green space and park areas to better serve the increasing resident population.
- Maintain Urban Village characteristics including:

- Short blocks
- Mixed-use development
- Buildings to human-scale
- Parks and plazas
- Usable sidewalks
- Maintenance of “aged” buildings

In direct relation to the proposed development, this project improves overall multimodal connectivity to/from the site.

County Planned Improvements

Courthouse Multimodal Connectivity Project

The Courthouse Multimodal Connectivity Project originated from the Master Transportation Plan, Vision Zero, and Courthouse Sector. It focuses on coordinating improvements to multimodal infrastructure between recent County projects and those included as part of approved developments. The goals of the project include the following:

- Creating a safe and reliable experience for all users through the Courthouse area
- Improving accessibility by upgrading ADA compliant curbs and ramps
- Providing enhanced bicycle facilities that fill gaps in the network
- Providing adequate facilities for bicycles and shared mobility devices
- Enhancing transit stops near the Courthouse Metro station
- Potential upgrades to existing traffic signals

As of August 2024, the project is currently on hold but remains part of the Capital Improvement Plan. In direct relation to the proposed development, this project improves overall multimodal connectivity to/from the site.

Safety and Innovation Zone Demonstration Project (2023)

As part of the Safety and Innovation Zone Demonstration Project, Arlington County created a “Safety and Innovation Zone” along the 2900 Block of Wilson Boulevard between N Garfield Street and N Fillmore Street. The project aimed to evaluate the impact of emerging technologies like Internet of Things (IoT) and Artificial Intelligence (AI) on public safety and potentially enhance public safety response, crowd management, and medical assistance detection. The yearlong project, completed in May 2023, involved collaboration with Comcast, US Ignite, and the Commonwealth Cyber Initiative.

Key benefits include improved response times, data-driven decision-making, and cost savings through increased efficiencies. In direct relation to the proposed development, this project improves overall multimodal connectivity to/from the site.

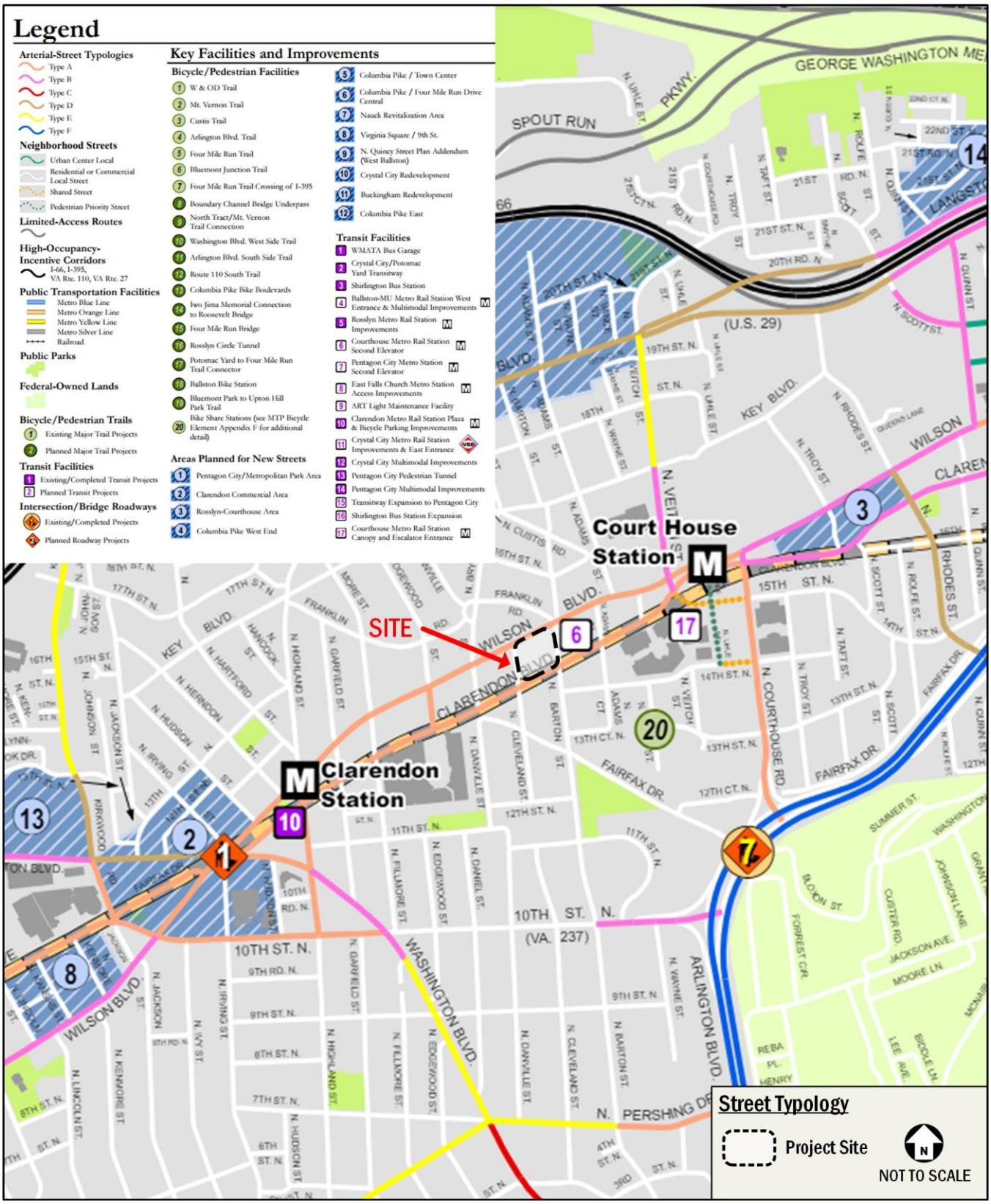

Figure 10: Street Typology (Source: Arlington Master Transportation Plan, 2022)

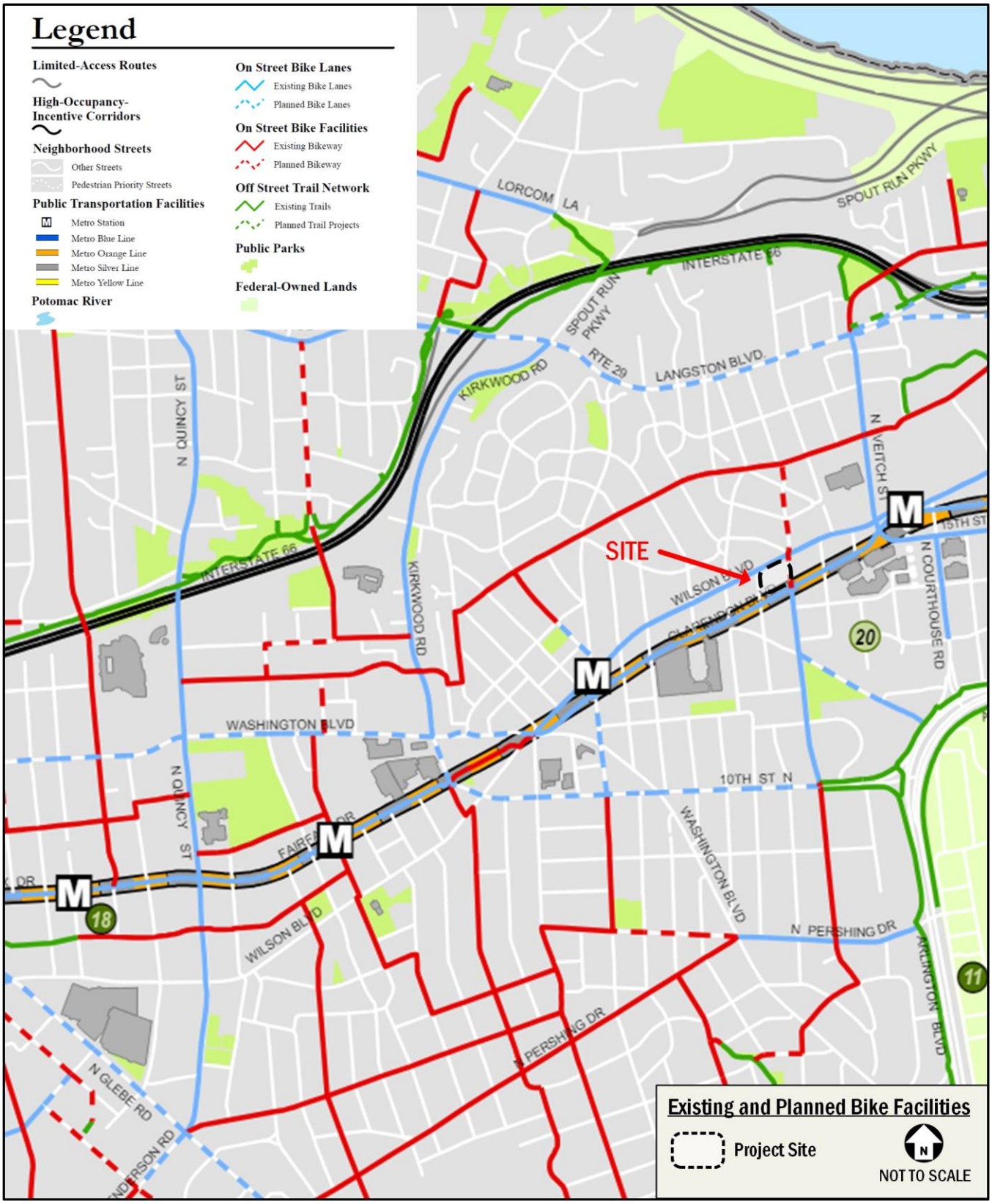

Figure 11: Existing and Planned Bike Facilities (Source: Arlington Master Transportation Plan, 2019)

Project Design

This chapter reviews the transportation components of the 2500 Wilson Boulevard development, including the proposed site plan and access points. It includes descriptions of the site's vehicular access, loading, parking, bicycle, and pedestrian facilities.

Site Overview

The proposed development will raze the existing office building and redevelop with a mixed-use building consisting of the following:

- Up to 323 residential units
- Up to 20,000 square feet of retail space
- Approximately 237 vehicle parking spaces
- One (1) 40-foot loading berths and two (2) 30-foot loading berths
- At least 130 secure long-term and 10 short-term bicycle parking spaces

The proposed site plan for the redevelopment is shown in Figure 6.

Site Access and Circulation

Pedestrian Access

The primary pedestrian access to the residential and retail components are shown in Figure 12. Access to both the residential and retail components of the proposed development will occur off of N Barton Street. A circulation plan showing expected pedestrian routes is shown in Figure 13.

Bicycle Access

Bicycle access to the secure long-term bicycle parking on the P1 level of the below-grade garage will be via the parking garage entrance on N Cleveland Street. Short-term bicycle parking spaces will be placed along the site frontage in highly visible and accessible locations.

Bicycle access to the site is primarily expected to occur via N Cleveland Street for all uses. A circulation plan showing expected bicycle routes is shown in Figure 13.

Vehicular Access

Vehicular access to the below-grade parking garage will be provided via a driveway access on N Cleveland Street. Loading access will be provided along a separate driveway accessed via N Cleveland Street. Access to the below-grade garage and loading facilities is shown on Figure 12. A circulation plan showing expected vehicular routes is shown in Figure 13.

Loading

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

- Residential
  Multifamily uses with more than 50 dwelling units are required to provide one (1) loading space for each 200 units.
- Retail
  Buildings with over 18,000 square feet of office space are required to provide two (2) loading spaces.

Per these requirements, the proposed development is required to provide one (1) loading space for residential use and two (2) loading space for retail use. The proposed development will provide one (1) 40-foot and two (2) 30-foot loading berths. The number of on-site loading facilities will accommodate the practical needs of the development and meet the minimum requirements by zoning. Figure 6 shows the locations of the loading berth and within the building.

Vehicular Parking

The parking provided by the proposed development has been designed to meet the site's parking needs, and to satisfy the requirements of the Arlington County Zoning Ordinance and applicable guiding documents, as shown in Table 2, under C-O-1.5: Commercial Office Building, Hotel, and Apartment District requirements.

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 reduce parking requirements specified in 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 0.3 spaces per unit are required for the proposed development. These guidelines also require 0.05 visitor parking spaces for the first 200 dwelling units.

The proposed development will provide 237 spaces for the both the residential and retail components. The 237 parking spaces will be provided in the on-site, below-grade parking garage.

Table 2: Proposed Supply Calculations

Land Use	Size	Vehicle Parking Spaces		
		Required		Proposed
		Ratio[1]	Supply[2]	
Residential (du)	Up to 323	0.3/du + 0.05/first 200 du	107	237
Retail (sf)	Up to 20,000	1/250 sf on the first floor	80	
Total			**187**	**237**

[1] The ACZO minimum vehicle parking supply is calculated based on the requirements of §14.3.7. Based on the site location, the minimum requirement for the residential use if determined by the Off-Street Parking Guidelines for Multi-Family Residential Projects.
[2] Supply is measured in *spaces*, while ratio is measured in *spaces/du* or *spaces/ksf*.

Curbside Management

Existing curbside management was reviewed along the site frontage and is shown on Figure 14. Currently, Wilson Boulevard, N Cleveland Street, and N Barton Street provide two-hour on-street parking and Clarendon Boulevard provides 12-hour on-street parking. The proposed development will remove some on-street parking on the site's frontage on N Cleveland Street to accommodate the new site access but increase the on-street parking along the N Barton Street frontage upon removal of the existing curb cut. The proposed curbside management is shown on Figure 15.

Bicycle and Pedestrian Facilities

Bicycle Facilities

Bicycle Parking

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

- Residential
  Provide one (1) long-term space for every 2.5 residential dwelling units; and one (1) short-term space for every 50 residential dwelling units.
- Retail
  Provide one (1) long-term space for every 25,000 square feet or portion thereof; and two (2) visitor spaces for every 10,000 square feet, or portion thereof.

Long-Term Bicycle Parking

Per these requirements, the proposed development is required to provide up to 129 long-term spaces for residential use and one (1) long-term space for retail use.

The proposed development will provide at least 130 long-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 in the parking garage.

Short-Term Bicycle Parking

Per these requirements, the proposed development is required to provide seven (7) short-term spaces for residential use and four (4) visitor spaces for retail use.

The proposed development will provide at least 11 short-term bicycle parking spaces for the proposed development, meeting requirements. Short-term bicycle parking spaces will be placed along the development site frontage in highly visible and accessible locations.

Bicycle Showers and Lockers

Per the Standard Site Plan Conditions, no bicycle showers and lockers are required for the non-residential use of the development.

Pedestrian Facilities

The existing pedestrian facilities around the site provide a quality walking environment with minimal sidewalk width deficiencies. Pedestrian facilities directly surrounding the site will be improved along the frontages of the project. These facilities will provide a more inviting pedestrian environment and comply with the improvements laid out in the Arlington Master Transportation Plan.

