COMPREHENSIVE TRANSPORTATION REVIEW

1515 NEW YORK AVENUE NE

LARGE TRACT REVIEW

WASHINGTON, DC

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EXECUTIVE SUMMARY

The following report is a Comprehensive Transportation Review (CTR) for the 1515 New York Ave NE development. This report reviews the transportation aspects of the project's Large Tract Review Application.

The purpose of this study is to evaluate whether the project will generate a detrimental impact on the surrounding transportation network. This evaluation is based on a technical comparison of the existing conditions, background conditions, and future conditions. This report concludes that **the project will not have a detrimental impact** on the surrounding transportation network assuming that all planned site design elements are implemented.

Proposed Project

The subject property (the "Site") is located on the southwest corner of the New York Avenue and 16th Street, NE intersection. It is bordered by New York Avenue to the north, 16th Street to the east, industrial and commercial buildings to the south, and Walt Lincoln Way (a one-way private road owned by the Applicant) to the west. The Site is currently occupied by a surface parking lot and vacant warehouse. The development plan proposes to replace these existing uses with a one- and two-story retail building containing approximately 92,657 square feet of retail and 140 parking spaces in a below-grade garage.

As part of the development, sections of the roadway network surrounding the site will be improved. Pedestrian facilities along the perimeter of the project on New York Avenue and 16th Street will be improved so that they meet or exceed DDOT and ADA standards. This includes sidewalks that meet or exceed width requirements, crosswalks at all necessary locations, and curb ramps with detectable warnings. In addition, two (2) existing curb cuts will be removed, including one (1) on New York Avenue and one (1) on 16th Street. An existing 75-foot curb cut on 16th Street will be modified into one (1) 23-foot curb cut for the below-grade garage and one (1) 24-foot curb cut for loading.

Vehicular access to the 140 vehicular parking spaces in the below-grade garage will be via 16th Street. The amount of proposed parking exceeds minimum zoning requirements and meets the practical needs of the development.

The development will include two (2) loading berths at 30 feet, one (1) loading berth at 75 feet, and one (1) service/delivery space at 20 feet, exceeding the number of loading berths required by the zoning regulations. Access to the loading facilities will primarily be via 16th Street, and one (1) service/delivery space accessible from Walt Lincoln Way. These loading facilities will be sufficient to accommodate the practical needs of the development.

The development will meet the zoning requirements for bicycle parking by including 28 short-term bicycle parking spaces and nine (9) long-term bicycle parking spaces, as well as four (4) showers and five (5) lockers. This amount of bicycle parking, showers, and lockers will meet the practical needs of the development.

Multi-Modal Impacts and Recommendations

Transit

The Site is served by regional and local transit services via Metrobus and Metrorail. The Site is 1.5 miles from the Rhode Island Avenue-Brentwood and NoMa-Gallaudet Metrorail stations. There is a Metrobus stop that services the E2 and D4 WMATA bus routes located adjacent to the Site on 16th Street. Though WMATA plans to relocate this bus stop to Okie Street in summer 2018, it will still be located in close proximity to the Site.

Although the development will be generating new transit trips, existing facilities have enough capacity to accommodate the new trips.

Pedestrian

The Site is surrounded by a well-connected pedestrian network. Most roadways within a quarter-mile radius provide sidewalks and curb ramps, particularly along the primary walking routes. There are areas east and south of the Site which lack buffers, curb ramps, or crosswalks that meet DDOT and ADA standards. In addition, there are areas along New York Avenue and 16th Street which lack sidewalks all together.

The New York Avenue Streetscape and Trail project and other planned developments in the study area are expected to improve pedestrian facilities that currently do not meet DDOT and ADA standards.

As a result of the development, pedestrian facilities along the perimeter of the Site will be improved such that they meet or exceed DDOT requirements and provide an improved

pedestrian environment. Two (2) existing curb cuts will be removed, including one (1) on New York Avenue and one (1) on 16th Street, where an existing 75-foot curb cut on will be modified into one (1) 23-foot curb cut for the below-grade garage and one (1) 24-foot curb cut for loading.

Bicycle

Bicycle infrastructure in the vicinity of the Site is limited. The site is 0.5 miles from the nearest designated bicycle facility, which are bicycle lanes on 18th Street NE. However, there is a signed bicycle route along West Virginia Avenue that provides connectivity to bicycle lanes on 18th Street NE and a cycle track on 6th Street NE.

The New York Avenue Streetscape and Trail project will add substantial bicycle infrastructure in the vicinity of the Site, including a raised cycle track along the north side of New York Avenue NE that continues along 16th Street NE, as part of a bicycle route connecting the Metropolitan Branch Trail to the National Arboretum. The planned cycle track along 16th Street was kept in mind when designing the layout of the proposed development with particular attention paid to the loading facilities.

The development will provide short-term bicycle parking along the perimeter of the site for patrons of the development. On-site secure long-term bicycle parking, showers, and lockers will be provided in the below-grade garage for employees of the development. The amount of bicycle parking provided will meet zoning requirements.

Vehicular

The Site is well connected to regional roadways, such as New York Avenue (US-50) and Interstate 295, primary and minor arterials such as West Virginia Avenue and Mount Olivet Road, as well as an existing network of collector and local roadways.

In order to determine the potential impacts of the proposed development on the transportation network, this report projects future conditions with and without development of the site and performs analyses of intersection delays and queues. These are compared to the acceptable levels of delay set by DDOT standards to determine if the site will negatively impact the study area. Four (4) intersections were found to operate under unacceptable delay or queueing in future with development conditions and were reviewed for potential improvements. As such, the following mitigation measures are proposed:

- *New York Avenue & 16th Street NE*
  This report recommends adding a westbound protected left turn phase to this intersection. There are a limited number of ways for vehicular traffic to enter Ivy City from the east, and the addition of a protected left turn phase at this intersection will improve porosity and circulation to the Site and Ivy City.

- *New York Avenue & Montana Avenue & West Virginia Avenue Intersection Complex ("Montana Circle")*
  While the capacity analysis developed for this study noted significant delays at the intersection complex under conditions with or without development, observations note that delays extend along most approaches at these intersections under existing conditions. These delays are a result of the limited throughput that the intersections can accommodate, and metering that is caused by intersections up- and down-stream from the intersection complex. With the addition of the development, delays and queuing are increased to unacceptable levels for certain approaches. However, given the delay and queuing present throughout the New York Avenue corridor, solutions for the delays and queuing present at these intersections should be examined through regional transportation planning efforts.

- *Okie Street & Fenwick Street*
  This report recommends the conversion of this intersection from two-way stop controlled to all-way stop controlled. An all-way stop was warranted based on peak hour vehicle and pedestrian volumes.

- *West Virginia Avenue & 16th Street*
  This report recommends restriping the southbound approach to include separate left- and right-turn lanes. To accommodate this change parking would need to be eliminated on both sides of the 16th Street.

In completing the technical capacity analyses, this report noticed several overall trends regarding changes to travel patterns in the study area during the weekday morning and afternoon peak hours (compared to the traffic counts collected in 2013 and 2015). During the AM peak hour, traffic volumes and commuting patterns have remained relatively constant, with a noticeable increase in westbound traffic on New York Avenue that is most likely attributable to a growth in commuter traffic. During the PM peak hour, traffic volumes and patterns

have also remained relatively constant. Notably, there has been a sharp rise in eastbound commuter traffic turning left from West Virginia Avenue onto 16th Street (38 vehicles in 2013 vs 203 vehicles in 2018) and then right onto New York Avenue (76 vehicles in 2013 vs 247 in 2018). This is most likely due to the signal timing changes in the study area that prioritize commuter traffic on New York Avenue at the expense of the minor movements.

The majority of vehicular capacity concerns in the study area can be alleviated through signal timing adjustments that adapt to changes in volume patterns. It should be noted that operational changes alone cannot mitigate future delays at some locations. In addition, it is likely that drivers will alter their patterns as future conditions change.

As has been stated in prior reports prepared for developments throughout this area of the District, an essential component for good traffic operations in this area will be to minimize the vehicular trip generation of new development, thus reducing the overlap between new local traffic and regional traffic. Instead of investing in widening roadways to alleviate capacity concerns, the strategy has been to minimize traffic volumes to avoid capacity problems. This is also because widening roadways and adding more vehicular capacity is not feasible nor desirable due to the negative impact it can have on other modes.

As such, the multi-modal improvements described in this report are indirectly mitigating traffic operations impacts as they make non-auto mode choices more desirable. The Applicant has contributed significantly towards improvements of portions of the streetscape on New York Avenue, and funded the *New York Avenue Rail-with-Trail Linking Northeast Washington, D.C Concept Plan* (2015) that was a precursor to the New York Avenue Streetscape and Trails project.

In conjunction with the regional transportation planning efforts that this report recommends be undertaken to examine delay and queuing at Montana Circle, this report recommends that DDOT consider shortening the cycle lengths of signals along the New York Avenue corridor in the study area. Shorter signal cycles permit frequent gaps, allowing city streets to function as a complete network rather than a series of major corridors for commuter traffic. In addition, with the planned New York Avenue Streetscape and Trail project, shorter signal cycles provide more consistent crossing opportunities for pedestrians and bicycles, while long cycle lengths may increase pedestrian and bicycle non-compliance and risk-taking behavior.

Summary and Recommendations

This report concludes that **the proposed development will not have a detrimental impact on the surrounding transportation network assuming that the proposed site design elements and proposed mitigation measures are implemented.**

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

- The inclusion of secure-long-term bicycle parking, showers, and lockers.
- The installation of short-term bicycle parking spaces around the perimeter of the site that meet or exceed zoning requirements.
- The closure of three (3) median breaks on New York Avenue.
- The installation of an all-way stop at the intersection of Okie Street and Fenwick Street.
- Parking is right-sized to demand and can accommodate all demand on site while not encouraging driving as a mode.
- Implementation of a Loading Management Plan (LMP) that minimizes the potential impacts from loading that the proposed development will have on the surrounding intersections and neighborhoods
- The creation of wide pedestrian sidewalks that meet or exceed DDOT and ADA requirements.
- A Transportation Demand Management (TDM) plan that reduces the demand of single-occupancy, private vehicles during peak period travel times or shifts single-occupancy vehicular demand to off-peak periods.
- The Applicant coordinated with DDOT and ANC 5C and 5D on the pedestrian and bicycle improvements contained in the New York Avenue Streetscape and Trail project. The Applicant has contributed significantly towards improvements of portions of the streetscape on New York Avenue NE, and to the funding of the conceptual plan in 2015.

INTRODUCTION

This report is a Comprehensive Transportation Review (CTR) of the 1515 New York Avenue NE development. This report reviews the transportation elements of the Large Tract Review (LTR) Application. The subject property (the "Site"), shown in Figure 1 and Figure 2, is located at 1515 New York Avenue in Northeast DC.

PURPOSE OF STUDY

The purpose of this report is to:

1. Review the transportation elements of the development site plan and demonstrate that the site conforms to DDOT's general policies of promoting non-automobile modes of travel and sustainability.
2. Provide information to DDOT and other agencies on how the development of the site will influence the local transportation network. This report accomplishes this by identifying the potential trips generated by the site on all major modes of travel and where these trips will be distributed on the network.
3. Determine if development of the site will lead to adverse impacts on the local transportation network. This report accomplishes this by projecting future conditions with and without development of the site and performing analyses of vehicular delays. These delays are compared to the acceptable levels of delay set by DDOT standards to determine if the site will negatively impact the study area. In those areas where adverse impacts are identified and require mitigation, the report provides recommendations for improvements to the transportation network to mitigate the adverse impacts.

PROJECT SUMMARY

The 1515 New York Ave NE project is the redevelopment an existing surface parking lot and a vacant warehouse. The development plan proposes replacing the lot and warehouse with a one- and two-story building with approximately 92,657 square feet of retail. There are several retailers expected to move into the building, with an anchor tenant occupying approximately 63,070 square feet on the ground floor. 140 parking spaces will be provided in a below-ground garage.

CONTENTS OF STUDY

This report contains nine (9) sections as follows:

Study Area Overview
This section reviews the area near and adjacent to the project and includes an overview of the site location.

Project Design
This section reviews the transportation components of the project, including the site plan and access. This chapter also contains the proposed Transportation Demand Management (TDM) plan for the site.

Trip Generation
This section outlines the travel demand of the proposed project. It summarizes the trip generation of the project.

Traffic Operations
This section provides a summary of the existing roadway facilities and an analysis of the existing and future roadway capacity in the study area. This section highlights the vehicular impacts of the project, including presenting mitigation measures for minimizing impacts as needed.

Transit
This section 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 section 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 section 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.

Safety/Crash Analysis
This section reviews the potential safety impacts of the project. This includes a review of crash data at intersections in the study area and a qualitative discussion on how the development will influence safety.

Summary and Conclusions
This section presents a summary of the recommended mitigation measures by mode, and presents overall findings and conclusions.

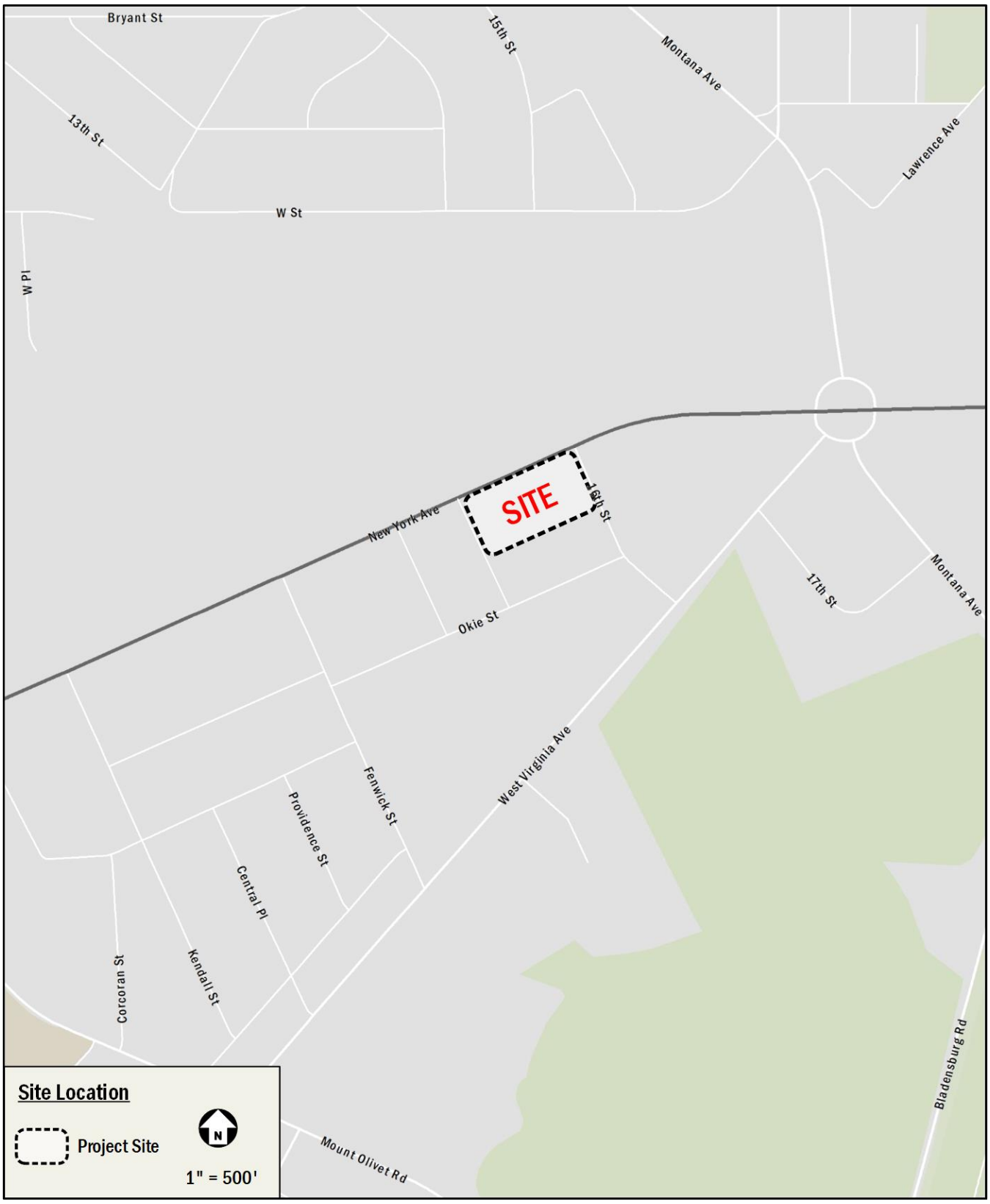

Figure 1: Site Location

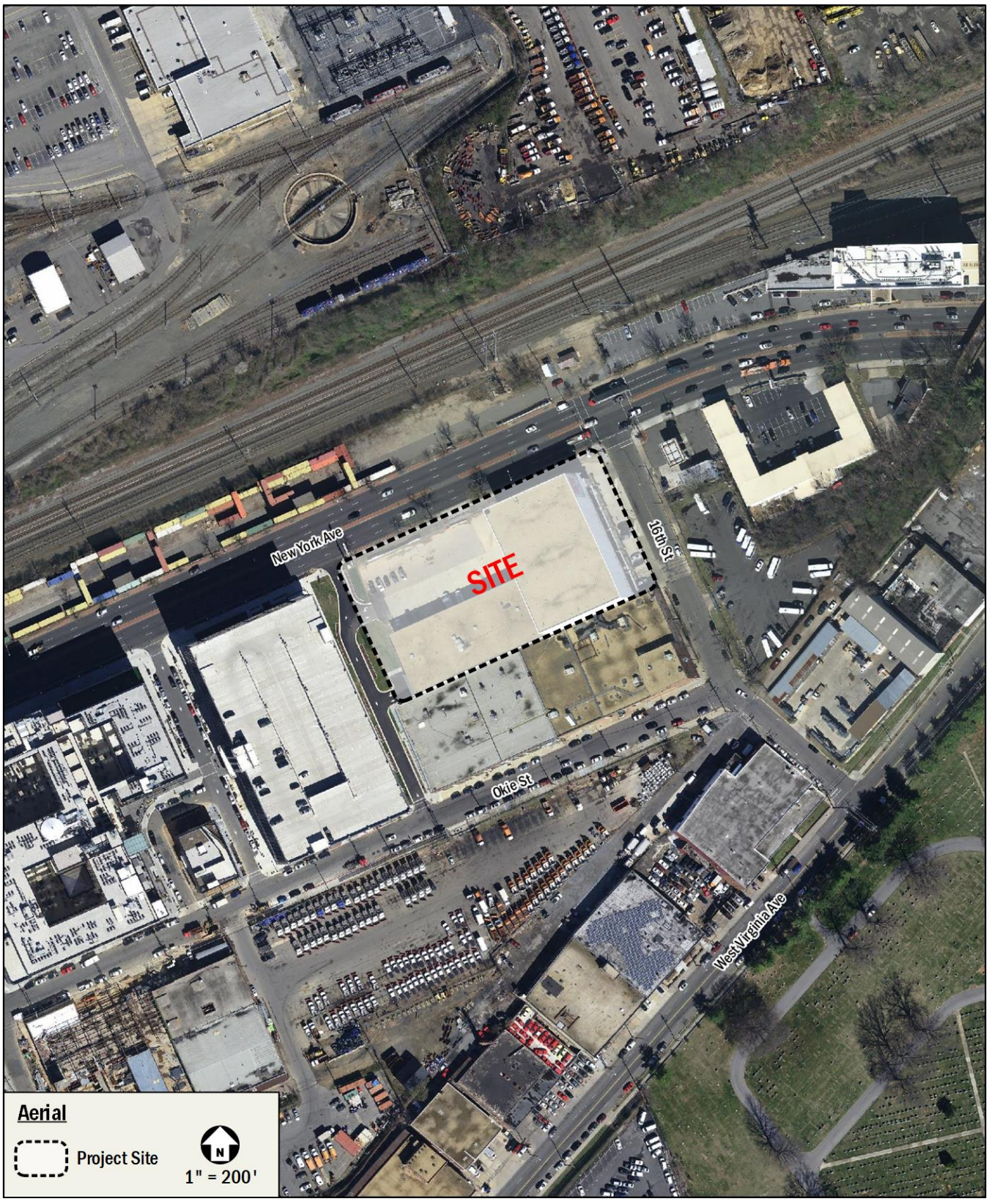

Figure 2: Site Aerial

STUDY AREA OVERVIEW

This section reviews the study area and includes an overview of the Site location, including a summary of the major transportation characteristics of the area and of future regional projects.

The following conclusions are reached within this chapter:

- The Site is surrounded by an extensive regional and local transportation system that will connect the employees and patrons of the proposed development to the rest of the District and surrounding areas.
- The Site is served by public transportation with access to Metrorail and two (2) local Metrobus lines.
- There is bicycle infrastructure in the vicinity of the Site, including bike lanes along 18th street. There is a signed route along West Virginia Avenue which provides connectivity to the Metropolitan Branch Trail.
- A planned cycletrack along New York Avenue and 16th Street will significantly improve bicycle connectivity to and from the site.
- Pedestrian conditions are generally good, particularly along anticipated major walking routes; however, there are gaps east and south of the Site, such as missing sidewalks, crosswalks and curb ramps.
- Planned improvements as part of this development and additional improvements that are part of the New York Avenue Streetscape and Trail project will enhance pedestrian facilities in the vicinity of the site.

MAJOR TRANSPORTATION FEATURES

Overview of Regional Access

As shown in Figure 4, the Site has ample access to regional, vehicular, and transit-based transportation options that connect the Site to destinations within the District, Virginia, and Maryland.

The Site is accessible from several principal and minor arterials such as New York Avenue (US-50) and West Virginia Avenue. These roadways connect to interstates such as I-295 and I-395. The highways and interstates create connectivity to the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs, as well as providing connectivity to the District core.

The Site is located 1.5 miles from the both the Rhode Island Avenue-Brentwood and NoMa-Gallaudet Metrorail stations (served by the Red Line). The Red Line connects Shady Grove and Glenmont, MD while providing access to the District core. Of particular importance, the Red Line provides a direct connection to Union Station—a transfer point for MARC, VRE, and Amtrak services—in addition to all Metrorail lines, allowing for access to much of the DC Metropolitan area.

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

Overview of Local Access

There are a variety of local transportation options near the Site that serve vehicular, transit, walking, and cycling trips, as shown on Figure 5. The Site is directly served by a local vehicular network that includes several principal and minor arterials such as New York Avenue, West Virginia Avenue, and Montana Avenue. In addition, these roads connect with regional thoroughfares, such as Rhode Island Avenue and Bladensburg Road.

The Metrobus system provides local transit service in the vicinity of the Site, including connections to several neighborhoods within the District and additional Metrorail stations. As shown in Figure 5, there are two (2) bus routes that service the Site. These bus routes connect the Site to many areas of the District, including NoMa-Gallaudet U and Rhode Island Ave- Brentwood Metrorail stations. A detailed review of transit stops within a quarter-mile walk of the Site is provided in a later section of this report.

There are several existing bicycle facilities near the Site that connect to areas within the District. Signed bicycle routes south and east of the Site provide connectivity to bicycle facilities in the Union Market area, eventually connecting to the Metropolitan Branch Trail. Substantial bicycle improvements are planned along New York Avenue as part of the proposed New York Avenue Streetscape and Trail project. A detailed review of existing and proposed bicycle facilities and connectivity is provided in a later section of the report.

Anticipated pedestrian routes, such as those to public transportation stops, retail zones, schools, and community amenities, provide adequate pedestrian facilities; however, there are some sidewalks and curb ramps that are missing or

do not meet DDOT standards. A detailed review of existing and proposed pedestrian access and infrastructure is provided in a later section of this report, including pedestrian improvements from the New York Avenue Streetscape and Trail project. Additionally, other planned roadway improvements will help increase the walkability and bikeability in the Ivy City neighborhood.

Overall, the Site is surrounded by a good local transportation network that allows for efficient transportation options via transit, bicycle, walking, or vehicular modes.

Carsharing

Three carsharing companies provide service in the District: Zipcar, Maven, and Car2Go. All three services are private companies that provide registered users access to a variety of automobiles. Of these, Zipcar and Maven have designated spaces for their vehicles. There is one (1) carshare location with a total of two (2) vehicles, located on Hecht Avenue, approximately 500 feet from the site.

Carsharing is also provided by Car2Go, which provides point-to-point carsharing. Car2Go currently has a fleet of vehicles located throughout the District and Arlington. Car2Go vehicles may park in any non-restricted metered curbside parking space or Residential Parking Permit (RPP) location in any zone throughout the defined "Home Area". Members do not have to pay the meters or pay stations. Car2Go does not have permanent designated spaces for their vehicles; however, availability is tracked through their website and mobile phone application, which provides an additional option for car-sharing patrons.

Walkscore

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions within neighborhoods of the District. Based on this website the planned development is located in the Trinidad-Langston neighborhood. This project location itself has a walk score of 74 (or "Very Walkable"), a transit score of 59 (or "Good Transit"), and a bike score of 49 (or "somewhat bikeable"). Figure 3 shows the neighborhood borders in relation to the site location and displays a heat map for walkability and bikeability.

The site is situated in a neighborhood that encompasses good walk scores because of the abundance of neighborhood serving retail locations that are in close proximity, where most errands can be completed by walking.

