

TRANSPORTATION IMPACT STUDY

HIGHLINE AT UNION MARKET PUD

320 FLORIDA AVE., NE

WASHINGTON, DC

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ZONING COMMISSION
District of Columbia
CASE NO.15-01
EXHIBIT NO.24G

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EXECUTIVE SUMMARY

The following report is a Transportation Impact Study (TIS) for the Highline at Union Market development at 320 Florida Ave., NE, Lot 4 in Square 3587. This report reviews the transportation aspects of the Planned Unit Development (PUD) and zoning map amendment application. The Zoning Commission Case Number is 15-01.

The purpose of this study is to evaluate whether the PUD will generate a detrimental impact to the surrounding transportation network. This evaluation is based on a technical comparison of the existing conditions and two future conditions: 2018 future background conditions without the PUD, and 2018 future conditions with the PUD. This report concludes that **the PUD will not have a detrimental impact** to the surrounding transportation network assuming that all background improvements are executed, all planned site design elements are implemented, and all mitigation measures are incorporated into the PUD application.

Proposed PUD

The Highline at Union Market PUD proposes to replace an existing fast food building (Burger King) with a 12-story mixed-use building containing 9,880 sf of ground-floor retail space and approximately 315 residential units.

The ground-floor retail is designed to provide an engaging street retail experience. The retail located along Florida Avenue will be filled with shops and restaurants whose activity will spill out onto the sidewalk – characterized by a wide pedestrian zone and vibrant outdoor seating areas. The retail spaces will be accessed through storefronts on Florida Avenue that will bring new life to the neighborhood. The residential component will be comprised of floors two through twelve of the building and will also include numerous interior amenity spaces for residents.

Pedestrian access will be from Florida Avenue. A below-grade parking garage will serve the site, accessed from an existing curb cut at the signalized Florida Avenue/3rd Street intersection. The garage will provide 143 parking spaces, which will be designated primarily for residents and also for retail employees. Loading activities and service vehicle parking would occur within a newly created loading dock accessed from the parking garage entrance at the signalized Florida Avenue/3rd Street intersection.

At present, the Highline at Union Market site is occupied by a Burger King fast food restaurant and a small surface parking lot. The existing building is currently operational and generates ample trips to the neighborhood. The existing fast food restaurant is accessed via two curb cuts; one which will be reused by the Highline at Union Market at the signalized Florida Avenue/3rd Street intersection and a second curb cut approximately 150 feet east of the intersection that will be abandoned upon redevelopment.

This project also proposes to implement public space improvements along Florida Avenue in front of the site, including new street trees, plantings, bike racks and streetlights.

Parking

The PUD will include a below-grade parking garage with 143 parking spaces accessed from an existing curb cut at the signalized Florida Avenue/3rd Street intersection. The 143 parking spaces are planned to be primarily for residential use, which equates to a parking ratio of 0.45 spaces per unit. This amount of parking is typical for new residential developments in the District, especially ones with multi-modal access such as this project's location. Given that the retail in the building is primarily intended to be neighborhood serving, no on-site parking was assumed to be reserved for retail customers, but the garage will be available for retail employee parking.

Loading Facilities

The loading area provided in the PUD is adequate to serve the expected loading demand. Zoning Regulations state that a building of this size must contain one 30' berth for the retail use in addition to one 55' berth and a 20' service and delivery space for the residential use. The PUD proposes one 30' berth and one 20' service and delivery space, which will be adequate to serve the residential and retail uses of the development. None of the tenants will be large enough to require 55' truck service, instead resupplying using smaller trucks on a regular basis.

Trash operations will also occur from the driveway at the 3rd Street/Florida Avenue with trash trucks entering the site, picking up, and leaving via the same entrance. Trash facilities are located adjacent to the loading areas.

All trucks can access the loading docks without negatively impacting public space between the docks and the nearest DDOT designated truck routes. All trucks will be able to



sufficiently maneuver in and out of the driveway front-in, front-out.

Vehicular Impacts

The report includes an analysis of potential vehicular impacts of the Highline at Union Market PUD and recommendations for improvements and mitigation measures. The following conclusions are reached:

- The existing study area roadways generally operate under acceptable capacity conditions during the morning and afternoon peak hour.
- Existing areas of concern for roadway capacity are primarily focused along the heavily trafficked commuter routes: New York Avenue NE and Florida Avenue NE.
- The addition of the trips generated by the background developments has a negligible impact on the study area roadways.
- The background roadway improvements due to the *Florida Avenue Multimodal Study* are projected to have negligible impact on the roadway capacity in the study area.
- Impacts attributable to the PUD are minimal and have no significant effect on the surrounding roadway network.
- **The Highline at Union Market PUD will have no detrimental impacts to the study area.**

Crash Data Analysis

Crash data for the past three years was analyzed at the study intersections. The analysis came to the following conclusions:

- The combination of thoughtful site design elements and the *Florida Avenue Multimodal Transportation Study* provide the opportunity to greatly improve the overall transportation operations in the area.
- One intersection within the study area was found to have an elevated crash rate:
 - The intersection of 3rd Street and Florida Avenue serves the site and is currently being studied by DDOT as a part of the *Florida Avenue Multimodal Transportation Study*. Multimodal safety along the Florida Avenue corridor in the vicinity of the site is expected to improve as a result of the implementation of the study.

Transit

The following summarizes the site's access to transit and the expected site impacts:

- The site is served by the Metrorail Red Line via the NoMa-Gallaudet University Station two blocks from the site, and four Metrobus routes that travel along Florida Avenue.
- The Metrobus routes along Florida Avenue have been studied by the District Department of Transportation (DDOT) and the Washington Metropolitan Area Transit Authority (WMATA), with proposed recommendations for improved service, including a Metro Express route with limited-stop service.
- Transit-trips generated by the site will not have a detrimental impact on the surrounding transit system.

Pedestrian

Based on an analysis of the existing pedestrian conditions, a review of the background improvements, and planned site design elements, the following conclusions were made:

- The majority of pedestrian facilities outside of the Union Market district provide a pedestrian friendly environment. Those that do not, particularly along Florida Avenue, are being studied to improve pedestrian safety as part of DDOT's *Florida Avenue Multimodal Transportation Study*.
- Within the Union Market district, pedestrian facilities reflect the industrial origins of the site. The Highline at Union Market development will greatly improve pedestrian conditions adjacent to the site by increasing the amount of pedestrian space and adding trees, plantings, bike racks and streetlights.
- 3rd Street south of the site provides complete sidewalk connections on the east side to and beyond M Street, with further connections to the southern portal of the NoMa Metro Station. However, the northern portion of the sidewalk on the west side of 3rd Street does not exist. This portion is expected to be constructed by another developer when the property fronting that section of 3rd Street is redeveloped.

Bicycle

The bicycle facilities within the study area were evaluated and the following conclusions were made in regards to the existing and proposed bicycle facilities and the overall impact of the site on bicycle infrastructure:

- There are multiple high-quality bicycle facilities within the vicinity of the site.
- New protected bicycle infrastructure will likely be implemented near the site in the coming years that will further improve the cycling conditions in the area,



including a potential bike trail from Union Market to Ivy City, and a potential extension of the M Street cycletrack from Thomas Circle to Florida Avenue NE.

- There are several bicycle-focused elements of the development plan that will encourage cycling as a safe and effective transportation option for residents and patrons of the development, including short- and long-term bicycle parking.
- Residents of the building will have a secure bicycle room on the first level of the building to encourage cycling.
- Given the existing and proposed bicycle infrastructure in the study area, the site-generated bicycle trips will not result in detrimental impacts to the bicycle system.

Transportation Demand Management

The Highline at Union Market PUD will include an extensive TDM plan in order to help minimize its potential traffic impacts to the surrounding neighborhood. The following TDM plan is based on the DDOT expectations for TDM programs, modified to fit the specific needs of the PUD and transportation network. The Applicant proposes that upon construction, the project incorporate several TDM measures, including the following:

- The Applicant shall designate a TDM coordinator, who is responsible for organizing and marketing the TDM plan and who will act as a point of contact with DDOT.
- All parking on site will be priced at market rates at minimum, defined as the average cost for parking in a 0.25 mile radius from the site. All residential parking will be unbundled from the costs of leasing apartments or purchasing condos.
- Move-in transportation welcome packets will be distributed to each resident upon move-in that includes information such as:
 - Promotion for DDOT's goDCgo website.
 - Brochures on carsharing, ridesharing, and bikesharing programs.
 - Tips on apps and websites to use to navigate public transportation.
 - Maps for nearby bicycle trail routes and bike lanes.
 - Maps for Metro, bus and streetcar routes.
 - Advice to efficiently maintain cars to maximize fuel efficiency.
- The property will hold annual used bicycle drives for residents to donate bicycles to Gearin' Up Bicycles, a nearby non-profit 501(c)(3) community bike shop

located in Ward 5 that creates career development opportunities and teaches essential workplace skills to teenagers from underserved communities, while encouraging cycling as a practical, healthy means of transportation. Gearin' Up provides access to quality, affordable, used bicycles for those in need and hosts community outreach programs throughout the year.

- Power stations will be provided for electric vehicle car charging capability in up to 5% of garage parking spaces.
- Bicycle parking will be provided meeting existing regulatory minimums. The bicycle room will include a bike maintenance area with a bike pump and set of tools.
- The residential building lobby will display transit and other alternate mode information, using an electronic message board.
- Each new resident will have the option to receive a one-time, one-year car-sharing or bike-sharing program membership. This benefit will discontinue upon the earliest to occur of a) five years after the issuance of the Certificate of Occupancy, or b) upon the total aggregate benefit value reaching \$15,000.
- Priority parking spaces in the garage for fuel-efficient vehicles.
- Contribution of \$10,000 to a study being commissioned by the NoMa BID regarding improving safety and connections for the Metropolitan Branch Trail.

INTRODUCTION

This report is a Transportation Impact Study (TIS) for the proposed Highline at Union Market Planned Unit Development (PUD) located at the southern gateway to the Union Market district, in the Northeast quadrant of Washington DC. This TIS is submitted into the Zoning Commission record for this case, as an evaluation of the transportation impacts of construction of the application. The Zoning Commission Case Number is 15-01.

Contained within this report are a review of the of the transportation components of the application and the development's transportation impacts.

PROJECT SUMMARY

The site is located at the southern gateway to the Florida Avenue Market, also known as the Union Market district, at the intersection of Florida Avenue and 3rd Street NE, at 320 Florida Avenue NE, Lot 4 in Square 3587. The development will replace an existing fast food restaurant (Burger King) with a 12-story mixed use building containing 9,880 square feet of ground-floor retail space and approximately 315 residential units. A 143-space below grade parking garage will be provided to serve the development.