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

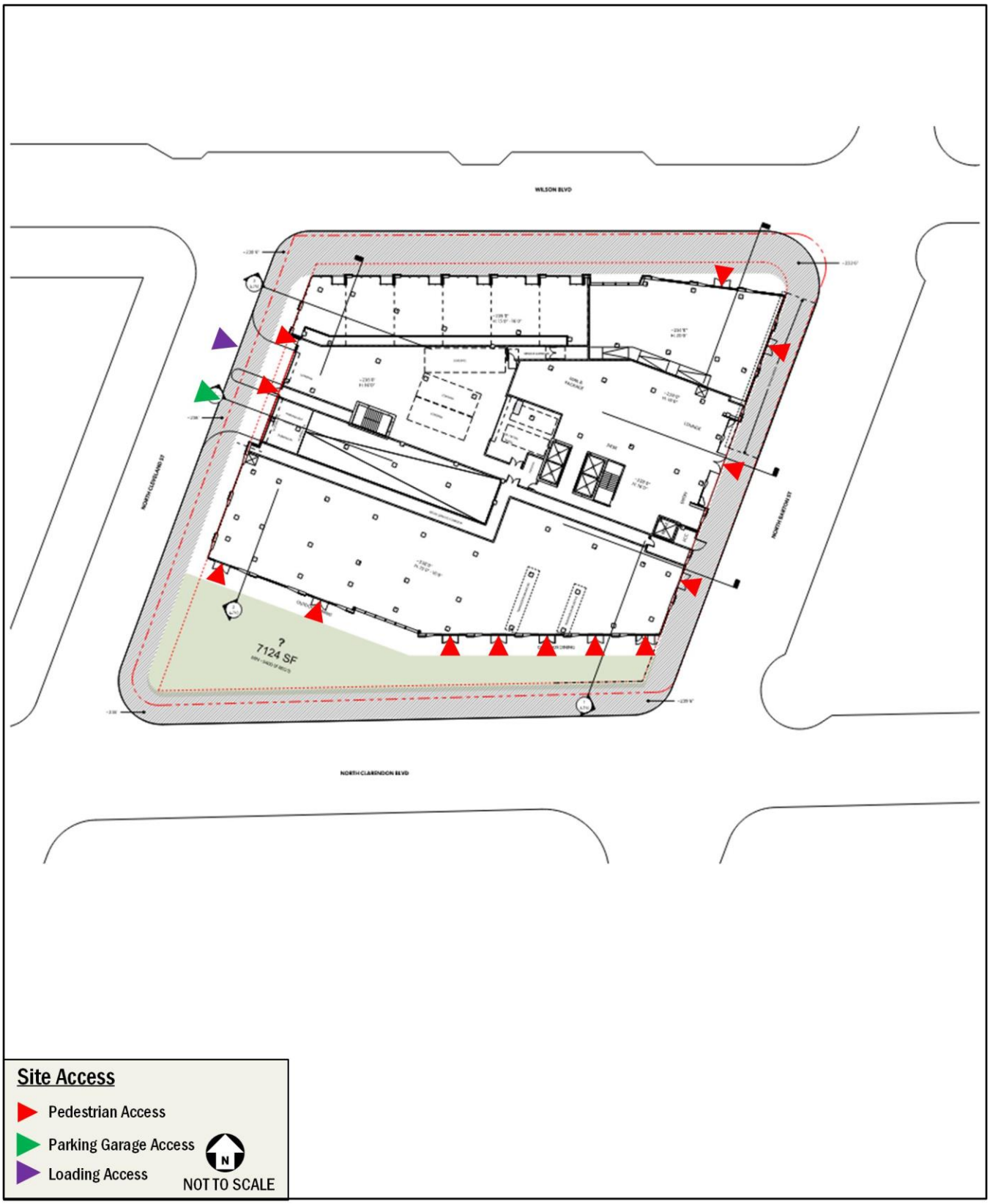

Figure 12: Site Access

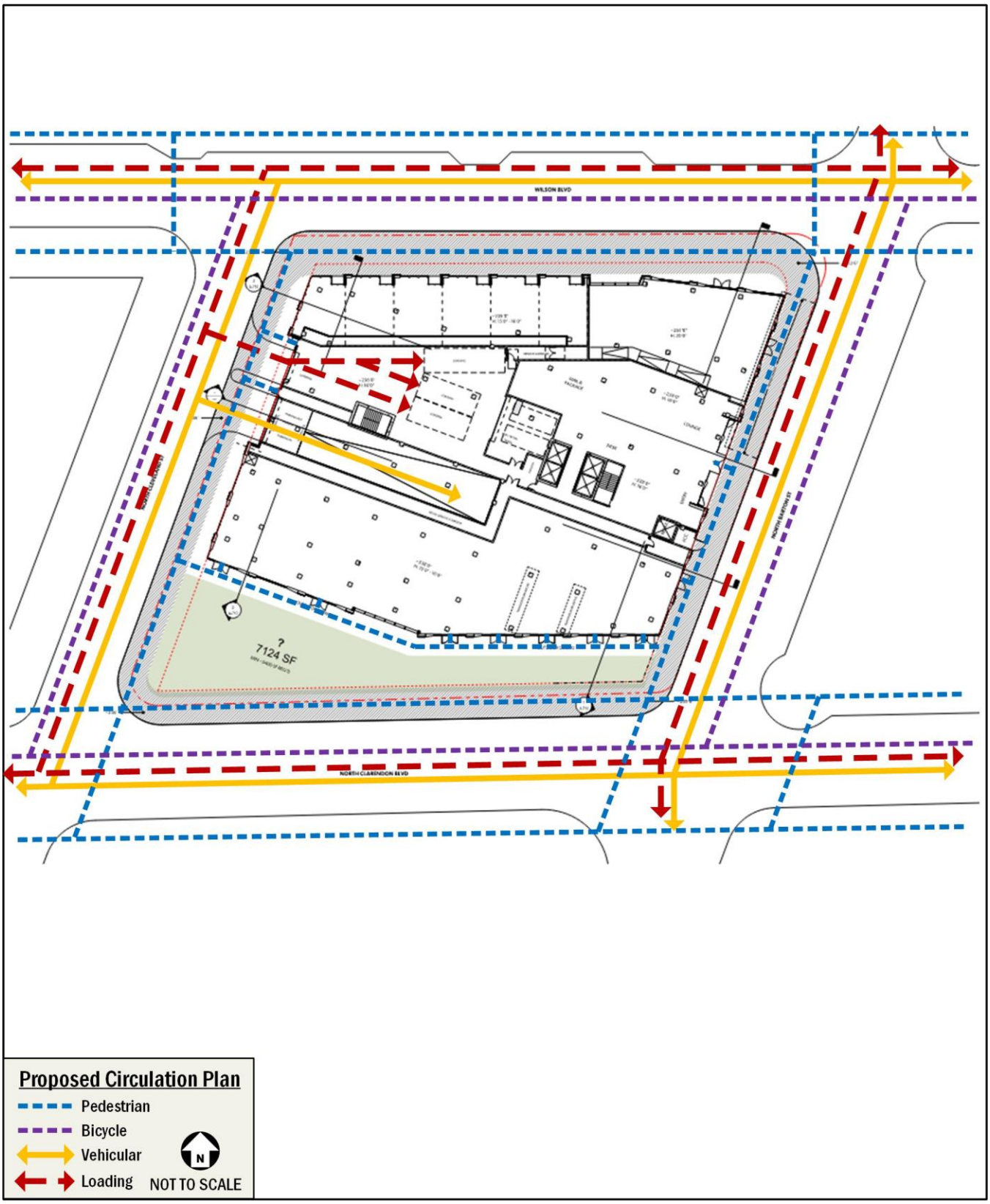

Figure 13: Proposed Circulation Plan

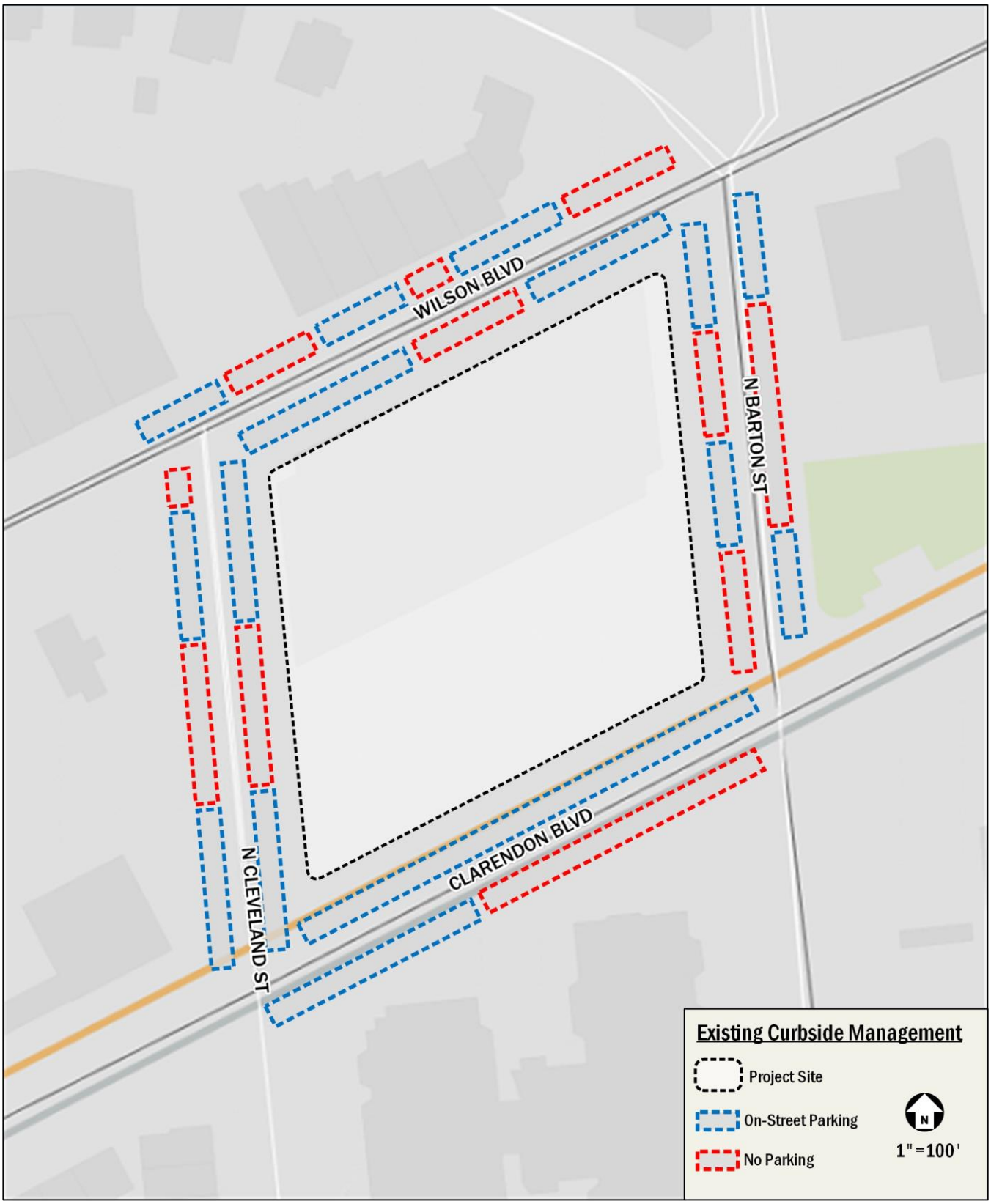

Figure 14: Existing Curbside Management

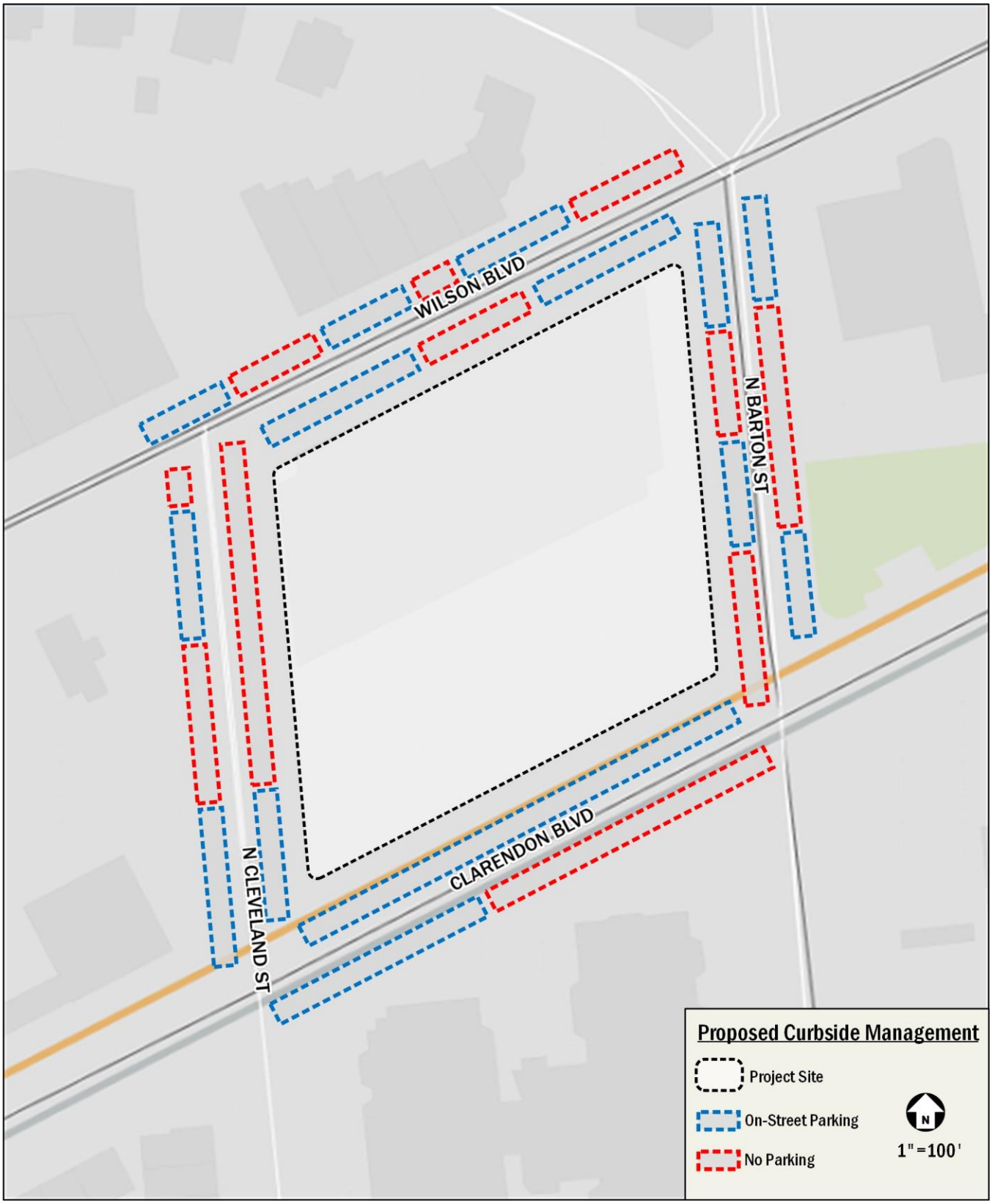

Figure 15: Proposed Curbside Management

Transit Facilities

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

The following conclusions are reached within this chapter:

- The site is well-served by transit.
- The site is located 0.2 miles from the Court House Metro Station and 0.4 miles from the Clarendon Metro Station, which are served by the Orange and Silver lines.
- The Court House and Clarendon Metro Stations are served by several bus routes provided by WMATA (Metrobus) and ART.
- There are 17 bus stops within a quarter mile of the site. These stops are directly served by WMATA (Metrobus), OmniRide, and ART routes.

The site is well-served by numerous transit options under existing conditions. Combined, these transit services provide local, citywide, and regional transit connections and link the site with major cultural, residential, employment, and commercial destinations throughout the region. Figure 16 identifies the major transit routes, stations, and stops in the study area.

Existing Transit Service

Metrorail Service

The site is located 0.2 miles from the Court House Metro Station and 0.4 miles from the Clarendon Metro Station. The Court House Metro Station is located northeast of the site at the intersection of Clarendon Boulevard and N Uhle Street. The Clarendon Metro Station is located southwest of the site between Wilson Boulevard and Clarendon Boulevard along N Highland Street.

The Court House and Clarendon Metro Stations serve the Orange and Silver Lines. The Orange Line travels east from Vienna, VA and continues east to New Carrolton, MD. The Silver Line travels southeast from Ashburn, VA and continues east to Largo, MD. Both lines run the same track from the West Falls Church Metro Station, through Arlington and central DC, before finally going their separate ways at the Stadium-Armory Metro Station. Table 3 and Table 4 provide details of Metrorail information, including service hours and timetables.

Bus Service

A review of the existing Metrobus and ART stops within a quarter-mile radius of the site is shown in Figure 16. There are 17 bus stops within one-quarter mile of the site. The site is served by several WMATA (Metrobus), OmniRide, and ART routes along the Wilson Boulevard/Clarendon Boulevard corridor.

These bus lines connect the site to many areas of Virginia and the District, including several Metrorail stations serving all of the six (6) Metrorail lines. Table 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.

Figure 17 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 from the proposed development. Several destinations in the District, Arlington, and Alexandria are accessible within a 30-minute transit trip from the proposed development, including Ronald Reagan Washington International Airport, Downtown DC, and Metro stations served by all metro lines in the area.