The good transit score was based on the proximity to multiple bus lines, and the distance to the nearest Metrorail stop which is located 1.5 miles from the site.

The Site is situated in an area that is somewhat bikeable. The area is very flat with a Capital Bikeshare station located within a quarter-mile of the Site, however, there is a limited number of bike lanes in the area.

Overall, the Trinidad-Langston neighborhood has good walk, good transit, and below average bike scores. Other planned developments and roadway improvements will help increase the walk and bike scores in the Trinidad-Langston neighborhood.

Future Projects

There are a few District initiatives and approved developments located in the vicinity of the Site. These planned and proposed projects are summarized below.

Local Initiatives

New York Avenue Corridor Study (2006)

The New York Avenue Corridor Study, dates back to 2006. The purpose of this study is to transform New York Avenue into a multimodal and intermodal corridor that can: (1) Facilitate smooth traffic flow; (2) Ensure an ability to accommodate local and regional vehicular transportation and transit needs foreseeable over the next 30 to 50 years; (3) Create capacity for major commercial and residential development; and (4) Avoid displacement of existing residents or exclusion of income diversity. Between Florida Avenue and Montana Avenue, the study recommended New York Avenue transition to a boulevard, with a linear park containing separate bicycle and pedestrian paths on the north side of the roadway. Some of the existing traffic signals would be removed, a median with separate left turn lanes would be removed, and a median with separate left turn lanes for westbound traffic would be constructed. The bike path would connect to the Metropolitan Branch Trail near Florida Avenue. Urban design improvements would be made on Montana Avenue with traffic utilization remaining the same. At Bladensburg Road, New York Avenue would be reconstructed to pass below the existing intersection; the existing intersection would be reconstructed to provide an

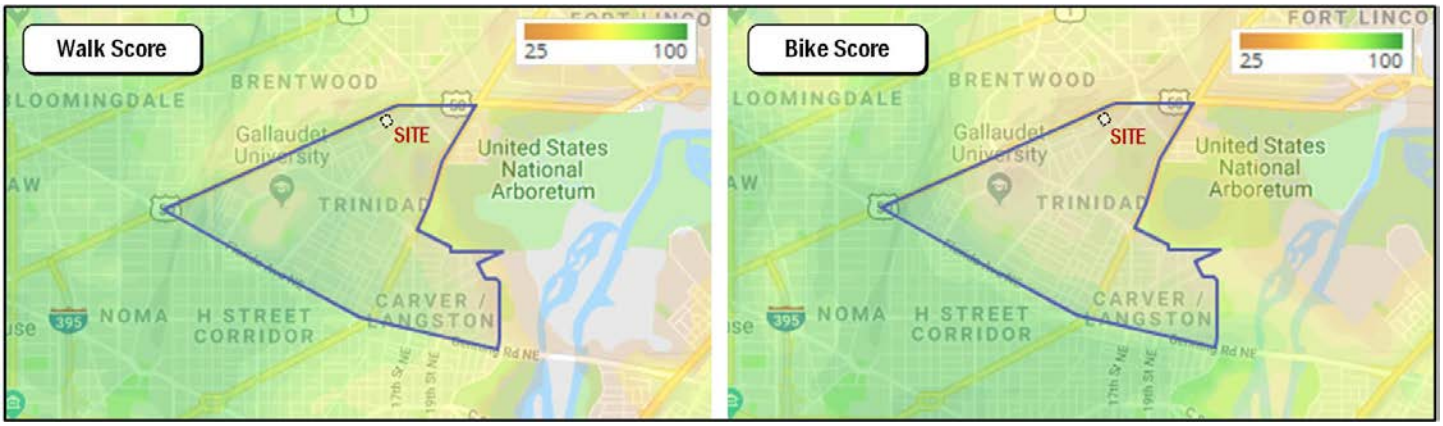

Figure 3: Walkscore

appearance more in keeping with traditional grade separated traffic circles found elsewhere in the District.

New York Avenue Green Infrastructure Assessment (2011)

This assessment examines opportunities to improve green infrastructure and multimodal transportation along New York Avenue in Northeast, Washington, DC. A substantial portion of the report focuses on the potential for a multi-use trail along New York Avenue. The assessment recommends construction of a trail on the south side of the road primarily via the widening of existing sidewalks. This location would allow for more connections to residences and businesses compared to an alignment on the north side of the road. At its far western end, the assessment recommends that the trail connect to the existing Metropolitan Branch Trail near Florida Avenue. It also recommends exploration of a connection to the Anacostia Riverwalk Trail at the trail's eastern end. However, the report recognizes the potential for reduced travel time with a trail on the north side of the road (because of fewer road and driveway crossings) and suggests that future studies explore this possibility. The report also recommends the replacement of parking lots on the north side of New York Avenue with a linear park.

SustainableDC: Sustainable DC Plan (2011)

SustainableDC is a planning effort initiated by the Department of Energy & Environment and the Office of Planning that provides the District with a framework of leading Washington DC to become the most sustainable city in the nation. The 2012 report proposes a 20-year timeframe to answer challenges in areas of: (1) Jobs & the economy; (2) Health & Wellness; (3) Equity & Diversity; (4) Climate & Environment; (5) Built Environment; (5) Energy; (6) Food; (7) Nature; (8) Transportation; (9) Waste; and (10) Water. With respect to transportation, the sustainability goals targeted in 20 years include:

- Improving connectivity and accessibility through efficient, integrated, and affordable transit systems
- Expanding provision of safe, secure infrastructure for cyclists and pedestrians
- Reducing traffic congestion to improve mobility
- Improving air quality along major transportation routes

A combination of increasing public transit and decreasing vehicular mode shares has been suggested to meet the transportation targets. The transportation demand management (TDM) measures proposed in this CTR will help curtail vehicular mode share.

Ward 5 Works (2014)

This report discusses the reposition of industrial land in Ward 5 of the District, home to the majority of such land in the city. The report also stresses the importance of accommodating both industrial and residential uses in close proximity with another and specifically focuses on establishing New York Avenue as a true gateway to the city. One of eight primary goals in the report is to "create great places, improve physical appearance, and enhance connectivity" in Ward 5. The report highlights the lack of bicycle and pedestrian facilities in Ward 5 and refers to the New York Avenue Green Infrastructure Assessment's recommendation for a linear park between New York Avenue and the rail yard.

The report recommends promoting non-motorized forms of transportation and specifically advocates rebuilding New York Avenue to be pedestrian-friendly. The report recommends either a linear park in the railroad corridor on the northern side

of New York Avenue or "a multipurpose trail and linear park on the southern side of New York Avenue, closer to businesses and activity."

MoveDC: Multimodal Long-Range Transportation Plan (2014)

MoveDC is a long-range plan that provides a vision for the future of DC's transportation system. As the District grows, so must the transportation system, specifically in a way that expands transportation choices while improving the reliability of all transportation modes.

The MoveDC report outlines recommendations by mode with the goal of having them completed by 2040. The plan hopes to achieve a transportation system for the District that includes:

- 70 miles of high-capacity transit (streetcar or bus)
- 200 miles of on-street bicycle facilities or trails
- Sidewalks on at least one side of every street
- New street connections
- Road management/pricing in key corridors and the Central Employment Area
- A new downtown Metrorail loop
- Expanded commuter rail
- Water taxis

In direct relation to the study area, the MoveDC plan outlines a pedestrian and bicycle trail along New York Avenue from Kirby Street NW to the Maryland border, new sidewalk throughout the National Arboretum, a bicycle lane along West Virginia Avenue from 8th Street to the Maryland border, and a cycletrack along Bladensburg Road from Benning Rd to the Maryland border. These recommendations would create additional multi-modal capacity and connectivity to the proposed development.

New York Avenue Rails-to-Trails Plan (2015)

The concept of developing a trail along the New York Avenue corridor dates back at least a decade, when it was included in the District's 2005 Bicycle Master Plan. The purpose of this project is to create a new multi-use trail (shared-use path) in Northeast Washington, DC, that will improve pedestrian and bicycle access and conditions along New York Avenue, seamlessly connecting the Ivy City neighborhood to Downtown, stretching from L Street and 2nd Street to the National Arboretum. The proposed trail corridor is segmented into five (5) sections based on the characteristics of the surrounding location and land use. At approximately 2.5 miles, the preferred alignment assumes that the trail will serve as a direct, largely traffic-free facility for bicyclists and pedestrians traveling through Northeast Washington, DC Segment 5 of the proposed trail will cross New York Avenue at the Hecht Warehouse development and extend the trail as on-road bicycle facilities and improved crossings at Fenwick Street and 16th Street, adjacent to 1515 New York Ave NE.

New York Avenue Streetscape and Trail Project (2017)

The purpose of the New York Avenue Streetscape and Trail Project is to improve pedestrian and bicycle accommodations along New York Avenue. The extents of this project span along New York Avenue between Florida Avenue and Bladensburg Road, as well as south of New York Avenue from NoMa-Gallaudet U Metrorail station to the National Arboretum. These improvements will include a raised two-way cycletrack on the north side of New York Avenue as well as new sidewalks along both sides of New York Avenue. Along with the addition of the cycletrack and new sidewalk, the New York Avenue Streetscape and Trail Plan also includes new intersection designs, improved lighting, and enhanced landscaping throughout the project area.

Planned Developments

There are several potential development projects in the vicinity of the Site. Of the background developments considered, four (4) were ultimately included and are described below. For the purpose of the capacity analysis and consistent with DDOT and industry standards, only approved developments expected to be completed prior to the planned development with an origin/destination within the study area were included. Figure 6 shows the location of these developments in relation to the proposed development.

New City

The New City Project will develop a currently undeveloped parcel of land into a mixed-use development. The development will include up to 1,357 residential dwelling units, 104,910 square feet of office, 142,987 square feet of retail, 112,726 square feet of grocery, and a 163-room hotel. The development has an expected delivery date of 2022.

Pappa's Tomatoes Development

The Pappa's Tomatoes site at 1401 Okie Street NE is the redevelopment of an existing warehouse into a single structure containing approximately 110,378 square feet of retail and light

manufacturing use, and re-use of abandoned railroad tracks. Construction will be completed Fall 2018.

Crummell School Development

Plans for the Crummell School site include community open space, an urban garden, working farm, restaurant and other commercial spaces. The site will also be lined by apartment and townhouse-style mixed-income housing facing Gallaudet and Okie Streets NE. Profish, a District and Ivy City-based seafood company, will expand from its nearby headquarters to a new industrial space on site, and in the basement of the school for DC workforce training opportunities. In total, the project will provide 320 rental units from studios to two-bedroom units, including more than 60 affordable units, 35,000 square feet of industrial space and 22,000 square feet of community-serving retail. The development has an expected delivery date of 2021.

City Winery DC

The venue is a redevelopment of a former nightclub into a 175-seat restaurant and private dining room, and a 320-seat performance venue located on the 1300 block of Okie Street NE. City Winery DC opened to the public in April 2018.

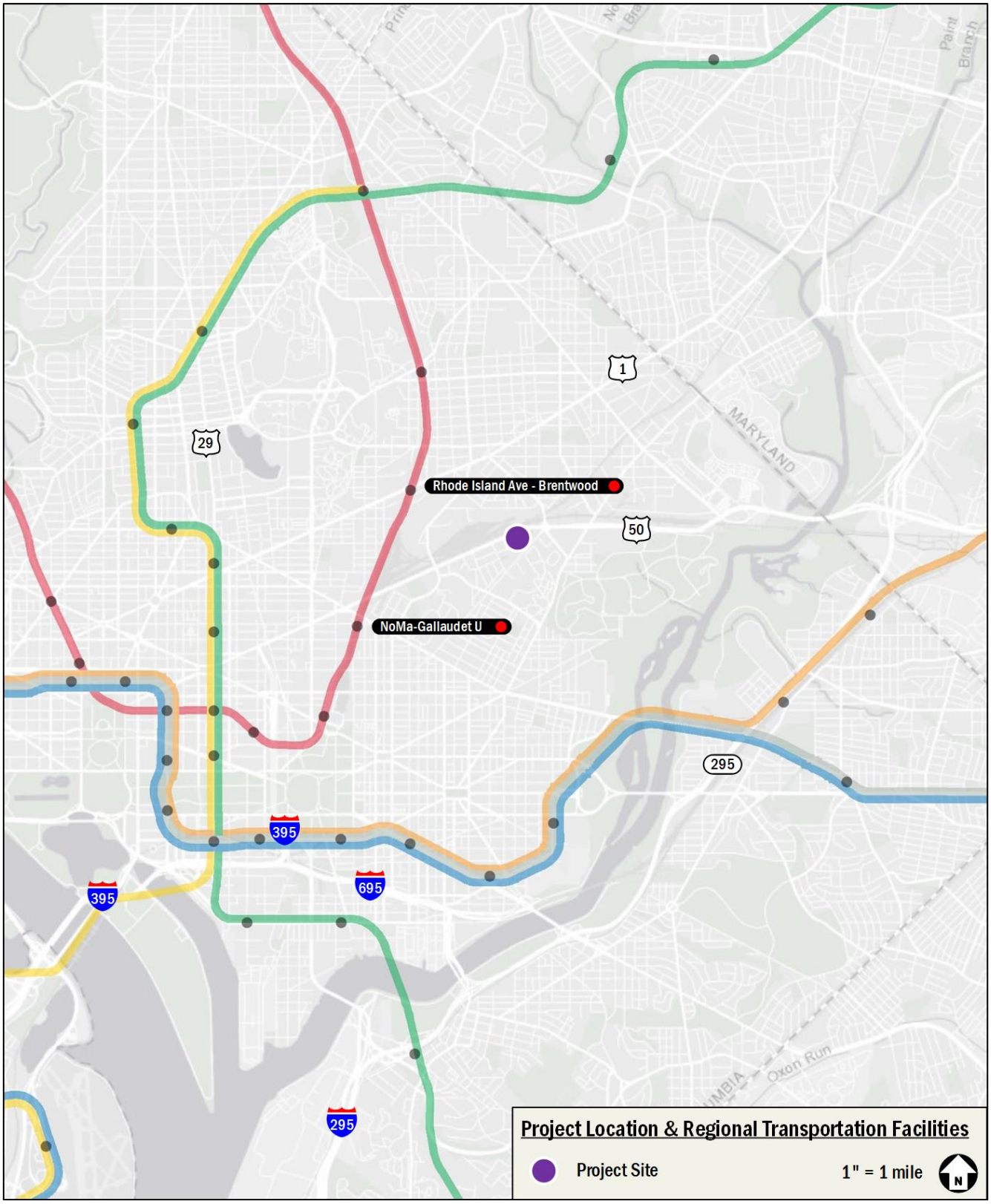

Figure 4: Major Regional Transportation Facilities

Figure 5: Major Local Transportation Facilities

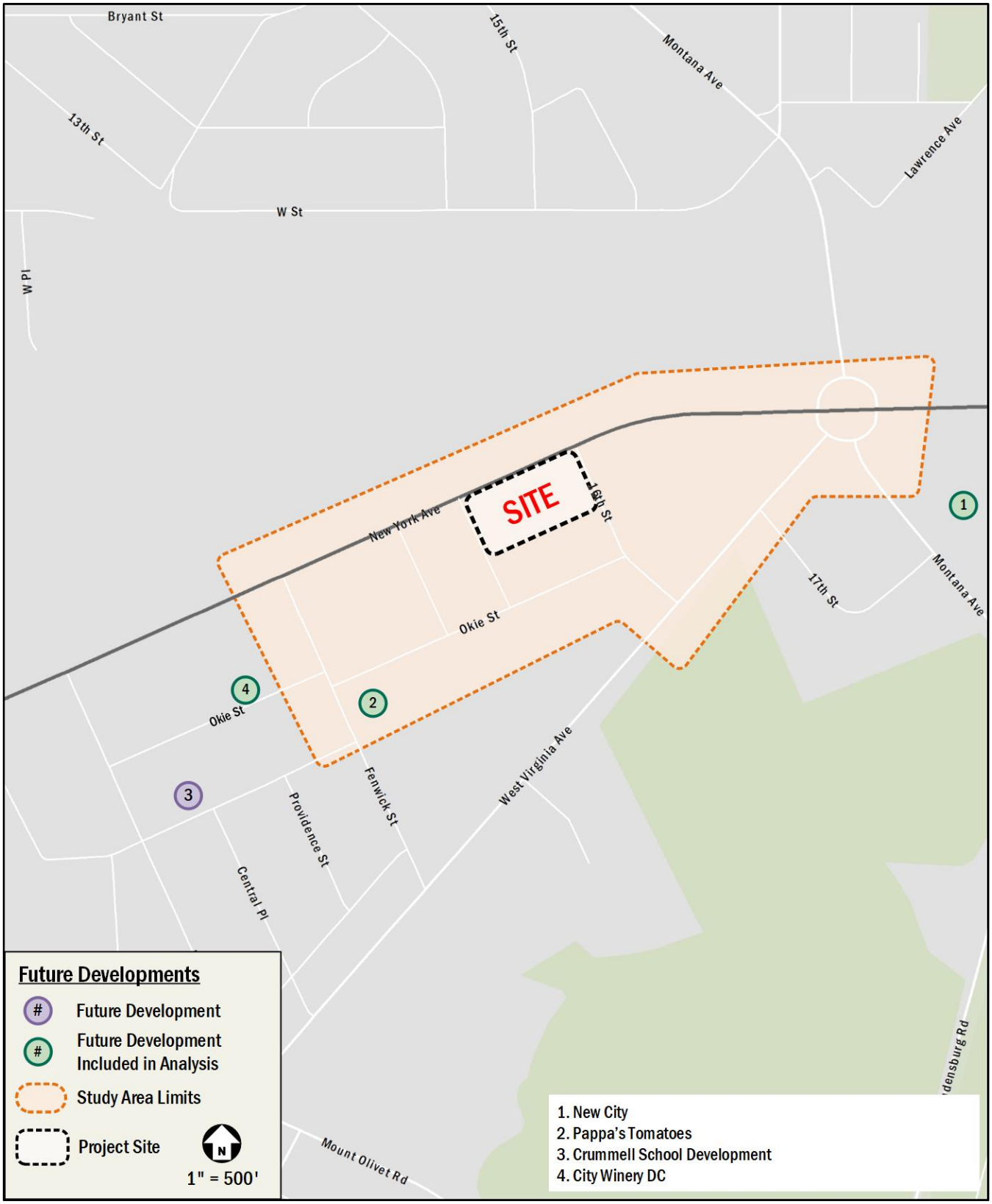

Figure 6: Future Development Map

PROJECT DESIGN

This section reviews the transportation components of the development, including the proposed site plan and access points. It includes descriptions of the proposed development's vehicular access, loading, parking, bicycle and pedestrian facilities, and Transportation Demand Management (TDM) plan. It supplements the information provided in the site plan package dated May 8, 2018 that accompanied the Large Tract Review Application, which includes illustrations of site circulation and layout.

The subject property (the "Site") is located on the southwest corner of the New York Avenue and 16th Street, NE intersection. It is bordered by New York Avenue to the north, 16th Street to the east, industrial and commercial buildings to the south, and Walt Lincoln Way (a one-way private road owned by the Applicant) to the west. The Site is currently occupied by a surface parking lot and vacant warehouse. The development plan proposes to replace these existing uses with a one- and two-story retail building containing approximately 92,657 square feet of retail and 140 parking spaces in a below-grade garage.

Figure 7 shows an overview of the development program and site plan elements.

SITE ACCESS AND CIRCULATION

Pedestrian Access

Pedestrian access to the development will occur off of New York Avenue for the main retail tenant, with additional pedestrian access along site frontage on Walt Lincoln Way for the remaining tenants. Walt Lincoln Way is an existing one-way (southbound) private road owned by the Applicant.

Pedestrian circulation between the proposed development and the existing garage located to the west of the subject property (also owned by the Applicant) will be provided via an existing crosswalk across New York Avenue that will be enhanced through restriping.

Bicycle Access

Bicycle access to the secure long-term bicycle parking in the below-grade garage will be from 16th Street. Short-term bicycle parking will be located on New York Avenue and Walt Lincoln Way. Bicycle access to the site is primarily expected to occur via New York Avenue.

Figure 8 shows a circulation plan with pedestrian and bicycle routes.

Vehicular Access

All of the vehicular access to the site will be via a curb cut on 16th Street, which provides access to the below-grade garage. The majority of vehicles are expected to arrive and depart the site via the intersection of 16th Street and New York Avenue, which is a signalized intersection. In addition, the Applicant will coordinate with DDOT and taxis/for-hire vehicles so that pick-up and drop-off operations occur on Walt Lincoln Way and 16th Street, rather than New York Avenue.

The Applicant has agreed to close three (3) median breaks on New York Avenue that front the Site. The closure of these median breaks will improve traffic safety by eliminating unsignalized left- and U-turns turns across a busy corridor. Figure 9 shows the median breaks that will be closed.

Access to the loading facilities, consisting of one (1) 75-foot berth and two (2) 30-foot berths, will also be via 16th Street. A separate 20-foot service and delivery space will be accessible via Walt Lincoln Way with entry from New York Avenue and exit via Okie Street to the south of the site.

A circulation plan with vehicular and loading routes is shown on Figure 10.

LOADING AND TRASH

Loading

The proposed loading facilities will accommodate all delivery demand without detrimental impacts. Figure 7 shows the locations of the loading berths and the service/delivery space.

Truck routing to and from the site will be mainly on designated primary truck routes, such as New York Avenue and West Virginia Avenue. However, it is expected that most trucks will travel along New York Avenue to access the site.

Per the zoning regulations, the proposed development is required to provide two (2) loading berths at a minimum depth of 30 feet and one (1) service/delivery space at a minimum depth of 20 feet. The proposed development will include two (2) loading berths at 30 feet, one (1) loading berth at 75 feet, and one (1) service/delivery space at 20 feet, thus exceeding the number of loading berths required by the zoning regulations.

The proposed development is expected to generate a maximum of approximately 19 total truck trips per day. This includes three (3) general deliveries consisting of trash removal, mail, and parcel delivery, and two (2) retail deliveries per each of the four (4) smaller retailers. The main retail tenant anticipates one (1) to two (2) deliveries made by the 75-foot trucks and four (4) to six (6) general deliveries made by the 30-foot trucks. The loading facilities provided by the development will be sufficient to accommodate this demand.

DDOT standards stipulate that truck movements for a site should be accommodated without back-in movements through public space. The ground-floor of the proposed development has been designed to accommodate head-in/head-out loading maneuvers for the 30-foot trucks.

Loading for the smaller retail tenants will be accommodated via the service/delivery space on Walt Lincoln Way. Loading may also occur along Walt Lincoln Way, which has a 20 foot wide drive aisle, that is sufficient to accommodate one-way vehicular travel while a truck is loading curbside.

Large trucks (WB-67) will be required to accommodate operations for the main retail tenant, and it was determined that it would be infeasible for the large trucks to operate without back-in maneuvers. Accordingly, WB-67s will need to back-in to the loading dock. Truck maneuvers can be accommodated without conflicting with the proposed portion of the New York Avenue trail project that will be designed as a two-way cycletrack on the east side of 16th Street.

Turning maneuvers into and out of the site are included in the Technical Appendix.

Loading Management Plan

The Applicant has proposed the following measures to offset any potential impacts the loading activities of the proposed development might have on the surrounding intersections and neighborhoods:

- A loading dock manager will be designated by the large format retail tenant. The dock manager will coordinate with vendors and tenants to schedule deliveries and will be on duty during delivery hours.
- All retail tenants will be required to schedule deliveries that utilize the loading docks – defined here as any loading operation conducted using a truck 20' in length or larger.
- The dock manager(s) will schedule deliveries for trucks using the loading berths such that the dock's capacity is not exceeded. In the event that an unscheduled delivery vehicle arrives while the dock is full, that driver will be directed to return at a later time when a berth will be available so as to not impede the drive aisle that passes in front of the loading dock.
- The dock manager(s) will monitor inbound truck maneuvers and will ensure that trucks accessing the loading dock do not block vehicular traffic except during those times when a truck is actively entering the loading facilities.
- Deliveries by the large (WB-67) trucks will occur during off-peak hours, between 6:30PM and 6:30AM.
- Trucks using the loading dock will not be allowed to idle and must follow all District guidelines for heavy vehicle operation including but not limited to DCMR 20 – Chapter 9, Section 900 (Engine Idling), the regulations set forth in DDOT's Freight Management and Commercial Vehicle Operations document, and the primary access routes listed in the DDOT Truck and Bus Route System.
- The dock manager(s) will be responsible for disseminating suggested truck routing maps to the building's tenants and to drivers from delivery services that frequently utilize the loading dock. The dock manager(s) will also distribute flyers materials as DDOT's Freight Management and Commercial Vehicle Operations document to drivers as needed to encourage compliance with idling laws. The dock manager(s) will also post these documents in a prominent location within the service area.

Based on the expected number of truck deliveries and the amount of loading facilities provided, this report concludes that the loading plan for the Site is adequate.

Trash

Trash for the main retail tenant will be accommodated using a trash compactor inside the loading area. Trash for the smaller retail tenants will be stored in bins adjacent to the service/delivery space that is accessible from Walt Lincoln Way. No trash will be stored in public space.