The ground-floor will be filled with neighborhood-serving shops and restaurants with a wide pedestrian zone and outdoor seating to engage pedestrians. Pedestrian access will be from Florida Avenue. The below-grade parking garage will be accessed from an existing curb cut on the northern side of the Florida Avenue/3rd Street signalized intersection. Loading activities and service vehicle parking would occur within a newly created loading dock accessed from the driveway at the Florida Avenue/3rd Street intersection.

The Applicant has committed to improving the space immediately to the west of the site, adjacent to the railroad, into a public plaza, green space, and a pedestrian pathway that will connect to Morse Street, NE, in the future. This pedestrian pathway is called for in the *Florida Avenue Market Study (2009)*, and will serve to link the NoMa and Union Market neighborhoods with a safe, convenient, landscaped pathway that will facilitate pedestrian circulation into the growing Union Market district from Florida Ave., NE.

At present, the Highline at Union Market site is occupied by a Burger King fast food restaurant. The existing building is

currently operational, and generates ample existing trips. The existing fast food restaurant provides two curb cuts; one that will be reused by the Highline at Union Market at the intersection of Florida Avenue and 3rd Street and a second that will be abandoned upon redevelopment, approximately 150 feet east of the intersection.

This project also proposes to implement public space improvements along Florida Avenue in front of the site, including new street trees, plantings, bike racks and streetlights.

PURPOSE OF STUDY

This report reviews the transportation elements of the PUD, supplementing material provided in the Site Plan Package that accompanied the Zoning Commission Application. Additionally, this report determines whether the construction of the PUD will or will not lead to adverse impacts on the transportation network. This is accomplished by comparing one existing condition and two future scenarios: (1) 2018 future background conditions without the PUD and (2) 2018 future conditions with the PUD completed.

The methodologies and analyses contained within this report are tailored to reach a conclusion on the impact of the PUD, and thus this report is not a general neighborhood study that makes recommendations to solve all existing and predicted transportation concerns near the project. Nevertheless, some discussions within this report do discuss non-project generated impacts including planning level suggestions on improvements.

This TIS bases what it considers acceptable conditions for transportation services on typical standards for urban environments. This means that during a roadway's (or other piece of infrastructure) peak hours of use, it is processing users efficiently and generating the most positive impact for resources dedicated. In other words, when a road has the most cars on it, the desire is for that road to be just under (or at) its capacity limit. Unacceptable conditions result when a roadway is not operating efficiently, either through too high of a delay at peak times, or having unused capacity at peak times.

In addition, this TIS attempts to strike a balance between modes of travel when making recommendations on transportation improvements. For example, roadway widening including turn lanes will typically have negative impacts to pedestrian and bicycle modes, and sometimes to transit. This report approaches its recommendations with this context in



mind, only suggesting improvements when it is necessary to mitigate unnecessary conditions on one mode without negatively impacting another.

CONTENTS OF STUDY

This report contains seven sections as follows:

- *Study Area Overview*
This section reviews the area near and adjacent to the proposed project and includes an overview of the site location.
- *Project Design*
This section reviews the transportation components of the PUD, 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 PUD. It summarizes the proposed 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.
- *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 impacts development of the project would have on safety. This includes a review of crash data at intersections in the study area.
- *Summary and Conclusions*
This section presents a summary of the recommended mitigation measures by mode and presents overall report findings and conclusions.



Figure 1: Site Location



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 accommodates the multi-modal vision of the development.
- Florida Avenue and the market area itself have been studied in depth to determine the best ways to improve and build upon the area given anticipated development.
- Outside of the market area, walking and cycling conditions are very good. There are some gaps in the network; however, these are recognized and District initiatives have been implemented to alleviate some of these issues.
- Pedestrian facilities within the market itself reflect its use as an industrial wholesale market place. This development will greatly improve the streetscape surrounding the site to allow safer travel for all modes of transportation, while retaining the industrial atmosphere.

MAJOR TRANSPORTATION FEATURES

Overview of Regional Access

The Highline at Union Market site has ample access to regional vehicular- and transit-based transportation options, as shown in Figure 3, that connect the site to destinations within the District, Virginia, and Maryland.

The site is accessible from several Interstate and US highways, including I-395, I-695, I-295, US-50 (New York Avenue), US-1 (Rhode Island Avenue), and US-29 (Georgia Avenue/7th Street). These roadways also connect the site to the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs. All of these roadways bring vehicular traffic within a few miles of the site, at which point arterials and local roads can be used to access the site directly.

The Highline at Union Market is located two blocks from the NoMa-Gallaudet University Red Line Metro Station. The Red Line provides connections to areas in the District and Maryland, and connects Rockville, MD with Glenmont, MD while providing access to the District core. Of particular importance, from this location the Red Line provides a one-stop connection to Union

Station, which is a hub for commuter rail – such as Amtrak, MARC, and VRE – in addition to Metrorail. In addition, the Red Line provides connections to all additional 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 several local transportation options near the site that serve vehicular, transit, walking, and cycling trips, as shown on Figure 4. The site is served by a local vehicular network that includes several primary and minor arterials such as New York Avenue, Florida Avenue, and 6th Street, NE. In addition, there is an existing network of connector and local roadways that provide access to the site.

The Metrobus system provides local transit service in the vicinity of the site. As shown in Figure 4, there are four bus routes traveling along the Florida Avenue corridor, including the X3, 90, 92, and 93. Of the four nearest bus stops, one provides a shelter. These bus lines connect the site to many areas of the District including several Metrorail stations serving all six Lines.

There are several existing bike facilities that connect the site to areas within the District, including the pair of one-way bicycle lanes along 4th and 6th Streets that provide north-south connectivity (A temporary two-way cycle track was recently installed along 6th Street between Florida Avenue and Penn Street), the 1st Street cycle track that leads to Union Station, bike lanes along R Street, Q Street, I Street, and G Street that provide east-west connectivity, and the Metropolitan Branch Trail that provides an eight mile, multi-use trail between Union Station and Silver Spring, MD. Although there are some high-volume roadways near the site, such as Florida Avenue, the majority of the bike facilities can be accessed via local and residential roadways that facilitate cycling.

The site is situated along Florida Avenue at its intersection with 3rd Street at the southern gateway to the Union Market district, which is planned as a 45-acre mixed use neighborhood and currently operates as a hub of industrial wholesale distribution. Outside of the market, a pedestrian network consisting of sidewalks, crosswalks, and curb ramps connects the site to residential, office, and retail destinations within the nearby neighborhoods and to Gallaudet University and the NoMa-



Gallaudet University Metrorail station. Pedestrian facilities within the market area itself do not meet typical DDOT standards. The majority of the roadways in the Market have sidewalks, but they are typically narrow and sometimes double as loading/unloading areas for vendors. A detailed review of existing and proposed pedestrian access and infrastructure is provided in a later section of this report.

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

Car-sharing and Ridesharing

Three car-sharing companies provide service in the District: Zipcar, Enterprise Carshare, and Car2Go. All three services are private companies that provide registered users access to a variety of automobiles. Of these, Zipcar and Enterprise Carshare have designated spaces for their vehicles. Carshare locations located within a half-mile of the site are listed in Table 1.

Car-sharing is also provided by Car2Go, which provides point-to-point car sharing. Unlike Zipcar or Enterprise, which require two-way trips, Car2Go can be used for one-way rentals. Car2Go currently has a fleet of vehicles located throughout the District.

Table 1: Summary of Carshare Locations

Carshare Location	Number of Vehicles
Elevation at Washington Gateway (Zipcar)	1 vehicle
Gallaudet University (Zipcar)	1 vehicle
5th/L Street NE (Zipcar)	2 vehicles
Constitution Square - Harris Teeter Garage (Zipcar)	2 vehicles
66 New York Avenue NE - Atlantic Parking Lot (Zipcar)	10 vehicles
66 New York Avenue NE (Enterprise Carshare)	6 vehicles
Total	22 vehicles

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, which provides an additional option for car-sharing patrons.

The property is also located within several ridesharing service areas, including Uber, Lyft and Sidecar. These ridesharing services provide an abundance of on-demand transportation options to destinations throughout Washington, DC.

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 Highline at Union Market development has a walk score of 91 (or a “walker’s paradise”), transit score of 71, and a bike score of 90. Figure 2 shows the displays a heat map for walkability and bikeability in the Gallaudet neighborhood around the development, with borders as defined by Walkscore.com.

As represented in Figure 2, the site is situated in a neighborhood that encompasses some good and some average



Figure 2: Summary of Walkscore and Bikescore



walk scores. However, the site is in an area that provides a better walking environment than areas to the north. In addition, the more likely walking destinations are south of the site where the walk score tends to be higher.

The site is situated in an area with good bike scores, and is located in the green zone. Similar to the walking destinations, the majority of biking destinations are also south and west of the site, where there are plentiful on and off-street bicycle facilities which are easily accessible from the site.

The Highline at Union Market and other planned area PUDs will help increase the walk and bike scores in the Gallaudet neighborhood.

FUTURE REGIONAL PROJECTS

There are several District initiatives and background developments located in the vicinity of the site. These planned and proposed projects are summarized below.

Local Initiatives

Florida Avenue Market Study – Small Area Plan

The Florida Avenue Market Study analyzes the unique area that is the Florida Avenue Market, which encompasses 45 acres near the intersections of Florida Avenue and New York Avenue, between Penn Street and 6th Street. Currently the Florida Avenue Market houses several industrial and wholesale markets, a few small restaurants, and the recently redeveloped Union Market. Overall, the area is isolated and under-developed, thus this study develops a framework for development that will help achieve the following:

- To provide opportunities, guidance, and direction for developers and property owners as they propose redevelopment solutions
- To provide the Office of Planning, the Zoning Commission, and the community with a comprehensive basis on which to evaluate proposed developments within the Study Area.

The Highline at Union Market TIS took into account the recommendations and guidelines laid out in this report while evaluating the proposed development plan.

Florida Avenue Multimodal Transportation Study

The Florida Avenue Multimodal Transportation Study is currently in progress and will evaluate safety, streetscape, and

operational enhancements to improve safety for pedestrians and bicyclists along the Florida Avenue, NE corridor between New York Avenue and H Street/Benning Road.

Currently there are four lane configuration and streetscape alternatives along Florida Avenue and 6th Street. DDOT has indicated that Alternative 4 will be the preferred alternative which will provide for a five lane section along the project frontage (including two through lanes in each direction and a center left turn lane) as well as bicycle lanes. Additional improvements include widened sidewalks and buffer zones, bike lanes or cycle tracks, and dedicated turn lanes on Florida Avenue.

moveDC: Multimodal Long-Range Transportation Plan

MoveDC is an implementation-based 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 completing them 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

This report also included an update to the *Bicycle Master Plan* and *Pedestrian Plan*, which was used to determine improvements within the study area not covered by the previously discussed studies.