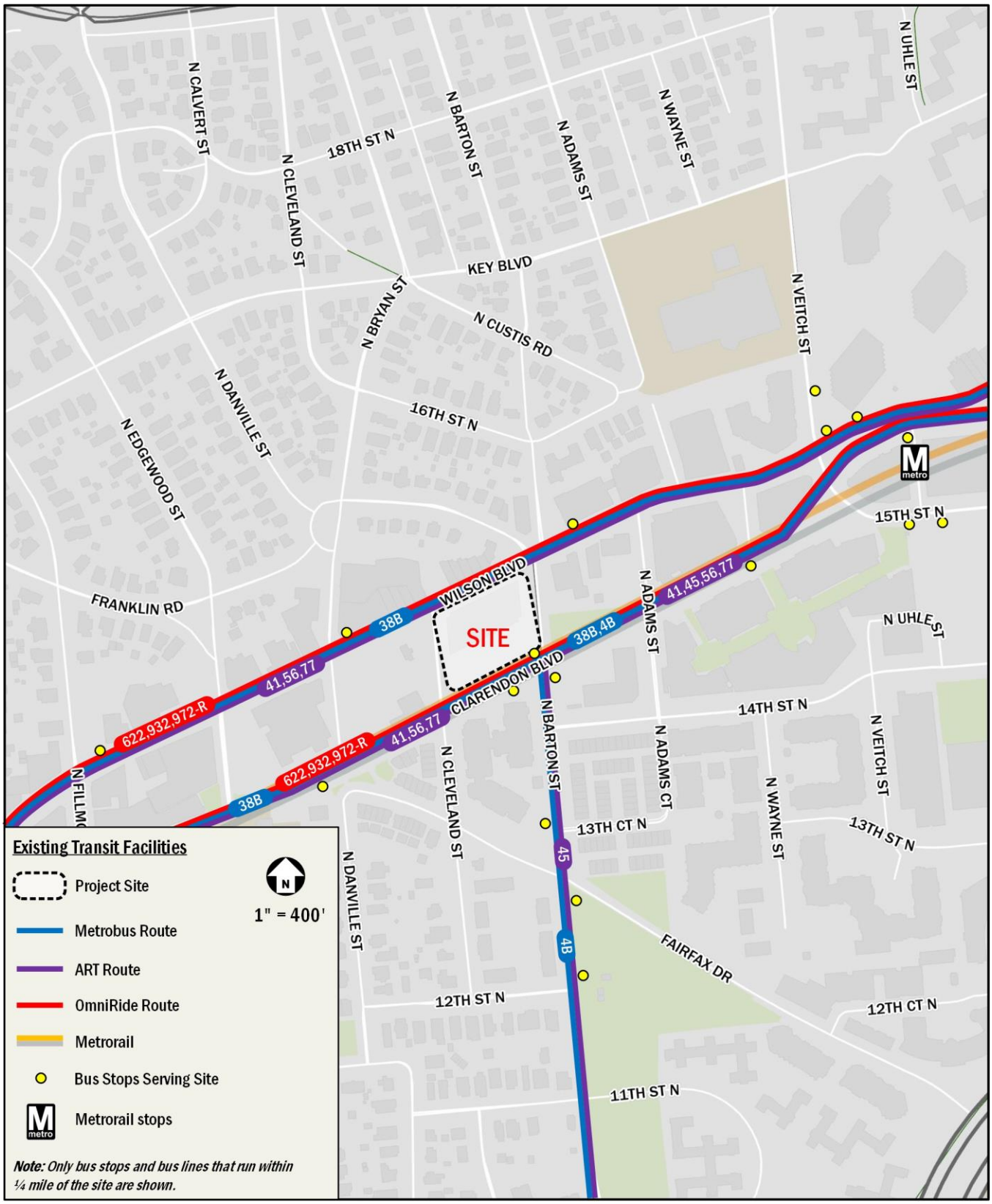

Figure 16: Existing Transit Facilities

Table 3: Metrorail Service Hours

Day	Time
Monday – Thursday	5 AM – midnight
Friday	5 AM – 1 AM
Saturday	7 AM – 1 AM
Sunday	7 AM - midnight

Table 4: Metrorail Service Intervals (in minutes)

Rail Line	Monday – Friday	Saturday	Sunday
Orange	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
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
622	Haymarket-Rosslyn/Ballston	Weekdays AM: 5:30 AM – 8:10 AM Weekdays PM: 3:30 PM – 6:15 PM Weekend: N/A	40-60 min	0.2 miles, 4 minutes
932	Ballston-Fairfax Line	Weekdays AM: 5:25 AM – 8:55 AM Weekdays PM: 12:25 PM – 6:18 PM Weekend: N/A	30-60 min	0.2 miles, 4 minutes
972-R	Dale City-Pentagon & Rosslyn/Ballston	Weekdays AM: 4:05 AM – 8:35 AM Weekdays PM: 12:50 PM – 9:00 PM Weekend: N/A	25-60 min	0.2 miles, 4 minutes
41	Columbia Pike-Ballston-Court House	Weekdays: 5:30 AM – 11:54 PM Weekend: 6:10 AM – 1:57 AM	15-30 min	0.1 mile, 2 minutes
45	Columbia Pike-Sequoia-Rosslyn	Weekdays: 5:45 AM – 11:50 PM Weekend: 7:30 AM – 11:00 PM	15-30 min	< 0.1 miles, 1 minute
56	Military Road-Rosslyn	Weekdays AM: 6:00 AM – 9:30 AM Weekdays PM: 3:00 PM – 7:00 AM Weekend: N/A	30 min	0.1 mile, 2 minutes
77	Shirlington-Lyon Park-Court House	Weekdays: 6:00 AM – 10:00 PM Weekend: 7:00 AM – 11:00 PM	30 min	0.1 mile, 2 minutes
4B	Pershing Dr.-Arlington Blvd	Weekdays: 5:05 AM – 11:35 PM Weekend: 6:20 AM – 11:05 PM	45-60 min	<0.1 miles, 1 minute
38B	Ballston-Farragut Square	Weekdays: 5:30 AM – 11:30 PM Weekend: 5:30 AM – 11:30 PM	15 – 30 min	0.1 mile, 2 minutes

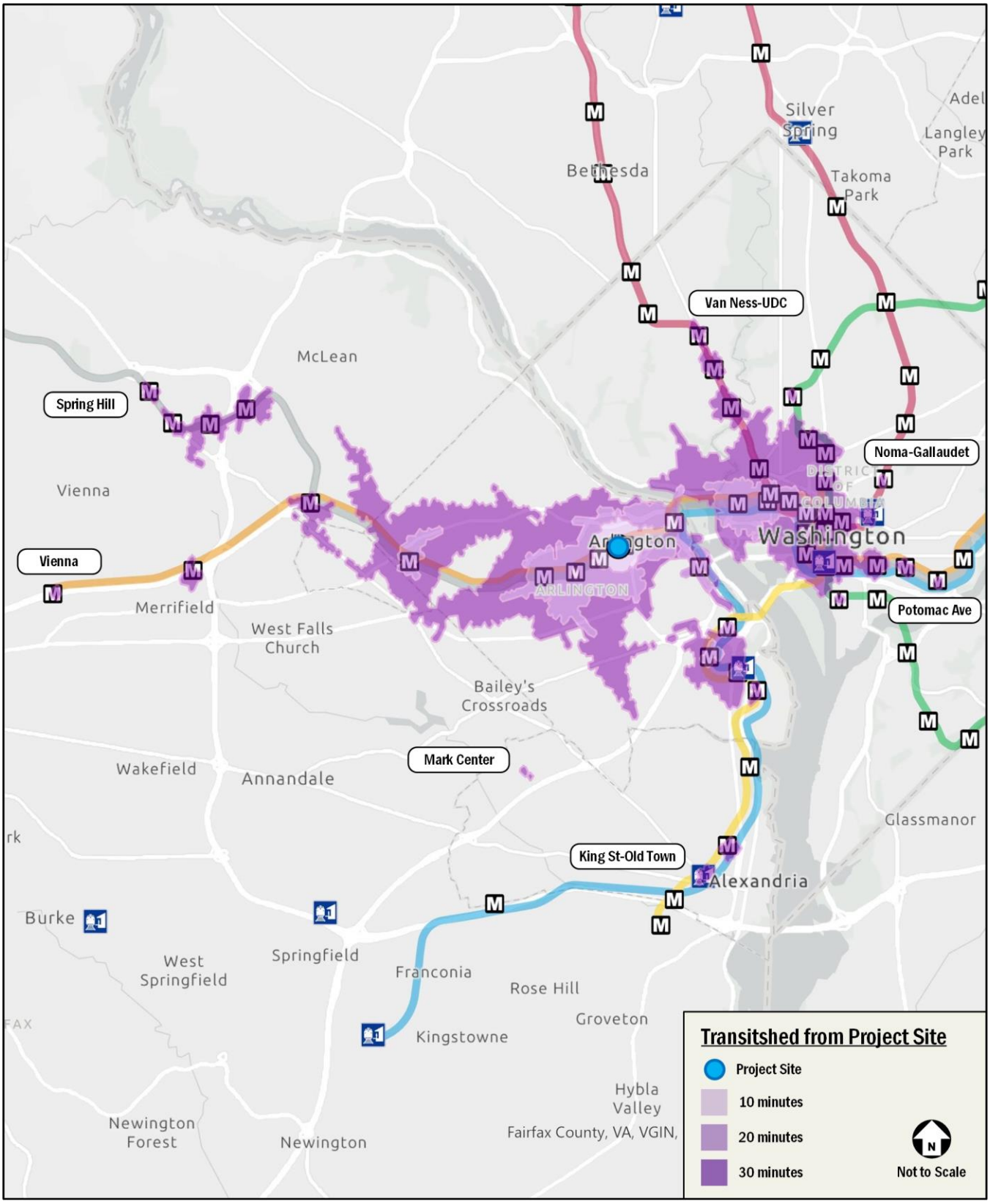

Figure 17: Approximate Transit Travel Times

Bicycle Facilities

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

The following conclusions are reached within this chapter:

- The site has access to several on- and off-street bicycle facilities, including protected bike lanes and bike lanes along all of Wilson Boulevard and Clarendon Boulevard. Bike lanes or on-street routes are provided along nearby arterial and collector roads, including Wilson Boulevard, Clarendon Boulevard, N Veitch Street, N Barton Street, Key Boulevard, Langston Boulevard, and more.
- Future planned projects in the vicinity of the site include the Key Boulevard Trail Renovation Project, the Courthouse Road Bicycle Facility Project, the Clarendon Metro Station Access Project, the Wilson Boulevard/Clarendon Boulevard Enhanced Bicycle Facilities Project, the Wilson Boulevard Protected Bicycle Lanes Project, and the Key Boulevard/13th Street Bicycle Boulevard Project. All these projects are outlined in the MTP Bicycle Element and are described in more detail in the Study Area Overview section.
- As part of the proposed development, short-term bicycle parking spaces will be provided along the site's frontage. Long-term bicycle parking spaces will be provided in a secure room for the use of residents and retail employees.

Existing Bicycle Facilities

The site has access to several on- and off-street bicycle facilities, including protected bike lanes along Clarendon Boulevard between N Garfield Street and N Adams Street and along Wilson Boulevard east of N Uhle Street, designated bike lanes along Wilson Boulevard east of Uhle Street, Clarendon Boulevard east of N Adams Street and west of N Garfield Street, and N Veitch Street, as well as on-street routes along many other nearby roadways. These, in turn, provide connection to the Custis Trail to the north, which enables regional access to destinations within Virginia and the District.

Figure 18 shows the existing facilities within the study area. The network connects to the Custis Trail to the north/northwest.

Arlington County publishes an annual Bicycle Comfort Level Map highlighting the most comfortable bicycle routes throughout Arlington County. The map uses a rating system of "perception of comfort" to show which routes are most comfortable. Routes are rated as 'Easy', 'Medium', 'Challenging', 'Expert Level', or 'Prohibited'. The most recent publication of the map (2022) shows the majority of bicycle routes in the vicinity of the site rated as 'Easy and 'Medium'. Adjacent to the site, Wilson Boulevard and Clarendon Boulevard are rated 'Medium'. In addition, N Custis Road, Key Boulevard, and N Hartford Street are rated 'Easy' in close vicinity to the site.

Bicycle parking is provided along N Cleveland Street at the intersection with Wilson Boulevard and near the current site driveway on N Cleveland Street under existing conditions.

Figure 19 shows the 10-minute, 20-minute, and 30-minute bicycle travel shed for the proposed development. As shown in the bicycle travel shed, all of Arlington, northern Alexandria, and several destinations in the District including Downtown, and the Southwest Waterfront are accessible within 30 minutes from the proposed development.

Capital Bikeshare

In addition to personal bicycles, the Capital Bikeshare program provides additional cycling options for residents and patrons of the proposed development. The Bikeshare program has placed over 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 11 existing Capital Bikeshare stations with 12 to 20 available bicycle docks within a quarter mile of the site. There are four (4) docks located along Wilson Boulevard and Clarendon Boulevard, with one (1) station located just beyond the northwest corner of the site across the intersection of Wilson Boulevard and N Cleveland Street.

E-Scooters and Dockless E-Bicycles

As of August 2024, 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).

Planned Bicycle Facilities

Existing bicycle facilities have been recommended by the Arlington Master Transportation Plan to be upgraded in the future, as shown on Figure 11, including adding bicycle lanes to 10th Street N, N Hartford Street, N Highland Street, Fairfax Drive, and Langston Boulevard.

The recently adopted Bicycle Element of the Arlington County Master Transportation Plan identifies Wilson Boulevard and Clarendon Boulevard as parts of the Primary Bicycling Corridor. The plan makes the following recommendations:

- Upgrade the existing bicycle lanes on Wilson and Clarendon boulevards to provide more separation of bicyclists from motor vehicle traffic in the Rosslyn, Courthouse, and Clarendon areas.
- Link with an enhanced bikeway on Fairfax Drive to provide a lower-stress bicycle route east-west route through the Rosslyn-Ballston Corridor and across the center of Arlington. (1.4 miles)
- Implement protected bicycle lanes on Wilson Boulevard from Arlington Ridge Road to N Courthouse Road. (1.1 miles – currently partially implemented)

Proposed Bicycle Improvements

The proposed development will include both short- and long-term bicycle parking spaces, including:

- At least 130 long-term bicycle parking spaces and 10 short-term bicycle spaces, meeting zoning and standard site plan condition requirements.

Secure long-term bicycle parking for the development will be located in a bicycle room within the parking garage. Short-term bicycle parking spaces will be placed along the site’s frontage in highly visible and accessible locations.