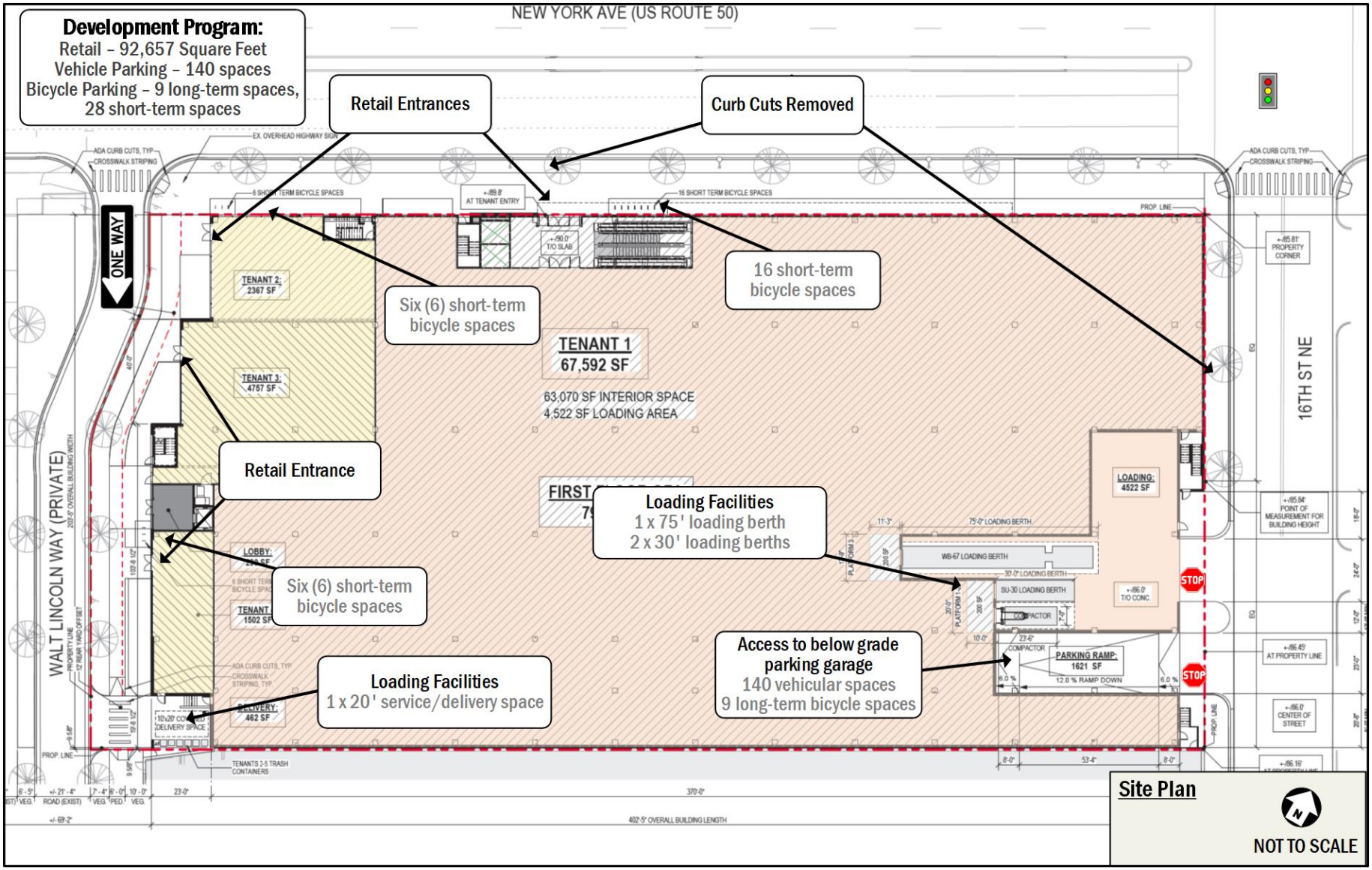

Figure 7: Site Plan

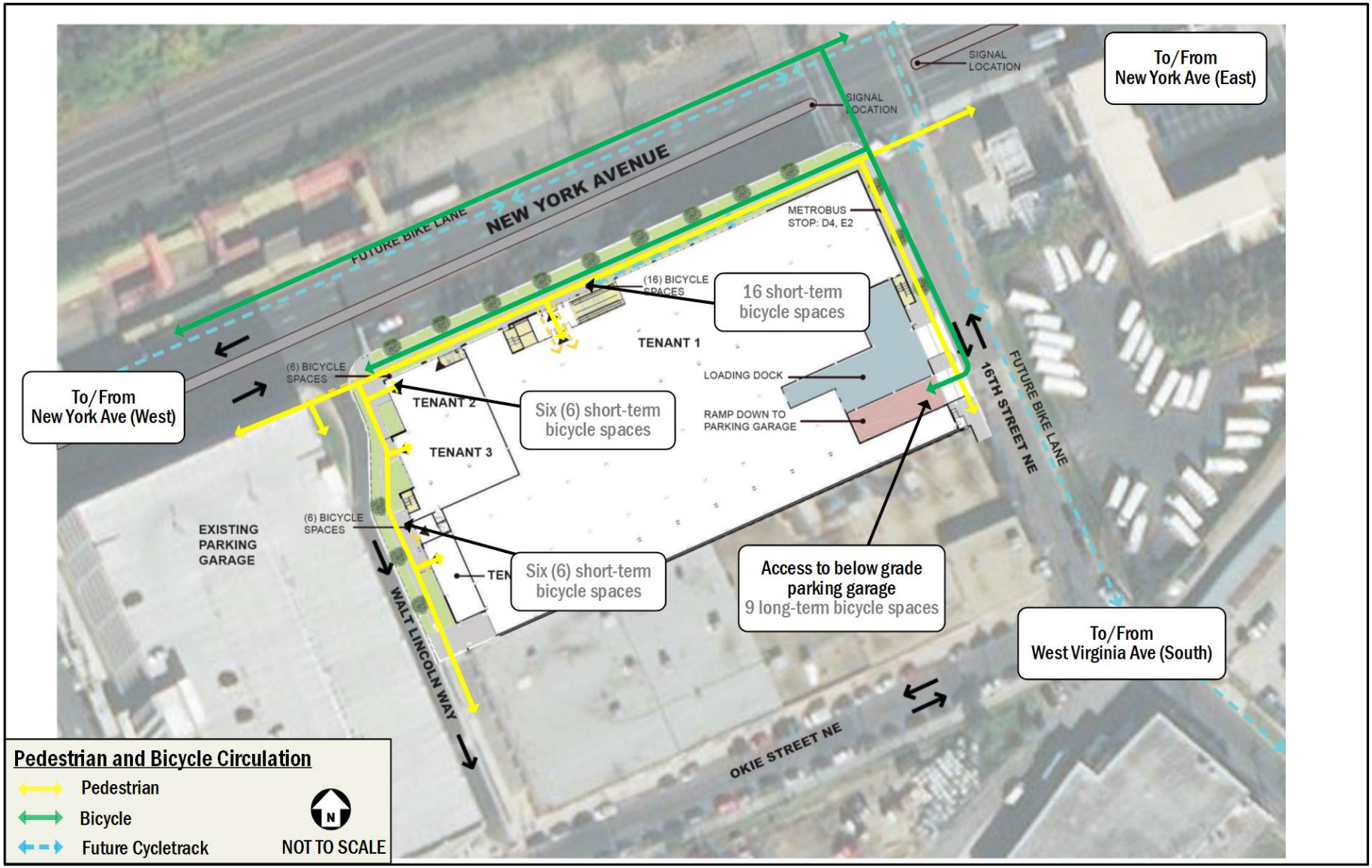

Figure 8: Pedestrian and Bicycle Circulation

Figure 9: Median Breaks to be Closed

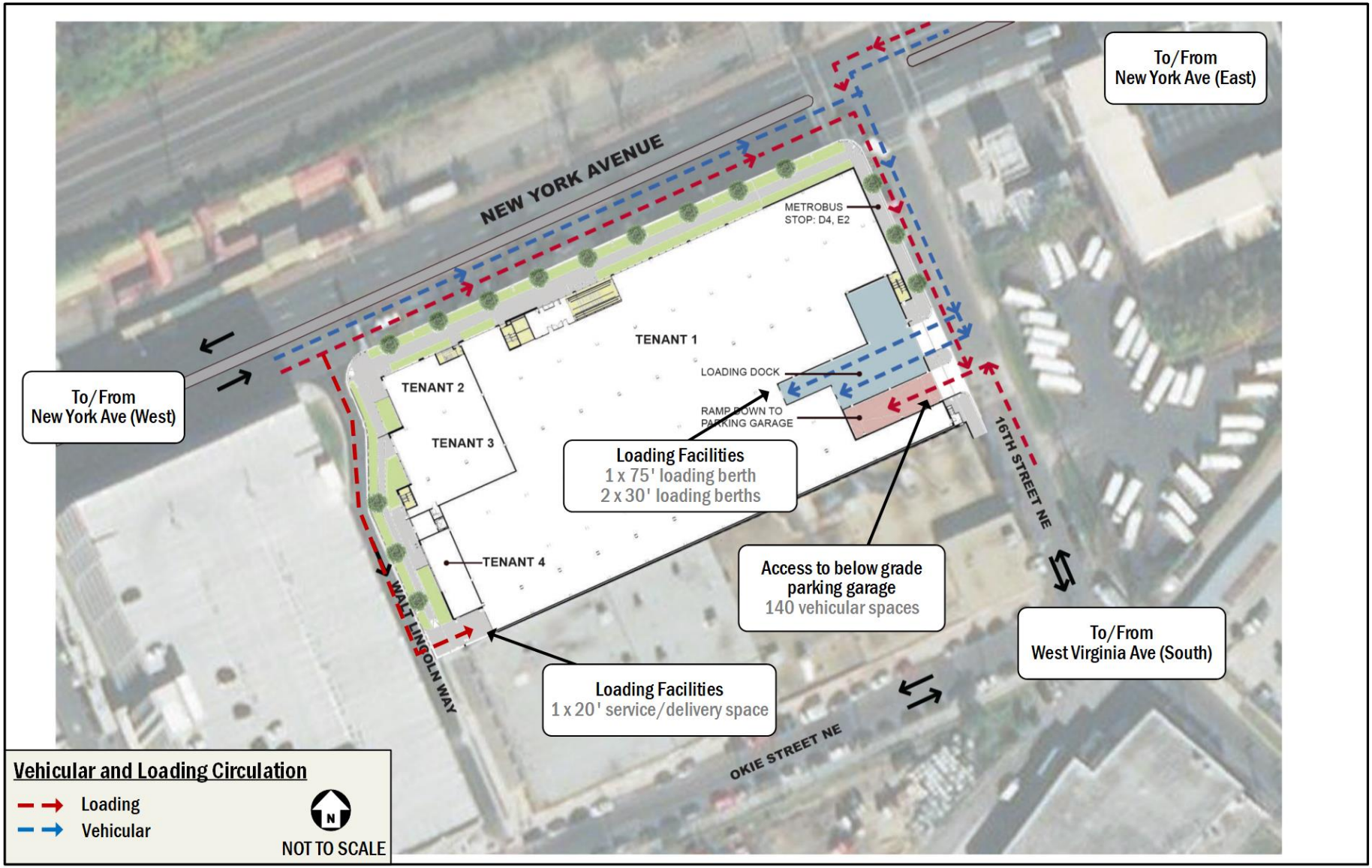

Figure 10: Vehicular and Loading Circulation

PARKING

The parking provided by the proposed development should accommodate all parking needs on site.

On-Site Parking

Per zoning regulations, a retail development is required to provide 1.33 spaces per 1,000 square feet in excess of 3,000 square feet, for a total of 120 spaces. The proposed development will include 140 parking spaces within the below-ground garage, including six (6) handicapped-accessible spaces. The amount of proposed parking exceeds minimum zoning requirements and meets the practical needs of the development.

Parking is planned to be priced at market-rate.

On-Street Parking

An inventory of available on-street and off-street parking within a two-block radius of the site was conducted, as requested by DDOT. Figure 11 shows the existing inventory of on- and off-street parking within a two-block radius of the site. Table 1 includes the approximate number of parking spaces by parking restriction type.

Table 1: Existing Parking Inventory in Vicinity of Site

Parking Type	No. of Spaces
Residential Permit Parking (RPP)	0 spaces
Metered Spaces	121 spaces
Time Restricted Parking	75 spaces
Unrestricted Parking	143 spaces
Off-Street Parking	1,067 spaces
Total	**1,406 spaces**

The following planned improvements will make changes to on-street parking in the vicinity of the site:

- *1515 New York Avenue NE Garage*
  As part of the proposed development, 140 off-street parking spaces will be constructed in a below-grade garage.

- *75-foot curb cut on 16th Street*
  As part of the proposed development, the 75-foot curb cut on 16th Street will be eliminated. Instead, two curb cuts are planned, one (1) 23-foot curb cut for the below-grade garage and one (1) 24-foot curb cut for loading. It is assumed that the left over curbside space will be signed as "No Parking" to allow for drop-offs and pick-ups on 16th Street.

- *16th Street Bus Stop Relocation*
  As part of WMATA's planned relocation of the bus stop on 16th Street to Okie Street, approximately four (4) metered parking spaces will be eliminated to accommodate the relocated bus stop.

- *Pappa's Tomatoes Development*
  It is assumed that the approximately 26 unrestricted (unsigned) parking spaces on Okie Street and Fenwick Street that front the Pappa's Tomatoes development will be converted to metered parking spaces once construction is completed.

- *New York Avenue Streetscape and Trail Project*
  Plans show no on-street parking on the eastern blockface of 16th Street between New York Avenue and West Virginia Avenue, to accommodate the planned 16th Street cycletrack. This will result in the elimination of approximately 15 unrestricted parking spaces.

  In addition, plans show no on-street parking on either blockface of West Virginia Avenue between 16th Street and 17th Street, to accommodate planned bicycle lanes in both directions. This will result in the elimination of approximately 26 time-restricted parking spaces.

Figure 12 shows the future inventory of on- and off-street parking within a two block radius of the site. Table 2 includes the approximate number of parking spaces by parking restriction type after the above improvements are implemented.

Table 2: Future Parking Inventory in Vicinity of Site

Parking Type	No. of Spaces
Residential Permit Parking (RPP)	0 spaces
Metered Spaces	143 spaces
Time Restricted Parking	51 spaces
Unrestricted Parking	102 spaces
Off-Street Parking	1,207 spaces
Total	**1,503 spaces**

Bicycle and Pedestrian Facilities

Bicycle Facilities

Per zoning regulations, a retail development is required to provide one (1) long-term bicycle space per each 10,000 square feet of retail space and one (1) short-term space per each 3,500 square feet of retail space. This results in nine (9) long-term spaces and 27 short-term spaces being required. The development will meet these requirements by providing nine (9) secure long-term spaces within the below-grade garage. The 28 short-term spaces will be placed along the perimeter of the development and will include inverted U-racks placed in high-visibility areas. Figure 7 shows the proposed location for the 28 short-term bicycle spaces, and the Applicant will work with DDOT to determine the exact location of bicycle racks in public space.

Per zoning regulations, a non-residential development that provides long-term bicycle parking spaces and occupies more than 25,000 square feet is required to provide a minimum of two (2) showers, and an additional two (2) showers installed for every 50,000 square feet of gross floor area above the first 25,000 square feet, up to a maximum requirement of six (6) showers. The proposed development will meet these requirements by providing four (4) showers.

Per zoning regulations, a non-residential development that provides long-term bicycle parking spaces and occupies more than 25,000 square feet is required to provide a minimum number of lockers equal to six-tenths (0.6) times the minimum number of required long-term bicycle parking spaces. Each locker required by this subsection shall be a minimum of 12 inches wide, 18 inches deep, and 36 inches high. The proposed development will meet these requirements by providing five (5) lockers.

Pedestrian Facilities

As part of the proposed development, pedestrian facilities around the perimeter of the Site will be greatly improved such that they meet or exceed DDOT and ADA requirements and provide an improved pedestrian environment. Two (2) existing curb cuts will be removed, including one (1) on New York Avenue and one (1) on 16th Street, where an existing 75-foot curb cut on will be modified into one (1) 23-foot curb cut for the below-grade garage and one (1) 24-foot curb cut for loading. In addition, a striped crosswalk will be added at the intersection of Walt Lincoln Way and New York Avenue where one does not currently exist.

Transportation Demand Management (TDM)

TDM is the application of policies and strategies used to reduce travel demand or to redistribute demand to other times or spaces. TDM typically focuses on reducing the demand of single-occupancy, private vehicles during peak period travel times or on shifting single-occupancy vehicular demand to off-peak periods.

The TDM plan for the 1515 New York Ave NE development is based on DDOT expectations for TDM programs for developments of this type and size. As such, The Applicant proposes the following TDM measures:

- The Applicant will identify TDM Leaders (for planning, construction, and operations). The TDM Leaders will work with employees in the development to distribute and market various transportation alternatives and options.
- The Applicant will provide retail employees who wish to carpool with detailed carpooling information and will be referred to other carpool matching services sponsored by the Metropolitan Washington Council of Governments (MWCOG).
- The Applicant will structure parking fees so that retail parking spaces would allow for, at most, two (2) hours of free parking, but would need to be validated by the large format retailer. Retail users would be charged at market rate (within 0.25 miles) for any parking over two (2) hours or if they park without validation.

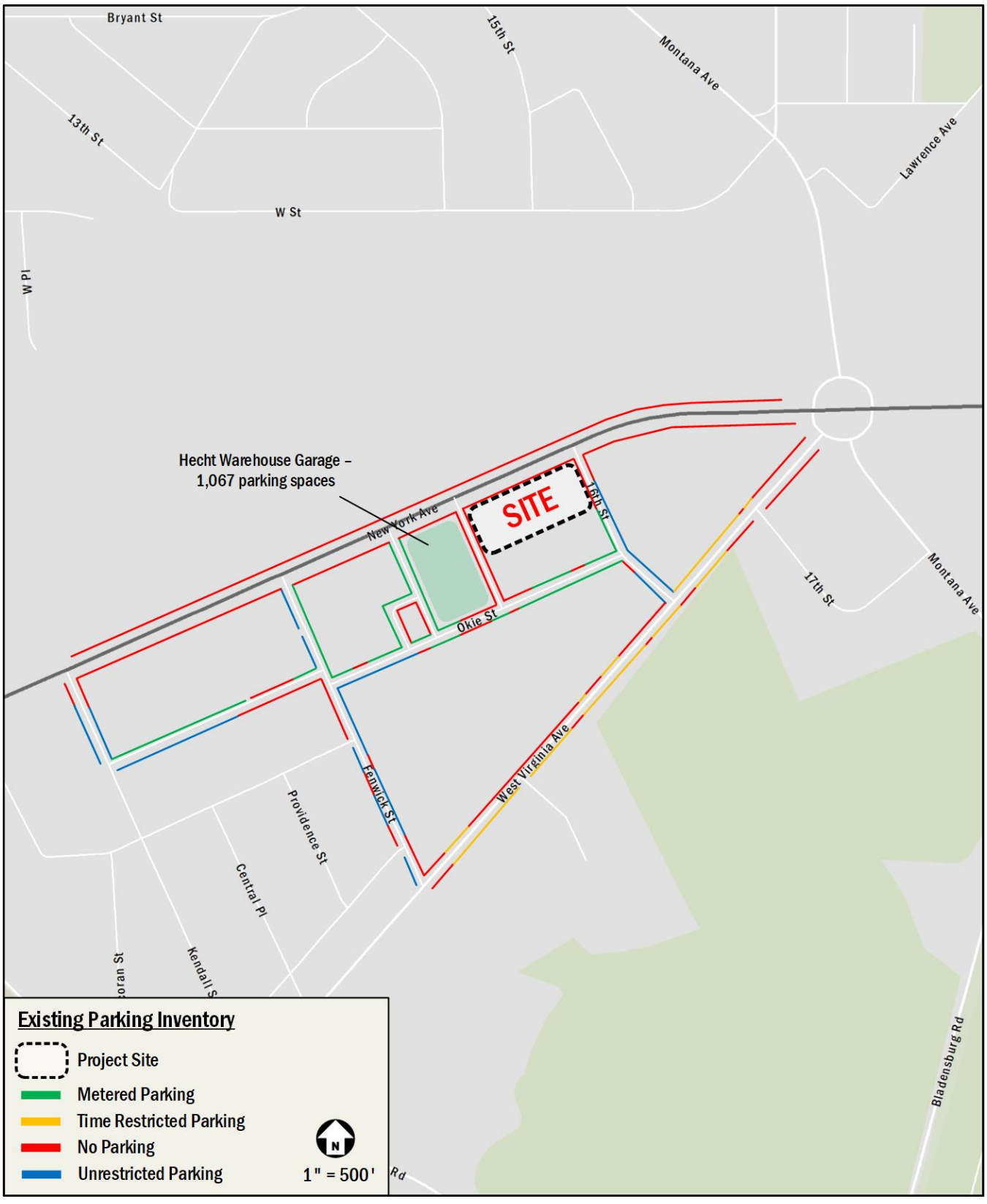

Figure 11: Existing Parking Inventory

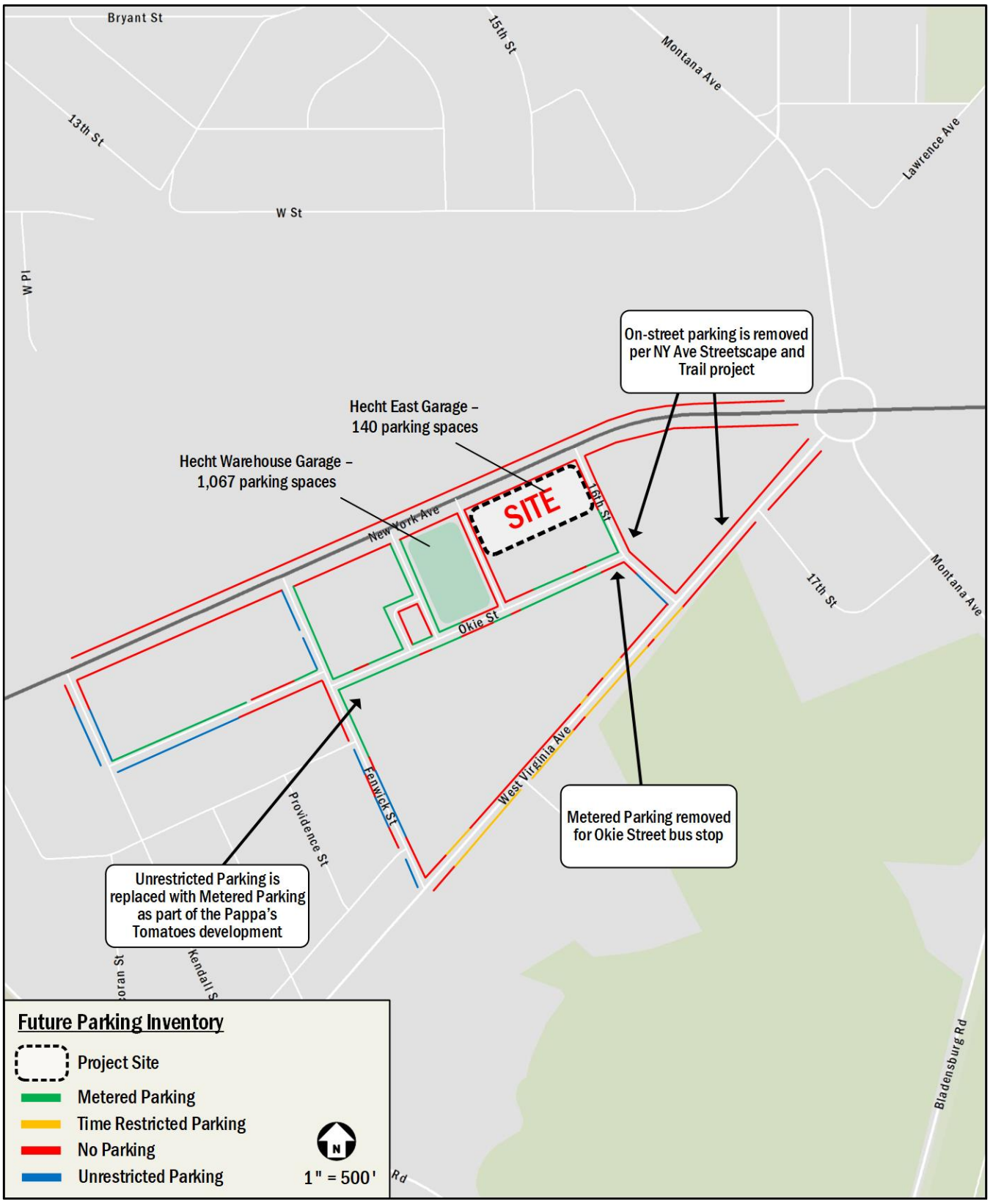

Figure 12: Future Parking Inventory

TRIP GENERATION

This section outlines the transportation demand of the proposed 1515 New York Ave NE project. It summarizes the projected trip generation of the development by mode, which forms the basis for the chapters that follow. These assumptions were vetted and approved by DDOT as a part of the scoping process for the study.

Traditionally, weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 10th Edition. This methodology was supplemented to account for the urban nature of the Site (the *Trip Generation Manual* provides data for non-urban, low transit use sites) and to generate trips for multiple modes, as vetted and approved by DDOT.