Planned Developments

There are ten projects approved or under construction located in the vicinity of the proposed development. Figure 5 shows the location of these developments in relation to the proposed development.

911 2nd Street

The 911 2nd Street development is located at 911 2nd Street NE and includes 42 residential units.

Washington Gateway

The Washington Gateway development is located at 100 Florida Avenue NE and includes 400 dwelling units, 5,200 square feet of retail, and 630,000 square feet of office space.

Camden NoMa Phase 1

The Camden NoMa development is located at 60 L Street NE and includes 321 dwelling units.

AVA 55 M

The Ava 55M development is located at 55 M Street NE and includes 436 dwelling units and 1,556 square feet of retail.

1150 1st Street

The 1150 1st Street development is located at 1150 1st Street NE and includes 335,000 square feet of office space and 15,000 square feet of retail.

22 M Street

The 22 M Street development is located at 22 M Street NE and includes 329 dwelling units and 9,500 square feet of retail.

100 K Street

The 100 K Street development is located at 100 K Street NE and includes 210 dwelling units and 1,500 square feet of retail.

Storey Park

The Storey Park development is located at the intersection of 1st and L Streets NE and includes 350,000 square feet of office, 300 dwelling units and 65,000 square feet of retail.

Union Place (Phase II)

The Union Place (Phase II) development is located at 200 K Street NE and includes 500 dwelling units and 15,000 square feet of retail.

Uline Arena

The Uline Arena development is located at the intersection of 3rd and M Streets NE and includes 153,000 square feet of office space and 54,000 square feet of retail.