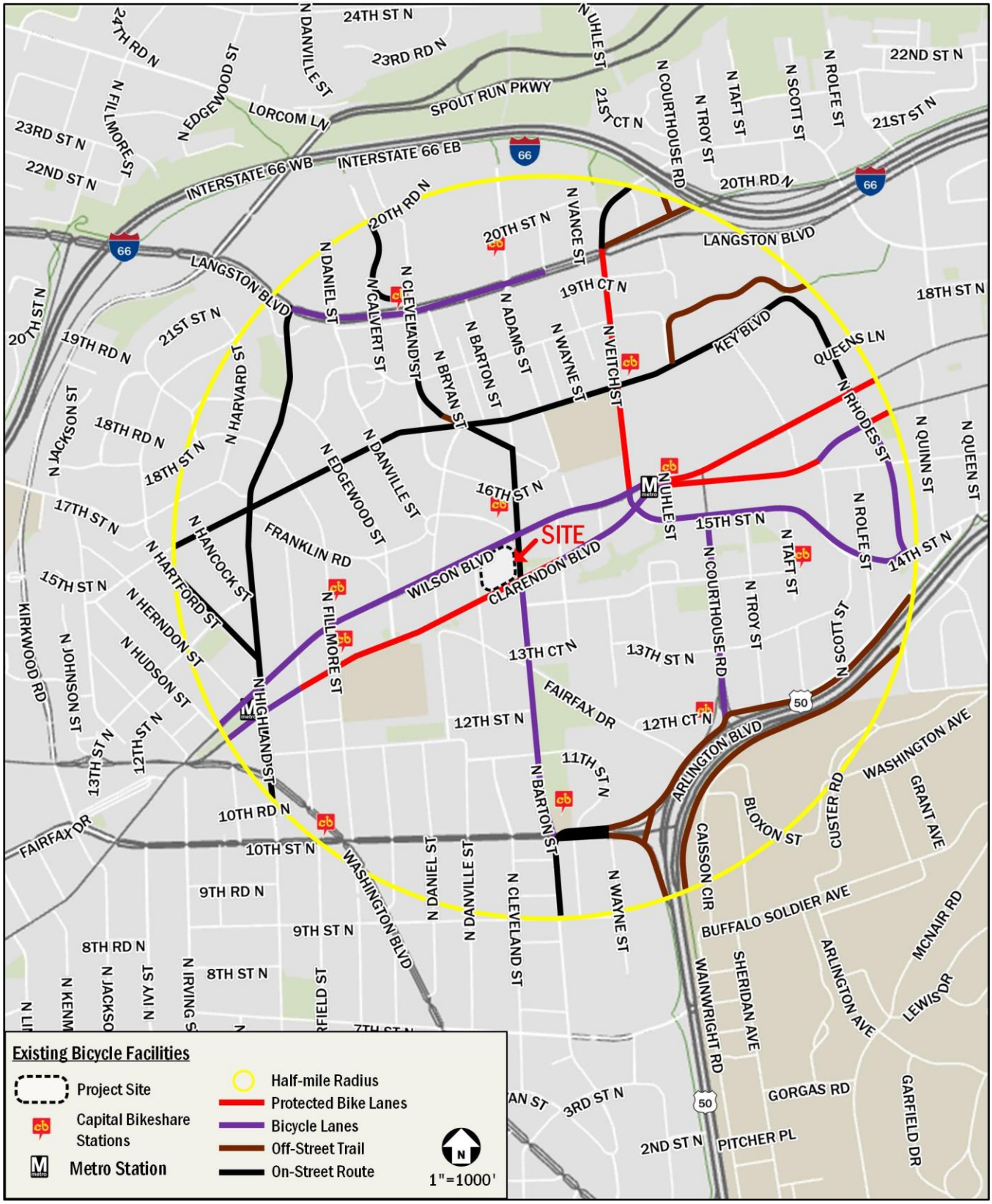

Figure 18: Existing Bicycle Facilities

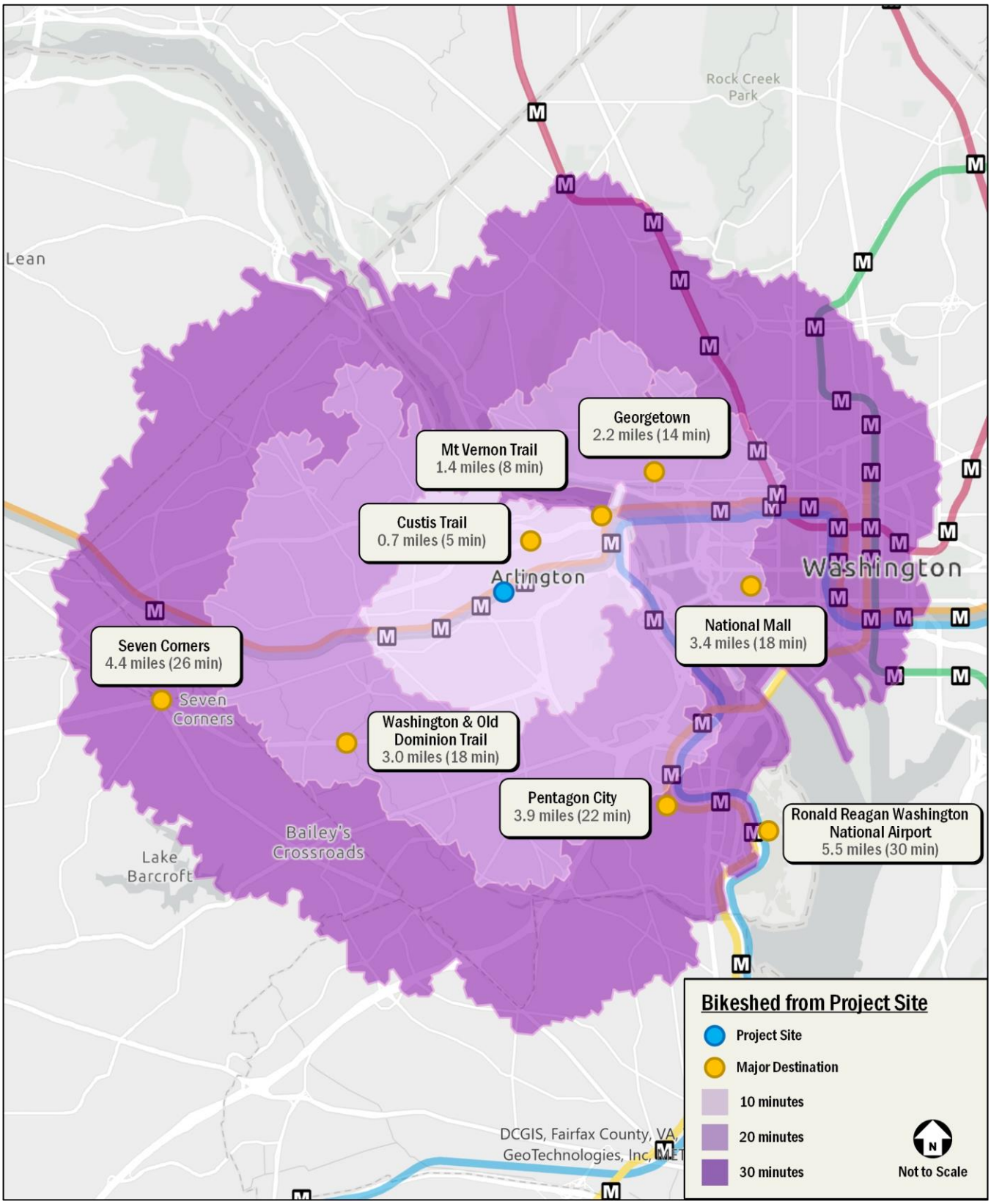

Figure 19: Approximate Bicycle Travel Times

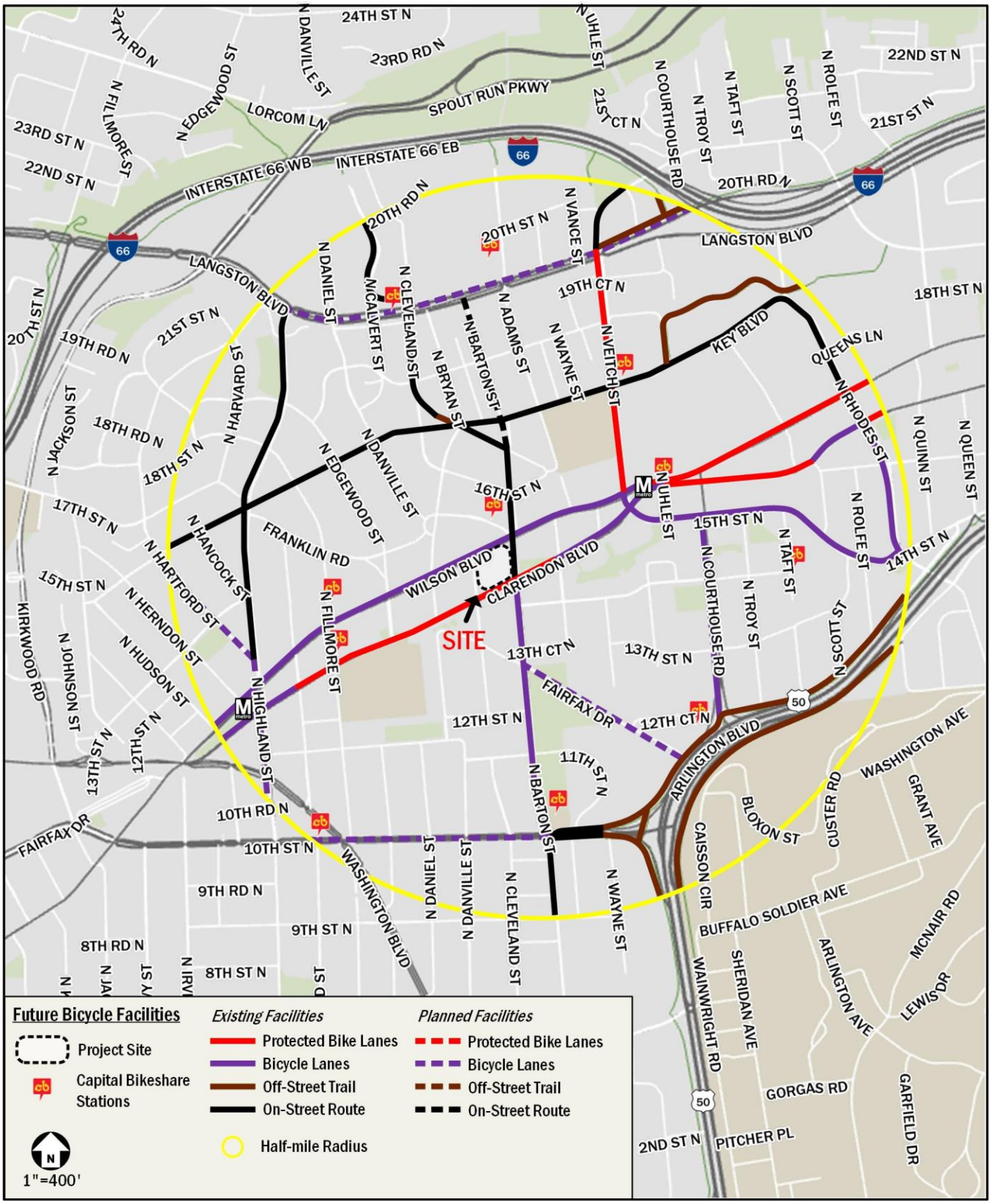

Figure 20: Future Bicycle Facilities

Pedestrian Facilities

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

The following conclusions are reached within this chapter:

- The existing pedestrian infrastructure surrounding the site provides a quality walking environment. There are sidewalks along almost all primary routes to pedestrian destinations with few gaps in the system.
- Planned and proposed improvements to the pedestrian infrastructure surrounding the site will improve pedestrian comfort and connectivity.
- The proposed development will provide a more inviting pedestrian environment by bringing sidewalks along the site frontage to meet or exceed Arlington County requirements and adding streetscape features along the site frontage.

Pedestrian Study Area

Pedestrian facilities within a two-block radius of the site were evaluated. In general, existing pedestrian facilities surrounding the site provide comfortable walking routes to and from nearby transit options. There are some areas of concern within the study area that negatively impact the quality and attractiveness of the walking environment; however, these areas of concern are not along the site frontage. The site frontage currently has good pedestrian access and will continue to do so with the proposed development. Figure 21 shows expected pedestrian pathways and walking time and distances.

Figure 22 shows the 10-minute, 20-minute, and 30-minute walk travel shed for the proposed development. As shown In the walking travel shed, several destinations including public transportation stops, Metro stations, Capital Bikeshare stations, and other locally significant destinations are accessible within a 30-minute walk of the proposed development.

Existing Pedestrian Infrastructure

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

Sidewalks

Figure 23 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

It should be noted that the sidewalk widths shown in Figure 23 reflect the total sidewalk widths based on observations in the field taken from curb to building, with pinch points and locations with a clear width of less than four (4) feet noted.

Within the study area, almost all roadways have existing sidewalks on both sides, with some deficiencies. Of note, a portion of N Cleveland Street and N Barton Street do not have sidewalks on one (1) side of the street between Fairfax Drive and 12th Street N and Custis Road and Key Boulevard, respectively. Additionally, Custis Road lacks sidewalks.

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 is not desired. As shown in Figure 23, under existing conditions many of the curb ramps do not meet ADA standards.

Despite some deficiencies, all primary pedestrian destinations are accessible via routes with sidewalks, most of which meet Arlington County and ADA standards.

Overall, the site is situated within an urban transportation network, with quality pedestrian access. Figure 24 shows the existing pedestrian peak hour volumes at study area intersections. The most heavily used crosswalk in the study area is across N Cleveland Street on the south side of Clarendon Boulevard, most likely a result of the proximity to the Court House Metro Station and many developments in the local area.

Planned Pedestrian 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, providing an inviting pedestrian environment.