Retail trip generation was calculated based on ITE Land Use 820, Shopping Center. Mode splits for the retail component were primarily based on data for retail sites from the WMATA Ridership Survey, influenced by census data for employees that travel to the site to take into account employees that will be arriving or departing during the peak hours. Additional sources included the retail mode splits assumed for the nearby New City development (which was also reviewed as an LTR application in 2017), with the vehicular mode split adjusted to reflect parking supply and the distance of nearby Metrorail stations.

The mode split assumptions are shown in Table 3. A summary of the multimodal trip generation for the development is provided in Table 4 for the weekday morning, weekday afternoon, and Saturday peak hours. Detailed calculations are included in the Technical Appendix.

Table 3: Mode Split Assumptions

Land Use	Mode			
	Auto	Transit	Bike	Walk
Retail	60%	10%	10%	20%

Table 4: Multi-Modal Trip Generation Summary

Mode	AM Peak Hour			PM Peak Hour			Saturday Peak Hour		
	In	Out	Total	In	Out	Total	In	Out	Total
Auto (vehicles/hour)	33	19	52	102	110	212	130	120	250
Transit (people/hour)	10	6	16	30	33	63	39	35	74
Bike (people/hour)	10	6	16	30	33	63	39	35	74
Walk (people/hour)	19	12	31	60	66	126	77	71	148

TRAFFIC OPERATIONS

This section provides a summary of an analysis of the existing and future roadway capacity in the study area. Included is an analysis of potential vehicular impacts of the 1515 New York Ave NE 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 weekday morning, weekday afternoon, and Saturday peak hours, as determined by the existing traffic volumes in the study area. The scope of the capacity analysis was developed based on DDOT guidelines and agreed to by DDOT staff.

Based on DDOT standards, the proposed development is considered to have an impact at an intersection within the study area if any of the following conditions are met:

- The capacity analyses show a LOS E or F at an intersection or along an approach in the future conditions with the proposed development where one does not exist in the background conditions without development;
- There is an increase in delay at any approach or overall intersection operating under LOS E or F of greater than 5 percent when compared to the background conditions; or
- There is an increase in the 95th percentile queues by more than 150 feet at an intersection or along an approach in the future conditions with the proposed development where one does not exist in the background scenario.

The following conclusions are reached within this chapter:

- The existing study area intersections generally operate at an acceptable level of service during all analysis scenarios for the weekday morning, weekday afternoon, and Saturday peak hours.
- Existing areas of concern for roadway capacity are primarily focused along the heavily traveled commuter routes such as New York Avenue and West Virginia Avenue.
- The addition of trips generated by background developments and regional growth along heavily trafficked commuter routes causes a number of intersections to experience unacceptable levels of delay and queuing.
- As is expected of infill developments of this size, the addition of 1515 New York Ave NE-related traffic pushes four (4) intersections past levels of service that require exploring mitigations.
- Mitigation measures were analyzed and discussed for these intersections, of which feasible solutions were recommended for implementation, given DDOT approval.
- Overall, this report concludes that the project will not have a detrimental impact to the surrounding vehicular network assuming recommended mitigation measures are implemented.

STUDY AREA, SCOPE, & METHODOLOGY

This section outlines the vehicular trips generated in the study area along the vehicular access routes and defines the analysis assumptions.

The scope of the analysis contained within this report was extensively discussed with and agreed to with DDOT. The general methodology of the analysis follows national and DDOT guidelines on the preparation of transportation impact evaluations of site development.

Capacity Analysis Scenarios

The vehicular capacity analyses were performed to determine if the proposed development will lead to adverse impacts on traffic operations. A review of impacts to each of the other modes is outlined later in this report. This is accomplished by comparing future scenarios: (1) without the proposed development (referred to as the Background condition) and (2) with the development approved and constructed (referred to as the Future condition).

Specifically, the roadway capacity analysis examined the following scenarios:

1. 2018 Existing Conditions
2. 2020 Future Conditions without the development (2020 Background)

3. 2020 Future Conditions with the development (2020 Future)

Study Area

The study area of the analysis is a set of intersections where detailed capacity analyses were performed for the scenarios listed above. The set of intersections decided upon during the study scoping process with DDOT are those intersections most likely to have potential impacts or require changes to traffic operations to accommodate the proposed development. Although it is possible that impacts will occur outside of the study area, those impacts are not significant enough to be considered a detrimental impact nor worthy of mitigation measures.

Based on the projected future trip generation and the location of the Site access points, the following intersections were chosen and agreed upon by DDOT for analysis:

1. New York Avenue & Fenwick Street NE
2. New York Avenue & Hecht Avenue NE
3. New York Avenue & Walt Lincoln Way NE
4. New York Avenue & 16th Street NE
5. New York Avenue & Montana Avenue & West Virginia Avenue NE (Montana Circle)
6. 16th Street NE & Site Driveway
7. Okie Street & Fenwick Street NE
8. Okie Street & Hecht Avenue NE
9. Okie Street & Walt Lincoln Way NE
10. Okie Street & 16th Street NE
11. West Virginia Avenue & Fenwick Street NE
12. West Virginia Avenue & 16th Street NE

Figure 13 shows a map of the study area intersections.

Traffic Volume Assumptions

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

Existing Traffic Volumes

The existing traffic volumes are comprised of turning movement count data, which was collected on Saturday, April 28, 2018, Tuesday, May 1, 2018, and Wednesday, May 9, 2018. The traffic counts are included in the Technical Appendix.

For all intersections, the weekday morning, weekday afternoon, and Saturday system peak hours were used. The existing peak hour traffic volumes are shown Figure 15.

2020 Background Traffic Volumes (without the project)

The traffic projections for the 2020 Background conditions consist of the existing volumes with two additions:

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

Following national and DDOT 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 2020 Background scenario: These developments are:

1. New City Development
2. Pappa's Tomatoes Development
3. City Winery DC

The New City Development is not expected to be completed prior to 2020; however, it was included as a background development because it was expected to be completed prior to 2020 during study scoping process.

An existing transportation study was available for the New City development, but for those with no existing studies, trip generation was calculated based on the Institute of Transportation Engineers' *Trip Generation Manual*, 10th Edition, with mode splits based on those used for similar developments in Ivy City. Trip distribution assumptions for the background developments were based on the distributions included in their respective studies or was based on those determined for the development and altered where necessary based on anticipated travel patterns. Mode split and trip generation assumptions for the background developments are shown in Table 5.

While the background developments represent local traffic changes, regional traffic growth is typically accounted for using

growth rates. The growth rates used in this analysis were derived using the Metropolitan Washington Council of Government's (MWCOG) currently adopted regional transportation model, comparing the difference between the year 2018 and 2020 model scenarios as vetted and agreed to by DDOT. The growth rates observed in this model served as a basis for analysis assumptions, and where negative growth was observed, a conservative 0.10 percent annual growth rate was applied to the roadway. In addition, since the MWCOG model accounts for local and regional development, annual growth rates were capped at 2 percent per year in order to only account for regional growth. Local growth was accounted for by including background developments, which are discussed above. This helps eliminates double-counting of local trips. The applied growth rates are shown in Table 6.

The traffic volumes generated by background developments and by the inherent growth along the network were added to the existing traffic volumes in order to establish the 2020 Background traffic volumes. The traffic volumes for the 2020 Background conditions are shown on Figure 16.

2020 Future Traffic Volumes (with the project)

The 2020 Total Future traffic volumes consist of the 2020 Background volumes with the addition of the traffic volumes generated by the proposed development (site-generated trips). Thus, the 2020 Future traffic volumes include traffic generated by: the existing volumes, background developments, the inherent growth on the study area roadways, and the proposed project.

Trip distribution for the site-generated trips was determined based on: (1) CTPP TAZ data, (2) existing and future travel patterns in the study area, and (3) the location of the parking access. Trip distributions were vetted and agreed to by DDOT.

The retail trip distribution was mostly based on locations of other retail centers, with some influence by the CTPP TAZ flow data for drivers commuting to the Site's TAZ (representing retail employees that drive). The origin of outbound and destination of inbound retail vehicular trips was the below-grade parking garage of the development.

Based on this review and the site access locations, the site-generated trips were distributed through the study area intersections. A summary of trip distribution assumptions and specific routing is provided on Figure 14.

The traffic volumes for the 2020 Future conditions were calculated by adding the development-generated traffic volumes to the 2020 Background traffic volumes. Thus, the future condition with the proposed development scenario includes traffic generated by: existing volumes, background developments through the year 2020, inherent growth on the network, and the proposed development. The site-generated traffic volumes are shown on Figure 17 and the 2020 Future traffic volumes are shown on Figure 18.

Peak Hour Factors

The TRB *Highway Capacity Manual* (HCM) and the AASHTO *Policy on Geometric Design of Highways and Intersections* recommend evaluating traffic conditions during the worst 15 minutes of either a design hour or a typical weekday rush hour. Peak Hour Factor (PHF) is used to convert the hourly volume into the volume rate representing the busiest 15 minutes of the hour. The existing guidelines provide typical values of PHF and advise using the PHF calculated from vehicle counts at analyzed or similar locations. The HCM recommends a PHF of 0.88 for rural areas and 0.92 for urban areas and presumes that capacity constraints in congested areas reduce the short-term traffic fluctuation. The HCM postulates 0.95 as the typical PHF for congested roadways.

For the Existing Conditions analysis, PHF were calculated from the turning movement data that was collected in the field, using a minimum PHF of 0.85.

To account for the significant increase in peak hour traffic generated by local development on side streets, and regional growth along major corridors, a default PHF minimum of 0.92 was assumed in the Background Conditions and Future Conditions analyses.

Geometry and Operations Assumptions

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

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 DDOT and confirmed during field reconnaissance.

The lane configurations and traffic controls for the Existing Conditions are shown on Figure **19**.

2020 Background Geometry and Operations Assumptions

Following national and DDOT 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, a number of geometry improvements were included in the 2020 Background scenario. Roadway improvements that were approved as part of Hecht's Warehouse Phase II PUD (Z.C. No. 140-01) and roadway improvements that are part of the New York Avenue Streetscape and Trail project were incorporated into the Background Conditions scenario. Detailed plans are included in the Technical Appendix.

As part of the Hecht's Warehouse Phase II PUD, an exclusive westbound left-turn lane will be added at New York Avenue and Fenwick Street.

As part of the New York Avenue Streetscape and Trail project, the southbound driveway at the intersection of New York Avenue and Fenwick Street will be closed. At the intersection of West Virginia Avenue and 16th Street, the westbound approach will be reduced to one lane (from two in existing conditions), and a crosswalk will be added to the eastern leg of the intersection.

In addition, the increase in westbound lefts from New York Avenue onto 16th Street in the PM and Saturday peak hours causes the westbound left-thru lane to become a de-facto left-turn lane during those peak hours.

The lane configurations and traffic controls for the Background Conditions are shown on Figure 20.

2020 Future Geometry and Operations Assumptions

The geometry and operations assumed in the future conditions scenario are based on the Background conditions with the following improvements:

- The new site access point on 16th Street
- The closure of three (3) median breaks on New York Avenue

The lane configuration and traffic controls for Future Conditions are shown in Figure 21.

Existing trips that utilize the median breaks on New York Avenue that are proposed to be closed were re-routed.

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 weekday morning, weekday afternoon, and Saturday peak hours. Synchro version 9.1 was used to analyze the study intersections based on the *Highway Capacity Manual* (HCM) 2000 methodology.

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. 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 D is typically used as the acceptable LOS threshold in the District; although LOS E or F is sometimes accepted in urbanized areas if vehicular improvements would be a detriment to safety or non-auto modes of transportation.

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 *Synchro* software). The average delay of each approach 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.

Table 7 shows the results of the capacity analyses in including LOS and average delay per vehicle (in seconds) for the Existing, 2020 Background, and 2020 Future scenarios.

Most study area intersections operate at acceptable conditions during the weekday morning, weekday afternoon, and Saturday peak hours for the 2018 Existing, 2020 Background, and 2020 Future scenarios; however, four (4) intersections

operate at levels beyond acceptable thresholds during all scenarios in one or more peak hour:

- New York Avenue & Fenwick Street NE (AM/PM)
- New York Avenue & 16th Street NE (AM/PM)
- New York Avenue & Montana Avenue & West Virginia Avenue NE (AM/PM/Saturday)
- West Virginia Avenue & Fenwick Street NE (PM)

Queuing Analysis

In addition to the capacity analyses presented above, 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 intersection, 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. HCM 2000 does not calculate queuing for all-way stops.

Table 8 shows the queuing results for the study area intersections. Only the intersection of New York Avenue & Montana Avenue & West Virginia Avenue NE has a lane group that exceeds its storage length during at least one peak hour in all of the study scenarios.

Mitigations

Based on DDOT standards, the proposed development is considered to have an impact at an intersection within the study area if any of the following conditions are met:

- The capacity analyses show a LOS E or F at an intersection or along an approach in the future with conditions with the proposed development where one does not exist in the background conditions;
- There is an increase in delay at any approach or overall intersection operating under LOS E or F of greater than 5 percent when compared to the background conditions; or
- There is an increase in the 95th percentile queues by more than 150 feet at an intersection or along an approach in the future conditions with the proposed development where one does not exist in the background scenario.

Following these guidelines, there are impacts to four (4) intersections as a result of the development. Mitigation measures were tested at these intersections, with results shown on Table 9, with detailed Synchro reports included in the Technical Appendix. The following conclusions were made:

- *New York Avenue & 16th Street NE*

  Under the 2020 Future Conditions, the delay for the westbound approach increases to a LOS E during the afternoon peak period and to LOS F during the Saturday peak period, as compared to LOS D in the Background Conditions.

  This intersection can be improved by adding a protected left-turn phase to the westbound approach of New York Avenue. The westbound protected left-turn would provide enough additional throughput to reduce delay for the westbound approach to LOS D or better. In addition, the westbound protected left-turn creates an unsignalized overlap phase for northbound right-turning vehicles (which can turn right on red) reducing delay for the northbound approach. Furthermore, as this is an actuated signal there are now fewer vehicles triggering the northbound phase, which in turn increases the amount of green time available to the east- and westbound approaches, further improving the LOS at this intersection during the PM peak hour.

  Per plans provided by DDOT, this intersection is going to be reconfigured as part of the New York Avenue Streetscape and Trail project, including the installation of new signal equipment. This report recommends that the DDOT consider adding a westbound protected left-turn phase to this signal as part of the planned signal installation.

  The recommended mitigation to this intersection would have no negative impact on the amount of time pedestrians receive to navigate the intersection.

- *New York Avenue & Montana Avenue & West Virginia Avenue Intersection Complex*

  While the capacity analysis developed for this study noted significant delays at the intersection complex under conditions with or without development, observations note that delays extend along most approaches to these intersections under existing conditions. These delays are a result of the limited throughput that the intersections can accommodate, and metering that is caused by intersections up- and down-stream from the intersection complex. With the addition of the development, delays and queuing are increased to unacceptable levels for

certain approaches. However, given the delay and queuing present throughout the New York Avenue corridor, solutions for the delays and queuing present at these intersections should be examined through regional transportation planning efforts.

- *Okie Street & Fenwick Street NE*
  Under the 2020 Future Conditions, the delay for the westbound approach increases to a LOS E during the afternoon peak period, as compared to Background Conditions.

  This report recommends the conversion of this intersection from two-way stop controlled to all-way stop controlled. Projected volumes at this intersection trigger an all-way stop warrant. With the improvement of this intersection to an all-way stop control, delay is improved to acceptable levels in the Future Scenario.

  The conversion from a two-way stop controlled intersection to an all-way stop controlled intersection will improve pedestrian safety at this intersection, by reducing speeds and increasing the frequency at which pedestrians can cross.

- *West Virginia Avenue & 16th Street NE*
  Under the 2020 Future Conditions, the delay for the southbound approach is projected to increase by more than 5 percent over the unacceptable 2020 Background Conditions during the afternoon period.

  The increase in thru volumes along West Virginia Avenue due to background developments and regional growth means the effective gap that southbound left turning vehicles have is reduced, increasing delay. All-way stop and signal warrants were performed, but it was found that neither were warranted based on peak hour vehicle and pedestrian volumes.

  This report recommends restriping the southbound approach to include separate left- and right-turn lanes. To accommodate this change parking would need to be eliminated on both sides of the 16th Street. These improvements can be made in conjunction with the planned improvements that are part of the New York Avenue Streetscape and Trail project. Given the heavy traffic volumes along West Virginia Avenue and that neither an all-way stop or signal is warranted, the proposed mitigations at this intersection are unable to improve delay for each approach to LOS D or better. The proposed mitigations at this intersection do improve delay for the southbound approach (77.7 seconds of delay before mitigation vs 49.7 seconds of delay after mitigation). This report instead defers to DDOT to consider that LOS E and F are accepted within an urban context.

  It should be noted that previous analyses performed for other developments in the study area did not recommend mitigations at this intersection. The planned improvements to this intersection as part of the New York Avenue Streetscape and Trails project reduces the westbound approach on West Virginia Avenue to a single lane, reducing safety concerns of installing separate southbound left and right-turn lanes that had previously caused this recommended mitigation measure not to be recommended.

Summary and Recommendations

In completing the technical capacity analyses, this report noticed several overall trends regarding changes to travel patterns in the study area during the weekday morning and afternoon peak hours (compared to the traffic counts collected in 2013 and 2015). During the AM peak hour, traffic volumes and commuting patterns have remained relatively constant, with a noticeable increase in westbound traffic on New York Avenue that is most likely attributable to a growth in commuter traffic. During the PM peak hour, traffic volumes and patterns have also remained relatively constant. Notably, there has been a sharp rise in eastbound commuter traffic turning left from West Virginia Avenue onto 16th Street (38 vehicles in 2013 vs 203 vehicles in 2018) and then right onto New York Avenue (76 vehicles in 2013 vs 247 in 2018). This is most likely due to the signal timing changes in the study area that prioritize commuter traffic on New York Avenue at the expense of the minor movements.

The majority of vehicular capacity concerns in the study area can be alleviated through signal timing changes that adapt to changes in volume patterns, but at some locations, operational changes alone cannot mitigate future delays. In addition, it is likely that drivers will alter their patterns as future conditions change.

As has been stated in prior reports done throughout this area of the District, an essential component for effective traffic

operations in this area will be to minimize the vehicular trip generation of new development, thus reducing the overlap between new local traffic and regional traffic. Instead of investing in widening roadways to alleviate capacity concerns, the strategy has been to minimize traffic volumes to avoid capacity problems. This is also because widening roadways and adding more vehicular capacity is not feasible nor desirable (due to the negative impact it can have on other modes).

As such, the multi-modal improvements described in this report are indirectly mitigating traffic operations impacts. The Applicant has contributed significantly towards improvements of portions of the streetscape on New York Avenue, and funded the *New York Avenue Rail-with-Trail Linking Northeast Washington, D.C Concept Plan* (2015) that was a precursor to the New York Avenue Streetscape and Trails project.

In addition to these improvements, this report recommends DDOT review several mitigations measures for traffic operations:

- Adjusting signal timings throughout the study area to adapt to changes in volumes.
- Exploring creating a westbound protected left-turn at the New York Avenue approach at 16th Street.
- Installing an all-way stop at the intersection of Okie Street and Fenwick Street.
- Restriping the southbound approach of 16th Street at West Virginia Avenue to include separate left- and right-turn lanes.

In conjunction with the regional transportation planning efforts that this report recommends be undertaken to examine delay and queuing at Montana Circle, this report recommends that DDOT consider shortening the cycle lengths of signals along the New York Avenue corridor in the study area. Shorter signal cycles permit frequent gaps, allowing city streets to function as a complete network rather than a series of major corridors for commuter traffic. In addition, with the planned New York Avenue Streetscape and Trail project, shorter signal cycles provide more consistent crossing opportunities for pedestrians and bicycles, while long cycle lengths may increase pedestrian and bicycle non-compliance and risk-taking behavior.

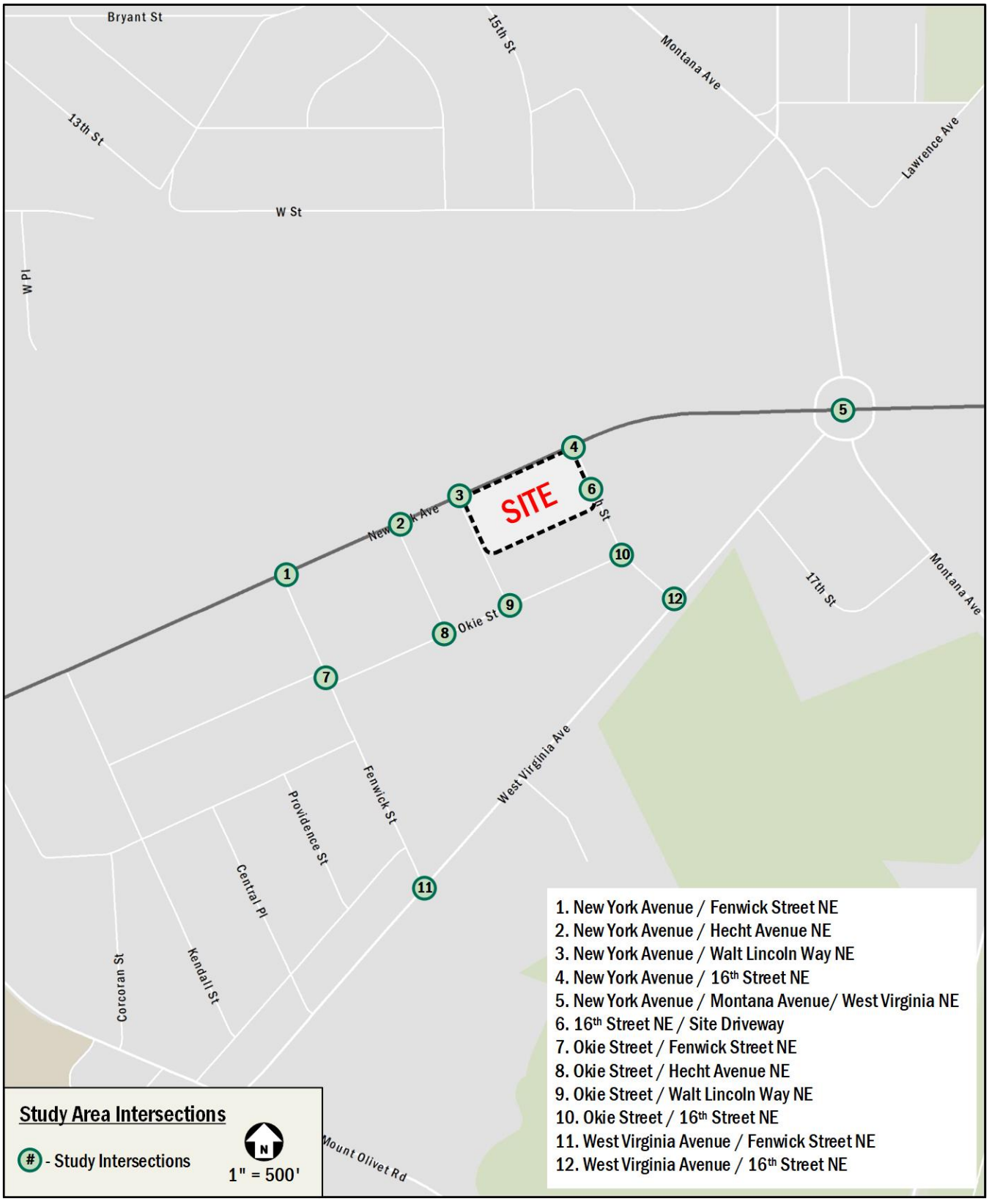

Figure 13: Study Area Intersections

Table 5: Summary of Background Development Trip Generation

Background Development	ITE Land Use Code Trip Generation, 10th Ed.	Quantity		AM			PM			Saturday		
				In	Out	Total	In	Out	Total	In	Out	Total
City Winery DC	931 Quality Restaurant (rate)	175	seats	3	1	4	33	16	49	34	24	58
	Non-Auto Reduction:	30%		-1	0	-1	-10	-5	-15	-10	-7	-17
			Total Trips	**2**	**1**	**3**	**23**	**11**	**34**	**24**	**17**	**41**
New City DC	Based on Approved CTR											
			Total Trips	**418**	**426**	**844**	**741**	**721**	**1,462**	**754**	**680**	**1,434**
Pappa's Tomatoes	Based on Approved CTR											
			Total Trips	**83**	**51**	**134**	**183**	**197**	**380**	**226**	**209**	**435**
			Net Background Site Trips	**503**	**478**	**981**	**947**	**929**	**1,876**	**1,004**	**906**	**1,910**

Table 6: Applied Annual and Total Growth Rates

Road – Direction of Travel	Annual Growth Rate			Total Growth between 2018 and 2020		
	AM Peak	PM Peak	Sat Peak	AM Peak	PM Peak	Sat Peak
New York Avenue NE – EB	2.00%	0.25%	0.50%	4.04%	0.50%	1.00%
New York Avenue NE – WB	0.50%	0.10%	0.10%	1.00%	0.20%	0.20%
West Virginia Avenue NE – NB	2.00%	0.25%	0.10%	4.04%	0.50%	0.20%
West Virginia Avenue NE – SB	0.25%	0.50%	0.25%	0.50%	1.00%	0.50%
Montana Avenue NE – NB	1.50%	2.00%	0.50%	3.02%	1.00%	4.04%
Montana Avenue NE – SB	2.00%	1.00%	0.10%	4.04%	2.01%	0.20%
18th Street NE – NB	0.75%	1.25%	0.75%	1.51%	2.52%	1.51%
18th Street NE – SB	1.25%	1.00%	0.50%	2.52%	2.01%	1.00%