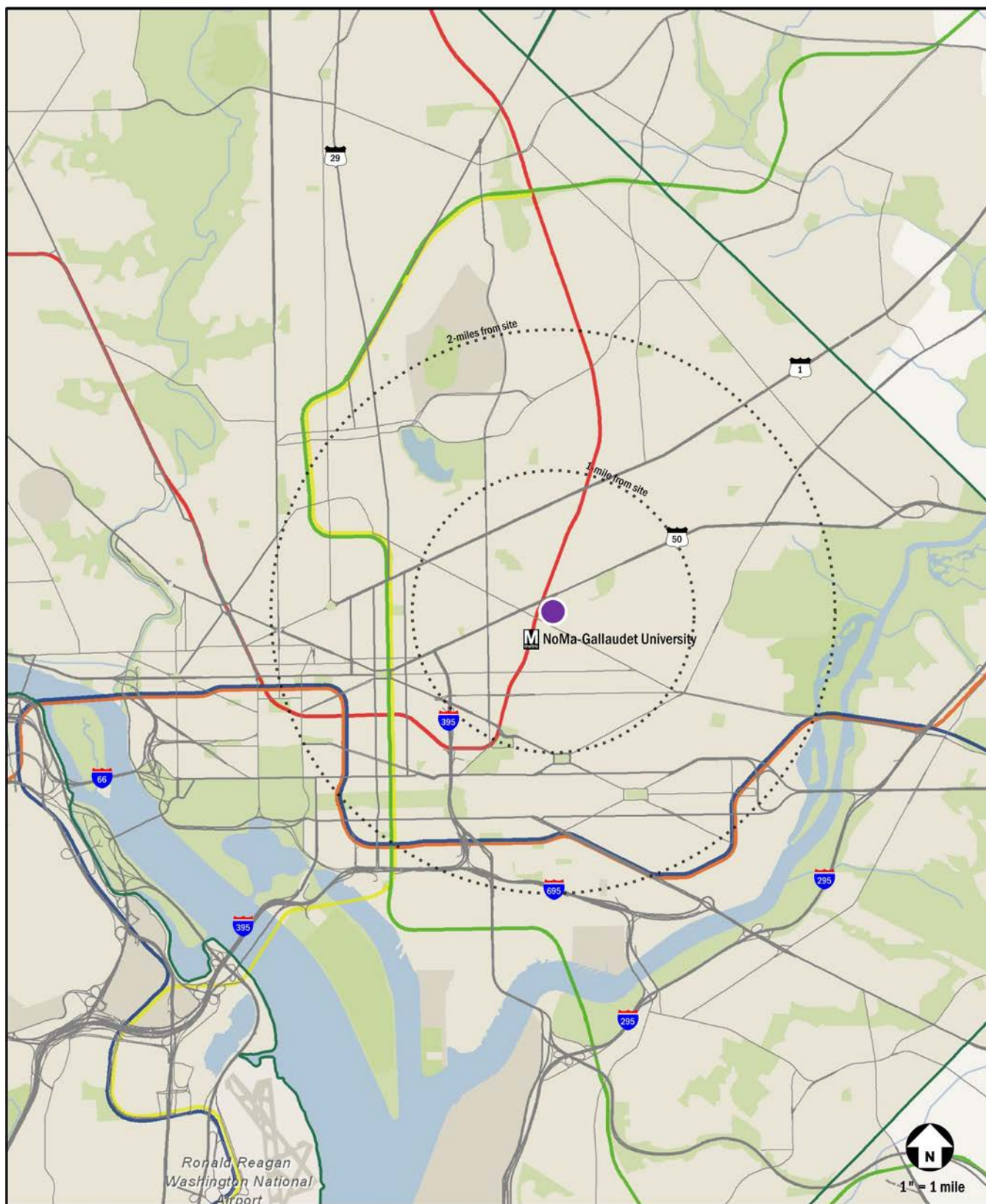


Figure 3: Major Regional Transportation Facilities

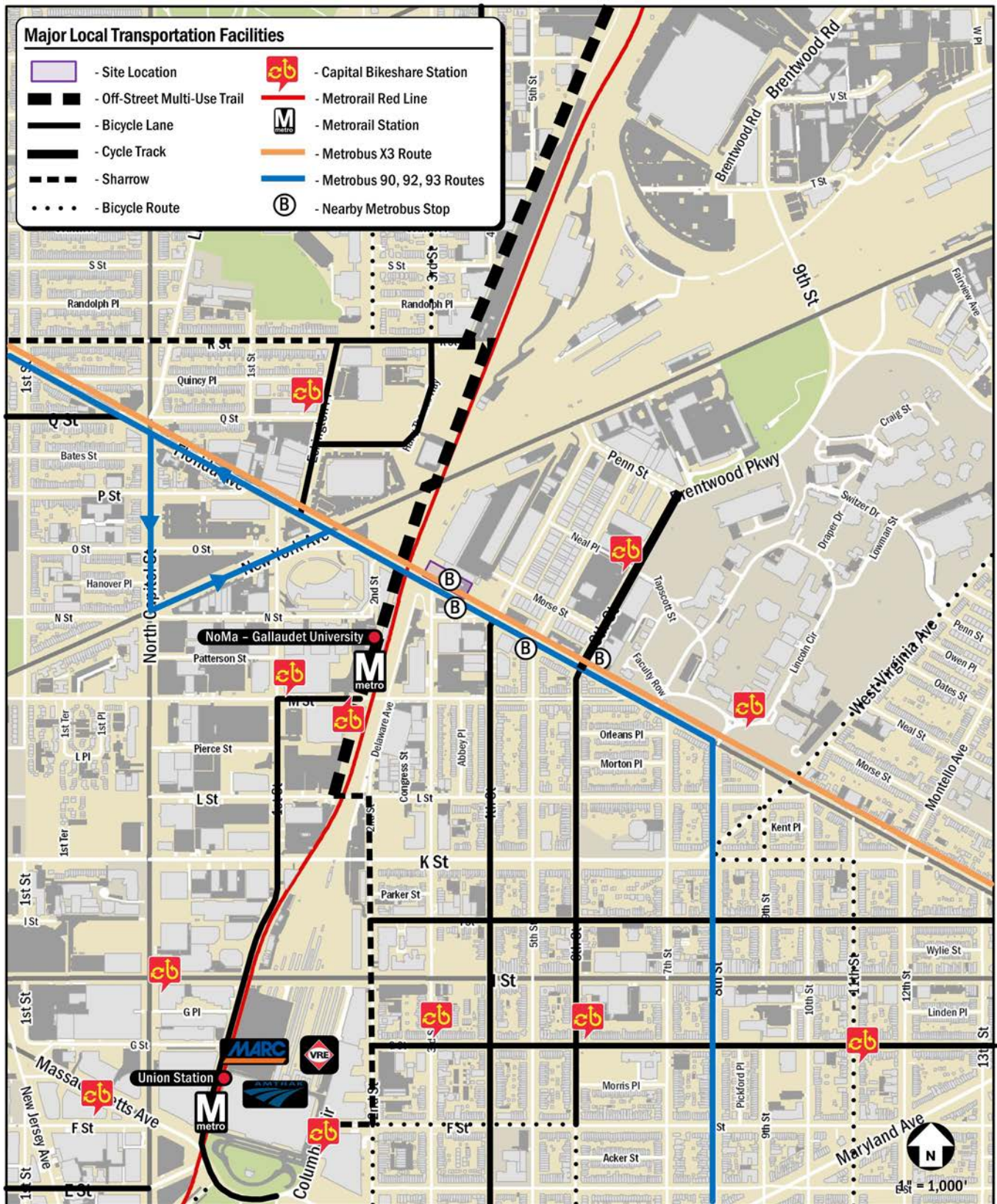


Figure 4: Major Local Transportation Facilities

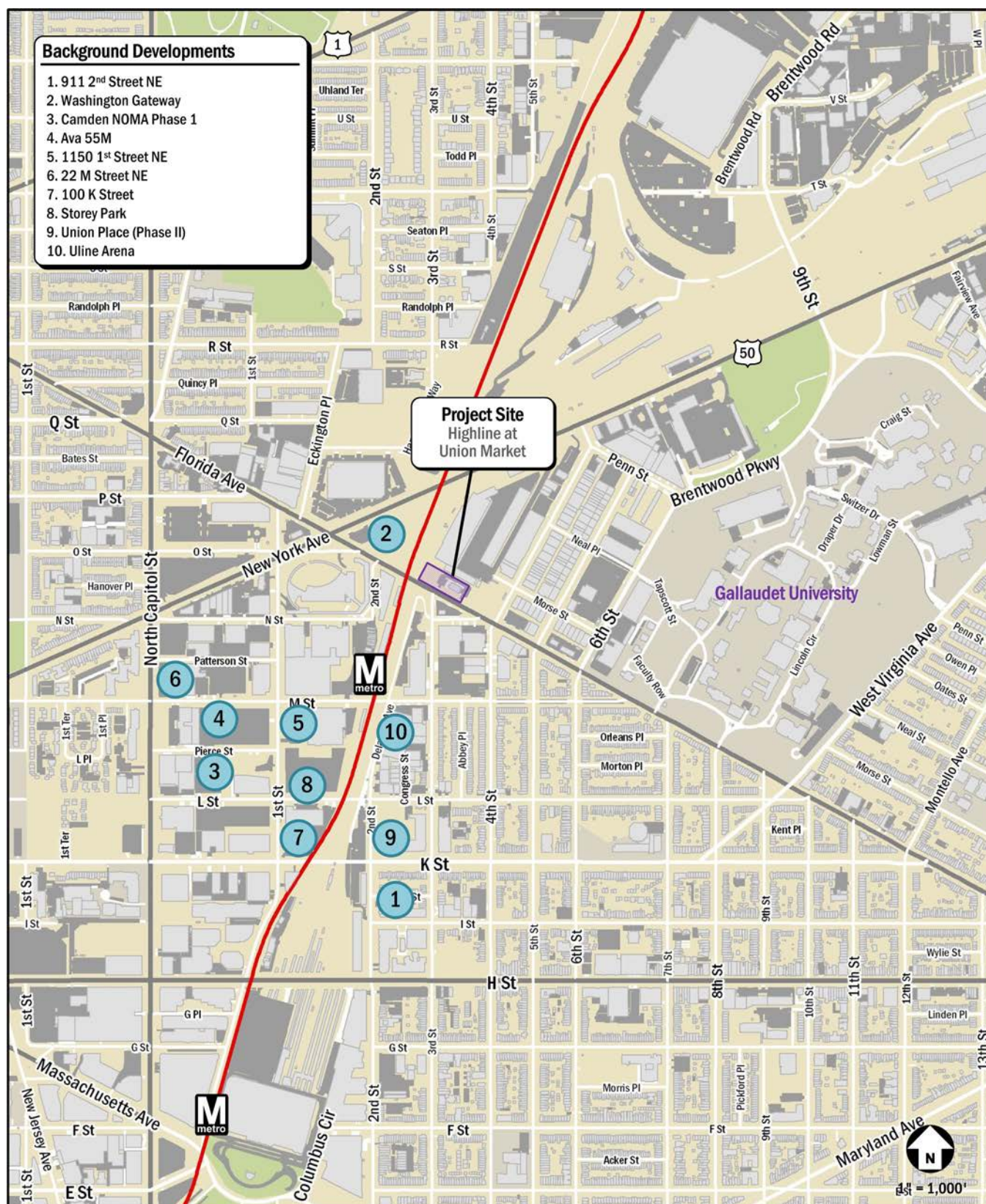


Figure 5: Planned Development Map



PROJECT DESIGN

This section reviews the transportation components of the Highline at Union Market PUD, including the proposed site plan and access. It includes descriptions of the site’s vehicular access, loading, and parking. This chapter also includes the project’s Transportation Demand Management (TDM) plan.

OVERVIEW

The Highline at Union Market PUD proposes to replace an existing fast food building (Burger King) with a 12-story mixed-use building containing 9,880 sf of ground-floor retail space and approximately 315 residential units. Figure 6 shows the site plan’s ground floor.

The ground-floor retail is designed to provide an engaging street retail experience. The retail located along Florida Avenue will be filled with shops and restaurants whose activity will spill out onto the sidewalk – characterized by a wide pedestrian zone and vibrant outdoor seating areas. The retail spaces will be accessed through storefronts on Florida Avenue that will bring new life to the neighborhood. The residential component will be comprised of floors two through twelve of the building and will also include numerous interior amenity spaces for residents.

Pedestrian access will be from Florida Avenue. A below-grade parking garage will serve the site, accessed from an existing curb cut at the signalized Florida Avenue/3rd Street intersection. The garage will provide 143 parking spaces, which will be designated primarily for residents and also for retail employees. Loading activities and service vehicle parking would occur within a newly created loading dock accessed from the parking garage entrance at the signalized Florida Avenue/3rd Street intersection.

At present, the Highline at Union Market site is occupied by a Burger King fast food restaurant and a small surface parking lot. The existing building is currently operational and generates ample trips to the neighborhood. The existing fast food restaurant is accessed via two curb cuts; one which will be reused by the Highline at Union Market at the signalized Florida Avenue/3rd Street intersection and a second curb cut approximately 150 feet east of the intersection that will be abandoned upon redevelopment.

This project also proposes to implement public space improvements along Florida Avenue in front of the site, including new street trees, plantings, bike racks, and streetlights.

PARKING

As stated above, the PUD will include a below-grade parking garage with 143 parking spaces accessed from an existing curb cut at the signalized Florida Avenue/3rd Street intersection. The 143 parking spaces are planned to be primarily for residential use, which equates to a parking ratio of 0.45 spaces per unit. This amount of parking is typical for new residential developments in the District, especially ones with multi-modal access such as this project’s location. Given that the retail in the building is primarily intended to be neighborhood serving, no on-site parking was assumed to be reserved for retail customers, but the garage will be available for retail employees.

LOADING

The loading area provided in the PUD is adequate to serve the expected loading demand. Zoning Regulations state that a building of this size must contain one 30’ berth for the retail use in addition to one 55’ berth and a 20’ service and delivery space for the residential use. The PUD proposes one 30’ berth and one 20’ service and delivery space, which will be adequate to serve the residential and retail uses of the development.

Table 2 provides a summary of the expected type of commercial vehicles using the site’s off-street loading area, based on typical residential turnover rates and delivery schedules for ground floor retail tenants.

Table 2: Projected Loading Operations

Component	Daily Operations by Truck Type			
	Cargo Van	30’ Truck	55’ Truck	Total
Retail	1.79	0.47	0.00	2.26
Residential	3.00	1.15	0.00	4.15
Total	4.79	1.62	0.00	6.41

None of the tenants will be large enough to require 55’ truck service, instead resupplying using smaller trucks on a regular basis. Trash operations will also occur from the driveway at the 3rd Street/Florida Avenue with trash trucks entering the site, picking up, and leaving via the same entrance. Trash facilities are located adjacent to the loading areas.



All trucks can access the loading docks without negatively impacting public space between the docks and the nearest DDOT designated truck routes. All trucks will be able to sufficiently maneuver in and out of the driveway front-in, front-out. Maneuvering diagrams showing truck swept path analyses for all loading berths, under proposed public space and roadway operational conditions, are contained in the technical appendix of this document.

This report is recommending that the PUD does not need an extensive loading management plan, because loading operations occur on-site, there are sufficient docks, and the building is close to several major truck routes. Thus, the loading management plan for the development should include the following elements:

- A loading facility manager will be designated. The loading facility manager will coordinate with residents and retail vendors to schedule deliveries.
- All tenants and residents 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.

BICYCLE PARKING

105 secure bicycle spaces will be provided in an enclosed and secure bicycle room on the first level of the building, adjacent to the loading facilities and with convenient access to the lobby. The PUD will meet the existing requirements to provide bicycle parking for the site (combination of the DC Zoning Regulations and the Bicycle Commuter and Parking Expansion Act of 2007). The residential component is required to provide 1 space for every 3 units, or 105 spaces.

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 Highline at Union Market PUD will include a TDM plan in order to help minimize its potential traffic impacts to the surrounding neighborhood. The following TDM plan is based on the DDOT expectations for TDM programs, modified to fit the specific needs of the PUD and transportation network. The

Applicant proposes that upon construction, the project incorporate several TDM measures, including the following:

- The Applicant shall designate a TDM coordinator, who is responsible for organizing and marketing the TDM plan and who will act as a point of contact with DDOT.
- All parking on site will be priced at market rates at minimum, defined as the average cost for parking in a 0.25 mile radius from the site. All residential parking will be unbundled from the costs of leasing apartments or purchasing condos.
- Move-in transportation welcome packets will be distributed to each resident upon move-in that includes information such as:
 - Promotion for DDOT's goDCgo website.
 - Brochures on carsharing, ridesharing, and bikesharing programs.
 - Tips on apps and websites to use to navigate public transportation.
 - Maps for nearby bicycle trail routes and bike lanes.
 - Maps for Metro, bus and streetcar routes.
 - Advice to efficiently maintain cars to maximize fuel efficiency.
- The property will hold annual used bicycle drives for residents to donate bicycles to Gearin' Up Bicycles, a nearby non-profit 501(c)(3) community bike shop located in Ward 5 that creates career development opportunities and teaches essential workplace skills to teenagers from underserved communities, while encouraging cycling as a practical, healthy means of transportation. Gearin' Up provides access to quality, affordable, used bicycles for those in need and hosts community outreach programs throughout the year.
- Power stations will be provided for electric vehicle car charging capability in up to 5% of garage parking spaces.
- Bicycle parking will be provided meeting existing regulatory minimums. The bicycle room will include a bike maintenance area with a bike pump and set of tools.
- The residential building lobby will display transit and other alternate mode information, using an electronic message board.
- Each new resident will have the option to receive a one-time, one-year car-sharing or bike-sharing program membership. This benefit will discontinue

upon the earliest to occur of a) five years after the issuance of the Certificate of Occupancy, or b) upon the total aggregate benefit value reaching \$15,000.

- Priority parking spaces in the garage for fuel-efficient vehicles.
- Contribution of \$10,000 to a study being commissioned by the NoMa BID regarding improving safety and connections for the Metropolitan Branch Trail.