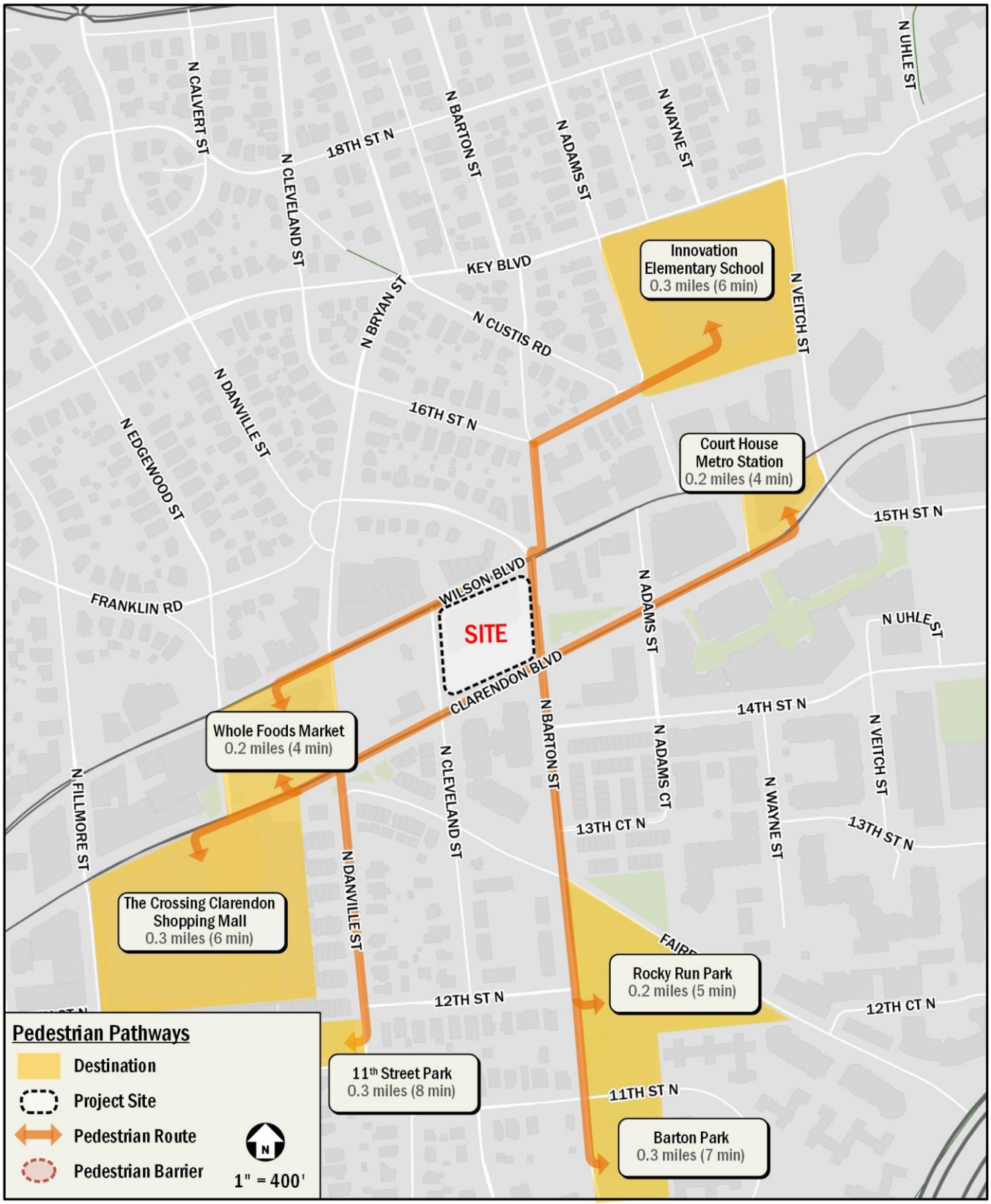

Figure 21: Pedestrian Pathways

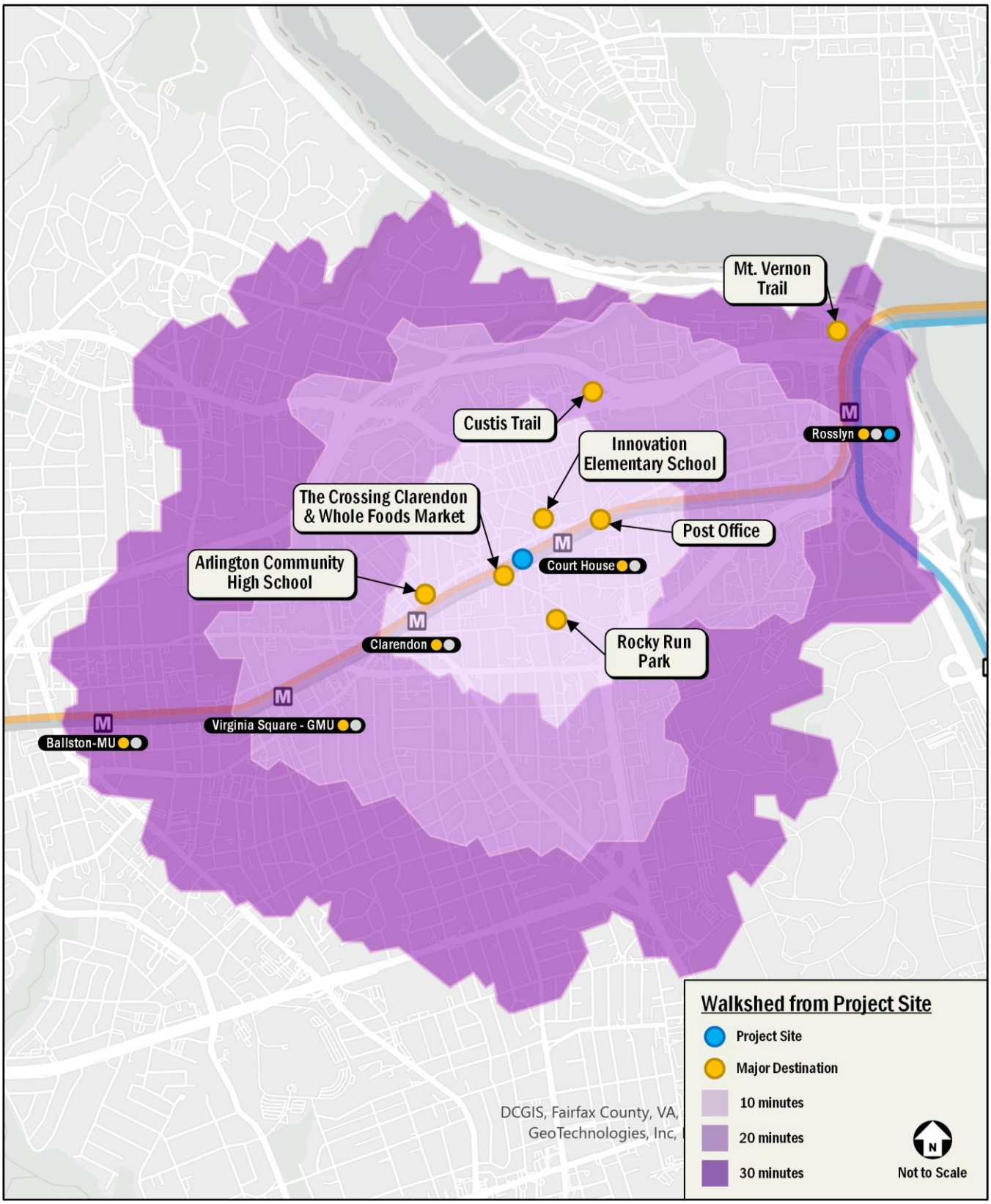

Figure 22: Approximate Pedestrian Travel Times

Figure 23: Existing Pedestrian Facilities

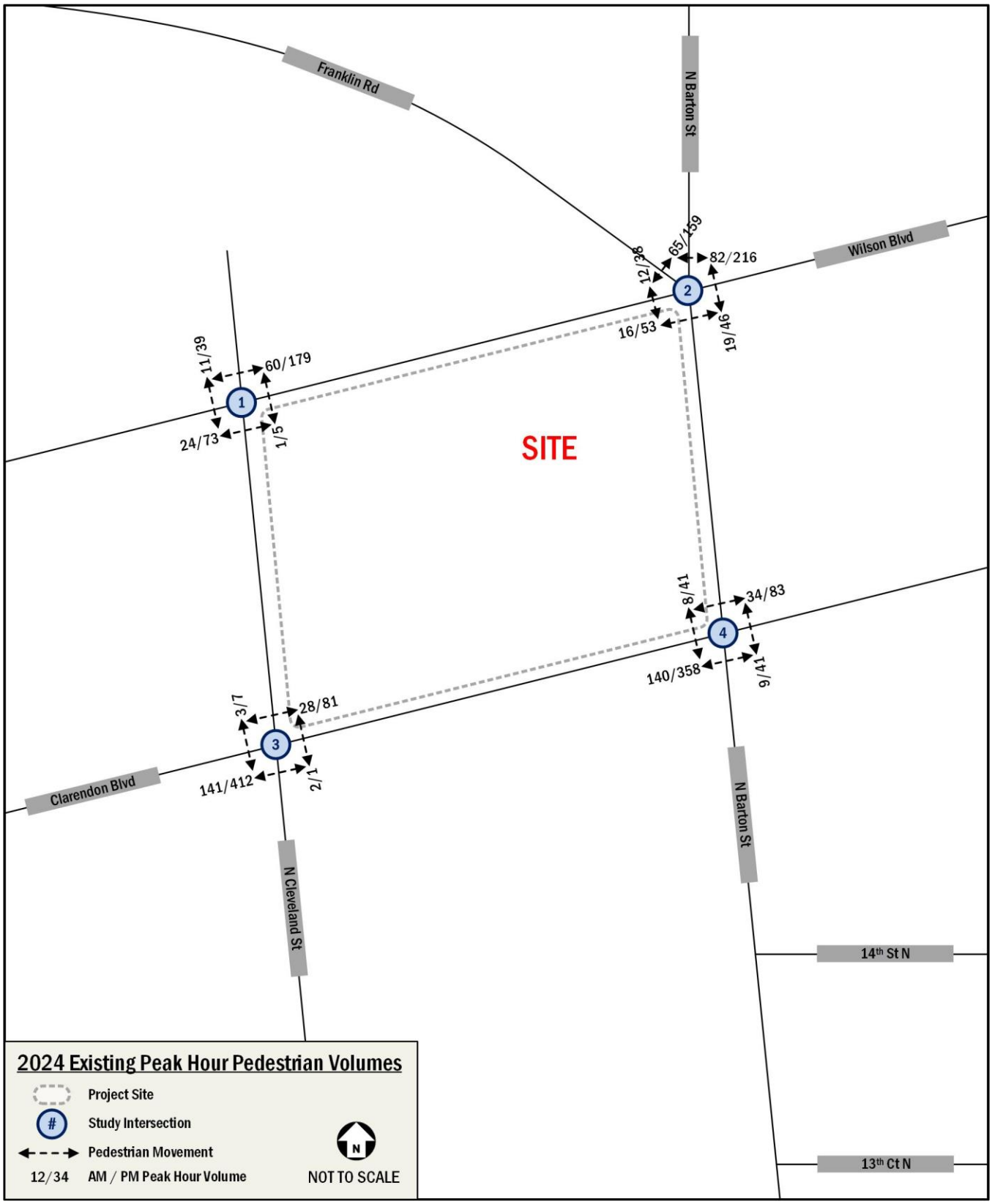

Figure 24: 2024 Existing Peak Hour Pedestrian Volumes

Travel Demand Assumptions

This chapter outlines the transportation demand of the proposed 2500 Wilson Boulevard development. It reviews the expected mode splits, multimodal trip generation, and the trip distribution and routing assumptions, which forms the basis for the chapters that follow.

Mode Split Methodology

Mode split (also called mode share) is the percentage of travelers using a particular type (or mode) of transportation when traveling. The main source of mode split information for this report was based on Census data using Traffic Analysis Zones (TAZs), the WMATA Ridership Survey, and the Arlington County Mode Share Assumptions for the Clarendon/Court House area..

Residential Mode Splits

Residential mode splits were primarily based on Census data at the TAZ level for commuters with origins in the TAZ and the Arlington County Mode Share Assumptions for the Clarendon/Court House area . Table 7 summarizes the data that was used to establish the residential mode split assumptions for this report.

Table 7: Summary of Residential Mode Split Data

Information Source	Mode						
	SOV	Carpool	Transit	Bike	Walk	Telecommute	Other
Census Tract (1018.02)	37%	8%	37%	2%	10%	6%	0%
TAZ Residents (11478)	39%	6%	38%	2%	9%	6%	0%
TAZ Residents (11480)	49%	7%	27%	1%	4%	9%	2%
TAZ Residents (21460)	44%	4%	31%	1%	6%	13%	6%
TAZ Residents (21477)	43%	1%	42%	1%	11%	2%	1%
2022 State of the Commute (of District residents)	19%	1%	18%	7%		55%	0%
WMATA Ridership Survey (Court House - Arlington Courthouse Plaza)	29%		58%	14%		---	
WMATA Ridership Survey (Court House - Courtland Towers)	39%		46%	15%		---	
Arlington County Mode Share Assumptions for Clarendon/Court House (Productions)	39%		52%	9%		---	

Retail Mode Splits

Retail mode splits were primarily based on information contained in WMATA's 2005 *Development-Related Ridership Survey*, the Arlington County Mode Share Assumptions for the Clarendon/Court House area, and the neighborhood-serving nature of the retail .

Table 8 summarizes the data that was used to establish the retail mode split assumptions for this report.

Table 8: Summary of Retail Mode Split Data

Information Source	Mode						
	SOV	Carpool	Transit	Bike	Walk	Telecommute	Other
Census Tract (1018.02)	51%	10%	21%	2%	9%	5%	2%
TAZ Employees (11478)	56%	9%	18%	3%	7%	6%	1%
TAZ Employees (11480)	56%	11%	18%	2%	5%	6%	0%
TAZ Employees (21460)	61%	12%	9%	2%	1%	9%	8%
TAZ Employees (21477)	54%	13%	22%	1%	8%	2%	1%
WMATA Ridership Survey (Ballston - Ballston Common)	43%		30%	27%		---	
WMATA Ridership Survey (Crystal City - Crystal Plaza Shops)	24%		41%	35%		---	
WMATA Ridership Survey (Crystal City - The Underground)	27%		37%	36%		---	
Arlington County Mode Share Assumptions for Clarendon/Court House (Attractions)	60%		31%	9%		---	

The site has multiple bus stops in the vicinity and two (2) Metro stations near the site. It is expected that a significant portion of trips will be by Metrorail, bus, bicycle, or on foot during the morning and afternoon peak hours, rather than by personal vehicle. Based on this, the auto mode splits for the development were determined to be 39% for the residential component and 5% for the retail component. The proposed mode splits were vetted by Arlington County during the scoping process. Table 9 shows the mode split for the development.

Table 9: Summary of Mode Split Assumptions by Land Use

Land Use	Mode			
	Auto	Transit	Bike	Walk
Residential Mode Split	39%	52%	3%	6%
Retail Mode Split	5%	15%	10%	70%

Trip Generation Methodology

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

Trip generation was calculated based on the following:

- Existing 2500 Wilson Boulevard
    - ITE Land Use 710, General Office Building, setting/location of General Urban/Suburban
- Proposed Residential
    - ITE Land Use 222, High-Rise Multifamily Housing, setting/location of General Urban/Suburban and Not Close to Rail Transit
- Proposed Retail
    - ITE Land Use 822, Strip Retail Plaza (<40k), setting/location of General Urban/Suburban

The trips were then split into different modes using assumptions outlined in the mode split section of this report. Existing trip generation is provided for comparison purposes only. For purposes of the analysis, existing site trips will be removed from the network based on field-collected count data at the existing driveways.

A summary of the net new multi-modal trip generation for the proposed development as compared to the existing uses on site is shown in Table 10 for the weekday morning and weekday afternoon peak hours. As shown in Table 10, the proposed trip generation generates more trips at some times of day and less trips at others. Detailed trip generation calculations are included in the Technical Appendix.

Table 11 shows the in and out traffic movement counts at each of the existing driveways during the weekday morning and afternoon peak hours. As shown in Table 12, as compared to the existing uses of the site, the proposed development will result in an increase of one (1) vehicular trip in the AM peak hour and an increase of 12 vehicular trips in the PM peak hour.

Table 10: ITE Multi-Modal Trip Generation

Mode	AM Peak Hour			PM Peak Hour			Daily Total
	In	*Out*	*Total*	*In*	*Out*	*Total*	
Proposed Residential (up to 323 du)							
Auto	9 veh/hr	26 veh/hr	35 veh/hr	25 veh/hr	17 veh/hr	42 veh/hr	621 veh
Transit	14 ppl/hr	41 ppl/hr	55 ppl/hr	41 ppl/hr	25 ppl/hr	66 ppl/hr	977 ppl
Bike	1 ppl/hr	2 ppl/hr	3 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr	56 ppl
Walk	1 ppl/hr	6 ppl/hr	7 ppl/hr	5 ppl/hr	2 ppl/hr	7 ppl/hr	113 ppl
Proposed Retail (20,000 sf)							
Auto	2 veh/hr	1 veh/hr	2 veh/hr	3 veh/hr	3 veh/hr	7 veh/hr	54 veh
Transit	8 ppl/hr	5 ppl/hr	13 ppl/hr	18 ppl/hr	18 ppl/hr	36 ppl/hr	297 ppl
Bike	5 ppl/hr	4 ppl/hr	9 ppl/hr	12 ppl/hr	12 ppl/hr	24 ppl/hr	198 ppl
Walk	35 ppl/hr	25 ppl/hr	60 ppl/hr	84 ppl/hr	84 ppl/hr	168 ppl/hr	1388 ppl
Proposed Site Total							
Auto	11 veh/hr	27 veh/hr	37 veh/hr	28 veh/hr	20 veh/hr	49 veh/hr	675 veh
Transit	22 ppl/hr	46 ppl/hr	68 ppl/hr	59 ppl/hr	43 ppl/hr	102 ppl/hr	1274 ppl
Bike	6 ppl/hr	6 ppl/hr	12 ppl/hr	14 ppl/hr	14 ppl/hr	28 ppl/hr	254 ppl
Walk	36 ppl/hr	31 ppl/hr	67 ppl/hr	89 ppl/hr	86 ppl/hr	175 ppl/hr	1501 ppl
Existing Office (104,734 sf) [1]							
Auto	61 veh/hr	8 veh/hr	69 veh/hr	12 veh/hr	57 veh/hr	69 veh/hr	483 veh
Transit	91 ppl/hr	12 ppl/hr	103 ppl/hr	17 ppl/hr	85 ppl/hr	102 ppl/hr	713 ppl
Bike	7 ppl/hr	1 ppl/hr	8 ppl/hr	1 ppl/hr	7 ppl/hr	8 ppl/hr	57 ppl
Walk	11 ppl/hr	1 ppl/hr	12 ppl/hr	2 ppl/hr	10 ppl/hr	12 ppl/hr	86 ppl
Net New Trips							
Auto	-50 veh/hr	19 veh/hr	-32 veh/hr	16 veh/hr	-37 veh/hr	-20 veh/hr	192 veh
Transit	-69 ppl/hr	34 ppl/hr	-35 ppl/hr	42 ppl/hr	-42 ppl/hr	0 ppl/hr	561 ppl
Bike	-1 ppl/hr	5 ppl/hr	4 ppl/hr	13 ppl/hr	7 ppl/hr	20 ppl/hr	197 ppl
Walk	25 ppl/hr	30 ppl/hr	55 ppl/hr	87 ppl/hr	76 ppl/hr	163 ppl/hr	1415 ppl

[1] Existing site trips will be removed from the network based on field-collected driveway count data

Table 11: Existing Driveway Counts

Location	AM Peak Hour			PM Peak Hour		
	In	*Out*	*Total*	*In*	*Out*	*Total*
N Cleveland St	28 veh/hr	8 veh/hr	36 veh/hr	9 veh/hr	28 veh/hr	37 veh/hr

Table 12: Comparison of Auto Trips

Program	AM Peak Hour			PM Peak Hour		
	In	*Out*	*Total*	*In*	*Out*	*Total*
Proposed Site Total (ITE)	11 veh/hr	27 veh/hr	37 veh/hr	28 veh/hr	20 veh/hr	49 veh/hr
Existing Driveway Counts	28 ppl/hr	8 ppl/hr	36 ppl/hr	9 ppl/hr	28 ppl/hr	37 ppl/hr
Total (Proposed – Existing)	**-17 ppl/hr**	**19 ppl/hr**	**1 ppl/hr**	**19 ppl/hr**	**-8 ppl/hr**	**12 ppl/hr**

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 2500 Wilson Boulevard development and a discussion of potential improvements.

The purpose of the capacity analysis is to:

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

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

The following conclusions are reached within this chapter:

- There are no impacts to any study intersections as a result of the proposed development.
- Overall, this report concludes that the project will not have a detrimental impact to the surrounding transportation network.

Study Area, Scope, & Methodology

This section outlines the assumptions used to develop the existing and future roadway capacity analyses, including volumes, roadway geometries, and traffic operations. The scope of the analysis contained within this report was discussed with 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. 2024 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 impacts or require changes to traffic operations to accommodate the proposed development.

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

1. Wilson Boulevard and N Cleveland Street
2. Wilson Boulevard and N Barton Street
3. Clarendon Boulevard and N Cleveland Street
4. Clarendon Boulevard and N Barton Street
5. N Cleveland Street and Site Access (Future)

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 the following weekday turning movement count (TMC) data at all intersections and driveways:

- Volumes collected on Tuesday, May 8, 2024, from 6:30 to 9:30 AM and 4:00 to 7:00 PM

For all intersections, the system peak hours were 8:15 AM to 9:15 AM for the morning peak hour and 5:15 PM to 6:15 PM for the afternoon peak hour. The existing turning movement counts, without volume balancing, are included in the Technical Appendix. The existing peak hour traffic volumes for intersections within the vehicular study area are shown in Figure 25.

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 addition of growth along local roadways in the study area in 2029. This local growth is accounted for by inherent regional traffic growth, and by traffic generated by developments expected to be completed prior to 2029 (known as background developments), which is the expected buildout year for the proposed development.

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 2024 to 2029 for a total growth rate of 2.53%.

Background Developments (2029)

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, three (3) developments were included in the 2029 Background Conditions scenario. These developments are:

1. 2050 Wilson Boulevard – Courthouse Landmark Block
2. 2025 Clarendon Boulevard – Wendy's Site
3. 3200 Wilson Boulevard – Bingham Center / Silver Diner Site

The location of the background developments included in the 2029 Background Conditions scenario in relation to the proposed 2500 Wilson Boulevard development is shown on Figure 26. Transportation studies were available for all of the background developments included in the 2029 Background Conditions. Details on each of the background developments included in the 2029 Background Conditions are presented below:

1. **2050 Wilson Boulevard – Courthouse Landmark Block:** Located in the Clarendon-Courthouse neighborhood at the corner of the intersection of Clarendon Boulevard and N Uhle Street, the approved development will redevelop the existing office space with a new tower containing approximately 423 dwelling units, 17,000 square feet of retail, and a total of 220 parking spaces. The project was approved by the County Board on March 20, 2021. The expected build-out year is 2024. The development is expected to generate 140 weekday AM peak hour vehicle trips and 195 weekday PM peak hour vehicle trips based on the Traffic Impact Study prepared by Wells & Associates dated January 29, 2020.
2. **2025 Clarendon Blvd – Wendy's Site:** Located in the Radnor/Ft. Myer Heights neighborhood and on the corner of Wilson Boulevard and N Courthouse Road, the approved Clarendon Boulevard development will develop a 16-story mixed-use building, consisting of 4,604 square feet of ground floor retail and 231 residential units above. The expected build-out year is 2025. The development is expected to generate 26

weekday AM peak hour vehicle trips and 72 weekday PM peak hour vehicle trips based on the Traffic Impact Study prepared by Wells & Associates dated June 11, 2021.

3. **3200 Wilson Boulevard – Bingham Center / Silver Diner Site:** Located in the Clarendon neighborhood, the site is bordered by Wilson Boulevard to the east, N. Irving Street to the west, Washington Boulevard to the north, and 10th Street N to the south. The approved development will include a hotel and a multi-family residential building with ground floor retail. The residential building will include 11 stories and 290 residential units. The hotel building will be 10 stories and include 229 rooms. The expected build-out year is 2024. The development is expected to generate 119 weekday AM peak hour vehicle trips and 139 weekday PM peak hour vehicle trips based on the Traffic Impact Study prepared by Gorove-Slade dated July 20, 2020.