Figure 14: Trip Distribution and Assignment

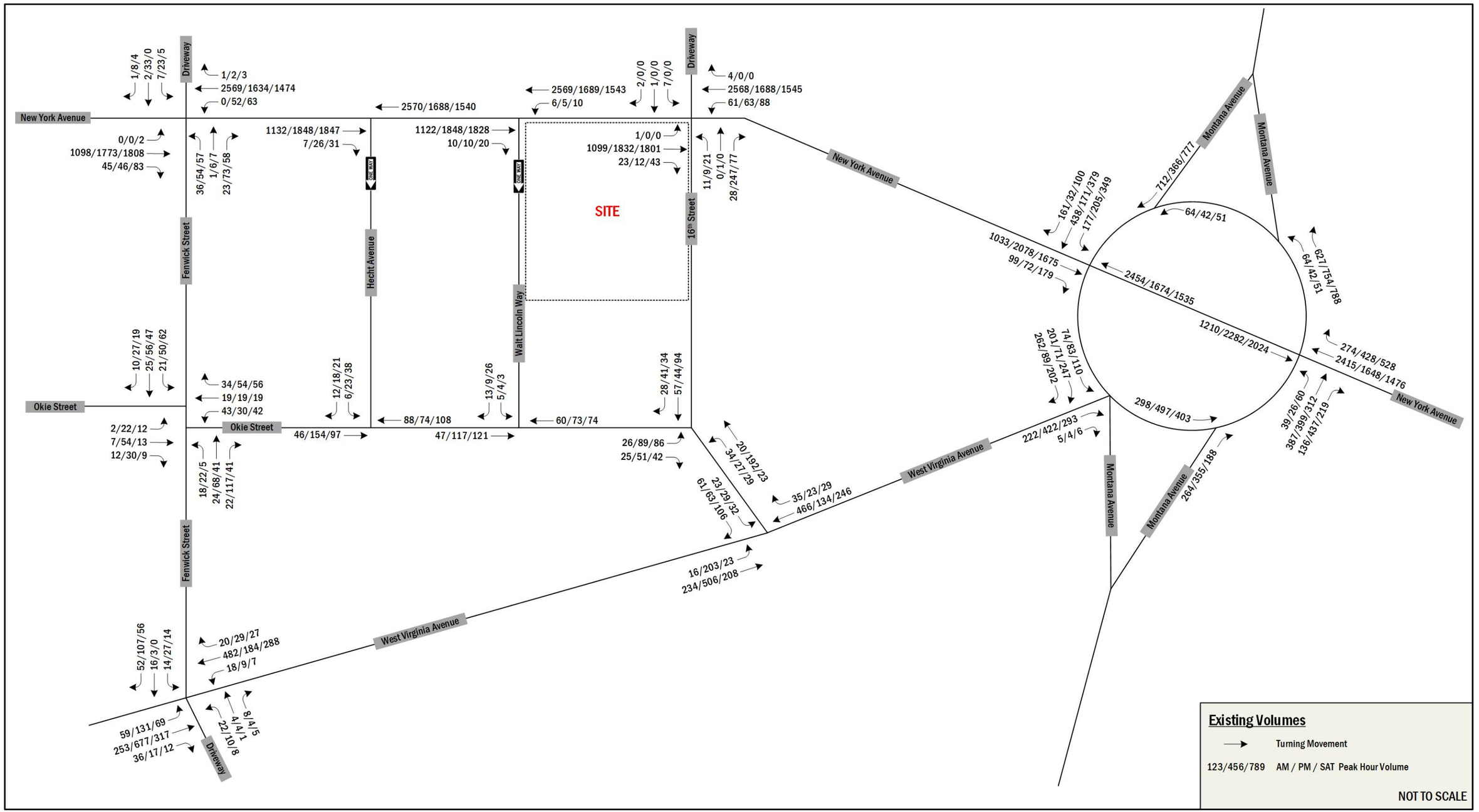

Figure 15: Existing (2018) Peak Hour Traffic Volumes

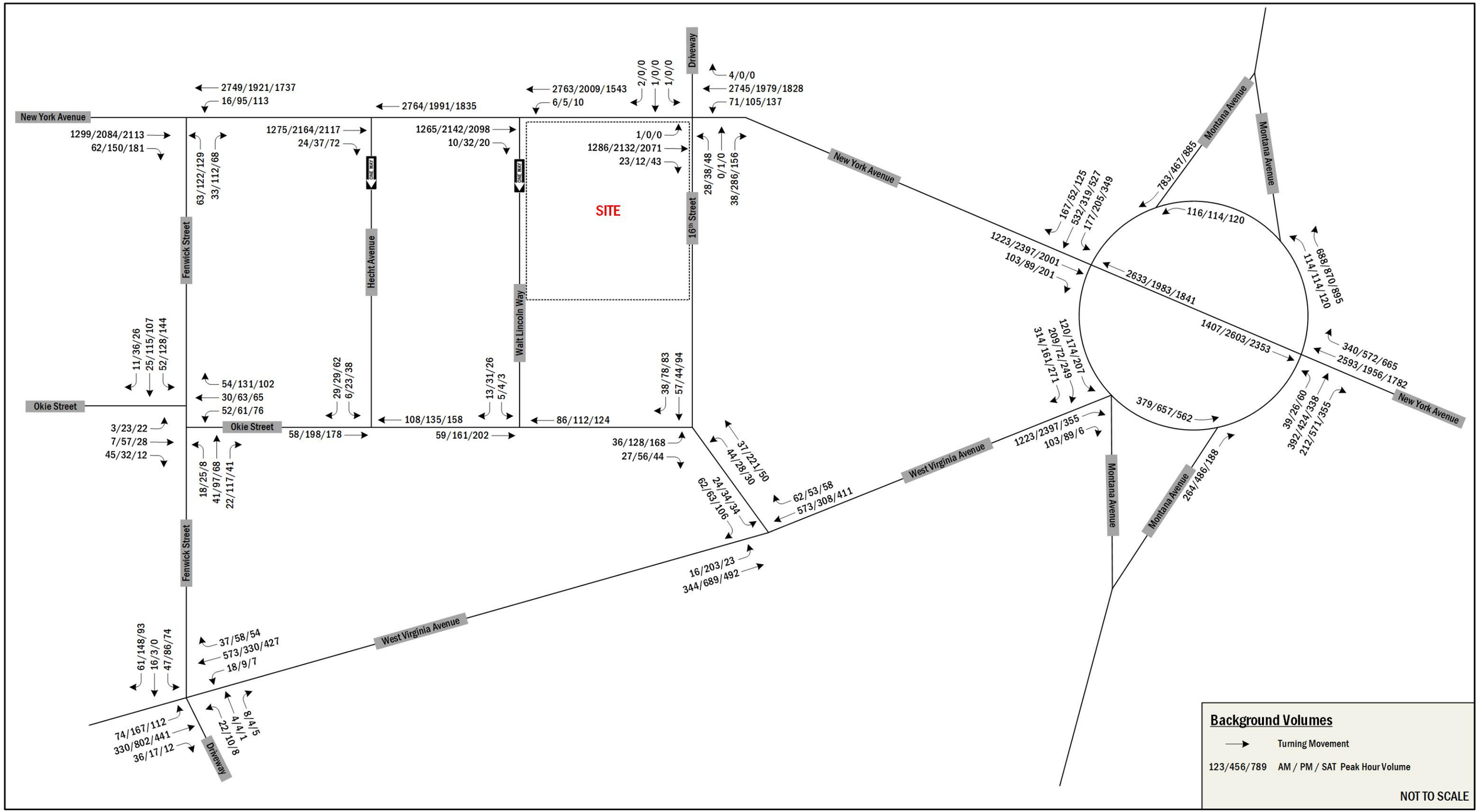

Figure 16: Background (2020) Traffic Volumes

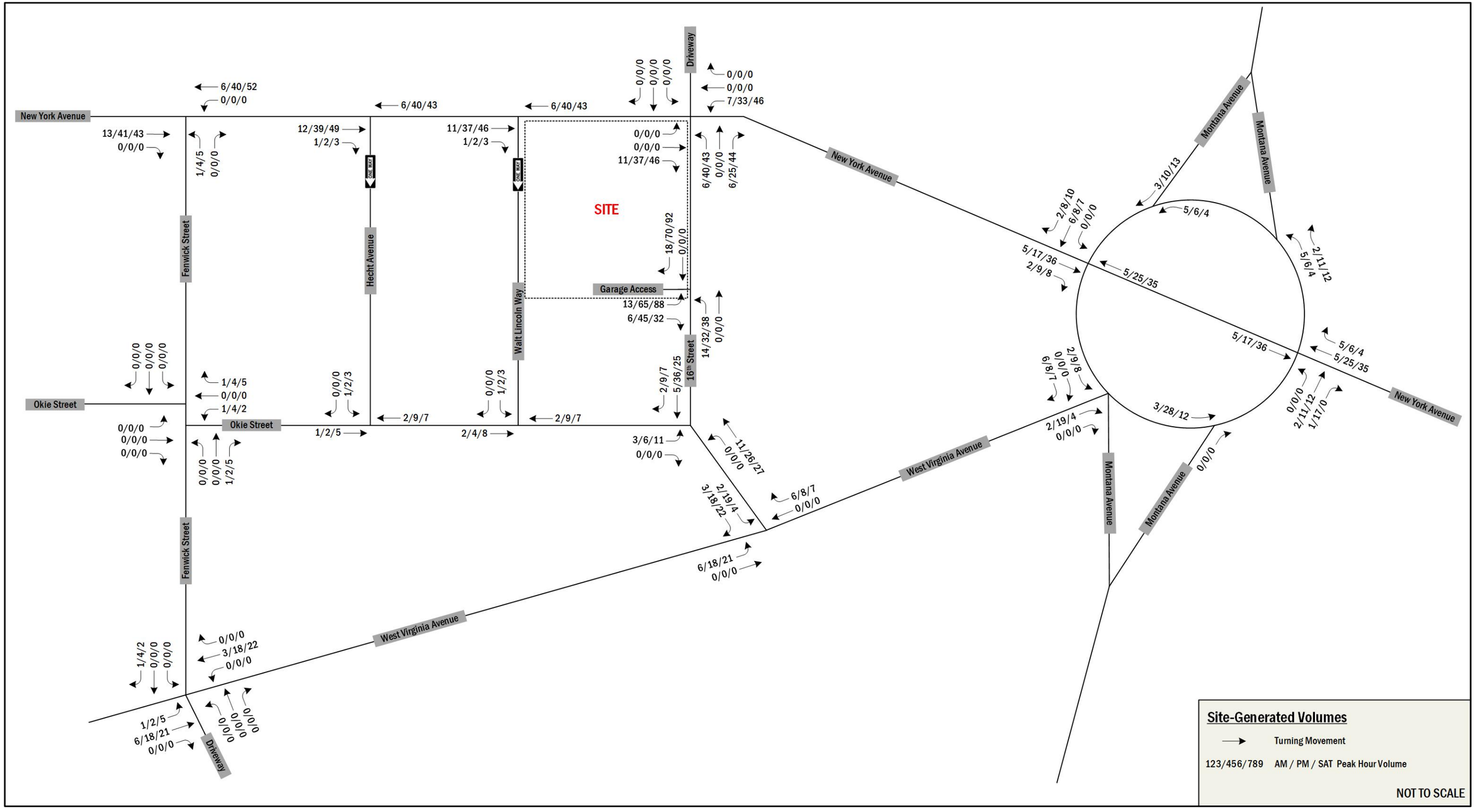

Figure 17: Site-Generated Volumes

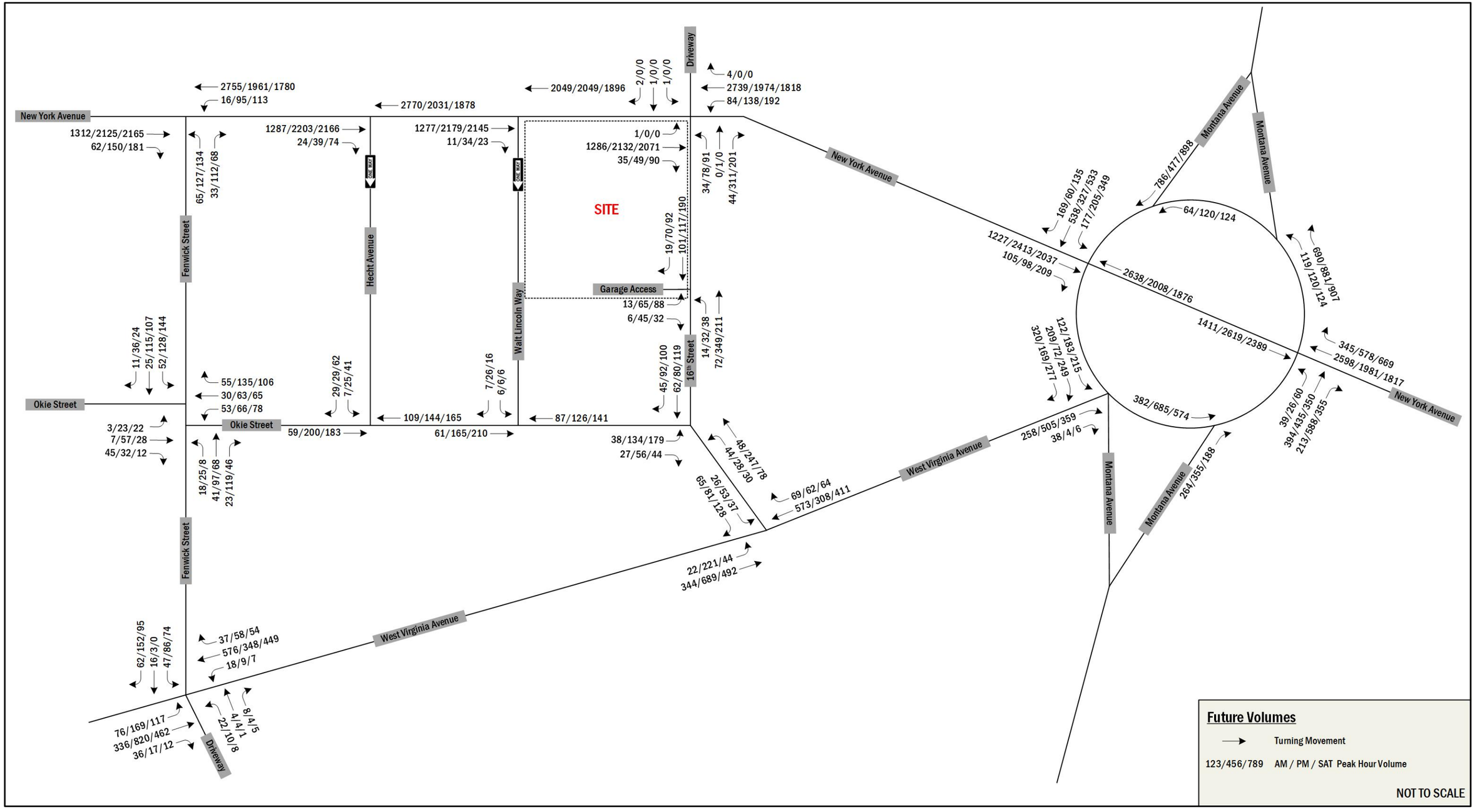

Figure 18: Future (2020) Traffic Volumes

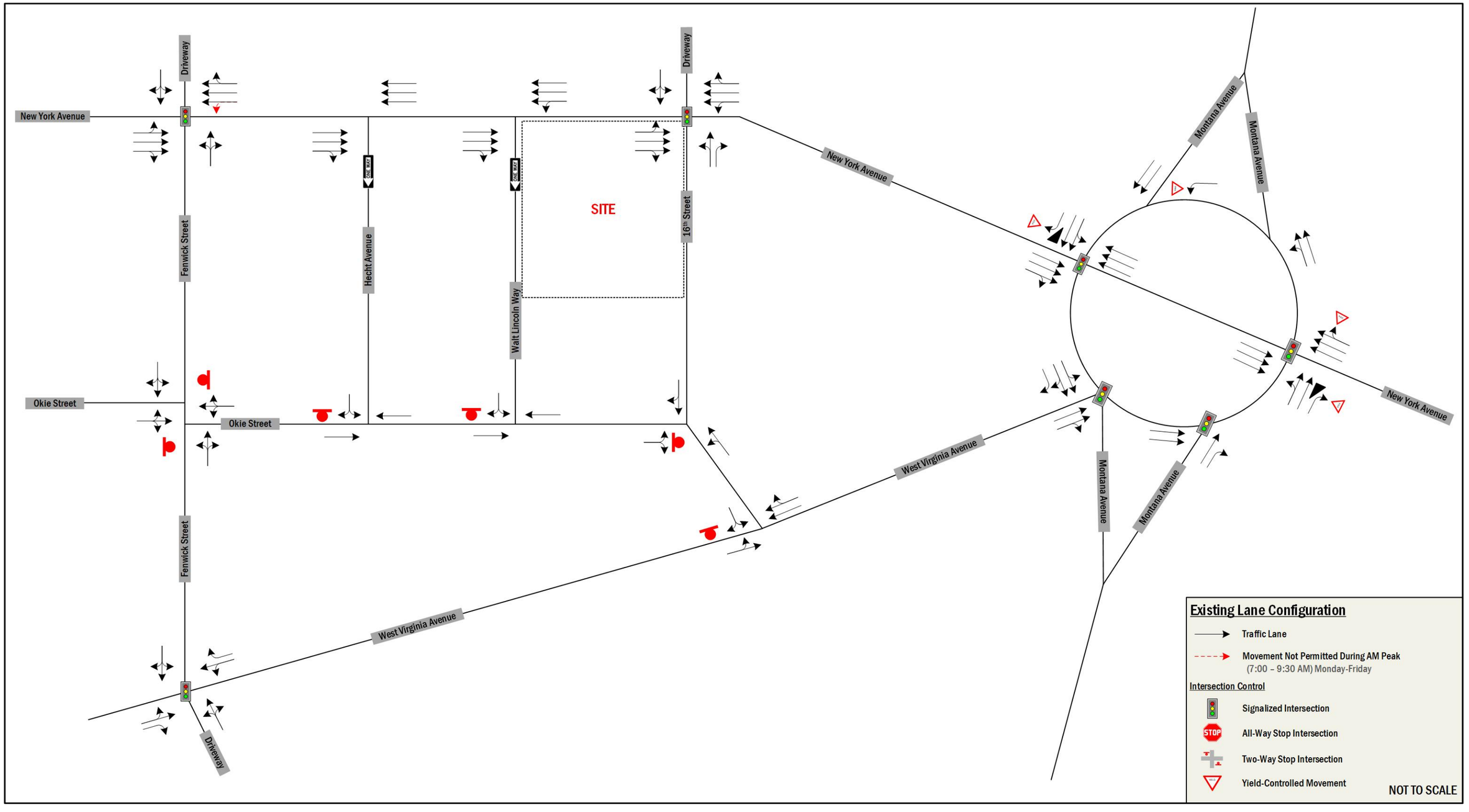

Figure 19**: Existing Conditions (2018) Lane Configuration**

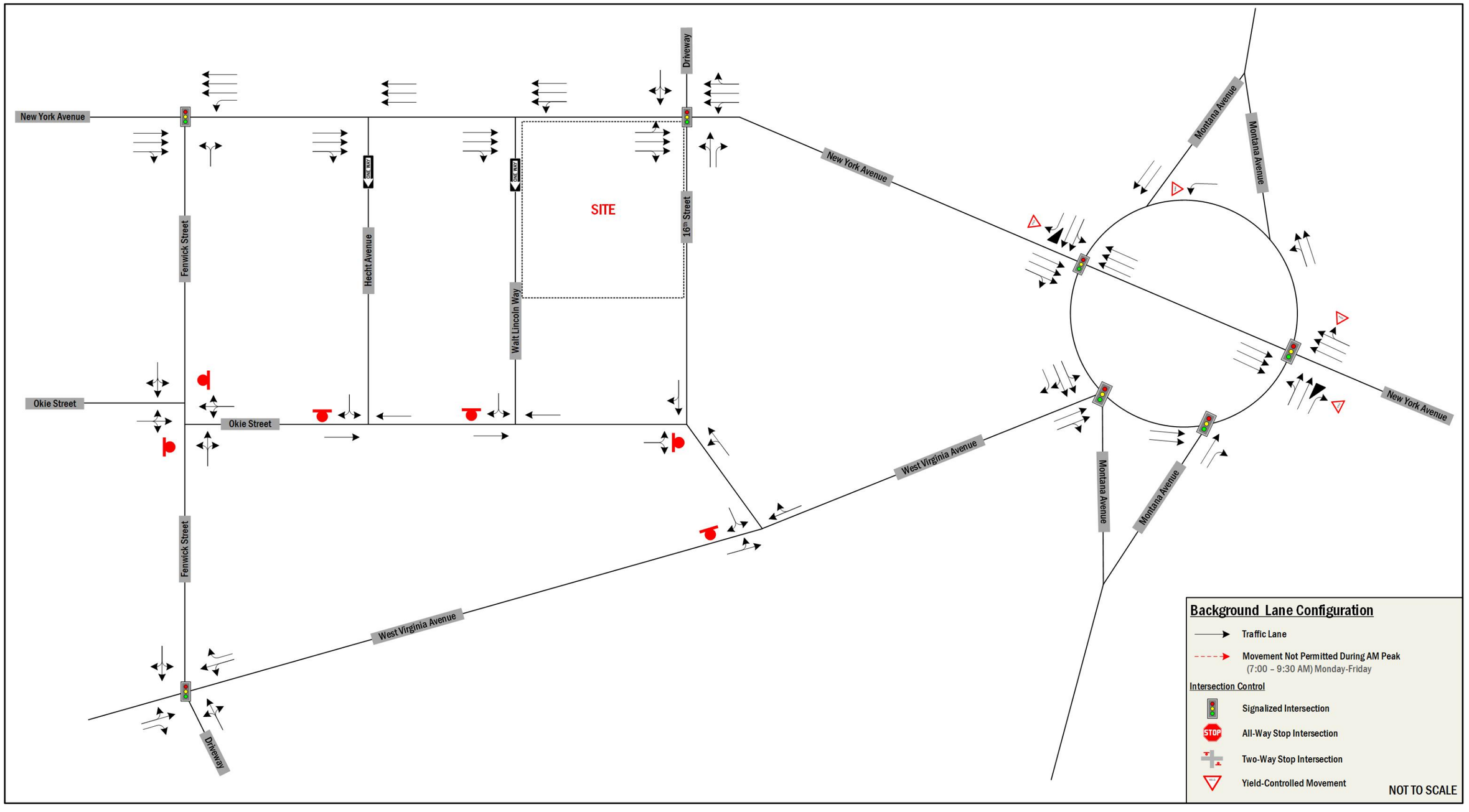

Figure 20: Background Conditions (2020) Lane Configuration

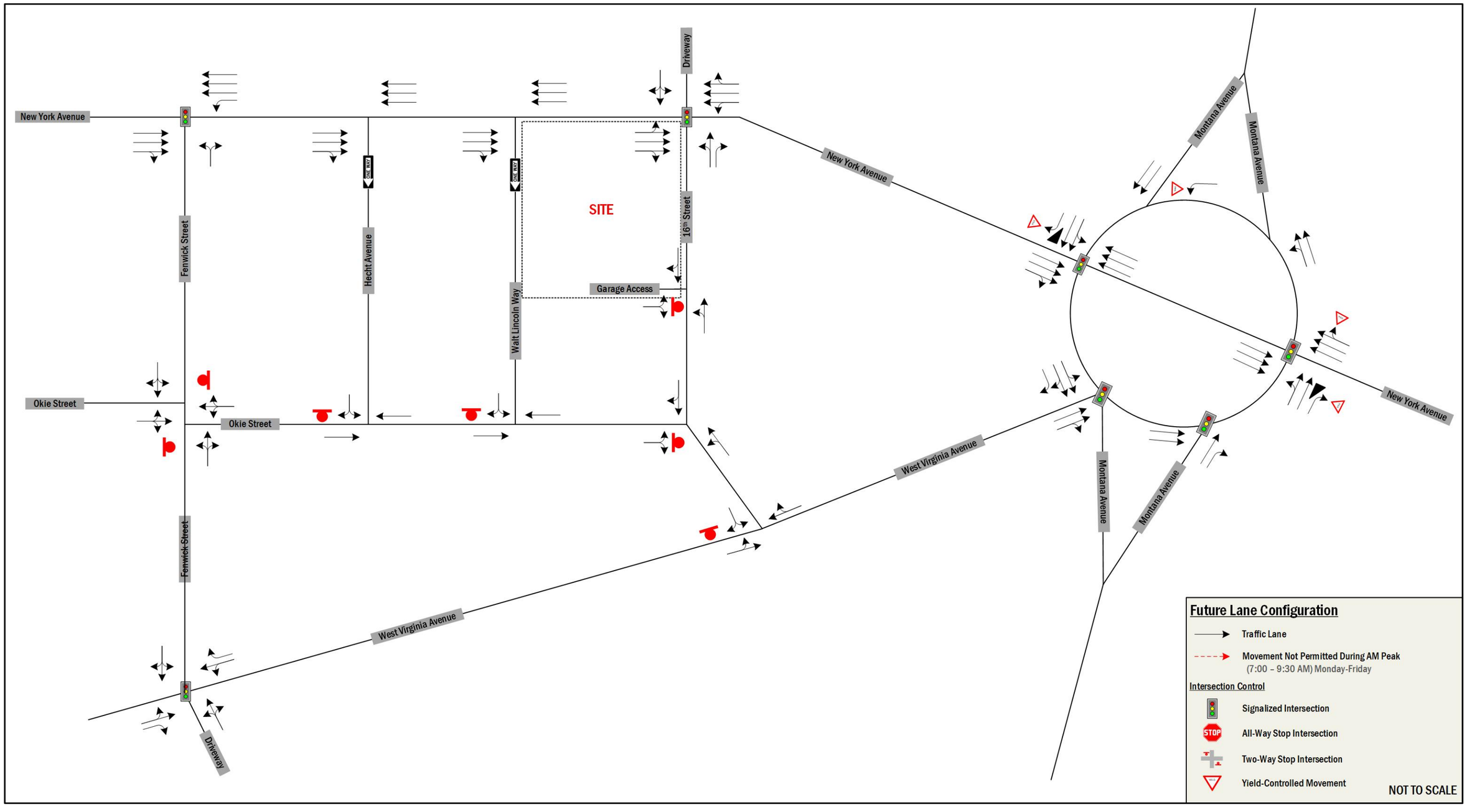

Figure 21: Future Conditions (2020) Lane Configuration

Table 7: LOS Results

Intersection	Approach	Existing Conditions (2018)						Background Conditions (2020)						Future Conditions (2020)					
		AM Peak Hour		*PM Peak Hour*		*Sat Peak Hour*		*AM Peak Hour*		*PM Peak Hour*		*Sat Peak Hour*		*AM Peak Hour*		*PM Peak Hour*		*Sat Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
New York Avenue & Fenwick Street NE	**Overall**	**3.2**	**A**	**12.5**	**B**	**8.8**	**A**	**4.4**	**A**	**18.7**	**B**	**15.3**	**B**	**4.4**	**A**	**19.9**	**C**	**15.4**	**B**
	Eastbound	2.6	A	6.1	A	7.4	A	3.5	A	17.3	B	19.0	B	3.9	A	18.0	B	19.8	B
	Westbound	1.6	A	11.2	B	6.7	A	2.5	A	13.8	B	6.6	A	2.5	A	15.7	B	5.7	A
	Northbound	71.9	E	81.7	F	50.4	D	69.6	E	73.3	E	53.3	D	69.8	E	73.0	E	54.1	D
	Southbound	64.3	E	56.8	E	42.1	D	--	--	--	--	--	--	--	--	--	--	--	--
New York Avenue & Hecht Avenue NE	Eastbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
	Westbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
New York Avenue & Walt Lincoln Way NE	Eastbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
	Westbound	0.1	A	0.1	A	0.2	A	0.1	A	0.1	A	0.2	A	0.0	A	0.0	A	0.0	A
New York Avenue & 16th Street NE	**Overall**	**9.1**	**A**	**20.3**	**C**	**7.1**	**A**	**14.4**	**B**	**34.4**	**C**	**16.4**	**B**	**18.5**	**C**	**44.8**	**D**	**19.6**	**B**
	Eastbound	2.0	A	10.8	B	5.0	A	2.2	A	13.5	B	11.2	A	2.4	A	23.2	A	13.1	B
	Westbound	11.0	B	20.7	C	6.5	A	18.6	B	48.4	D	17.8	B	24.4	A	59.7	E	20.9	C
	Northbound	73.0	E	78.9	E	51.9	D	72.2	E	79.0	E	55.5	E	73.9	E	81.0	F	57.8	E
	Southbound	66.2	E	0.0	A	0.0	A	65.4	E	0.0	A	0.0	A	64.9	E	0.0	A	0.0	A
New York Ave & Montana Ave & West Virginia Ave - Western Node	**Overall**	**13.1**	**B**	**18.5**	**C**	**18.7**	**B**	**14.3**	**B**	**22.0**	**C**	**20.7**	**C**	**14.4**	**B**	**21.9**	**C**	**20.7**	**C**
	Eastbound	12.1	B	26.6	C	18.3	C	12.2	B	32.3	C	20.5	C	12.1	A	32.0	C	20.3	C
	Westbound	1.6	A	1.6	A	2.1	A	1.8	A	1.5	A	1.9	A	1.8	A	1.5	A	1.9	A
	Southbound	51.4	D	47.1	D	36.1	D	55.9	E	50.7	D	56.3	E	56.3	E	50.9	D	56.7	E
New York Ave & Montana Ave & West Virginia Ave - Southwestern Node	**Overall**	**26.4**	**B**	**47.0**	**C**	**19.3**	**B**	**35.5**	**B**	**47.0**	**D**	**20.9**	**C**	**35.2**	**D**	**50.5**	**D**	**20.8**	**C**
	Eastbound	80.6	F	73.3	E	52.3	D	106.5	F	84.0	F	56.4	E	106.4	F	90.5	F	56.7	E
	Southbound	2.7	A	2.0	A	3.9	A	2.6	A	2.4	A	4.3	A	2.6	A	2.5	A	4.4	A
New York Ave & Montana Ave & West Virginia Ave - Southeastern Node	**Overall**	**33.2**	**C**	**126.6**	**F**	**21.7**	**B**	**30.3**	**C**	**93.7**	**F**	**18.9**	**B**	**30.3**	**C**	**91.3**	**F**	**18.8**	**B**
	Eastbound	5.5	A	1.4	A	4.5	A	8.0	A	2.9	A	6.2	A	8.1	A	3.1	A	6.3	A
	Northbound	62.3	E	301.8	F	55.4	E	61.5	E	259.8	F	54.9	D	61.5	E	259.8	F	54.9	D
New York Ave & Montana Ave & West Virginia Ave - Eastern Node	**Overall**	**27.5**	**C**	**32.7**	**C**	**14.4**	**B**	**44.3**	**D**	**41.9**	**D**	**20.1**	**C**	**45.1**	**D**	**45.1**	**D**	**20.9**	**C**
	Eastbound	5.5	A	4.7	A	6.8	A	4.6	A	4.2	A	6.0	A	4.6	A	4.1	A	6.0	A
	Westbound	41.2	D	20.9	C	21.3	C	69.3	E	27.4	C	29.1	C	70.6	E	28.1	C	30.4	C
	Northbound	10.5	B	121.1	F	16.7	B	18.7	B	166.5	F	33.5	C	19.0	B	181.0	F	35.1	D
New York Ave & Montana Ave & West Virginia Ave - Northeastern Node	Northbound	0.8	A	0.5	A	0.5	A	1.3	A	1.1	A	1.1	A	1.3	A	1.1	A	1.1	A
New York Ave & Montana Ave & West Virginia Ave - Northwestern Node	Westbound	11.8	B	10.0	A	12.0	B	13.0	B	11.3	B	13.9	B	13.1	B	11.5	B	14.2	B
Garage Access & 16th Street NE	Eastbound	--	--	--	--	--	--	--	--	--	--	--	--	9.6	A	13.2	B	14.1	B
	Northbound	--	--	--	--	--	--	--	--	--	--	--	--	1.3	A	0.9	A	1.5	A
	Southbound	--	--	--	--	--	--	--	--	--	--	--	--	0.0	A	0.0	A	0.0	A
Okie Street & Fenwick Street NE	Eastbound	9.9	A	18.8	C	12.9	B	10.0	B	27.6	D	22.3	C	10.0	A	27.9	D	22.5	C
	Westbound	11.0	B	17.3	C	12.3	B	12.6	B	37.5	E	26.7	D	12.6	B	41.4	E	27.3	D
	Northbound	2.3	A	1.3	A	0.5	A	1.9	A	1.0	A	0.6	A	1.9	A	1.0	A	0.6	A
	Southbound	2.9	A	3.4	A	3.9	A	4.7	A	4.3	A	4.5	A	4.7	A	4.3	A	4.6	A
Okie Street & Hecht Avenue NE	Eastbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
	Westbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	9.6	A	0.0	A	0.0	A
	Southbound	9.6	A	10.8	B	11.0	B	9.6	A	11.1	B	11.7	B	6.9	A	11.2	B	11.9	B
Okie Street & Walt Lincoln Way NE	Eastbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
	Westbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
	Southbound	9.0	A	9.3	A	9.0	A	9.1	A	9.3	A	9.3	A	9.2	A	9.5	A	9.7	A

Intersection	Approach	Existing Conditions (2018)						Background Conditions (2020)						Future Conditions (2020)					
		AM Peak Hour		*PM Peak Hour*		*Sat Peak Hour*		*AM Peak Hour*		*PM Peak Hour*		*Sat Peak Hour*		*AM Peak Hour*		*PM Peak Hour*		*Sat Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Okie Street & 16th Street NE	Eastbound	9.5	A	12.9	B	10.8	B	9.8	A	13.0	B	12.5	B	10.0	B	14.4	B	13.7	B
	Northbound	5.0	A	1.3	A	4.4	A	4.3	A	1.0	A	3.1	A	3.8	A	1.0	A	2.5	A
	Southbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
West Virginia Avenue & Fenwick Street NE	**Overall**	**9.2**	**A**	**11.6**	**B**	**6.5**	**A**	**11.3**	**A**	**18.2**	**A**	**8.7**	**A**	**11.3**	**A**	**18.2**	**B**	**8.8**	**A**
	Eastbound	2.5	A	3.8	A	5.5	A	3.5	A	7.0	A	7.5	A	3.5	A	7.3	A	7.6	A
	Westbound	3.6	A	2.6	A	4.3	A	4.8	A	5.0	A	6.2	A	4.9	A	5.1	A	6.4	A
	Northbound	54.3	D	55.1	E	19.3	B	48.9	D	43.5	D	17.2	B	48.8	D	43.4	D	17.2	B
	Southbound	53.3	D	54.2	D	19.6	B	61.9	E	84.6	F	19.4	B	61.9	E	84.8	F	19.4	B
West Virginia Avenue & 16th Street NE	Eastbound	0.8	A	3.9	A	0.8	A	0.6	A	4.4	A	0.7	A	0.9	A	4.8	A	1.2	A
	Westbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
	Southbound	15.2	C	27.8	D	12.4	B	19.4	C	38.2	E	18.0	C	20.2	C	77.7	F	19.9	C

Table 8: Queueing Results

Intersection	Lane Group	Storage Length (ft)	Existing Conditions						Background Conditions						Future Conditions					
			AM Peak		PM Peak		Sat Peak		AM Peak		PM Peak		Sat Peak		AM Peak		PM Peak		Sat Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
New York Ave & Fenwick Street NE	Eastbound LTR	750	68	143	198	298	260	301	100	181	475	636	509	616	102	183	498	664	532	650
	Westbound LTR	1075	63	62	401	399	162	229	--	--	--	--	--	--	--	--	--	--	--	--
	Westbound Left	150	--	--	--	--	--	--	1	m1	40	m62	51	m96	1	m1	41	m64	48	m92
	Westbound Thru	1075	--	--	--	--	--	--	61	67	395	469	232	249	71	78	398	484	239	278
	Northbound LTR	280	49	88	135	191	86	143	86	142	214	297	137	215	87	143	220	303	142	221
	Southbound TR	100	9	26	62	99	0	11	--	--	--	--	---	--	--	--	--	--	--	--
New York Ave & Hecht Avenue NE	Eastbound TR	360	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
	Westbound TL	220	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
New York Ave & Walt Lincoln Way NE	Eastbound LTR	220	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
	Westbound TL	400	--	1	--	1	--	2	--	1	--	1	--	2	--	0	--	0	--	0
New York Ave & 16th Street NE*	Eastbound LTR	1075	50	128	391	473	124	323	70	147	663	673	364	460	75	148	769	863	379	477
	Westbound Left	760	--	--	--	--	--	--	--	--	~163	m#289	~155	#300	--	--	~242	#394	~261	#418
	Westbound TR	760	--	--	--	--	--	--	--	--	582	652	350	428	--	--	581	656	356	428
	Westbound LTR	760	417	468	343	365	153	221	524	#1240	--	--	--	--	549	#1283	--	--	--	--
	Northbound LT	360	13	32	9	26	18	40	28	60	33	69	36	71	36	71	70	125	70	121
	Northbound Right	360	2	31	257	336	47	84	3	39	281	#436	114	179	4	42	311	#495	150	233
	Southbound LTR	100	2	13	--	--	--	--	2	14	--	--	--	--	2	14	--	--	--	--
New York Ave & Montana Ave & West Virginia Ave NE																				
Western Node	Eastbound TR	785	154	176	694	780	354	19	184	206	919	971	471	106	186	208	920	974	489	580
	Westbound Thru	150	24	m25	29	m30	34	36	26	m24	29	m30	36	36	26	m24	29	m30	36	m37
	Southbound LT	65	304	377	181	236	317	390	364	446	260	326	388	#494	368	451	264	332	390	#498
	Southbound Right	70	87	158	0	13	18	m64	94	167	0	36	31	91	95	169	5	44	38	100
Southwestern Node	Eastbound TR	290	128	#187	241	#306	116	165	162	#263	273	#381	144	198	163	#264	286	#405	145	200
	Southbound LTR	35	0	0	0	0	26	26	0	m0	0	m1	32	m35	0	m0	0	m1	33	m36
	Southbound Right	35	0	m0	0	m0	10	m13	0	m0	0	m0	12	m14	0	m0	0	m0	13	m14

** the increase in westbound lefts from New York Avenue onto 16th Street in the PM and Saturday peak hours causes the westbound left-thru lane to become a de-facto left-turn lane during those peak hours.*

Intersection	Lane Group	Storage Length (ft)	Existing Conditions						Background Conditions						Future Conditions					
			AM Peak		PM Peak		Sat Peak		AM Peak		PM Peak		Sat Peak		AM Peak		PM Peak		Sat Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
Southeastern Node	Eastbound Left	70	16	24	12	20	21	29	33	m37	39	m53	52	68	34	m38	41	m54	55	71
	Northbound Thru	415	151	189	~295	#378	86	121	142	193	~265	#376	83	124	142	193	~265	#376	83	124
Eastern Node	Eastbound Thru	1365	78	85	87	91	113	121	77	83	85	89	113	120	77	83	85	89	113	120
	Westbound TR	160	946	#1112	487	540	395	456	~1233	#1304	726	797	589	672	~1242	#1312	746	819	609	695
	Northbound LTR	70	14	23	~604	m#495	163	208	85	203	~706	m#683	250	#427	90	217	~739	m#718	255	#439
Northeastern Node	Northbound LT	85	-	3	-	3	-	3	-	6	-	6	-	7	-	7	-	7	-	7
	Northbound Thru	85	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
Northwestern Node	Westbound Left	65	-	11	-	6	-	9	-	21	-	16	-	24	-	22	-	17	-	25
	Southbound Thru	110	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
	Southbound Thru	110	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
16th Street NE & Garage Access	Eastbound LR	100	-	-	-	-	-	-	-	-	-	-	-	-	-	2	-	20	-	24
	Northbound TL	230	-	-	-	-	-	-	-	-	-	-	-	-	-	1	-	2	-	3
	Southbound TR	90	-	-	-	-	-	-	-	-	-	-	-	-	-	0	-	0	-	0
Fenwick Street & Okie Street NE	Eastbound LTR	350	-	2	-	27	-	7	-	6	-	53	-	23	-	6	-	53	-	24