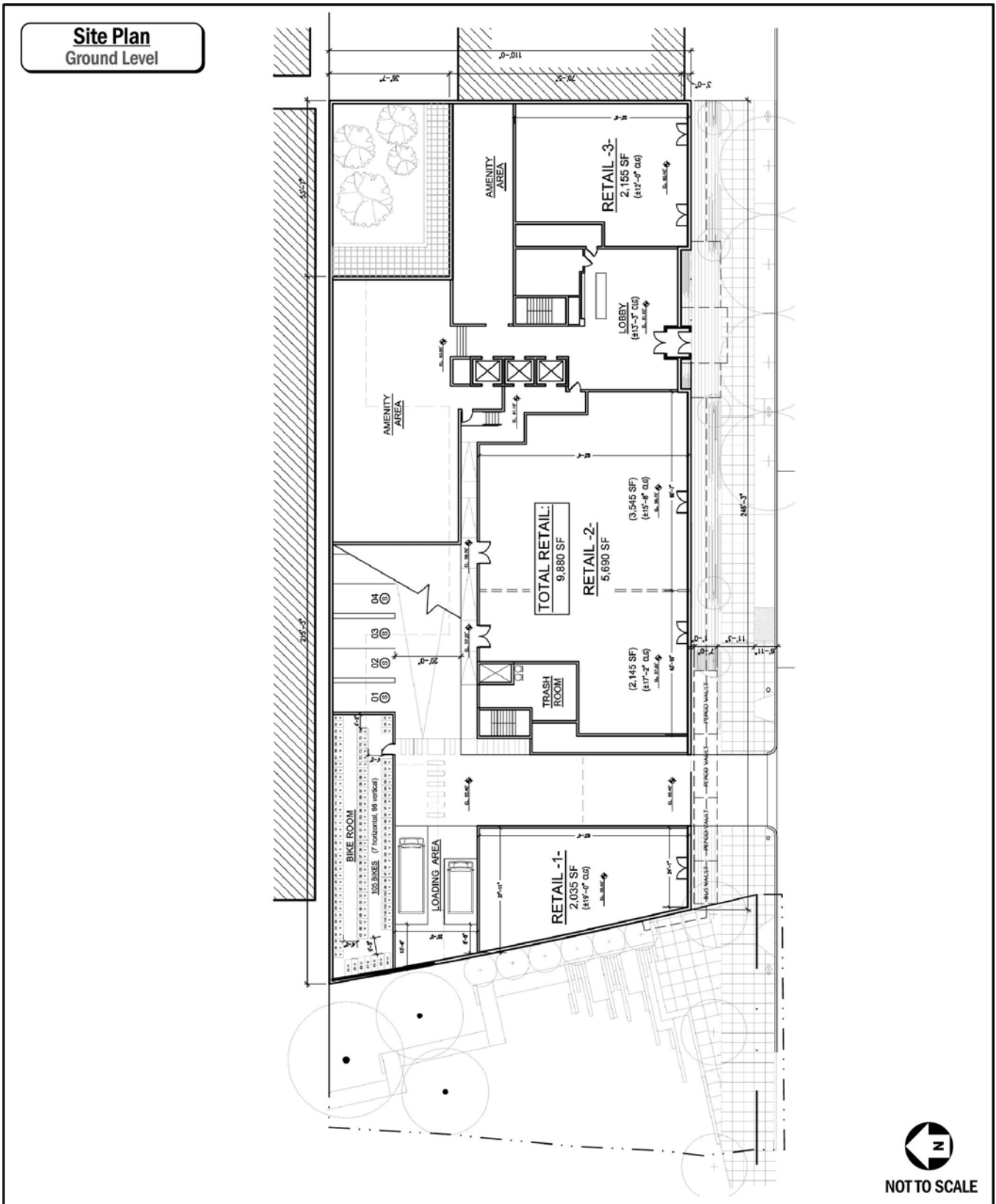


Figure 6: Site Plan

TRIP GENERATION

This section outlines the transportation demand of the proposed Highline at Union Market PUD. It summarizes the projected trip generation of the site by mode, which forms the basis for the chapters that follow.

Traditionally, weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 9th 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.

Residential trip generation was calculated based on ITE land use 220, Apartment, with mode splits developed using other nearby TIS as a basis. This analysis does not take into account the internal capture calculations, pass-by, and diverted link trip percentages used in that study because those reductions are already included in the peak hour commuting mode splits and including them would result in an underestimation of the expected future residential vehicle trip volumes.

Retail trip generation was calculated based on ITE land use 820, Shopping Center. Given that the retail in the Highline at Union Market is intended to be smaller, more neighborhood oriented retailers, a similar mode split to that proposed for the residential was used. This was noted to be similar to other retail areas in the District (such as the U Street corridor), rather than the higher automotive mode splits used in other nearby TIS that would be more appropriate for destination retail. As with the residential trip generation, this analysis does not take into account the internal capture calculations, pass-by, and diverted link trip percentages used in that study because those reductions are already included in the peak hour commuting mode splits and including them would result in an underestimation of the expected future vehicle trip volumes.

A summary of the multimodal trip generation is provided in Table 3. Detailed calculations are included in included in the Technical Appendix.

Table 3: Peak Hour Trip Generation

Trip Gen Summary for Residential						
Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	17 veh/hr	64 veh/hr	81 veh/hr	64 veh/hr	35 veh/hr	99 veh/hr
Transit	15 veh/hr	58 veh/hr	73 veh/hr	58 veh/hr	31 veh/hr	89 veh/hr
Bike	2 veh/hr	4 veh/hr	6 veh/hr	5 veh/hr	2 veh/hr	7 veh/hr
Walk	3 veh/hr	10 veh/hr	13 veh/hr	11 veh/hr	5 veh/hr	16 veh/hr
Trip Gen Summary for Retail						
Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	3 veh/hr	2 veh/hr	5 veh/hr	10 veh/hr	9 veh/hr	19 veh/hr
Transit	4 veh/hr	1 veh/hr	5 veh/hr	10 veh/hr	10 veh/hr	20 veh/hr
Bike	1 veh/hr	0 veh/hr	1 veh/hr	2 veh/hr	2 veh/hr	4 veh/hr
Walk	2 veh/hr	1 veh/hr	3 veh/hr	5 veh/hr	5 veh/hr	10 veh/hr
Total Trip Gen Summary						
Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	20 veh/hr	66 veh/hr	86 veh/hr	74 veh/hr	44 veh/hr	118 veh/hr
Transit	19 veh/hr	59 veh/hr	78 veh/hr	68 veh/hr	41 veh/hr	109 veh/hr
Bike	3 veh/hr	4 veh/hr	7 veh/hr	7 veh/hr	4 veh/hr	11 veh/hr
Walk	5 veh/hr	11 veh/hr	16 veh/hr	16 veh/hr	10 veh/hr	26 veh/hr

TRAFFIC OPERATIONS

This section provides a summary of the existing roadway facilities, as well as an analysis of the existing and future roadway capacity in the study area. Included is an analysis of potential vehicular impacts of the Highline at Union Market PUD and recommendations for improvements and mitigation measures.

The purpose of the capacity analysis is to:

- Determine the existing capacity of the study area roadways;
- Determine the overall impact of the Highline at Union Market PUD on the study area roadways;
- Discuss potential improvements and mitigation measures to accommodate the additional vehicular trips; and
- Evaluate the proposed roadway network to determine if adequate capacity is provided in the future.

This analysis was accomplished by determining the traffic volumes and roadway capacity for the following scenarios:

- 2015 Existing Conditions
- 2018 Background Conditions (without the Highline at Union Market PUD)
- 2018 Total Future Conditions (with the Highline at Union Market PUD)

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

The following conclusions are reached within this chapter:

- The existing study area roadways generally operate under acceptable conditions during the morning and afternoon peak hours.
- Existing areas of concern for roadway capacity are primarily focused along the heavily trafficked commuter routes: New York Avenue NE and Florida Avenue NE.
- The addition of the trips generated by the background developments and inherent growth on the study area roadways has a negligible impact on the study area roadways.
- The background roadway improvements due to the *Florida Avenue Multimodal Study* are projected to have

negligible impact on the roadway capacity in the study area.

- Impacts attributable to the PUD are minimal and have no significant effect on the surrounding roadway network.
- The Highline at Union Market PUD will have no detrimental impacts to the study area. No study intersections operate under unacceptable conditions following the construction of the PUD that do not also operate under unacceptable conditions in the future without the proposed PUD.

ROADWAYS

As outlined previously, regionally the site is accessible from several Interstate and US highways, including I-395, I-695, I-295, US-50 (New York Avenue), US-1 (Rhode Island Avenue), and US-29 (Georgia Avenue/7th Street). These roadways also connect the site to the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs. All of these roadways bring vehicular traffic within a few miles of the site, at which point arterials and local roads can be used to access the site directly.

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 discussed with and agreed to with the District Department of Transportation (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 analyses are performed to determine if the proposed development of the Highline at Union Market PUD 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 two future scenarios: (1) without the proposed application (referred to as the Background conditions) and (2) with the application approved and constructed (referred to as the Future conditions).

Specifically, the roadway capacity analysis examined the following scenarios:



- Existing Conditions
- 2018 Background Conditions (without the Highline at Union Market PUD)
- 2018 Total Future Conditions (with the Highline at Union Market PUD)

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

Study Area

The study area of the analysis is a set of intersections where detailed capacity analyses are performed for the scenarios listed above. The set of intersections 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 for analysis:

1. Florida Avenue NE & 6th Street NE
2. Florida Avenue NE & 5th Street NE
3. Florida Avenue NE & 4th Street NE
4. Florida Avenue NE & 3rd Street
5. Florida Avenue NE & O Street NE
6. Florida Avenue NE & New York Avenue NE
7. Florida Avenue NE & 1st Street NE

Figure 7 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. For this study, a mix of new counts and data on record were used to assemble existing traffic volumes. Traffic data from other recent studies was used for most intersections along Florida Avenue, while new counts were collected for some other intersections.

The results of the traffic counts, including the peak hour traffic volumes, are shown in the Technical Attachments. Figure 7 shows a summary of the existing data collection.

2018 Background Traffic Volumes (without the Highline at Union Market PUD)

The traffic projections for the 2018 Background conditions consist of the existing volumes with traffic generated by developments expected to be completed prior to the PUD (known as background developments).

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, the 10 developments listed previously in the report are included in the 2018 Background scenario.

The traffic volumes generated by the background developments were assigned and distributed through the roadway network using the same methodologies as the TIS for those studies. While the background developments represent local traffic changes, regional traffic growth is typically accounted for using percentage growth rates. However, an examination of ADT volumes over recent years noted that vehicular volumes on study area roadways have not grown. Thus, no regional traffic growth was assumed on study area roadways.

2018 Future Traffic Volumes (with the Highline at Union Market PUD)

The 2018 Future traffic volumes consist of the 2018 Background volumes with the addition of the traffic volumes generated by the proposed development (site-generated trips). Thus, the 2018 Future traffic volumes include traffic generated by: the existing volumes, background developments, the inherent growth on the study area roadways, and the proposed Highline at Union Market PUD.

Existing traffic volumes and travel patterns in the study area were analyzed in order to determine the trip distribution for the site-generated trips. Based on this review and the existing site access locations, the site-generated trips were distributed through the study area intersections. Figure 8 shows a summary of the trip distribution and site-generated trips. The site-generated traffic volumes and the peak hour traffic volumes for the 2018 Future conditions are shown in the Technical Attachments.

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 in the Technical Attachments.

Of note, the 6th Street NE cycletrack was installed by DDOT at the end of October 2014. At the time of the data collection, the cycle track had not yet been installed. Therefore, the modification of the 6th Street NE cross-section is included as an improvement in the Background conditions.

2018 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.

While no contemplated improvements in the study area meet these criteria for background improvements, the following improvements to Florida Avenue and 6th Street, NE were included in the 2018 Background conditions due to the in-progress *Florida Avenue Multimodal Study*:

- Florida Avenue NE

- Five-lane cross-section between 2nd and 3rd Streets NE (two eastbound lanes, three westbound lanes);
- Five-lane cross-section between 3rd and 6th Streets NE (two lanes east- and westbound, with left-turn lanes); and
- Four-lane cross-section east of 6th Street NE.
- 6th Street NE
 - Two-lane cross-section with cycle-track on east side of roadway.

Of note, these future improvements are still under development as the *Florida Avenue Multimodal Study* has not yet been published. The above cross-sections and corresponding signal timing updates were agreed to be considered for this TIS by Gorove/Slade and DDOT. The lane configurations and traffic controls for the 2018 Background conditions are shown in the Technical Attachments.