Trips generated by the approved background developments are included in the Technical Appendix. The traffic volumes generated by background developments were added to the existing traffic volumes in order to establish the 2029 Background traffic volumes. Trip distribution assumptions for the background developments were based on the distributions included in their respective studies or based on those determined for the proposed development and altered where necessary based on anticipated travel patterns. The traffic volumes for the 2029 Background conditions are shown on Figure 27.

2029 Future Traffic Volumes

The 2029 Future Conditions traffic volumes consist of the 2029 Background volumes with 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. Additional details for each land use are as follows:

- The origins of outbound and destinations of inbound vehicular trips were the site driveway accessed via N Cleveland Street.

A summary of the inbound and outbound trip distribution assumptions is shown on Figure 28 for the proposed development. Trip distribution and assignment assumptions were vetted by Arlington County. The site-generated traffic volumes for the 2029 build-out year are shown on Figure 29. The 2029 Future Conditions traffic volumes are shown on Figure 30.

Table 13: Traffic Generated by 2029 Background Developments

Development	Trip Generation					
	AM Peak Hour			PM Peak Hour		
	In	*Out*	*Total*	*In*	*Out*	*Total*
2050 Wilson Boulevard [1]						
Total New Vehicle-Trips	12	10	12	13	17	30
2025 Clarendon Boulevard [2]						
Total New Vehicle-Trips	7	3	10	5	3	8
3200 Wilson Boulevard [3]						
Total New Vehicle Trips	8	7	15	8	9	17
Total Background Trips	**27**	**20**	**37**	**26**	**29**	**55**

(1): Extracted from Courthouse Landmark Residential (01.29.2020) prepared by Wells + Associates.
(2): Extracted from 2025 Clarendon Boulevard TIA (06.11.2021) prepared by Wells + Associates.
(3): Extracted from 3200 Wilson Boulevard MMTA (12.02.2021) prepared by Gorove Slade Associates.

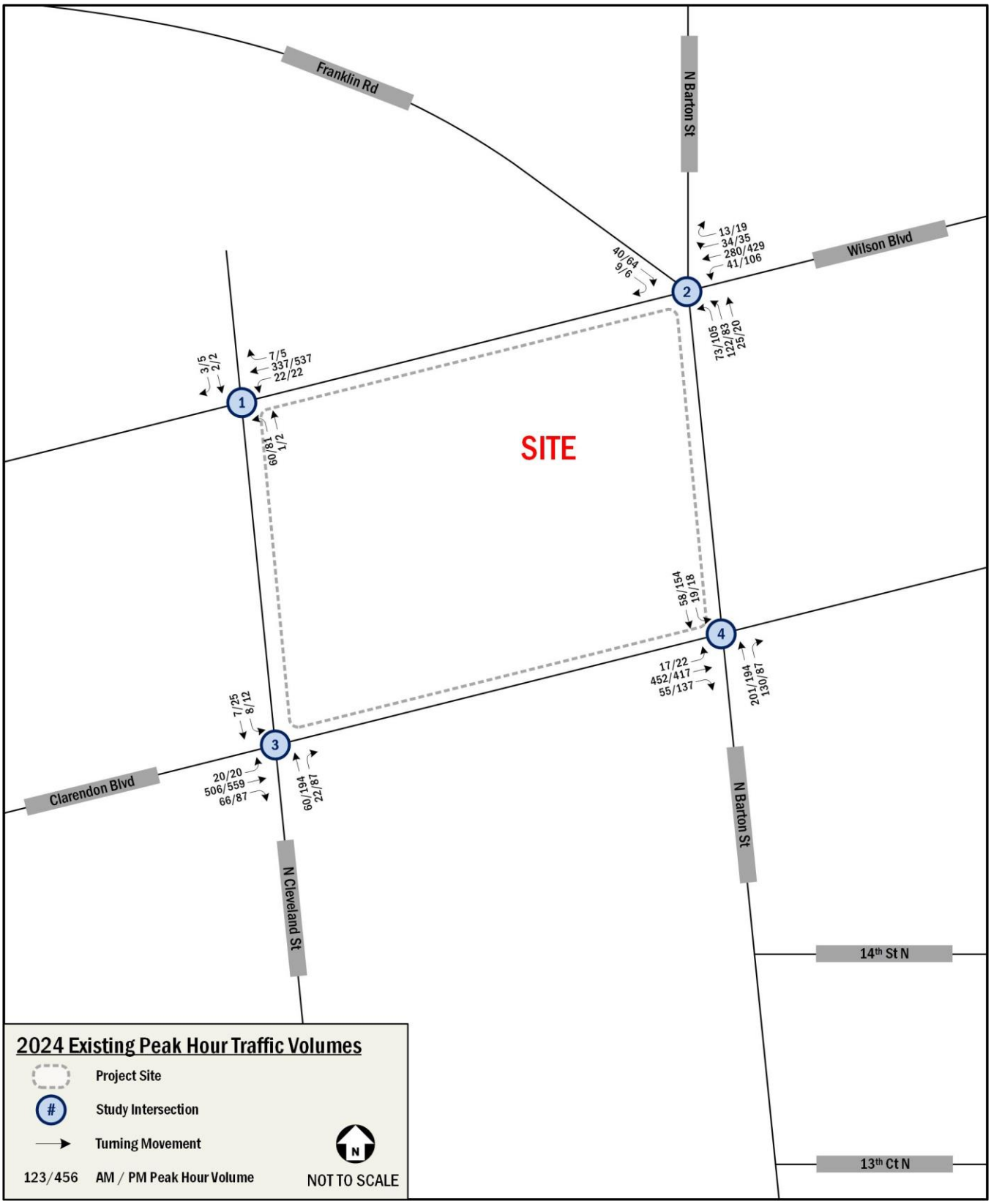

Figure 25: 2024 Existing Peak Hour Traffic Volumes

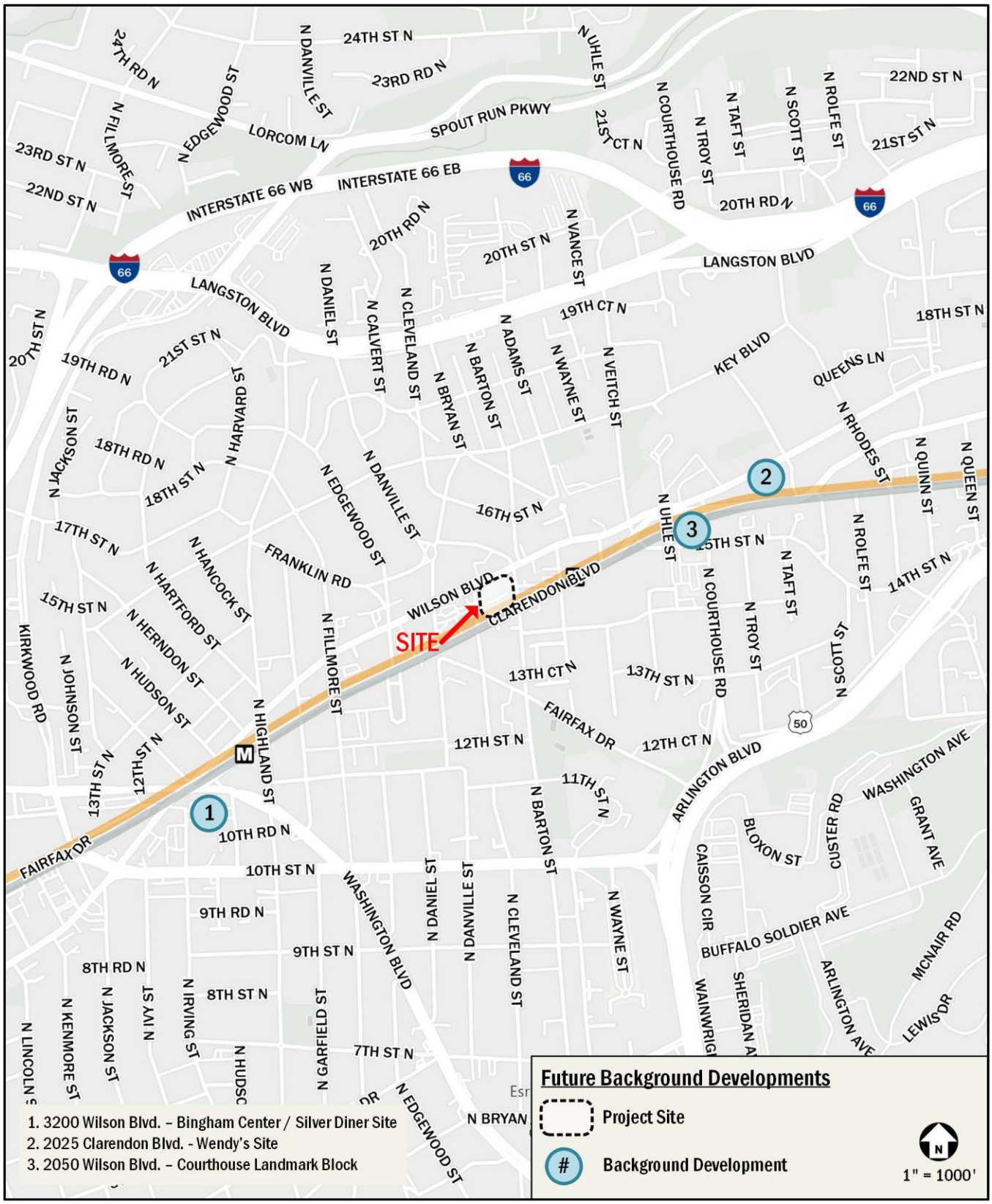

Figure 26: Future Background Developments

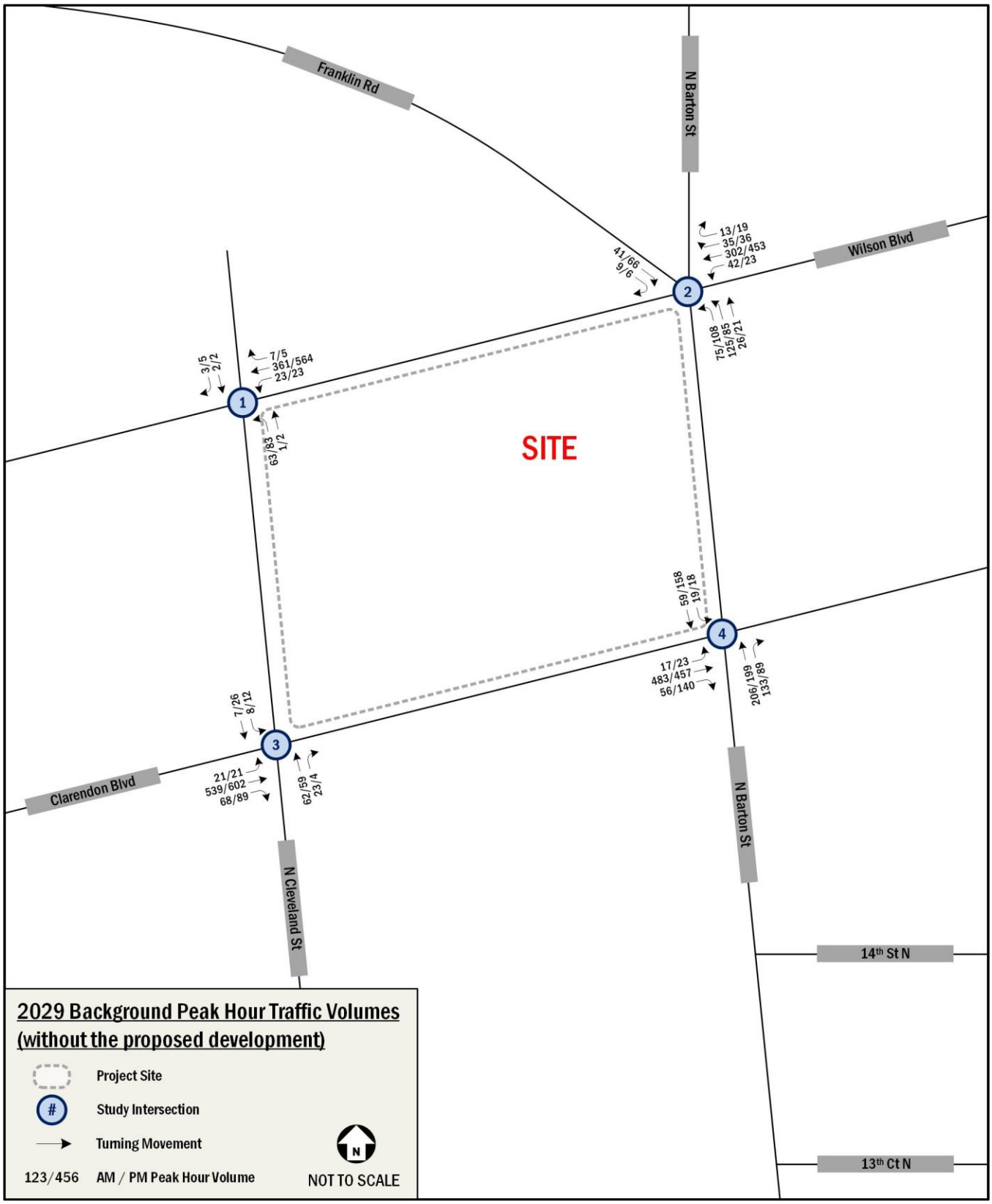

Figure 27: 2029 Background Peak Hour Traffic Volumes (without the proposed development)