	Westbound LTR	810	-	13	-	22	-	20	-	23	-	144	-	104	-	24	-	161	-	108
	Northbound LTR	230	-	1	-	1	-	0	-	1	-	2	-	0	-	1	-	2	-	0
	Southbound LTR	300	-	1	-	3	-	4	-	3	-	9	-	9	-	3	-	9	-	9
Okie Street & Hecht Avenue NE	Eastbound TL	380	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
	Westbound TR	190	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
	Southbound RL	330	-	2	-	6	-	9	-	4	-	7	-	15	-	4	-	8	-	16
Okie Street & Walt Lincoln Way NE	Eastbound TL	195	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
	Westbound TR	440	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
	Southbound RL	330	-	2	-	1	-	3	-	2	-	3	-	3	-	1	-	3	-	2
16th Street & Oakie Street NE	Eastbound LR	440	-	5	-	23	-	18	-	7	-	33	-	35	-	7	-	39	-	43
	Northbound TL	200	-	2	-	2	-	2	-	3	-	2	-	2	-	3	-	2	-	2
	Southbound TR	360	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
Fenwick Street & West Virginia Avenue NE	Eastbound LTR	280	20	50	64	126	45	m82	39	68	158	201	61	m117	41	70	164	210	65	m121
	Westbound LTR	430	84	185	22	54	35	116	136	238	79	115	60	180	138	241	84	122	63	192
	Westbound Right	430	0	0	0	6	0	7	0	0	0	10	0	15	0	0	0	10	0	15
	Northbound LTR	130	23	52	13	35	3	11	20	52	10	33	2	11	20	52	10	33	2	11
	Southbound LTR	500	26	68	28	82	4	22	75	139	153	#308	21	50	75	140	155	#313	21	51
West Virginia Ave & 16th Street NE	Eastbound TL	750	-	2	-	16	-	2	-	1	-	18	-	7	-	2	-	20	-	4
	Westbound TR	360	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0	-	0
	Southbound L	140	-	21	-	39	-	25	-	27	-	63	-	40	-	30	-	139	-	52

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

Table 9: Mitigated LOS Results

Intersection	Approach	Future Conditions (2020)						Future Conditions (2020) with Mitigations					
		AM Peak Hour		*PM Peak Hour*		*Sat Peak Hour*		*AM Peak Hour*		*PM Peak Hour*		*Sat Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
New York Avenue & 16th Street NE	**Overall**	**18.5**	**B**	**46.6**	**D**	**49.8**	**D**			**16.1**	**B**	**20.8**	**C**
	Eastbound	2.4	A	14.8	B	13.1	B			7.5	A	25.3	C
	Westbound	24.4	C	72.1	E	88.0	F	**No Mitigations**		14.2	B	11.1	B
	Northbound	73.9	E	81.0	F	57.8	E			72.7	E	52.5	D
	Southbound	64.9	E	0.0	A	0.0	A			0.0	A	0.0	A
Okie Street & Fenwick Street NE	Eastbound	10.0	A	27.9	D	22.5	C	8.2	A	10.6	B	9.5	A
	Westbound	12.6	B	41.4	E	27.3	D	8.8	A	12.8	B	11.0	B
	Northbound	1.9	A	1.0	A	0.6	A	8.7	A	12.0	B	9.4	A
	Southbound	4.7	A	4.3	A	4.6	A	8.6	A	13.6	B	11.9	B
West Virginia Avenue & 16th Street NE	Eastbound	0.9	A	4.8	A	1.2	A	0.9	A	4.8	B	1.2	A
	Westbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
	Southbound	20.2	C	77.7	F	19.9	C	17.6	C	49.7	E	15.1	B

TRANSIT

This section 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 development has adequate access to transit.
- The development is located 1.5 miles from the Rhode Island Avenue-Brentwood and NoMa-Gallaudet Metrorail stations.
- The Site is adjacent to the terminus of two (2) Metrobus routes that travel along multiple primary corridors.
- The development is expected to generate a manageable number of transit trips and the existing service is capable of handling these new trips.

EXISTING TRANSIT SERVICE

The Site is well served by Metrobus, which provides direct access to Metrorail. Combined, these transit services provide local, city wide, and regional transit connections and link the Site with major cultural, residential, employment, and commercial destinations throughout the region. Figure 22 identifies the major transit routes, stations, and stops in the study area.

The Site is located approximately 1.5 miles from the both the Rhode Island Avenue-Brentwood and NoMa-Gallaudet Metrorail stations. Both stations are serviced by the Red Line, which provides direct connections to areas in the District and Montgomery County, Maryland. The Red Line travels south from Shady Grove, travels through downtown DC, and continues north to Glenmont. Red Line trains run every four to eight minutes during the weekday morning and afternoon peak hours between 5:00 AM to 9:30 AM and 3:00 PM to 7:00 PM, approximately every 12 minutes during the weekday midday hours from 9:30 AM to 3:00 PM, approximately every 8 to 12 minutes during the weekday evening hours from 7:00 PM to 9:30 PM, and every 12 to 20 minutes during the weekday off-peak periods and on weekends. The Red Line provides direct service to Union Station, where transfers can be made to MARC, VRE, DC Streetcar, and Amtrak services.

The Site is directly serviced by two (2) local Metrobus routes, providing the Site with additional connectivity to Metrorail stations, where transfers can be made to other bus routes and the Metrorail lines. The D4 and E2 lines begin their routes adjacent to the Site at a stop on 16th Street. This stop is being permanently relocated as part of WMATA's quarterly service changes. The D4 route provides direct service to the Mount Vernon Square, Farragut North, Farragut West, and Dupont Circle Metrorail stations and the E2 route provides direct service to the Fort Totten Metrorail station. Together, these two routes provide connectivity to the downtown core and other areas of the District, Maryland, and Virginia. Table 10 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 22 shows a detailed inventory of the existing Metrobus stops within a quarter-mile walkshed of the Site. Each stop is evaluated based on the guidelines set forth by WMATA's *Guidelines for the Design and Placement of Transit Stops,* as shown in Table 11. A detailed breakdown of individual bus stop amenities and criteria for standards is included in the Technical Appendix.

PLANNED TRANSIT SERVICE

MoveDC

The MoveDC report outlines recommendations by mode with the goal of having them complete by 2040. The plan hopes to achieve a transportation system for the District that includes:

- 70 miles of high-capacity transit (streetcar or bus)
- 200 miles of on-street bicycle facilities or trails
- Sidewalks on at least one side of every street
- New street connections
- Road management/pricing in key corridors and the Central Employment Area
- A new downtown Metrorail loop
- Expanded commuter rail
- Water taxis

As part of the 2-year outline plan, the MoveDC report outlines the need for a high frequency local and regional bus corridor along Bladensburg Road and 15th Street, NE. These recommendations would create additional multi-modal capacity and connectivity to the Site.

WMATA and DDOT Transit Studies

WMATA studied capacity of Metrorail stations in its *Station Access & Capacity Study (2008).* The study analyzed the

capacity of Metrorail stations for their vertical transportation, the capacity of the station at elevators, stairs, and escalators to shuttle patrons between the street, mezzanine, and platforms. The study also analyzed stations capacity to process riders at fare card gates. For both analyses, vertical transportation and fare card gates, volume-to-capacity ratios were calculated for existing data (from 2005) and projections for the year 2030. According to the study, the Rhode Island Avenue-Brentwood and NoMa-Gallaudet stations can currently accommodate future growth at all access points.

WMATA has also studied capacity along Metrobus routes. DC's *Transit Future System Plan* (2010) lists the bus routes with the highest load factor (a ratio of passenger volume to bus capacity). A load factor is considered unacceptable if it is over 1.2 during peak periods or over 1.0 during off-peak or weekend periods. According to this study, none of the Metrobus routes that travel near the Site operate at a load factor that is above capacity during any part of the day.

The *Metrobus Service Evaluation Study (2011)*, published in October 2011, discusses recommendations for the E2 Metrobus route. The report cites the need for improved reliability, passenger convenience, and reduced operating costs. The first recommendation is the split the E2/3/4 routes into two segments. The new E2 line would operate between Fort Totten and Ivy City, and the new E4 line would operate between Fort Totten and Friendship Heights. The splitting of the lines would result in improved load distribution, tailoring the levels of service to the unique ridership demand of both new segments, and increase reliability by shortening the line. The second recommendation is to combine the E2 and D4 routes to create a direct bus connection from the E2 service area to Downtown, DC. The third recommendation is to re-route the E2 (or E2/D4 combined line) to serve a proposed development site at Bladensburg Road, New York Avenue, and Montana Avenue. The final recommendation includes consolidating stops that are closely spaced together, as well as improving bus stop amenities, and reducing travel times to improve the passenger experience. As of this report, the E 2/3/4 routes have been split, but no other recommendations outlined in this study for the E2 line have been implemented.

16th Street Bus Stop Relocation

The 16th Street bus stop between New York Avenue and Okie Street will be relocated to Okie Street per WMATA Quarterly Service Updates. The E2 and D4 bus routes will be re-routed from New York Avenue to Okie Street. Figure 23 shows a detailed inventory of Future transit surrounding the Site.

New York Avenue Trail Project

A Transit Service Assessment was completed by WMATA in May 2017, as part of the New York Avenue Trail Project. This assessment recommended a new bus route that would run from Fort Lincoln to downtown DC via New York Avenue. The new bus route would be served by 14 new bus stops on New York Avenue between Fort Lincoln Drive NE and 14th Street NW. DDOT did not recommend the bus route be implemented in the near future; however, the New York Avenue Streetscape and Trail Project included the 14 bus stop locations on their plans. The Transit Service assessment also recommended an extension of the existing D4 route to Fort Lincoln via New York Avenue. DDOT did not recommend the route extension be implemented at this time.

Site Impacts

Transit Trip Generation

The development is projected to generate 16 transit trips (10 inbound, 6 outbound) during the morning peak hour, 63 transit trips (30 inbound, 33 outbound) during the afternoon peak hour, and 74 transit trips (39 inbound, 35 outbound) during the Saturday peak hour.