2018 Future Geometry and Operations Assumptions

The lane configurations for the 2018 Future conditions are based on the lane configurations for the 2018 Background conditions. The lane configurations and traffic controls for the 2018 Future conditions are shown in the Technical Attachments.

Analysis Methodology

Following DDOT guidelines, the capacity analyses were performed using *Highway Capacity Manual* (HCM) methodologies. For signalized and unsignalized intersections, the HCM calculates the delay experienced by drivers traveling through an intersection. This delay is associated with vehicles slowing in advance of an intersection, the time spent stopped at an intersection, the time spent as vehicles move up in the queue, and the time needed to vehicles to accelerate to the speed limit. Traffic delay also results from the interaction of vehicles, primarily in a state where the traffic volumes exceed the available capacity.

The results of these delay calculations is a computed average delay (seconds per vehicle) for each approach and a Level of Service (LOS) grade. At signalized intersections, all approaches controlled by the traffic signal have a calculated average delay and associated LOS, and an overall average delay and LOS for the entire intersection are determined. At unsignalized intersections, the approaches controlled by a stop-sign have a calculated average delay and associated LOS. For all-way stop intersections, an overall average delay and LOS are also

determined. For one- or two-way stop intersections, an average delay and LOS are also calculated for vehicles turning across a free-flowing approach, as the driver must yield to oncoming traffic. The major through movements and right-turns on free-flowing approaches at one- or two-way stop controlled intersections are assumed to operate with no delay.

For this report, the analysis was performed using the *Synchro*, Version 7 software package, which is based on the HCM methodologies. As stated previously, the weekday morning and afternoon peak hours were analyzed in the Existing, Background, and Future conditions. The *Synchro* models were compiled using signal timings provided by DDOT and with lane configurations and traffic volumes collected by Gorove/Slade.

Capacity Analysis Results

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. A summary of the LOS results is shown on Figure 9. The detailed capacity analysis tables and worksheets are contained in the Technical Attachments.

The capacity analysis results are split into three categories:

1. Intersections that operate at acceptable conditions during all time periods and scenarios analyzed. This study defines acceptable conditions as meeting LOS grade D or better for the overall intersection and each intersection approach.
2. Intersections that operate at unacceptable conditions regardless of the development of the project. This is either because the unacceptable conditions occur today, or unacceptable conditions occur in the future regardless of construction of the project.
3. Intersections that operate at unacceptable conditions due to construction of the project.

As shown in Figure 9, the majority of the study area intersections operate under acceptable conditions during the morning and afternoon peak hour. **None of the study area intersections operate at unacceptable conditions due to construction of the Highline at Union Market PUD.** However, the following intersections operate under unacceptable conditions during one or more peak hour, regardless of construction of the Highline at Union Market:

- Florida Avenue NE & 4th Street NE
During the morning peak hour, the Florida Avenue and 4th Street NE intersection operates beyond an acceptable level of delay under Background and Total Future Conditions.

Level of Service (LOS)

Level of service is based upon the traffic volume present in each lane on the roadway, the capacity of each lane at the intersection and the delay associated with each directional movement. The HCM defines six levels of service, ranging from A to F. LOS A represents the “best” operating conditions from a traveler’s perspective (free-flowing conditions and little-to-no delay), and LOS F represents the “worst”. Detailed LOS descriptions are contained in the Technical Attachments.

For cost, feasibility, and environmental impact, roadways are not typically designed to provide LOS A conditions during peak periods. Instead, roadways are typically designed to reflect a balance between individual traveler’s desires, society’s desires, and financial resources. In suburban areas, roadways are typically designed to a peak hour threshold of LOS D. In urban areas, such as the District, LOS E is typically used as the acceptable peak hour LOS threshold. Nevertheless, during low-volume periods of the day, a roadway or intersection may operate at LOS A.

The recommendations from the *Florida Avenue Multimodal Study* cause the intersection to operate over acceptable thresholds due to the reduction in through-lane capacity at this intersection. In addition, the split-phased orientation of the traffic signal adds additional delay to traffic traversing the intersection. **The capacity issues observed at this intersection are not a direct result of the PUD.**

- Florida Avenue NE & 6th Street NE
While this intersection operates at an overall acceptable level of service, the northbound approach of 6th Street NE operates beyond an acceptable level of delay under Existing Conditions during the morning peak hour. Because 6th Street is converted to one-way northbound just south of the intersection, the amount of left turns result in excessive delay along this movement. **The capacity issues observed at this intersection are not a direct result of the PUD.**



- Florida Avenue NE/New York Avenue NE/O Street NE Intersection Complex

While the capacity analysis developed for this study did not note significant delays at the Florida Avenue NE/New York Avenue NE/O Street NE intersection complex, observations note that delays extend along most approaches to these intersections. These delays are a result of the limited throughput that the intersections can accommodate, and metering that is caused by these intersections along with other intersections up- and down-stream from the intersection complex. **The capacity issues observed at this intersection are not a direct result of the PUD.**

Generally speaking, the proposed development is considered to have an impact at an intersection within the study area if the capacity analyses show an LOS E at an intersection or along an approach in the Future conditions where one does not exist in the Background conditions. Following these guidelines, the proposed Highline at Union Market PUD will not have any significant additional impacts to the roadway network. The following section outlines potential improvements that could be undertaken outside the scope of this study to improve delays that are seen with or without the development of the Highline at Union Market PUD.

POTENTIAL IMPROVEMENTS

Only one intersection in the study area was noted to operate under overall unacceptable conditions, at Florida Avenue and 4th Street, NE. Unacceptable side street conditions were noted at the Florida Avenue/6th Street, NE intersection and unacceptable conditions were observed at the New York Avenue/Florida Avenue intersection complex. The unacceptable conditions at this intersection occur in scenarios with and without the development of the PUD—these capacity issues will occur regardless of development. Although the PUD does not create the conditions at any of the study intersections, this section of the report reviews potential improvements that could be undertaken at the study intersections, as well as improvements recommended to mitigate the site impacts.

Suggested Improvements for DDOT to Review

- Florida Avenue NE & 6th Street NE

As recommended in traffic impact studies for other nearby developments, the future unacceptable operation of this

intersection can be improved by shifting approximately 15 seconds of green time to the north-south movement during the AM peak hour. During the PM peak hour, no signal timing improvements are suggested for this intersection, since any green time shifted to the north-south movement would result in east-west movements operating at unacceptable conditions. As discussed above, some of the additional delay that occurs at this intersection is due to the conversion of 6th Street to one-way northbound just south of this intersection, which would change many through-trips to left turns. It may be best to wait for the implementation of the improvements recommended in the *Florida Avenue Multimodal Transportation Study*, and see how existing traffic adjusts to the changes before making further modifications to this intersection.

- Florida Avenue NE & 4th Street NE

The future unacceptable operation of this intersection can be improved by eliminating the split phasing that is present in the existing signal phasing. The presence of future left turn lanes at this intersection would allow for protected left turns in the signal phasing, which could improve the efficiency of the intersection. However, as with the improvements suggested at 6th Street, it may be best to wait for the implementation of the improvements recommended in the *Florida Avenue Multimodal Transportation Study*, and see how existing traffic adjusts to the changes before making further modifications to this intersection.

- Florida Avenue NE/New York Avenue NE/O Street NE Intersection Complex

As noted previously, observations note that delays extend along most approaches to these intersections. These delays are a result of the limited throughput that the intersections can accommodate, and metering that is caused by these intersections along with other intersections up- and down- stream from the intersection complex. 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.