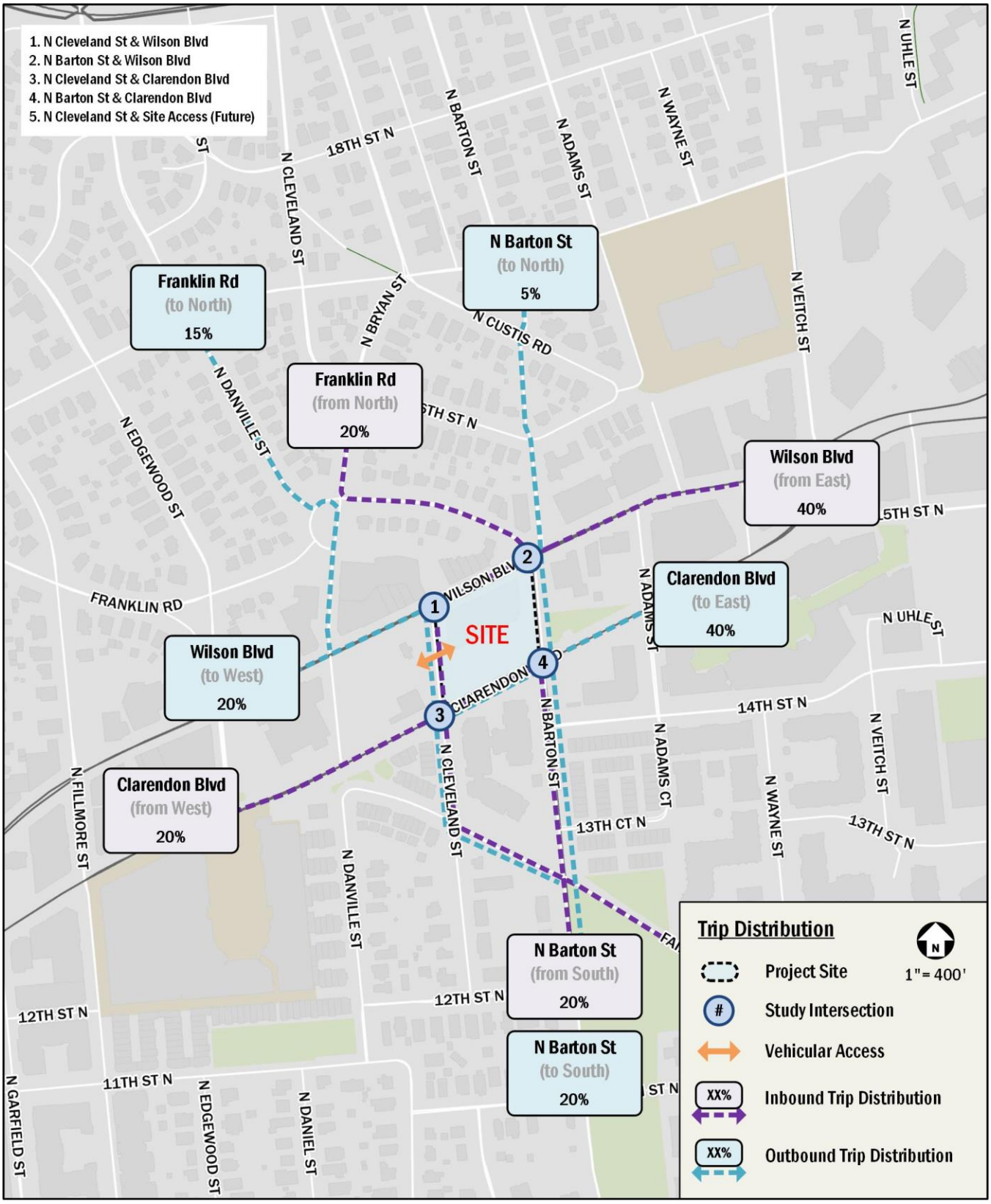

Figure 28: Inbound and Outbound Trip Distribution

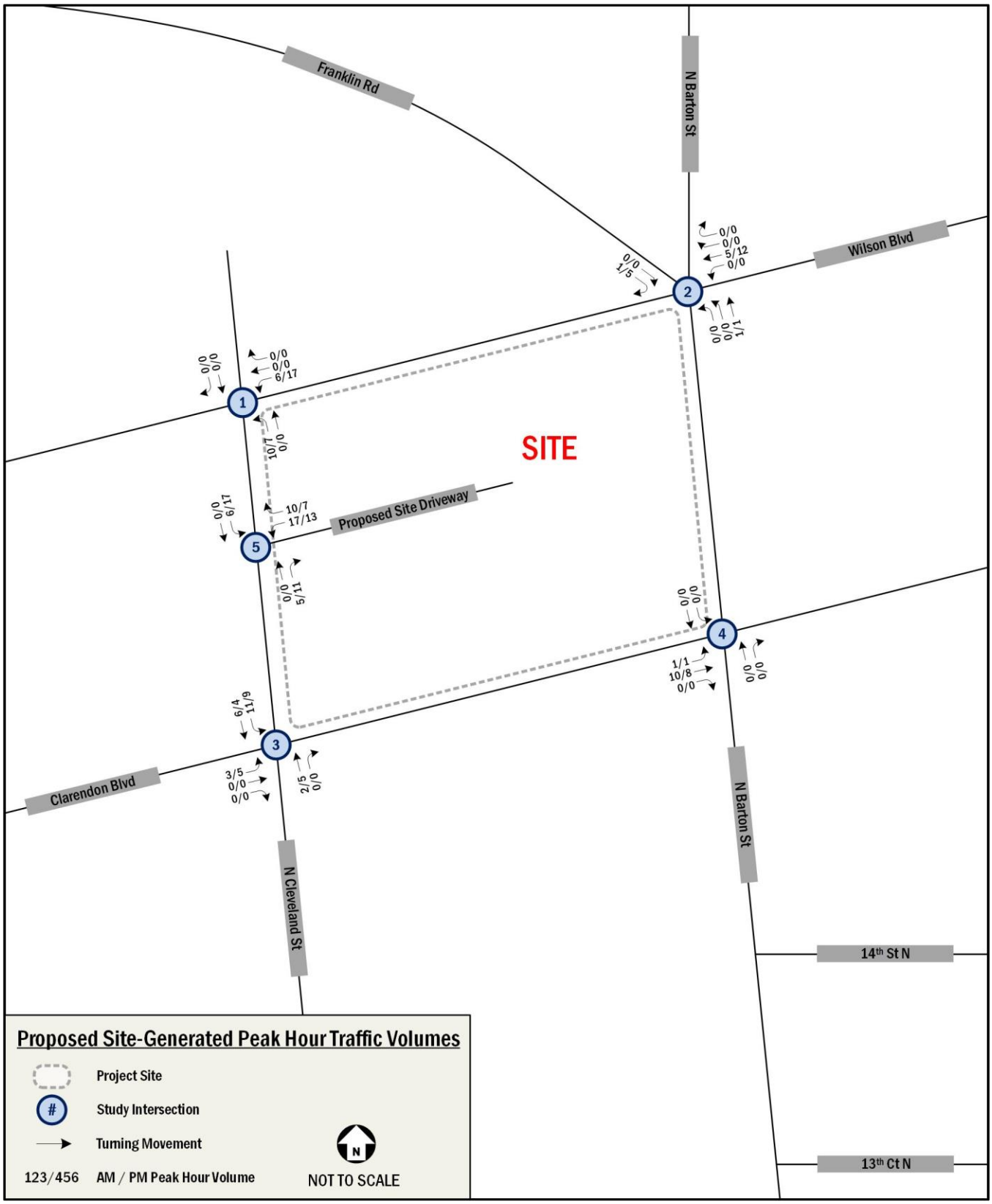

Figure 29: 2029 Site-Generated Peak Hour Traffic Volumes

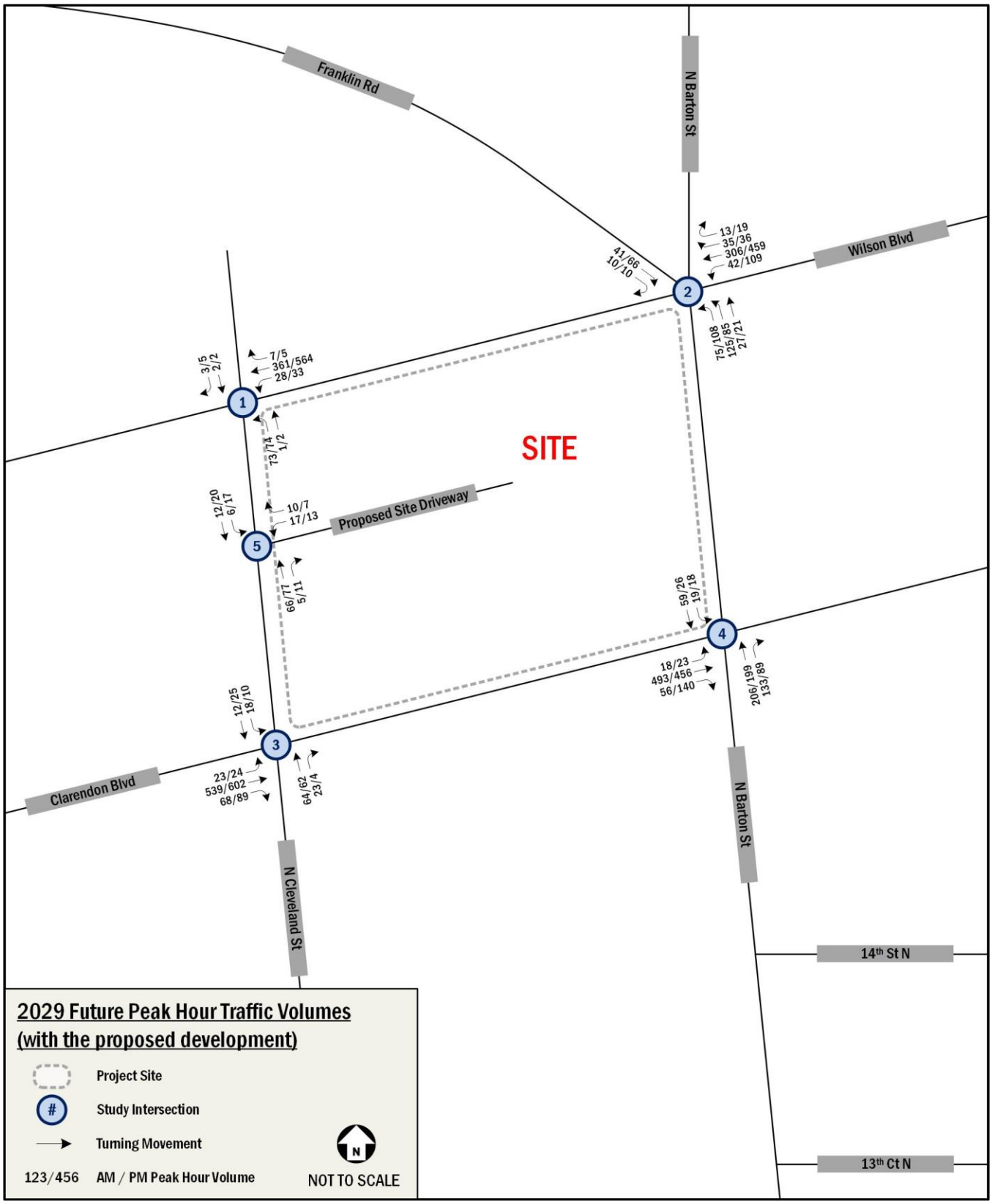

Figure 30: 2029 Future Peak Hour Traffic Volumes (with the proposed development)

Geometry and Operations Assumptions

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

2024 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 31.

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, no geometry and operations improvements were included in the 2029 Background scenario within the study area. Lane configurations and traffic controls for the 2029 Background Conditions are shown in Figure 31.

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.

The proposed development includes a site driveway on the west frontage of the site along N Cleveland Street, slightly north of the existing site driveways. The existing access on N Cleveland Street will be removed and replaced with one (1) new curb cut that will provide full access to the garage for the proposed development. Each intersection approach is configured with the following:

- The westbound approach will include one right/left lane.
- The northbound approach will include one thru/right lane.
- The southbound approach will include one left/thru lane.

There are no proposed changes to signal timing as part of the proposed development in the 2029 Future Conditions. Lane configurations and traffic controls for the 2029 Future Conditions are shown in Figure 32.

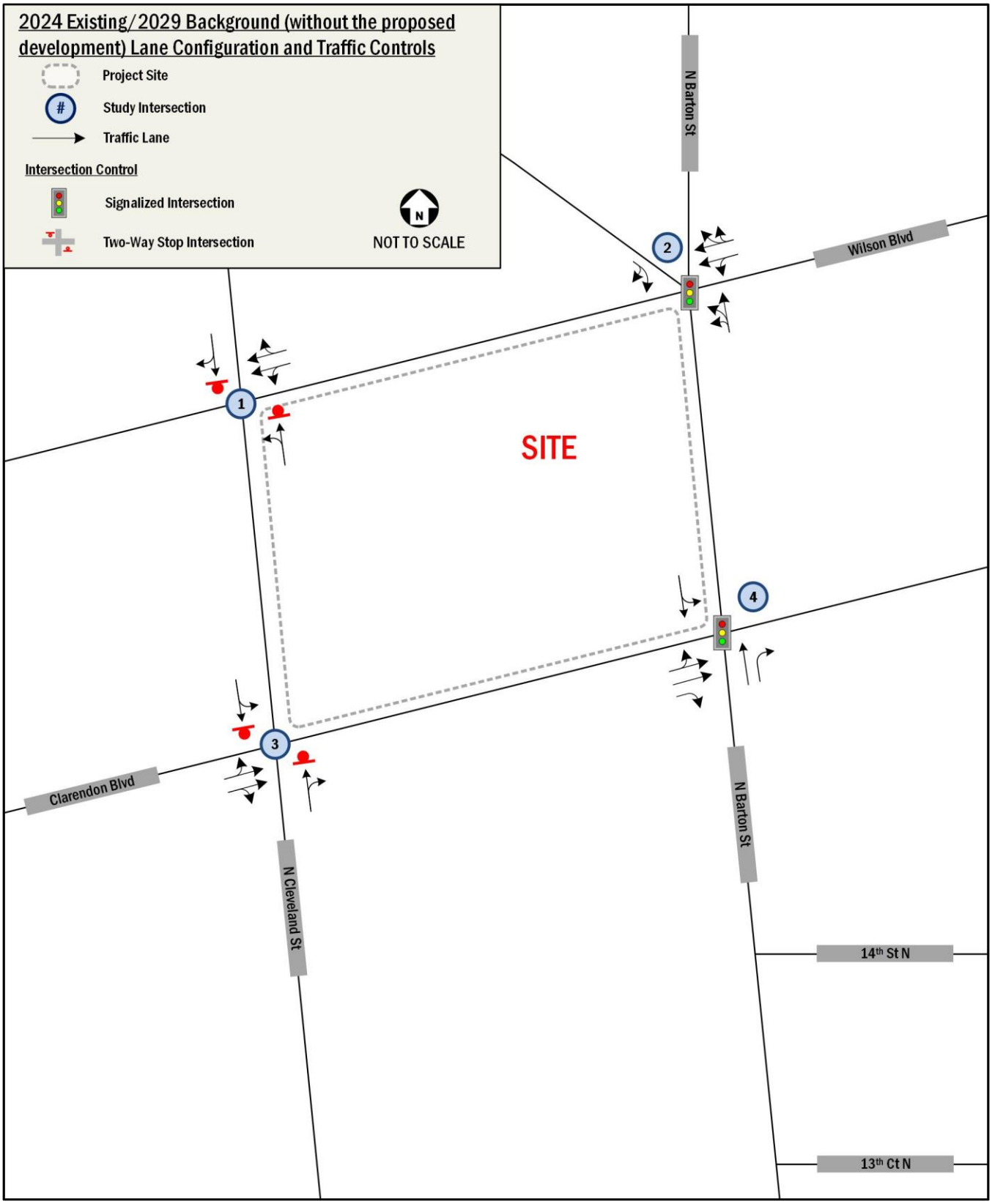

Figure 31: 2024 Existing/2029 Background (without the proposed development) Lane Configurations and Traffic Controls

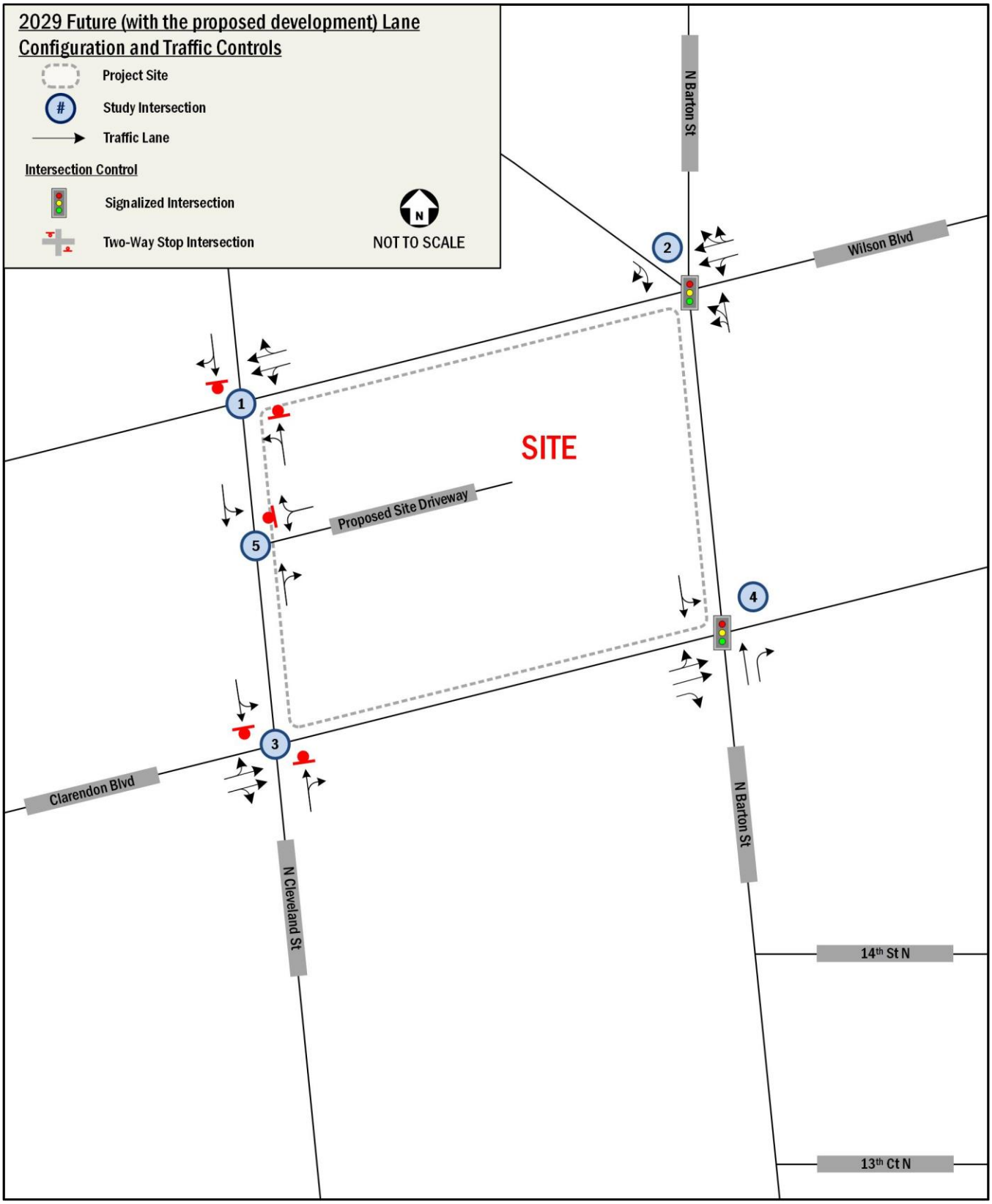

Figure 32: 2029 Future (with the proposed development) Lane Configurations and Traffic Controls

Vehicular Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for the three scenarios outlined previously at the intersections contained within the study area during the morning and afternoon 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. LOS E is typically used as the acceptable LOS threshold in Arlington County; although LOS F is sometimes accepted in urbanized areas if vehicular improvements would be a detriment to safety or non-auto modes of transportation. For the purpose of this analysis, it is desirable to achieve a level of service (LOS) of E or better for each movement at the intersections.