US Census data was used to determine the distribution of those taking Metrorail and those taking Metrobus. The Site lies in TAZ 20271 and data shows that approximately 45 percent of transit riders used Metrobus and the remainder use Metrorail. That said, approximately 9 people will use Metrorail and 7 will use Metrobus during the morning peak hour; approximately 35 people will use Metrorail and 28 will use Metrobus during the afternoon peak hour, and approximately 41 people will use Metrorail and 33 will use Metrobus during the Saturday peak hour.

The development is expected to generate a manageable number of transit trips and the existing service is capable of handling these new trips.

Table 10: Metro Bus Route Information

Route Number	Route Name	Service Hours	Headway	Walking Distance to Nearest Bus Stop
D4	Ivy City-Franklin Square Line	Weekdays: 4:10AM – 1:04 AM Weekends: 4:44AM – 1:05 AM	15-30 min	<0.1 miles, 1 minute
E2	Ivy City-Fort Totten Line	Weekdays: 5:25AM – 1:00 AM Weekends: 5:50AM – 1:00 AM	20-60 min	<0.1 miles, 1 minute

**16th Street bus stop is planned to be relocated to Okie Street as part of WAMATA's Quarterly Service Updates*

Table 11: Transit Stop Requirements

Feature	Basic Stop	Enhanced Service Bus Stop	Transit Center
Bus Stop Sign	Yes	Yes	Yes
ADA 5'x8' Landing Pad - at a minimum, a clear, unobstructed, paved boarding area that is 8 feet deep (perpendicular to the curb) by 5 feet wide (parallel to the curb) and compliant with the ADA Accessibility Guidelines (ADAAG)	Yes	Yes	Yes
Sidewalk - connected by a paved sidewalk that is at least 4 feet wide	Yes	Yes	Yes
Lighting - adequate lighting either from street lights, lights from an adjacent business, or shelter lighting (particularly stops that are served in the evenings)	Evening Service	Yes	Yes
Seating	Trip Generator Based	Yes	Yes
Information Case - detailed schedule information on services	Yes	Yes	Yes
Trash Receptacle - trash receptacle (particularly at locations that are close to fast food establishments and convenient stores)	Site Specific	Yes	Yes
Shelter(s) - shelter with interior seating if there are 50 or more boardings per day (including transfers)	1 (50+ boardings/day)	1	2+
System Map	Contingent on Shelter	Yes	Yes
Real-time Display (LED + Audio)	Optional	Yes	Yes
Interactive Phone System On-Site - real time bus arrival information through an interactive phone and push button audio system	No	No	Yes
Expanded Boarding & Alighting Area (Rear-door Access)	No	Site Specific	Yes
Bus Bay (Pull Off)	No	Site Specific	Yes

Figure 22: Existing Transit Facilities

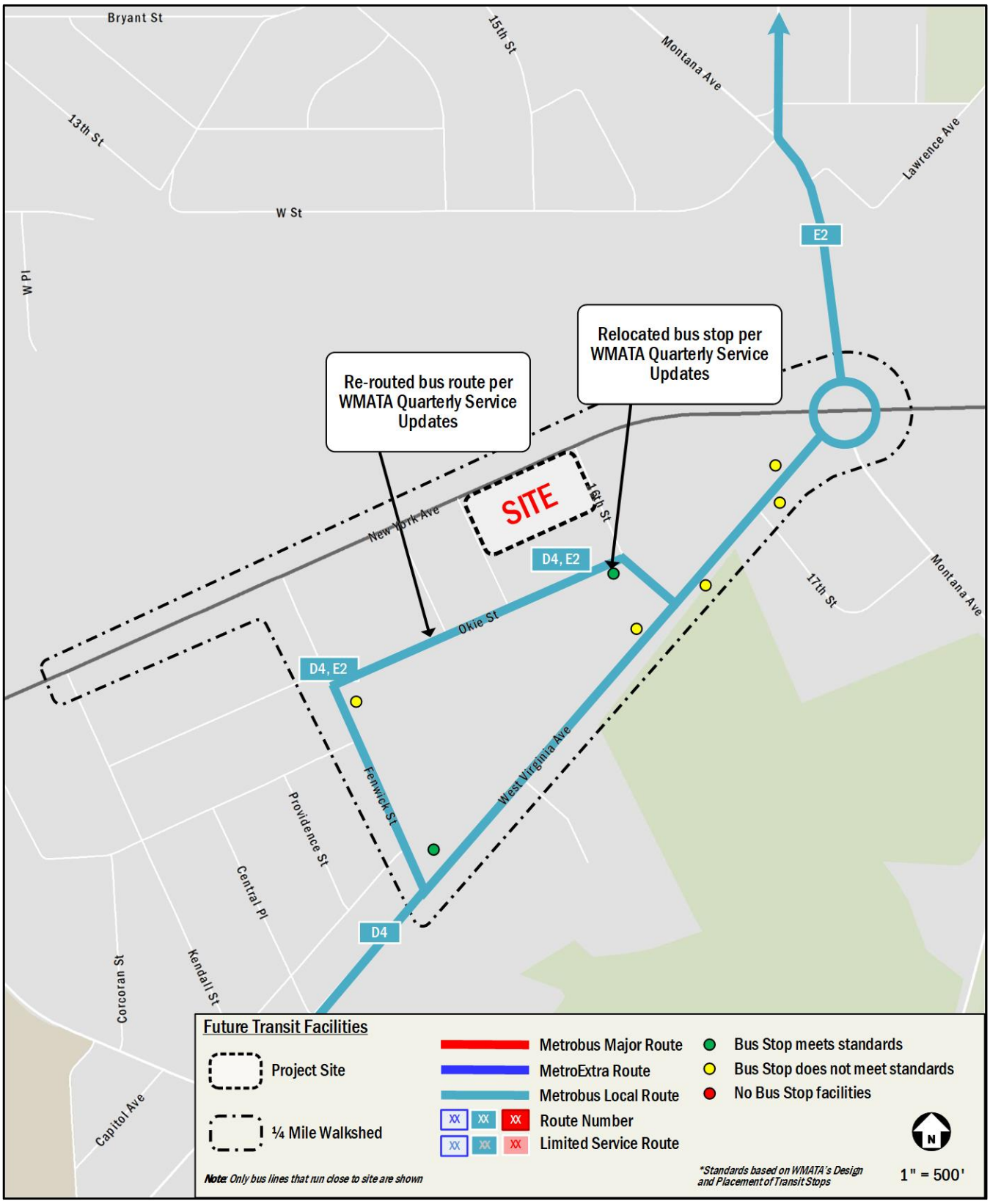

Figure 23: Future Transit Facilities

PEDESTRIAN FACILITIES

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

The following conclusions are reached within this chapter:

- The existing pedestrian infrastructure surrounding the Site provides an adequate walking environment. There are sidewalks along the majority of primary routes to pedestrian destinations with some gaps in the system.
- The development is expected to generate a manageable number of pedestrian trips; however, the pedestrian trips generated by walking to and from transit stops will be more substantial, particularly to bus stops within a quarter-mile distance.
- Improvements to the pedestrian infrastructure surrounding the site will improve pedestrian comfort and connectivity.

PEDESTRIAN STUDY AREA

Facilities within a quarter-mile of the Site were evaluated as well as routes to nearby transit facilities and prominent retail and neighborhood destinations, including the Hecht Warehouse and businesses along West Virginia Avenue. The Site is generally accessible to transit options such as the bus stop directly adjacent to the Site on 16th Street. There are some areas of concern within the study area that negatively impact the quality of and attractiveness of the walking environment. This includes roadway conditions that reduce the quality of walking conditions, narrow or nonexistent sidewalks, and incomplete or insufficient crossings at busy intersections. Figure 24 shows suggested pedestrian pathways, walking time and distances, and barriers and areas of concern.

PEDESTRIAN INFRASTRUCTURE

This section outlines the existing and proposed pedestrian infrastructure within the pedestrian study area.

Existing Conditions

A review of pedestrian facilities surrounding the proposed development shows that few facilities meet DDOT standards, resulting in an adequate walking environment. Figure 25 shows a detailed inventory of the existing pedestrian infrastructure surrounding the Site. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by DDOT's *Design Engineering Manual (2017)* in addition to ADA standards. Sidewalk widths and requirements for the District are shown below in Table 12.

Within the area shown, the majority of roadways east of the site are industrial, with stretches of New York Avenue to the west and West Virginia Avenue to the south featuring retail corridors. Although some of the sidewalks surrounding the Site (particularly along 16th Street, Okie Street and West Virginia Avenue) do not meet DDOT standards, this is a consequence of insufficient sidewalk and buffer widths rather than sidewalks of poor quality. The north side of New York Avenue lacks sidewalks. All primary pedestrian destinations are accessible via routes with sidewalks, some of which met DDOT standards.

ADA standards require that curb ramps be provided wherever an accessible route crosses a curb and must have a detectable warning. Additionally, curb ramps shared between two crosswalks are not desired. As shown in Figure 24, under existing conditions crosswalks and curb ramps with detectable warnings are generally absent along portions of Fenwick Street, West Virginia Avenue, and 16th Street.

Pedestrian Infrastructure Improvements

As a result of the development, pedestrian facilities around the perimeter of the Site will be improved to meet DDOT and ADA standards. This includes the removal of curb cuts and reconstruction of site frontage sidewalks along New York Avenue and 16th Street so that they meet or exceed width requirements, crosswalks at all necessary site driveway

Table 12: Sidewalk Requirements

Street Type	Min. Buffer Width	Min. Sidewalk Unobstructed Width	Total Min. Sidewalk Width
Low- to Moderate-Density Residential	4-6 ft	6 ft	10 ft
High-Density Residential	4-8 ft	8 ft	13 ft
Central DC and Commercial Areas	4-10 ft	10 ft	16 ft

locations, and curb ramps with detectable warnings. Additional design elements such as plantings and streetscaping will result in further improvements over existing conditions.

Additionally, improvements made to the pedestrian streetscape as a result of the future New City Development and New York Avenue Streetscape and Trail Project will further enhance pedestrian comfort in the vicinity of the Site.

The future pedestrian facilities included with the development and improvements from other developments are shown in Figure 26.

SITE IMPACTS

Pedestrian Trip Generation

The 1515 New York Avenue NE development is expected to generate 31 walking trips (19 inbound, 12 outbound) during the morning peak hour, 126 walking trips (60 inbound, 66 outbound) during the afternoon peak hour, and 148 (77 inbound, 71 outbound) during the Saturday peak hour. The origins and destinations of these trips are likely to be:

- The residential homes of the Site's employees and patrons;
- Retail locations outside of the Site; and
- Neighborhood destinations such as schools, libraries, and parks in the vicinity of the Site.

In addition to these trips, the transit trips generated by the Site will also generate pedestrian demand between the Site and nearby transit stops. The pedestrian network will have the capacity to absorb the newly generated trips from the Site.

Figure 24: Pedestrian Pathways

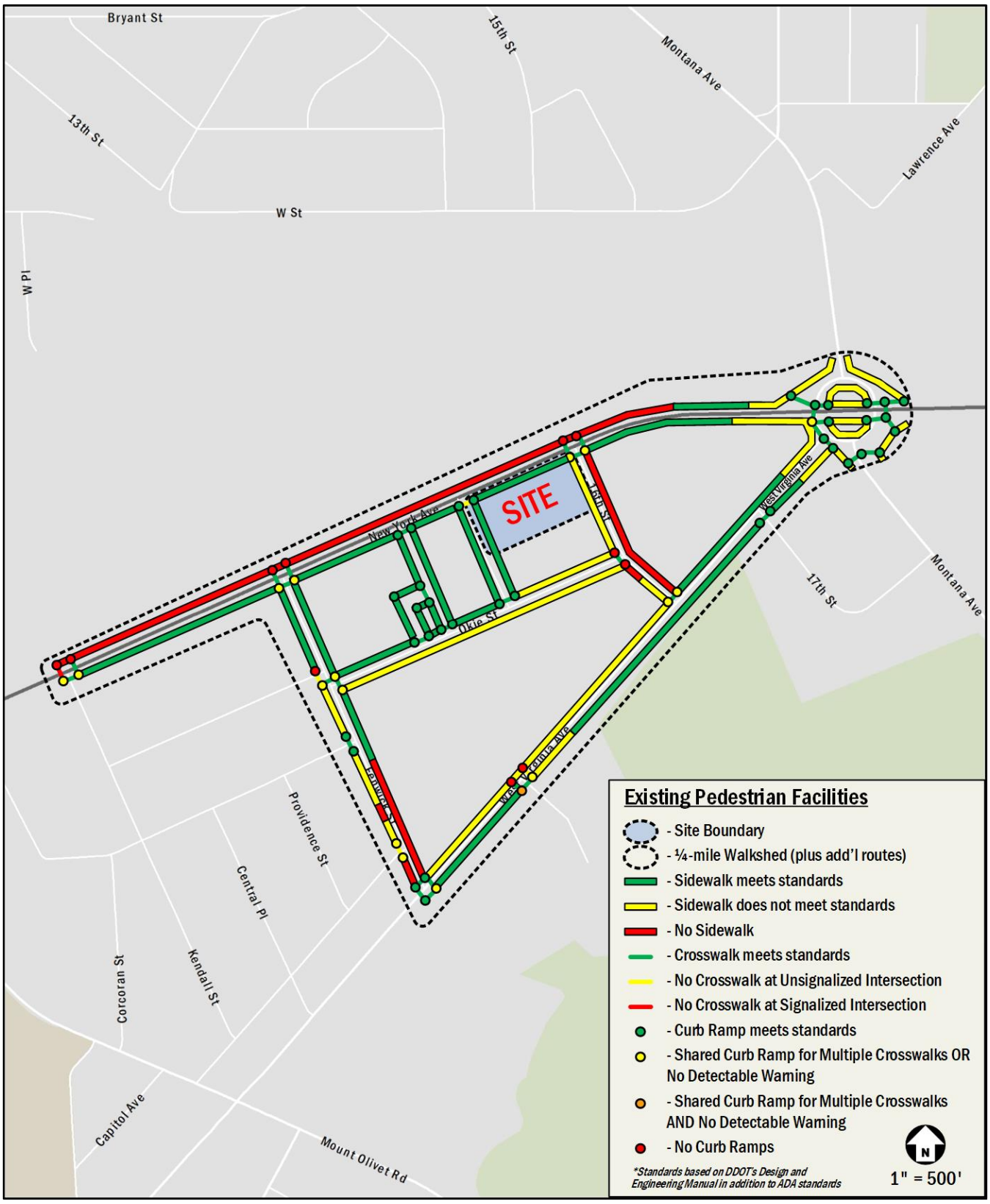

Figure 25: Existing Pedestrian Facilities

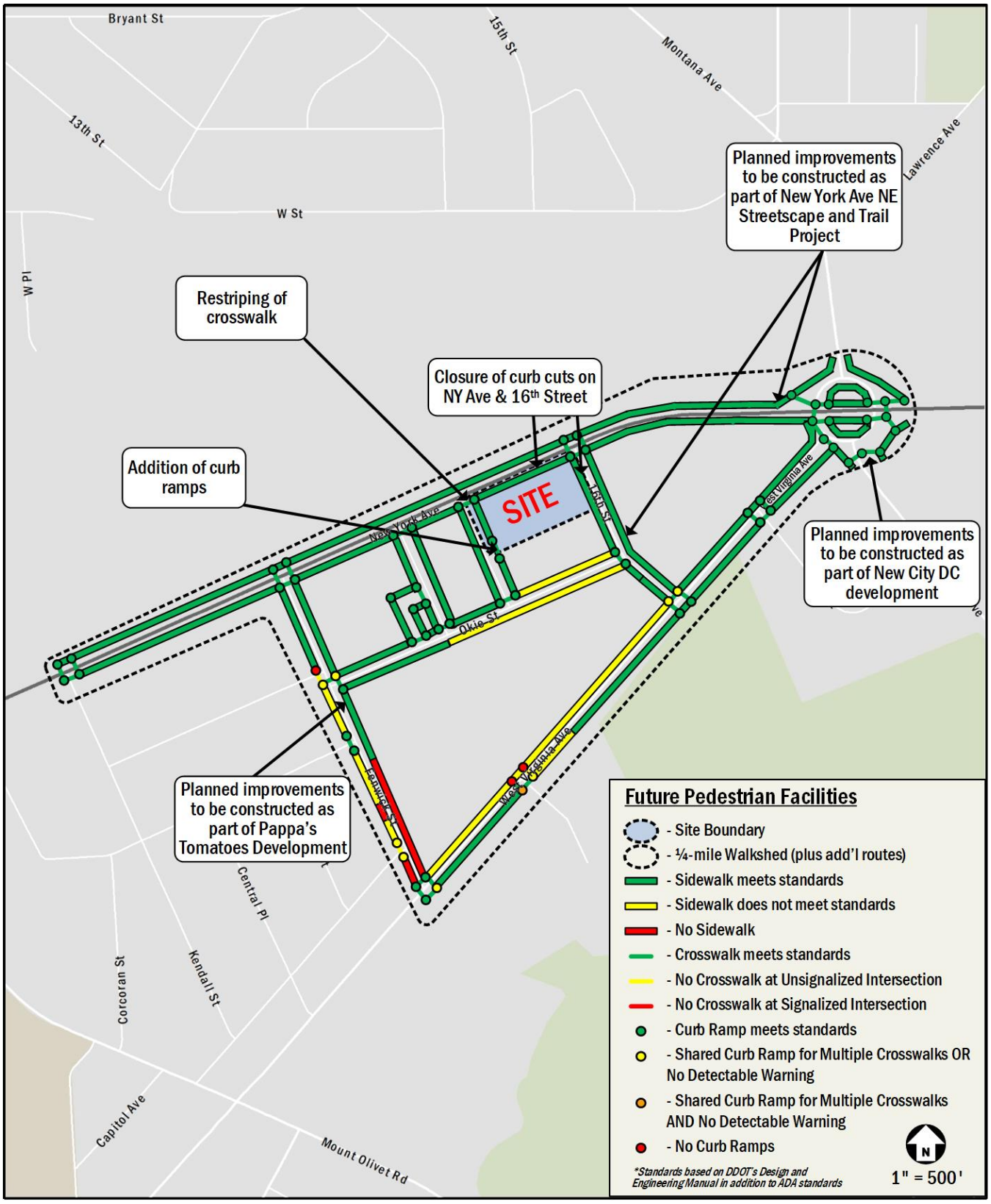

Figure 26: Future Pedestrian Facilities

BICYCLE FACILITIES

This section summarizes existing and future bicycle access, reviews the quality of cycling routes to and from the Site, and presents recommendations.

The following conclusions are reached within this chapter:

- The Site has access to nearby bicycle facilities on West Virginia Avenue and Montana Avenue.
- The development is not expected to generate a significant number of bicycle trips; therefore, all site-generated bike trips can be accommodated on existing infrastructure.
- Future plans in the vicinity of the Site include cycletracks on New York Avenue and 16th Street as part of the New York Avenue Streetscape and Trail project.
- The development will include secure bicycle parking, showers, and lockers on site for employees of the development.
- The development will include short-term bicycle racks along the perimeter of the Site.

EXISTING BICYCLE FACILITIES

The Site has north-south connectivity to existing on- and off-street bicycle facilities. Immediately southeast of the site lies a signed route along West Virginia Avenue. This route connects the site with bicycle lanes on 18th Street to the north, and to Gallaudet University and the Union Market area to the south, where connections can be made to bicycle lanes on I Street and 11th Street. The I Street bicycle lanes provide a crosstown connection to the Metropolitan Branch Trail, which travels parallel to the Red Line northbound towards Silver Spring, using a combination of on-road and off-road trails. The 11th Street bicycle lanes provide a direct connection to the Anacostia Riverwalk Trail, which travels north-south and connects Anacostia with the National Mall Trails system.

Some short-term bicycle parking exists in the vicinity of the site, particularly surrounding recently developed structures such as Hecht's Warehouse. However, no bike parking is provided along the perimeter of the Site.

In addition to personal bicycles, the Capital Bikeshare program provides additional cycling options for residents, employees, and patrons of the planned development. The Bikeshare program has placed 440 Bikeshare stations across Washington, DC, Arlington, and Alexandria, VA, Montgomery County, MD, and most recently Fairfax County, VA, with 3,700 bicycles provided. There is one (1) existing Capital Bikeshare station with 23 available bicycle docks within a quarter-mile of the Site. This station is located on Hecht Avenue.

Figure 27 illustrates the existing bicycle facilities in the study area.

PLANNED BICYCLE FACILITIES

MoveDC

The MoveDC plan outlines several bicycle improvements in the vicinity of the Site. These improvements are broken up into four tiers that rank the priority for implementation. The four tiers are broken down as follows:

Tier 1

Investments should be considered as part of DDOT's 6-year Transportation Improvement Program (TIP) and annual work program development if they are not already included. Some projects may be able to move directly into construction, while others become high priorities for advancement through the Project Development Process.

There is one (1) Tier 1 addition that will positively affect bicycle connectivity to and from the Site. In conjunction with the New York Avenue Streetscape and Trail project, a 4.6-mile trail is planned along New York Avenue from Kirby Street, NW to the Maryland state line significantly improving the pedestrian and bicycle environment on this major vehicular route. This upgrade will increase east-west connectivity to the Site and separate bicyclists from vehicles.

Tier 2

Investments within this tier are not high priorities in the early years of MoveDC implementation. These investments could begin moving through the Project Development Process if there are compelling reasons for their advancement.

There is (1) Tier 2 additions which will complement the proposed Tier 1 addition mentioned above. A bicycle lane is planned along Montana Avenue from Bladensburg Road to 18th Street.

Tier 3

Investments within this tier are not priorities for DDOT-led advancement in the early years of MoveDC's implementation. They could move forward earlier under circumstances, such as real estate development initiatives and non-DDOT partnerships providing the opportunity for non-District-led completion of specific funding.

Tier 4

Generally, investments within this tier are not priorities for DDOT-led advancement and are lower priority for project development in the early years of implementation.

Due to the timeline of the proposed development, this report will focus on the Tier 1 and Tier 2 recommendations within the vicinity of the Site.

Although these projects are discussed in the MoveDC plan, they are not currently funded nor included in DDOT's Transportation Improvement Plan thus they will not be assumed as complete for this analysis

New York Avenue Streetscape and Trail Project

As part of the proposed New York Avenue Streetscape and Trail project, substantial pedestrian and bicycle improvements are planned along New York Avenue from Florida Avenue to Bladensburg Road. The preferred design concept includes a raised cycletrack on the north side of New York Avenue from 4th Street to 16th Street as part of a bicycle route connecting the Metropolitan Branch Trail to the National Arboretum. Other bicycle improvements in the vicinity of the Site include a cycletrack on the east side of 16th Street connecting New York Avenue to West Virginia Avenue and a cycletrack on West Virginia Avenue from 16th Street to Montana Circle. The planned cycletrack along 16th Street was kept in mind when designing the layout of the proposed development with particular attention paid to the loading facilities.

Figure 28 shows a detailed inventory of future bicycle infrastructure surrounding the Site.

On-Site Bicycle Elements

Per zoning regulations, a retail development is required to provide one (1) long-term bicycle space per each 10,000 square feet of retail space and one (1) short-term space per each 3,500 square feet of retail space. This results in nine (9) long-term spaces and 27 short-term spaces being required. The development will meet these requirements by providing nine (9) secure long-term spaces within the below-grade garage. The 28 short-term spaces will be placed along the perimeter of the development and will include inverted U-racks placed in high-visibility areas. The Applicant will work with DDOT to determine the exact location of bicycle racks in public space.

SITE IMPACTS

Bicycle Trip Generation

The 1515 New York Ave NE development is expected to generate 16 bicycle trips (10 inbound, 6 outbound) during the morning peak hour, 63 bicycle trips (30 inbound, 33 outbound) during the afternoon peak hour, and 74 bicycle trips (39 inbound, 35 outbound) during the Saturday peak hour. Despite the relatively low number of anticipated bicycle site trips, bicycling will be an important mode getting to and from the Site, particularly with the planned cycletrack along New York Avenue, NE. With significant facilities located on site and existing/proposed routes to and from the Site, the impacts from bicycling will be relatively less than other nodes.