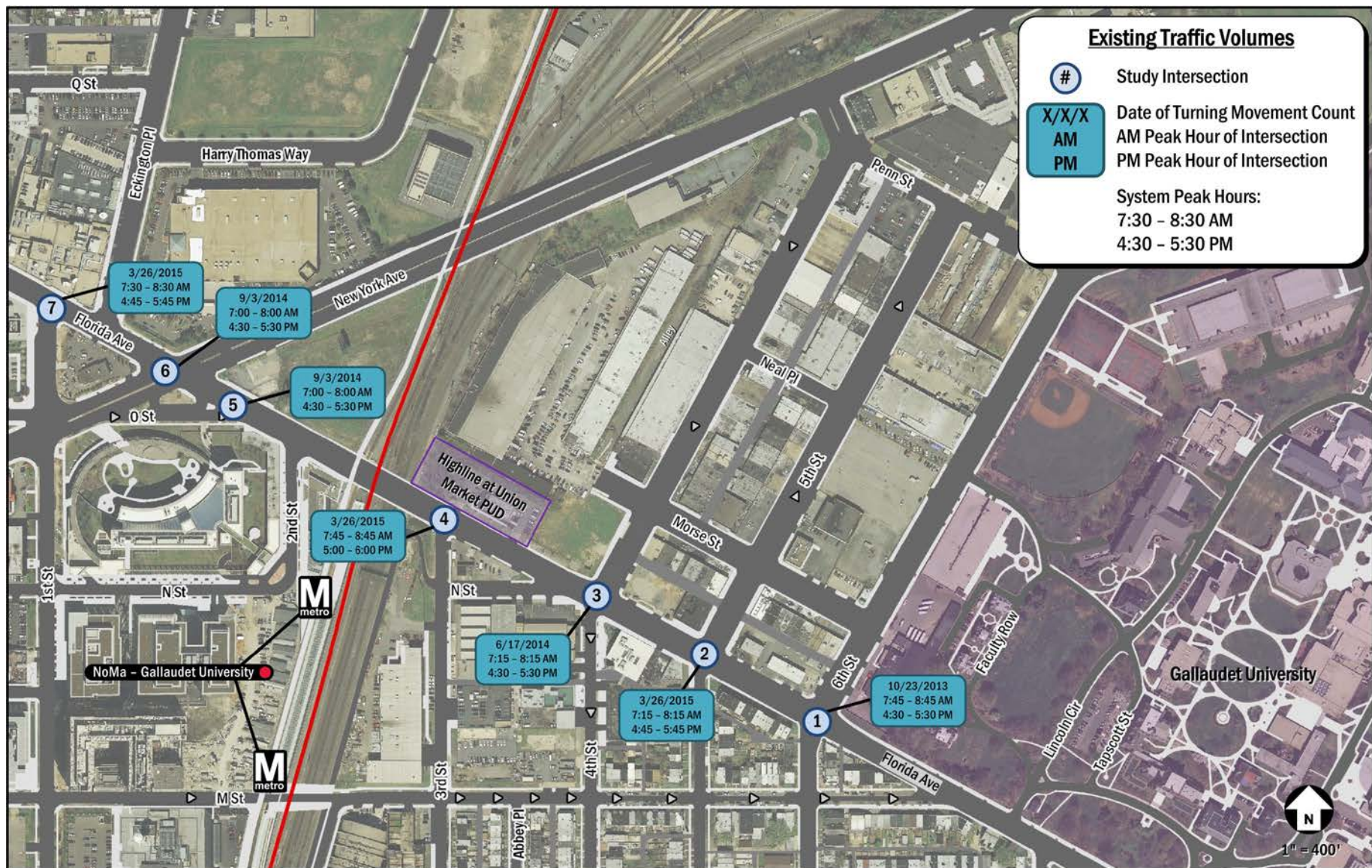


Figure 7: Study Intersections and Existing Volumes

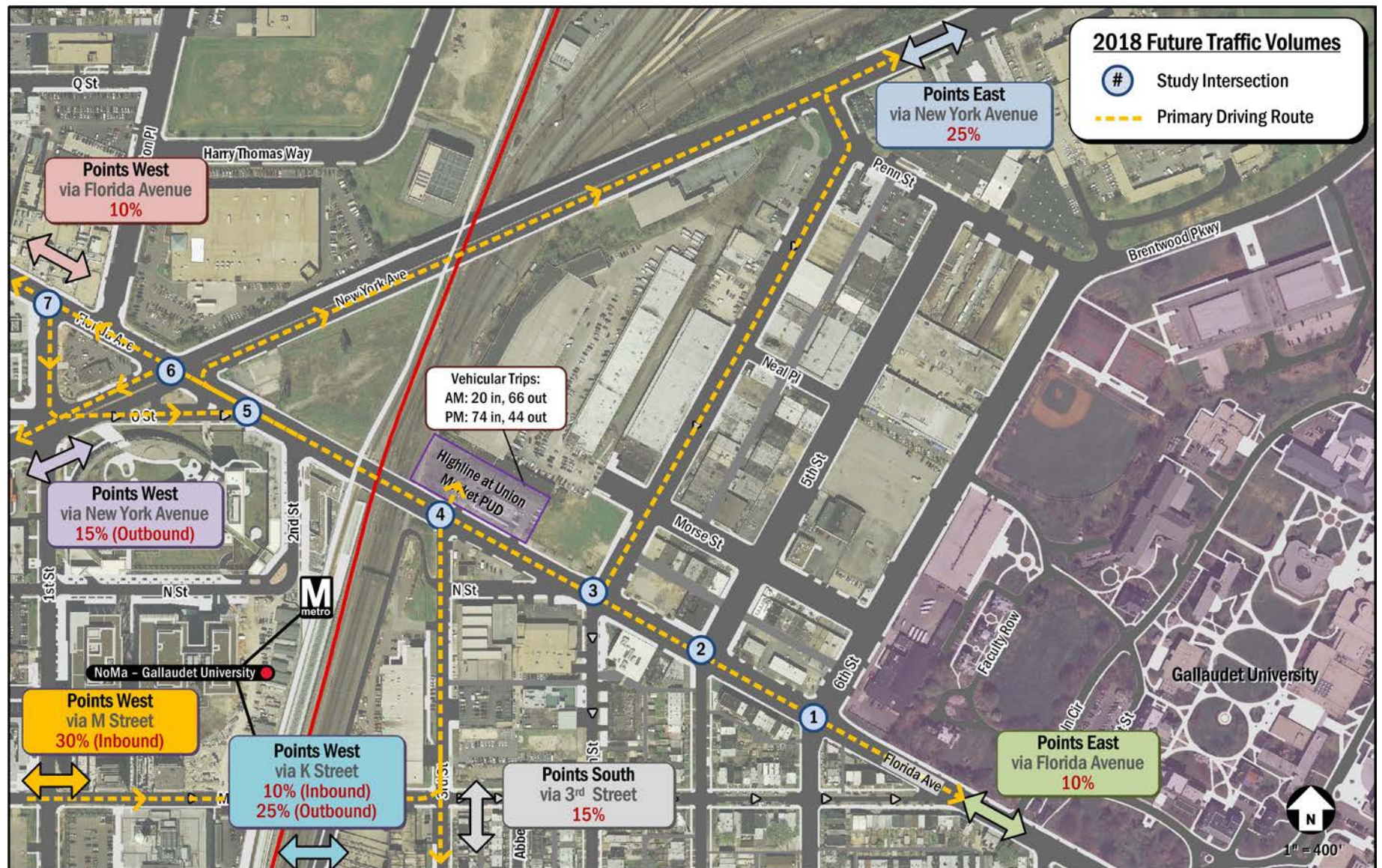


Figure 8: 2018 Future Peak Hour Traffic Volume Summary

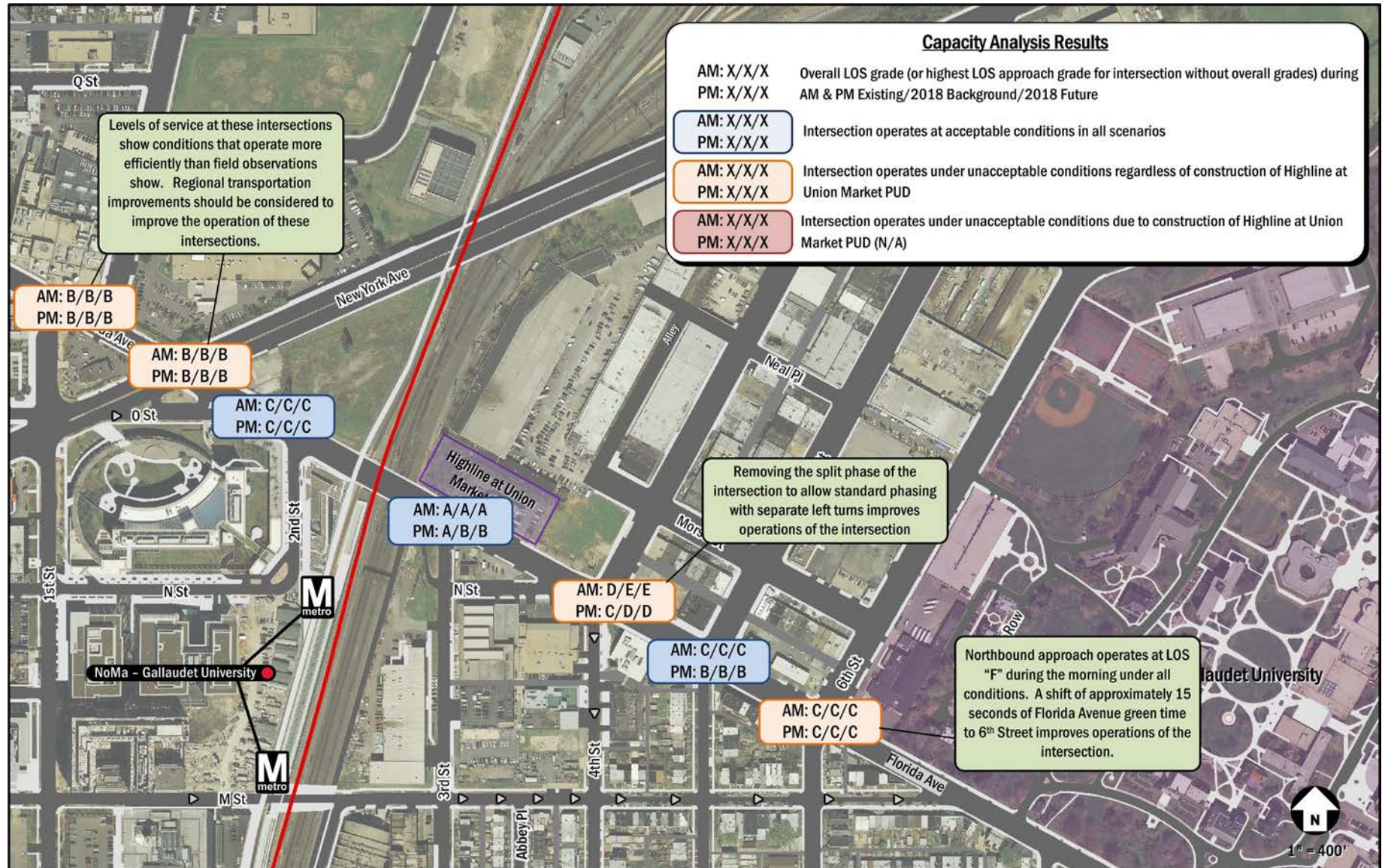


Figure 9: AM/PM Peak Hour Capacity Analysis Summary



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 due to the Highline at Union Market development.

The following conclusions are reached within this chapter:

- The site is served by the Metrorail Red Line via the NoMa-Gallaudet University Station and four Metrobus routes that travel along Florida Avenue.
- The Metrobus routes along Florida Avenue have been studied by DDOT and WMATA, with proposed recommendations for improved service including a Metro Express route with limited-stop service.
- Transit-trips generated by the site are not expected to have a detrimental impact on the surrounding transit system.

EXISTING TRANSIT SERVICE

The study area is well served by Metrorail and Metrobus. 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 10 identifies the major transit routes, stations, and stops in the study area.

The NoMa-Gallaudet University Metrorail Red Line station is located two blocks (approximately one-quarter of a mile) from the development site. The Red Line travels south from Shady Grove, travels through downtown DC, and continues north to Glenmont. Trains run approximately every three minutes during the morning and afternoon peak hours. Trains run about every 5 to 6 minutes during weekday non-peak hours, every 10 to 15 minutes on weekday evenings after 7:00 pm and 6 to 15 minutes on the weekends.

The site is also serviced by Metrobus along Florida Avenue. The routes serving this area connect the site to many stations in the

Table 4: Metrobus Route Information

Route Number	Route Name	Service Hours	Headway	Distance to Nearest Stop
90, 92, 93	U Street-Garfield Line	24 hour service	Peak: 7-15 min Non-Peak: 7-30 min Weekend: 10-20 min	0.2 miles (4 minutes)
X3	Benning Road Line	Weekdays: WB 6:00 am - 8:40 am EB 3:40 pm - 6:10 pm	AM Peak Hour: 7-15 min PM Peak Hour: 20-30 min	0.2 miles (4 minutes)

Metrorail system and with various locations throughout all quadrants of the District. Table 4 shows a summary of the bus route information for the four routes that serve the site, including service hours, headway, and distance to the nearest bus stop.

The nearest westbound bus stops are located on Florida Avenue at 3rd Street NE and Florida at 5th Street NE. While the stop at 3rd Street is adjacent to the site, the bus stop at 5th Street offers a bus shelter. The nearest eastbound stops are located on Florida Avenue between 3rd and 4th Street NE and Florida Avenue at 5th Street NE. Neither of these eastbound bus stops provides a shelter.