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

Queuing Analysis

In addition to the capacity analyses, a queuing analysis was performed at the study intersections. The queuing analysis was performed using *Synchro* software. The 50th percentile and 95th percentile queue lengths are shown for each lane group at the study area signalized intersections. The 50th percentile queue is the maximum back of queue on a median cycle. The 95th percentile queue is the maximum back of queue that is exceeded 5% of the time. For unsignalized intersections, only the 95th percentile queue is reported for each lane group (including free-flowing left turns and stop-controlled movements) based on the HCM 2000 calculations. Queuing analysis worksheets are contained in the Technical Appendix.

2024 Analysis Results

The Existing (2024) 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 14. The capacity analysis results indicate that most intersections operate at acceptable LOS under the Existing (2024) Conditions; however, one (1) intersection has two (2) movements that operate at levels beyond acceptable thresholds in the PM peak hour:

- Clarendon Boulevard & N Cleveland Street
  - Northbound Through/Right (PM Peak Hour)
  - Southbound Left/Through (PM Peak Hour)

The Existing (2024) queuing results for the AM and PM peak hours are expressed by movement are presented in Table 15. No intersections have movements with 95th percentile queues that exceed the available storage length in the morning or afternoon peak hour.

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 14. The capacity analysis results indicate that most intersections operate at acceptable LOS under the Existing (2024) Conditions; however, consistent with the Existing (2024) Conditions, one (1) intersection has two (2) movements that operate at levels beyond acceptable thresholds in the PM peak hour:

- Clarendon Boulevard & N Cleveland Street
  - Northbound Through/Right (PM Peak Hour)
  - Southbound Left/Through (PM Peak Hour)

The Background (2029) queuing results for the AM and PM peak hours are expressed by movement are presented in Table 15. Two (2) intersections have one movement with 95th percentile queues that exceed the available storage length in the morning or afternoon peak hour:

- Wilson Boulevard & N Franklin Street
  - Northbound Left (AM Peak Hour)
- Clarendon Boulevard & N Cleveland Street
  - Eastbound Right (PM Peak Hour)

Please note that the amount that these movements exceed their storage lengths is minimal, at only seven (7) feet and three (3) foot, respectively.

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 14. The capacity analysis results indicate that most intersections operate at acceptable LOS under the Future (2029) Conditions; however, similar to the Existing (2024) and Background (2029) Conditions, one (1) intersection has two (2) movements that operate at levels beyond acceptable thresholds in the PM peak hour:

- Clarendon Boulevard & N Cleveland Street
  - Northbound Through/Right (PM Peak Hour)
  - Southbound Left/Through (PM Peak Hour)

The Future (2029) queuing results for the AM and PM peak hours are expressed by movement and are presented in Table 15. One (1) intersection has a movement with 95th percentile queues that exceed the available storage length in the morning or afternoon peak hour:

- Clarendon Boulevard & N Cleveland Street
  - Eastbound Right (PM Peak Hour)

Additionally, one (1) intersection that had a movement with 95th percentile queues that exceeded the available storage length improved in the Future (2029) conditions to no longer meet that threshold, which is:

- Wilson Boulevard & N Franklin Street
  - Northbound Left (AM Peak Hour)

2029 Future Mitigations

Following Arlington County guidelines for mitigation, there are no impacts to any intersections under Future (2029) Conditions, and therefore, no mitigation measures are proposed. The Future (2029) Conditions results are shown in Table 14 and Table 15, with detailed Synchro reports included in the Technical Appendix.

Table 14: Capacity Analysis Results

	Intersection and Movement	Existing (2024)				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.	**Wilson Blvd & N Cleveland Street**												
	Westbound LT	1.1	A	0.7	A	0.9	A	0.7	A	1.1	A	1.0	A
	Westbound TR	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--
	Northbound LT	12.0	B	16.3	C	11.5	B	16.4	C	12.5	B	16.1	C
	Southbound TR	11.2	B	14.8	B	11.4	B	15.2	C	11.6	B	14.9	B
2.	**Wilson Blvd & N Barton Street/N Franklin Street**												
	Overall	**24.8**	**C**	**24.4**	**C**	**28.5**	**C**	**21.9**	**C**	**24.1**	**C**	**24.4**	**C**
	Westbound LT	9.9	A	11.4	B	10.0	B	11.6	B	9.9	A	11.6	B
	Westbound TR	9.9	A	11.4	B	10.0	B	11.6	B	9.9	A	11.6	B
	Northbound LT	49.8	D	61.1	E	61.5	E	50.9	D	49.0	D	61.8	E
	Southbound TR	23.6	C	24.0	C	23.6	C	24.0	C	23.5	C	24.1	C
3.	**Clarendon Blvd & N Cleveland Street**												
	Eastbound LT	0.6	A	0.6	A	0.7	A	0.6	A	0.7	A	0.7	A
	Eastbound TR	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--
	Northbound TR	21.5	C	81.4	F	23.1	C	86.3	F	22.7	C	92.6	F
	Southbound LT	17.5	C	54.0	F	18.5	C	56.7	F	18.5	C	57.6	F
4.	**Clarendon Blvd & N Barton Street**												
	Overall	**17.4**	**B**	**19.1**	**B**	**17.6**	**B**	**17.5**	**B**	**17.4**	**B**	**19.1**	**B**
	Eastbound LT	9.9	A	9.7	A	9.9	A	9.8	A	10.0	A	9.8	A
	Eastbound T	9.9	A	9.7	A	9.9	A	9.8	A	10.0	A	9.8	A
	Eastbound R	8.7	A	13.9	B	8.7	A	13.7	B	8.7	A	13.7	B
	Northbound TR	29.3	C	28.6	C	29.1	C	28.8	C	29.3	C	28.8	C
	Southbound LT	21.6	C	33.3	C	24.4	C	24.4	C	21.1	C	33.8	C
5.	**N Cleveland Street & Proposed Site Driveway**												
	Westbound LR	--	--	--	--	--	--	--	--	9.1	A	9.3	A
	Northbound TR	--	--	--	--	--	--	--	--	0.0	--	0.0	--
	Southbound LT	--	--	--	--	--	--	--	--	2.5	A	3.4	A

Table 15: Queuing Results

	Intersection and Lane Group	Storage Length (ft)	Existing (2024)				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.	**Wilson Blvd & N Cleveland Street**													
	Westbound LT	250	--	1	--	1	--	1	--	1	--	1	--	2
	Westbound TR	250	--	0	--	0	--	0	--	0	--	0	--	0
	Northbound LT	225	--	11	--	21	--	9	--	22	--	13	--	21
	Southbound TR	125	--	1	--	2	--	1	--	1	--	1	--	1
2.	**Wilson Blvd & N Franklin Street**													
	Westbound LT	220	53	78	53	135	58	85	58	144	54	78	54	145
	Westbound TR	230	53	78	53	135	48	72	48	135	48	72	48	135
	Northbound LT	225	147	223	142	217	0	232	144	#220	141	215	145	#222
	Southbound TR	500	24	50	35	67	23	52	33	69	21	49	35	72
3.	**Clarendon Blvd & N Cleveland Street**													
	Eastbound LT	230	--	1	--	1	--	1	--	1	--	1	--	1
	Eastbound TR	230	--	0	--	0	--	0	--	0	--	0	--	0
	Northbound TR	230	--	32	--	81	--	33	--	81	--	34	--	88
	Southbound LT	225	--	4	--	38	--	5	--	38	--	9	--	37
4.	**Clarendon Blvd & N Barton Street**													
	Eastbound LT	230	77	99	68	93	76	106	72	101	78	110	72	101
	Eastbound T	230	77	99	68	93	77	99	68	93	77	99	68	93
	Eastbound R	90	15	32	46	90	14	33	44	93	14	33	44	93
	Northbound TR	540	105	171	98	164	105	173	100	167	105	174	100	167
	Southbound LT	225	38	70	103	163	42	86	74	121	37	72	99	168
5.	**N Cleveland Street & Proposed Site Driveway**													
	Westbound LR	--	--	--	--	--	--	--	--	--	--	2	--	2
	Northbound TR	--	--	--	--	--	--	--	--	--	--	0	--	0
	Southbound LT	--	--	--	--	--	--	--	--	--	--	0	--	1

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

Crash Data Review

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

VDOT Crash Data

Based on guidelines contained in the Safety Analysis Guidance (May 2021) provided by Arlington County DES, crash data from 2019 to 2023 was obtained from the VDOT Crash Analysis Tool for crashes occurring in the vicinity of the site. This data was used to conduct a review of safety at study intersections. The crash data used in the analysis is included in the Technical Appendix.

Based on the historical crash data, a total of 29 crashes occurred at study area intersections between 2019 and 2023. Figure 33 shows the number of crashes per year in in the study area over the last five years. The data obtained from VDOT shows that the number of reported crashes generally varies from year to year but increased sharply in 2022.

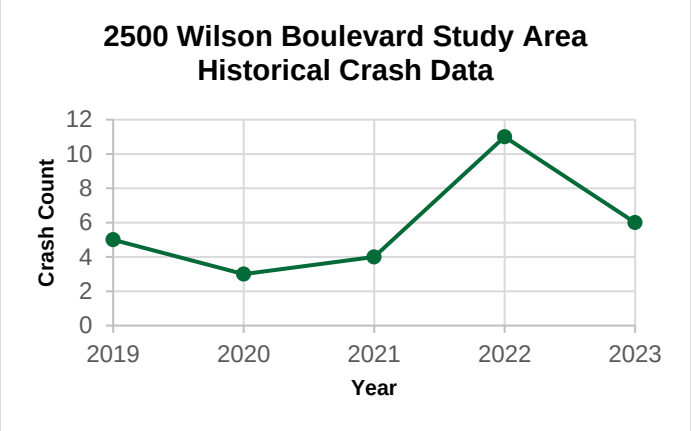

Figure 33: Historical Crash Data

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 2019 to 2023, 76% were classified as O (Property Damage Only), 6% were classified as B (Suspected Minor Injury), and 3% were classified as A (Suspected Serious Injury). No reported crashes involved fatal injury. Table 16 shows the number of crashes according to its severity.

Table 16: Crash Count by Severity (2019-2023)

Crash Severity	Count	%
K	0	0%
A	1	3%
B	6	21%
C	0	0%
O	22	76%
Total	**29**	**100%**

Collision Type

The most common type of collision found in the study area was angle collisions, with 79% of crashes occurring in this manner. Table 17 summarizes the collision type for all analyzed crashes.

Table 17: Crash County by Collision Type

Collision Type	Count	%
Rear End	0	0%
Angle	23	79%
Sideswipe - Same Direction	1	3%
Ped	4	15%
Other	1	3%
Total	**29**	**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, 69% of the crashes occurred during daylight, and 31% of the crashes occurred during darkness with a lighted road. All roads within the study area are lighted, therefore all nighttime crashes occurred under lighted conditions. Table 18 summarizes the light

conditions for crashes in the vicinity of the 2500 Wilson Boulevard site.

Table 18: Crash Count by Light Condition

Light Condition	Count	%
Daylight	20	69%
Darkness - road lighted	9	31%
Total	**29**	**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 19, a distracted driver was reported in 10% of the analyzed crashes, speeding was involved in 21% of the analyzed crashes, and alcohol was involved in 7% of crashes. This information suggests that driver behavior may have been the primary cause of the crash in a considerable amount of crashes.

Table 19: Crash Count by Driver Behavior Factors

Driver Behavior Factors	Count	%
Distracted Driver?		
Yes	3	10%
No	26	90%
Speeding?		
Yes	6	21%
No	23	79%
Alcohol Involved?		
Yes	2	7%
No	27	93%
Total	**29**	**100%**

Vehicle Characteristics

Vehicle characteristics including type of vehicle and vehicle size were analyzed to determine their contribution to crashes in the vicinity of the 2500 Wilson Boulevard site. As shown in Table 20, no crashes involving large trucks, motorcycles, or bicyclists have been reported in the past five (5) years, while four (4) crashes have been reported to involve pedestrians.

Table 20: Crash Count by Vehicle Characteristics

Vehicle Characteristics Factors	Count	%
Large Truck Involved		
Yes	0	0%
No	29	100%
Motorcycle Involved		
Yes	0	0%
No	29	100%
Bike Involved		
Yes	0	0%
No	29	100%
Pedestrian Involved		
Yes	4	14%
No	25	86%
Total	**6**	**100%**

Findings

According to the VDOT historical crash data for the study area, the location with the greatest number of reported crashes was the intersection of Clarendon Boulevard and N Cleveland Street, with 15 of the 29 (or 52%) reported crashes occurring at the intersection. The most severe crash reported in the study area between 2019 and 2023 was classified as A (severe injury) and occurred at the intersection of Clarendon Boulevard and N Barton Street. This was an angle collision, as seen in Figure 33. No crashes were classified as K (fatal injury) and no crashes involved bicyclists.

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 bicycle parking with be provided on-site. These improvements are consistent with several County-wide and national guidelines which prioritize shifting trips to non-auto modes, complete streets principles, and safety for all users, including the Arlington Master Transportation Plan, Vision Zero Action Plan, and NACTO Urban Streets Design Guide. The project does not propose changes to nearby intersections or the roadway network, except for moving the site access along N Cleveland Street and pedestrian improvements along the site frontage. The proposed driveway on N Cleveland Street will be located close to the same location as the existing vehicular access, consistent with existing driver expectations. As such, no change is anticipated to the crash rates in the vicinity of the site.

Figure 34: Historical Crash Data (2019-2023)

Transportation Demand Management / Transportation Management Plan

A Transportation Management Plan (TMP) has many components that are tailored to accommodate a given facility with the goal being the reduction of automobile trips by encouraging alternative forms of transportation. A few of the typical TMP components include the establishment of a TMP coordinator, the distribution of transit literature, the establishment of ride-sharing programs, and the on-site sale of discounted fare media. Management measures taken by the proposed 2500 Wilson Boulevard development can be monitored and adjusted as needed to continually create opportunities to reduce the amount of vehicular traffic generated by the site.

The TMP will include a schedule and details of implementation and continued operation of the elements in the plan. The location of the site near the Court House Metro Station 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 retail property management, or maintenance employee, from initial occupancy through the life of the site plan. These materials shall be distributed as a part of prospective tenant marketing materials, as well as communications associated with lease signing, on-boarding, or similar activities.

(2) Provide one time, per person, to each new residential lessee and each new retail property management, or maintenance employee, whether employed part-time or full-time, directly employed or contracted, who begins employment in the building throughout initial occupancy, the choice of one of the following:

a. Metro fare on a SmarTrip card or successor fare medium (amount to be determined)

b. A one-year bikeshare membership

c. A one-year carshare membership

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

(3) Provide, administer, or cause the provision of a sustainable commute benefit program for each on-site property

management and maintenance employee, whether employed part-time or full-time, directly employed or contracted. This commute benefit program shall offer, at a minimum, a monthly pre-tax transit benefit or a monthly subsidized/direct transit benefit.

(4) Provide, under a “transportation information” heading on the Developer and property manager’s websites regarding this development:

a. Links to the most appropriate Arlington County Commuter Services and/or external transportation-related web page(s). Confirmation of most appropriate link will be obtained from ACCS.

b. A description of key transportation benefits and services provided at the building, pursuant to the TMP.

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 not have a detrimental impact to the surrounding transportation and roadway network assuming that all planned site design elements are implemented.

The 2500 Wilson Boulevard site is well served by transit and is surrounded by a well-connected pedestrian and bicycle network. The site is located on the principal arterials Wilson Boulevard and Clarendon Boulevard, and near several other principal arterials that create connections to I-395, I-66, George Washington Memorial Parkway, and ultimately the Capital Beltway (I-495) and I-95.

The proposed development will consist of a mixed-use building with up to 323 residential units and 20,000 square feet of retail space.

The proposed development will provide approximately 237 parking spaces in a below-grade parking garage located on-site. Vehicular and loading access to the below-grade garage will be provided along the proposed driveway accessed via N Cleveland Street.

A number of planned transportation improvements in the vicinity of the 2500 Wilson Boulevard development are expected to be complete by 2029. The full list of improvements is detailed in the report, but projects include:

- 2050 Wilson Boulevard – Courthouse Landmark Block
- 2025 Clarendon Boulevard – Wendy's Site
- 3200 Wilson Boulevard – Bingham Center / Silver Diner Site

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 2500 Wilson Boulevard development.

Mitigation measures were identified based on Arlington County standards. The proposed development is considered to have an impact at an intersection if any of the outlined conditions are met. Following these guidelines, mitigation measures were not recommended as the project does not have an impact on any study area intersections.

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

- The proposed development's proximity to the Court House Metro Station, and multiple bus lines.
- Pedestrian facilities adjacent to the site that meet or exceed Arlington County and ADA requirements.
- The inclusion of secure-long-term bicycle parking meeting zoning requirements.
- The installation of short-term bicycle parking spaces around the perimeter of the site that meet zoning requirements.
- Transportation Demand Management Transportation Management Plan (TMP) that aims to reduce the demand of single-occupancy, private vehicles to/from the proposed development during peak period travel times or shifts single-occupancy vehicular demand to off-peak periods.

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