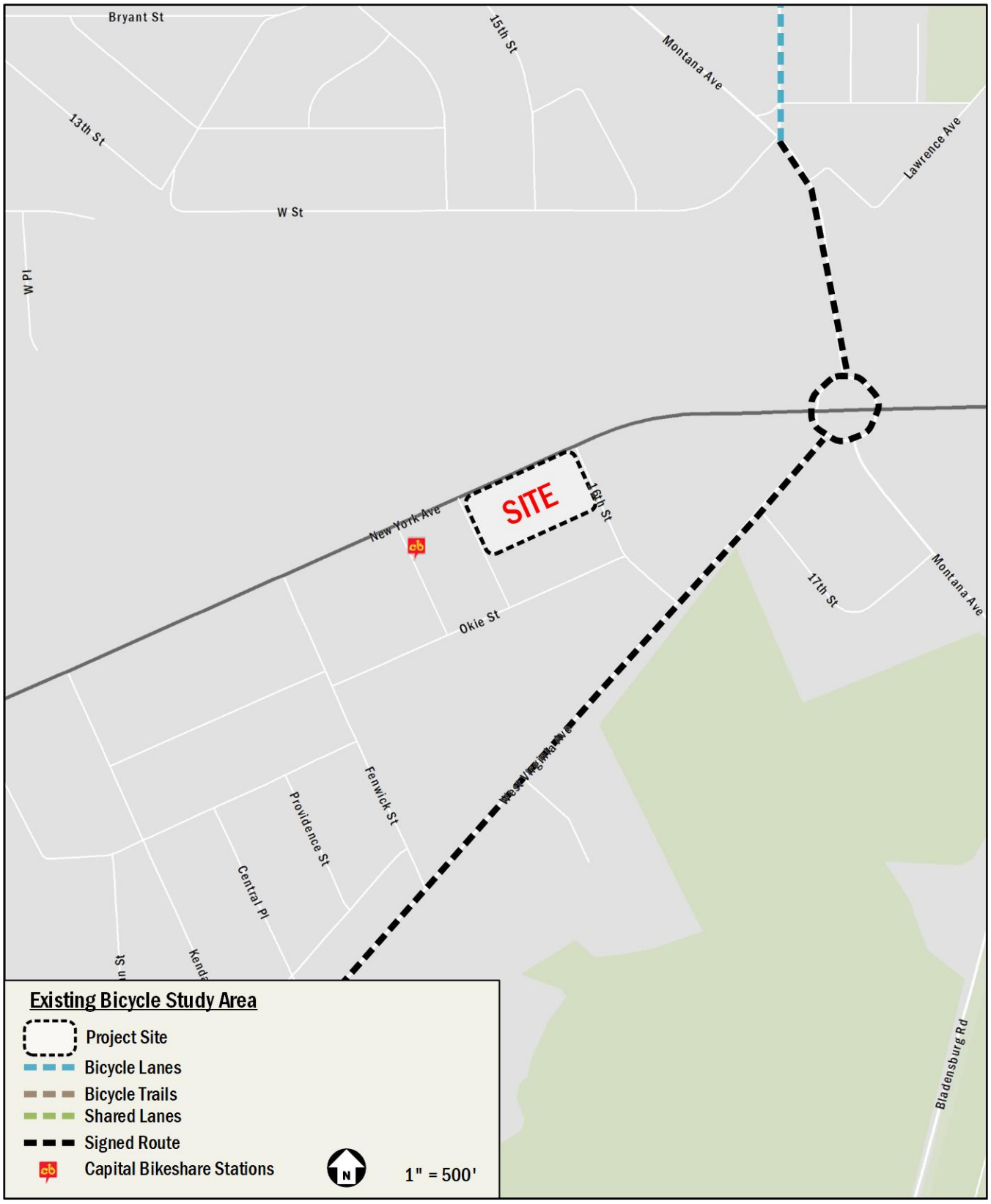

Figure 27: Existing Bicycle Facilities

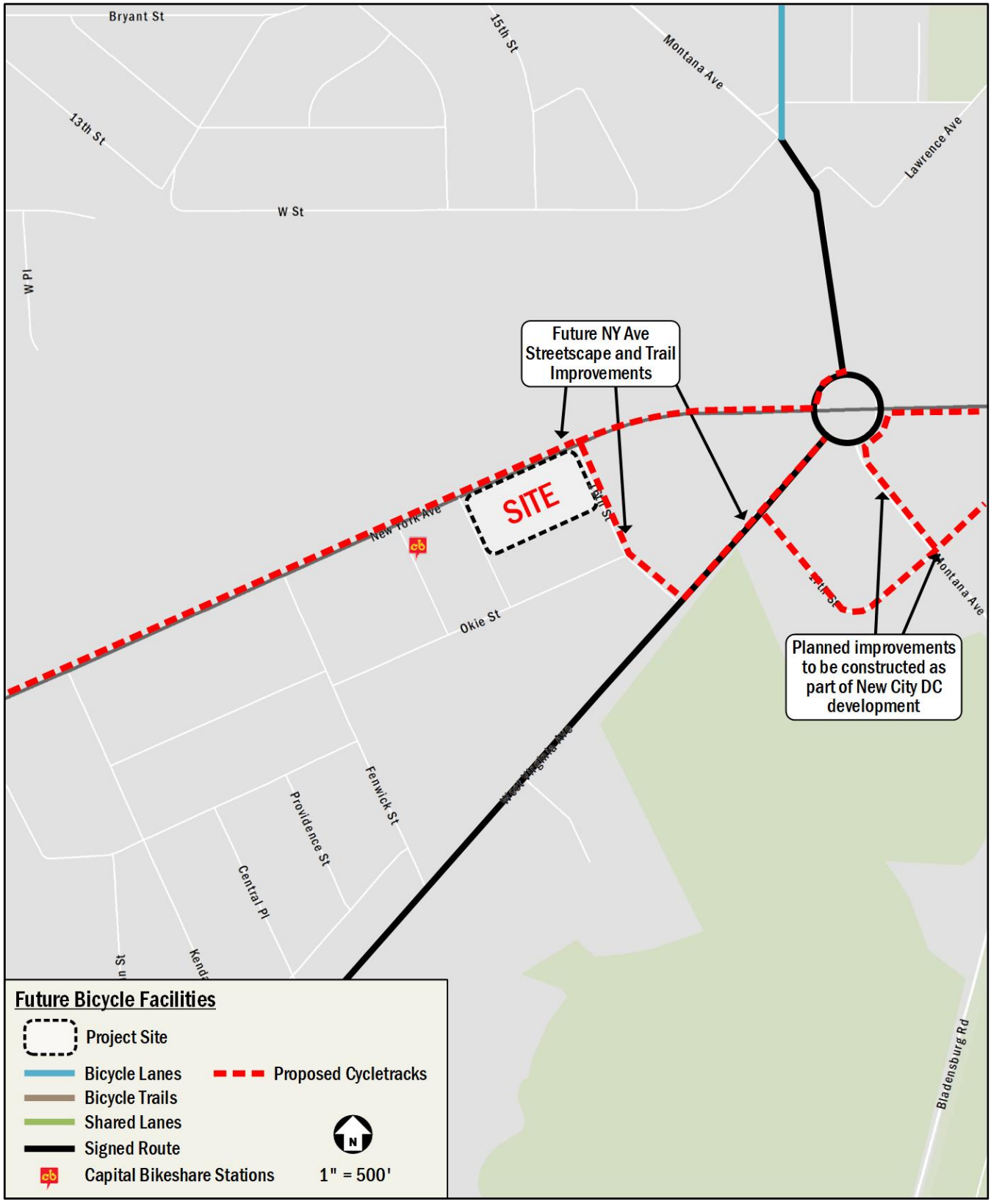

Figure 28: Future Bicycle Facilities

CRASH DATA ANALYSIS

This section of the report reviews available crash data within the study area, reviews potential impacts of proposed development on crash rates, and makes recommendations for mitigation measures where needed.

SUMMARY OF AVAILABLE CRASH DATA

A crash analysis was performed to determine if there was an abnormally high crash rate at any study area intersection. DDOT provided the last three years of intersection crash data, from 2015 to 2017 for the study area. This data was reviewed and analyzed to determine the crash rate at each location. For intersections, the crash rate is measured in crash per million-entering vehicles (MEV). The crash rates per intersections are shown in Table 13. Detailed crash report data is presented in the Technical Appendix.

According to the Institute of Transportation Engineers' *Transportation Impact Analysis for Site Development*, a crash rate of 1.0 or higher is an indication that further study is required. Five (5) of the ten intersections in this study area meet this criterion (as shown in Table 13 and detailed in Table 14). The 1515 New York Avenue NE development should be developed in a manner to help alleviate, or at minimum not add to, the conflicts at this intersection.

A rate over 1.0 does not necessarily mean there is a significant problem at an intersection, but rather it is a threshold used to identify which intersections may have higher crash rates due to operational, geometric, or other deficiencies. Additionally, the crash data does not provide detailed location information. In some cases, the crashes were located near the intersections and not necessarily within the intersection.

For those intersection, the crash type information from the DDOT crash data was reviewed to see if there is a high percentage of certain crash types. Generally, the reasons for why an intersection has a high crash rate cannot be derived from crash data, as the exact details of each crash are not represented. However, some summaries of crash data can be used to develop general trends or eliminate possible causes. Table 13 contains a breakdown of crash types reported for the one intersection with a crash rate over 1.0 per MEV.

Table 13: Intersection Crash Rates (2015-2017)

Intersection	Total Crashes	Ped Crashes	Bike Crashes	Rate per MEV*
New York Avenue & Fenwick Street NE	75	2	0	**1.41**
New York Avenue & Hecht Avenue NE^				
New York Avenue & Walt Lincoln Way NE^				
New York Avenue & 16th Street NE	100	3	1	**1.83**
New York Avenue & Montana Avenue & West Virginia Avenue NE	131	1	2	**1.73**
Garage Access & 16th Street NE^				
Okie Street & Fenwick Street NE	15	1	0	**2.68**
Okie Street & Hecht Avenue NE^				
Okie Street & Walt Lincoln Way NE^				
Okie Street & 16th Street NE	4	0	0	0.89
West Virginia Avenue & Fenwick Street NE	6	0	0	0.39
West Virginia Avenue & 16th Street NE	19	0	0	**1.49**

** - Million Entering Vehicles; Volumes estimated based on turning movement count data*

^ - Crash Data unavailable

Table 14: Detailed Crashes

Intersection	Rate per MEV	Right Angle	Left Turn	Right Turn	Rear End	Side Swiped	Head On	Parked	Fixed Object	Ran Off Road	Ped. Involved	Backing	Non-Collision	Under/Over Ride	Unspecified	Total
New York Avenue & Fenwick Street NE	**1.41**	2	0	2	3	19	1	5	1	0	1	0	1	0	40	**75**
		3%	*0%*	*3%*	*4%*	*25%*	*1%*	*7%*	*1%*	*0%*	*1%*	*0%*	*1%*	*0%*	*53%*	
New York Avenue & 16th Street	**1.83**	0	0	0	8	17	0	4	0	0	0	0	2	0	69	**100**
		0%	*0%*	*0%*	*8%*	*17%*	*0%*	*4%*	*0%*	*0%*	*0%*	*0%*	*2%*	*0%*	*69%*	
New York Avenue & Montana Avenue & West Virginia Avenue NE	**1.73**	0	4	2	13	44	0	1	0	0	0	0	2	0	65	**131**
		0%	*3%*	*2%*	*10%*	*34%*	*0%*	*1%*	*0%*	*0%*	*0%*	*0%*	*2%*	*0%*	*50%*	
Okie Street & Fenwick Street NE	**2.68**	0	0	0	0	4	0	5	0	0	0	0	0	0	6	**15**
		0%	*0%*	*0%*	*0%*	*27%*	*0%*	*33%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*40%*	
West Virginia Ave & 16th Street NE	**1.49**	0	0	0	0	5	1	1	0	0	0	0	0	0	12	**19**
		0%	*0%*	*0%*	*0%*	*26%*	*5%*	*5%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*63%*	

POTENTIAL IMPACTS

This section reviews the five (5) locations with existing crash rates over 1.0 MEV and reviews potential impacts of the proposed development.

New York Avenue & Fenwick Street NE

This intersection is over the threshold of 1.0 crashes per MEV, with a rate of approximately 1.41 crashes per MEV over the course of the three (3) year study period. The majority (53%) of crashes at this intersection had an unspecified crash type. Of the crashes that did have a reported crash type, the majority were crashes involving side-swiped vehicles and parked vehicles.

Elevated side-swiped crashes are likely the result of on-street parking on Fenwick Street or due to the heavy volumes on New York Avenue and the large number of lanes in each direction, meaning a lot of lane switching. In addition, the high number crashes involving side-swiped or parked vehicles are more than likely a result of the parking lot to the north the intersection, which are included in DDOT's crash report format. This was confirmed by examining the vehicle crash data shapefile available through the DC Office of the Chief Technology Officer.

This report does not recommend mitigation measures at this intersection as the development is not projected to make changes to the commuting patterns, operations, or geometry of this intersection that could negatively influence safety.

New York Avenue & 16th Street NE

This intersection is over the threshold of 1.0 crashes per MEV, with a rate of approximately 1.83 crashes per MEV over the course of the three (3) year study period. The majority (69%) of crashes at this intersection had an unspecified crash type. Of the crashes that did have a reported crash type, the majority of crashes involved side-swiped vehicles or rear-end crashes.

An elevated number of crashes involving side-swiped vehicles could be a result of the heavy volumes on New York Avenue and the large number of lanes in each direction, meaning a lot of lane switching. Elevated rear end crashes are likely the result of the sudden braking of vehicles at the intersection during peak volume times.

A review of the vehicle crash data shapefile available through the DC Office of the Chief Technology Officer showed that the majority of reported crashes occurred on New York Avenue and not on 16th Street. As such, the safety concerns at this intersection are primarily due to existing lane configuration and operations.

New York Avenue & Montana Avenue & West Virginia Avenue NE

Crash data provided by DDOT combines this intersection complex into one analysis zone.

This intersection complex is over the threshold of crashes per MEV, with a rate of 1.73 crashes per MEV over the course of the three (3) year study period. The majority (50%) of crashes

at this intersection had an unspecified crash type. Of the crashes that did have a reported crash type, the majority involved side-swiped vehicles or rear-end crashes.

An elevated number of crashes involving side-swiped vehicles could be a result of the heavy volumes on New York Avenue and the large number of lanes in each direction, in addition to the number of turning movements that navigating this intersection complex requires. Elevated rear end crashes are likely the result of the sudden braking of vehicles at the intersection during peak volume times. It should be noted that crash data provided by DDOT does not contain the level of detail needed to extrapolate a more detailed analysis of crashes at the intersection. As with capacity concerns at this intersection, regional planning solutions outside the scope of this study are necessary to address the overall safety of this intersection.

Okie Street & Fenwick Street NE

This intersection is over the threshold of 1.0 crashes per MEV, with a rate of approximately 2.68 crashes per MEV over the course of the three (3) year study period. The majority (40%) of crashes at this intersection had an unspecified crash type. Of the crashes that did have a reported crash type, the majority of crashes involved parked vehicle crashes or side-swiped vehicles.

The high crash rate is partially due to the very low vehicular traffic observed at this intersection. The high crash rate is also likely due to general operations of Fenwick Street and the intersection itself being offset. The prevalence of truck traffic and implementation of back-in parking on Okie Street creates additional obstacles along the roadway. All of these operational elements likely combine to achieve the resulting crash rate.

This report recommends converting this intersection to all-way stop controlled. Converting this intersection from a two-way stop controlled intersection to an all-way stop controlled intersection will improve safety at this intersection, by reducing speed and increasing awareness of drivers by metering of traffic flows. As discussed in the Traffic Operations section, an all-way stop warrant for this intersection was met.

West Virginia & 16th Street NE

This intersection is over the threshold of 1.0 crashes per MEV, with a rate of approximately 1.49 crashes per MEV over the course of the three (3) year study period. The majority (63%) of crashes at this intersection had an unspecified crash type. Of the crashes that did have a reported crash type, the majority of crashes involved side-swiped vehicles.

The high number of side-swiped vehicles and backing crashes are more than likely a result of the on-street parking on 16th Street and West Virginia Avenue. This was confirmed by examining the vehicle crash data shapefile available through the DC Office of the Chief Technology Officer.

The reconfiguration of this intersection as part of the New York Avenue Streetscape and Trail project, as discussed in the Traffic Operations section, will hopefully reduce the number of conflicts by eliminating on-street parking on all legs approaching the intersection and slowing vehicles by reducing the number of thru lanes on West Virginia Avenue.

SUMMARY AND CONCLUSIONS

This report presents the findings of a Comprehensive Transportation Review (CTR) for the 1515 New York Avenue NE development Large Tract Review (LTR) Application.

The purpose of this study is to evaluate whether the project will generate a detrimental impact on the surrounding transportation network. This evaluation is based on a technical comparison of the existing conditions, background conditions, and future conditions. This report concludes that **the project will not have a detrimental impact** on the surrounding transportation network assuming that all planned site design elements are implemented.

Proposed Project

The subject property (the "Site") is located on the southwest corner of the New York Avenue and 16th Street, NE intersection. It is bordered by New York Avenue to the north, 16th Street to the east, industrial and commercial buildings to the south, and Walt Lincoln Way (a one-way private road owned by the Applicant) to the west. The Site is currently occupied by a surface parking lot and vacant warehouse. The development plan proposes to replace these existing uses with a one- and two-story retail building containing approximately 92,657 square feet of retail and 140 parking spaces in a below-grade garage.

As part of the development, sections of the roadway network surrounding the site will be improved. Pedestrian facilities along the perimeter of the project on New York Avenue and 16th Street will be improved so that they meet or exceed DDOT and ADA standards. This includes sidewalks that meet or exceed width requirements, crosswalks at all necessary locations, and curb ramps with detectable warnings. In addition, two (2) existing curb cuts will be removed, including one (1) on New York Avenue and one (1) on 16th Street. An existing 75-foot curb cut on 16th Street will be modified into one (1) 23-foot curb cut for the below-grade garage and one (1) 24-foot curb cut for loading.

Vehicular access to the 140 vehicular parking spaces in the below-grade garage will be via 16th Street. The amount of proposed parking exceeds minimum zoning requirements and meets the practical needs of the development.

The development will include two (2) loading berths at 30 feet, one (1) loading berth at 75 feet, and one (1) service/delivery space at 20 feet, exceeding the number of loading berths required by the zoning regulations. Access to the loading facilities will primarily be via 16th Street, and one (1) service/delivery space accessible from Walt Lincoln Way. These loading facilities will be sufficient to accommodate the practical needs of the development.

The development will meet the zoning requirements for bicycle parking by including 28 short-term bicycle parking spaces and nine (9) long-term bicycle parking spaces, as well as four (4) showers and five (5) lockers. This amount of bicycle parking, showers, and lockers will meet the practical needs of the development.

Multi-Modal Impacts and Recommendations

Transit

The Site is served by regional and local transit services via Metrobus and Metrorail. The Site is 1.5 miles from the Rhode Island Avenue-Brentwood and NoMa-Gallaudet Metrorail stations. There is a Metrobus stop that services the E2 and D4 WMATA bus routes located adjacent to the Site on 16th Street. Though WMATA plans to relocate this bus stop to Okie Street in summer 2018, it will still be located in close proximity to the Site.

Although the development will be generating new transit trips, existing facilities have enough capacity to accommodate the new trips.

Pedestrian

The Site is surrounded by a well-connected pedestrian network. Most roadways within a quarter-mile radius provide sidewalks and curb ramps, particularly along the primary walking routes. There are areas east and south of the Site which lack buffers, curb ramps, or crosswalks that meet DDOT and ADA standards. In addition, there are areas along New York Avenue and 16th Street which lack sidewalks all together.

The New York Avenue Streetscape and Trail project and other planned developments in the study area are expected to improve pedestrian facilities that currently do not meet DDOT and ADA standards.

As a result of the development, pedestrian facilities along the perimeter of the Site will be improved such that they meet or exceed DDOT requirements and provide an improved

pedestrian environment. Two (2) existing curb cuts will be removed, including one (1) on New York Avenue and one (1) on 16th Street, where an existing 75-foot curb cut on will be modified into one (1) 23-foot curb cut for the below-grade garage and one (1) 24-foot curb cut for loading.

Bicycle

Bicycle infrastructure in the vicinity of the Site is limited. The site is 0.5 miles from the nearest designated bicycle facility, which are bicycle lanes on 18th Street NE. However, there is a signed bicycle route along West Virginia Avenue that provides connectivity to bicycle lanes on 18th Street NE and a cycle track on 6th Street NE.

The New York Avenue Streetscape and Trail project will add substantial bicycle infrastructure in the vicinity of the Site, including a raised cycle track along the north side of New York Avenue NE that continues along 16th Street NE, as part of a bicycle route connecting the Metropolitan Branch Trail to the National Arboretum. The planned cycle track along 16th Street was kept in mind when designing the layout of the proposed development with particular attention paid to the loading facilities.

The development will provide short-term bicycle parking along the perimeter of the site for patrons of the development. On-site secure long-term bicycle parking, showers, and lockers will be provided in the below-grade garage for employees of the development. The amount of bicycle parking provided will meet zoning requirements.

Vehicular

The Site is well connected to regional roadways, such as New York Avenue (US-50) and Interstate 295, primary and minor arterials such as West Virginia Avenue and Mount Olivet Road, as well as an existing network of collector and local roadways.

In order to determine the potential impacts of the proposed development on the transportation network, this report projects future conditions with and without development of the site and performs analyses of intersection delays and queues. These are compared to the acceptable levels of delay set by DDOT standards to determine if the site will negatively impact the study area. Four (4) intersections were found to operate under unacceptable delay or queueing in future with development conditions and were reviewed for potential improvements. As such, the following mitigation measures are proposed:

- *New York Avenue & 16th Street NE*
  This report recommends adding a westbound protected left turn phase to this intersection. There are a limited number of ways for vehicular traffic to enter Ivy City from the east, and the addition of a protected left turn phase at this intersection will improve porosity and circulation to the Site and Ivy City.

- *New York Avenue & Montana Avenue & West Virginia Avenue Intersection Complex ("Montana Circle")*
  While the capacity analysis developed for this study noted significant delays at the intersection complex under conditions with or without development, observations note that delays extend along most approaches at these intersections under existing conditions. These delays are a result of the limited throughput that the intersections can accommodate, and metering that is caused by intersections up- and down-stream from the intersection complex. With the addition of the development, delays and queuing are increased to unacceptable levels for certain approaches. However, given the delay and queuing present throughout the New York Avenue corridor, solutions for the delays and queuing present at these intersections should be examined through regional transportation planning efforts.

- *Okie Street & Fenwick Street*
  This report recommends the conversion of this intersection from two-way stop controlled to all-way stop controlled. An all-way stop was warranted based on peak hour vehicle and pedestrian volumes.

- *West Virginia Avenue & 16th Street*
  This report recommends restriping the southbound approach to include separate left- and right-turn lanes. To accommodate this change parking would need to be eliminated on both sides of the 16th Street.

In completing the technical capacity analyses, this report noticed several overall trends regarding changes to travel patterns in the study area during the weekday morning and afternoon peak hours (compared to the traffic counts collected in 2013 and 2015). During the AM peak hour, traffic volumes and commuting patterns have remained relatively constant, with a noticeable increase in westbound traffic on New York Avenue that is most likely attributable to a growth in commuter traffic. During the PM peak hour, traffic volumes and patterns

have also remained relatively constant. Notably, there has been a sharp rise in eastbound commuter traffic turning left from West Virginia Avenue onto 16th Street (38 vehicles in 2013 vs 203 vehicles in 2018) and then right onto New York Avenue (76 vehicles in 2013 vs 247 in 2018). This is most likely due to the signal timing changes in the study area that prioritize commuter traffic on New York Avenue at the expense of the minor movements.

The majority of vehicular capacity concerns in the study area can be alleviated through signal timing adjustments that adapt to changes in volume patterns. It should be noted that operational changes alone cannot mitigate future delays at some locations. In addition, it is likely that drivers will alter their patterns as future conditions change.

As has been stated in prior reports prepared for developments throughout this area of the District, an essential component for good traffic operations in this area will be to minimize the vehicular trip generation of new development, thus reducing the overlap between new local traffic and regional traffic. Instead of investing in widening roadways to alleviate capacity concerns, the strategy has been to minimize traffic volumes to avoid capacity problems. This is also because widening roadways and adding more vehicular capacity is not feasible nor desirable due to the negative impact it can have on other modes.

As such, the multi-modal improvements described in this report are indirectly mitigating traffic operations impacts as they make non-auto mode choices more desirable. The Applicant has contributed significantly towards improvements of portions of the streetscape on New York Avenue, and funded the *New York Avenue Rail-with-Trail Linking Northeast Washington, D.C Concept Plan* (2015) that was a precursor to the New York Avenue Streetscape and Trails project.

In conjunction with the regional transportation planning efforts that this report recommends be undertaken to examine delay and queuing at Montana Circle, this report recommends that DDOT consider shortening the cycle lengths of signals along the New York Avenue corridor in the study area. Shorter signal cycles permit frequent gaps, allowing city streets to function as a complete network rather than a series of major corridors for commuter traffic. In addition, with the planned New York Avenue Streetscape and Trail project, shorter signal cycles provide more consistent crossing opportunities for pedestrians and bicycles, while long cycle lengths may increase pedestrian and bicycle non-compliance and risk-taking behavior.

Summary and Recommendations

This report concludes that **the proposed development will not have a detrimental impact on the surrounding transportation network assuming that the proposed site design elements and proposed mitigation measures are implemented.**

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

- The inclusion of secure-long-term bicycle parking, showers, and lockers.
- The installation of short-term bicycle parking spaces around the perimeter of the site that meet or exceed zoning requirements.
- The closure of three (3) median breaks on New York Avenue.
- The installation of an all-way stop at the intersection of Okie Street and Fenwick Street.
- Parking is right-sized to demand and can accommodate all demand on site while not encouraging driving as a mode.
- Implementation of a Loading Management Plan (LMP) that minimizes the potential impacts from loading that the proposed development will have on the surrounding intersections and neighborhoods
- The creation of wide pedestrian sidewalks that meet or exceed DDOT and ADA requirements.
- A Transportation Demand Management (TDM) plan that reduces the demand of single-occupancy, private vehicles during peak period travel times or shifts single-occupancy vehicular demand to off-peak periods.
- The Applicant coordinated with DDOT and ANC 5C and 5D on the pedestrian and bicycle improvements contained in the New York Avenue Streetscape and Trail project. The Applicant has contributed significantly towards improvements of portions of the streetscape on New York Avenue NE, and to the funding of the conceptual plan in 2015.