PROPOSED TRANSIT SERVICE

Due to growth of population, jobs, and retail in several neighborhoods in the District and the potential for growth in other neighborhoods, the District's infrastructure is challenged with the need for transportation investments to support the recent growth and to further strengthen neighborhoods. In order to meet these challenges and capitalize on future opportunities, DDOT has developed a plan to identify transit challenges and opportunities and to recommend investments. This plan is outlined in DC's *Transit Future System Plan* report published by DDOT in April 2010, which includes the reestablishment of streetcar service in the District.

Construction of the initial Streetcar Line, which runs along H Street and Benning Road, is complete and service is expected to start within the next few months. This line will be extended to the west in the future and connect with the Georgetown neighborhood. The nearest streetcar stop is located just over half a mile from the site at H Street and 3rd Street, NE.

Regarding Metrobus service, WMATA and DDOT completed the *90-92-93 Metrobus U Street – Garfield Line Study (March, 2011)*, which examined the U Street-Garfield Metrobus Line. This study recommends improvements including a new Metro Express Route (99) with limited-stop service. In its initial implementation, the route would run bi-directionally with 15-



minute headways during peak periods only. However, based on demand, service would have the potential of including weekday midday service, weekday evening service, and weekend service in the future.

SITE-GENERATED TRANSIT IMPACTS

The trip generation estimates for the Highline at Union Market development show that a substantial amount of new transit riders will be generated. The proposed development is projected to generate 78 transit trips (18 inbound, 60 outbound) during the morning peak hour and 106 transit trips (67 inbound, 39 outbound) during the afternoon peak hour.

U.S. Census data was used to determine the distribution of those taking Metrorail and those taking Metrobus. The site lies near the border of two U.S. Census Tracts: Census Tract 88.03 and Census Tract 106. Based on data from these two census tracts, it is expected that about half of the transit trips will be attributed to Metrorail and the other half to Metrobus.

WMATA studied capacity of Metrorail stations in its *Station Access & Capacity Study (April, 2008)*. The study analyzed the capacity of Metrorail stations for their vertical transportation, for example the capacity of the station at elevators, stairs, and escalators to shuttle patrons between the street, mezzanine, and platforms. The study also analyzed the capacity of stations to process riders at fare card gates. For both of these analyses, WMATA calculated vertical transportation, fare card gates, and volume-to-capacity ratios for existing data (from 2005) and projections for the year 2030. According to the study, high volume-to-capacity ratios were not observed at the NoMa-Gallaudet University Station in 2005, nor are they expected by 2030. Therefore, the NoMa-Gallaudet University station can accommodate the additional riders generated by the Highline at Union Market development.

WMATA also studied capacity along Metrobus routes. DC's *Transit Future System Plan (April, 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, both Metrobus lines near the site exceed these load factors: The U Street-Garfield Line with an all-day load factor of 1.06 and the Benning Road Line with a peak period load factor of 1.34.

Based on this load factor data, WMATA and DDOT completed route specific studies for both lines. DDOT and WMATA's *X1-X2-X3 Metrobus Benning Road / H Street Line Study (January, 2010)* determined that a Metro Express route would help ease the capacity issues. As a result of the issuance of this study, WMATA implemented the X9 Limited-Stop route. Over the coming years, it is anticipated that the X9 route will increase its frequency and extend service to midday rather than strictly peak hours. The *90-92-93 Metrobus U Street – Garfield Line Study*, as discussed above, also determined that a Metro Express route would be the best option for remedying capacity concerns, but this route has not yet been implemented.

Overall, Metrobus service is constrained along the Florida Avenue corridor; however, DDOT and WMATA are aware of these issues and have implemented or have plans to implement improvements to all routes with capacity concerns. Although the development is expected to generate approximately 30 bus trips during the morning peak hour and 40 bus trips during the afternoon peak hour, enhancements to the Florida Avenue corridor routes through the implementation of recommendations in previous DDOT and WMATA studies will support the additional trips.

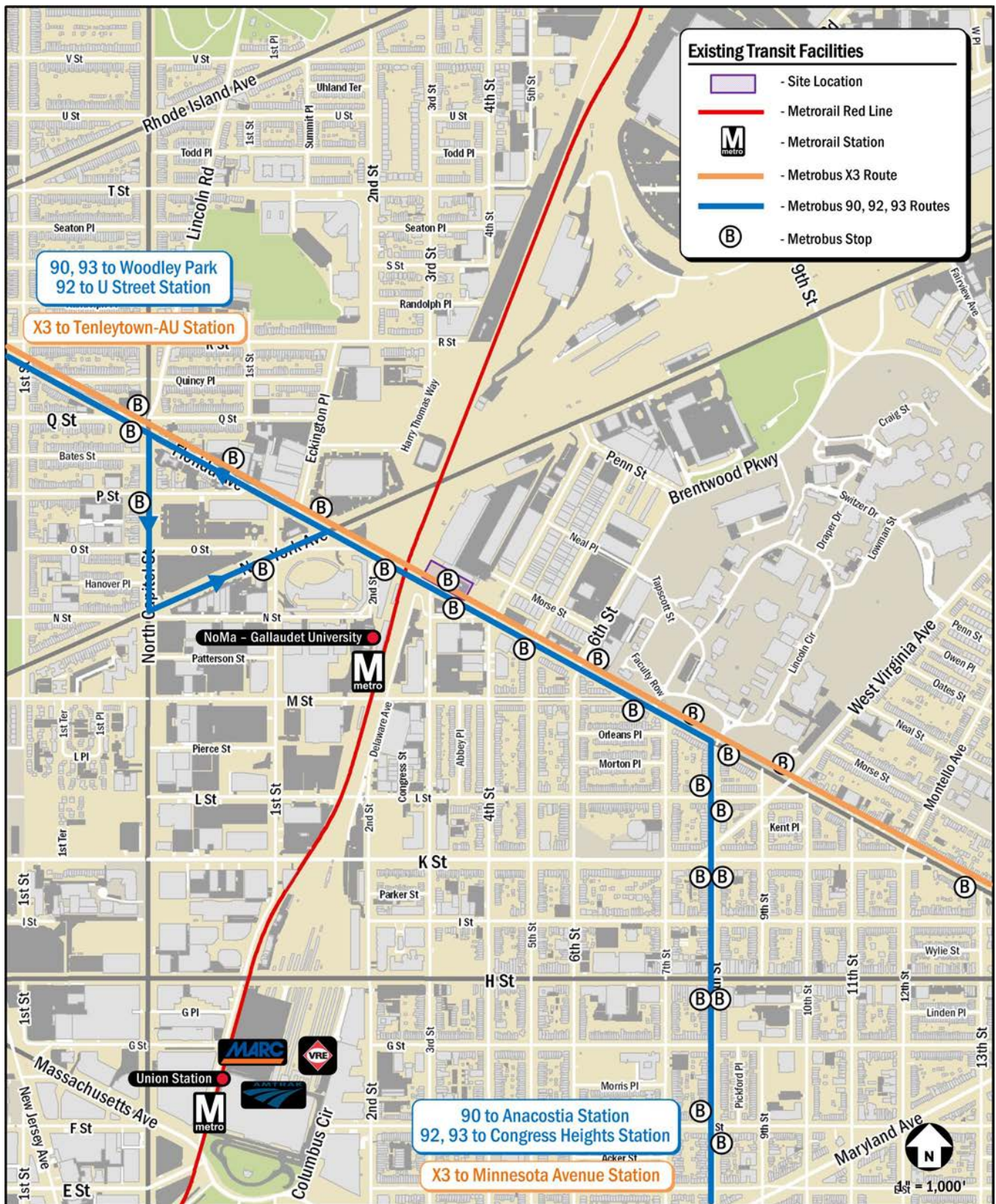


Figure 10: Existing Transit Service



PEDESTRIAN FACILITIES

This section summarizes the existing and future pedestrian access to the site and reviews walking routes to and from the site. Overall, the majority of pedestrian facilities in the study area provide a friendly pedestrian environment. Those that do not, particularly Florida Avenue, are being studied to improve pedestrian safety as part of DDOT’s *Florida Avenue Multimodal Transportation Study*.

PEDESTRIAN STUDY AREA

This TIS evaluated pedestrian facilities within a quarter-mile of the site and pedestrian routes to nearby transit facilities. The site is easily accessible to transit options such as bus stops on Florida Avenue and the NoMa-Gallaudet University Red Line Metrorail Station portal at N Street and 2nd Street NE as well as the portal at M Street and Delaware Avenue NE. The site is also within walking distance of Gallaudet University, the H Street corridor, Union Market, and Union Station. There are some barriers and areas of concern within the study area that negatively impact the quality and attractiveness of the walking environment, including roadway conditions that reduce the quality of walking conditions, narrow or nonexistent sidewalks, and incomplete or insufficient crossings at busy intersections. Figure 11 shows suggested pedestrian pathways, walking time and distances, and barriers and areas of concern.

SURROUNDING PEDESTRIAN INFRASTRUCTURE

This section outlines the existing and proposed pedestrian infrastructure surrounding the Union Market district.

Existing Conditions

A review of pedestrian facilities surrounding the site shows that many facilities meet DDOT standards and provide a quality walking environment. Figure 12 shows a detailed inventory of the existing pedestrian infrastructure in the study area. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by DDOT’s *Public Realm Design Manual* (July, 2011) in addition to ADA standards. Sidewalk widths and

requirements for the District are shown below in Table 5.

Within the area shown, most roadways are considered residential with a low to moderate density. Most of the sidewalks surrounding the site comply with these standards; however there are some areas which have inadequate sidewalks or no sidewalks at all. The areas of inadequate sidewalks that are expected to have the greatest effect on residents and patrons of the development are the sidewalks along Florida Avenue. However, as discussed later in this section, pedestrian conditions are expected to improve along Florida Avenue. DDOT is aware of the safety concerns associated with Florida Avenue and has initiated the *Florida Avenue Multimodal Transportation Study*. Through this study, DDOT is evaluating safety, streetscape, and operational enhancements along the roadway between New York Avenue and H Street, NE, with the vision of improving safety for pedestrian and bicyclists while ensuring all users have safe access within and through the corridor

ADA standards require that all 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 the figure, under existing conditions, there are some issues with crosswalks and curb ramps near the site; however, several of these issues will be remedied through improvements from the *Florida Avenue Multimodal Transportation Study*.

Proposed Pedestrian Facilities

In the vicinity of the site, there are proposed streetscape improvements along 6th Street and Florida Avenue, in coordination with the ongoing *Florida Avenue Multimodal Transportation Study*. Although the final design has not been determined at this time, all potential alternatives result in pedestrian improvements along both roadways.

Under existing conditions, Florida Avenue operates as a 6-lane roadway. The majority of sidewalks are narrow and within the quarter-mile pedestrian study area, no buffers are provided. The sidewalk conditions in conjunction with the high volumes and high speeds along Florida Avenue result in an intimidating experience for pedestrians. The proposed recommendations

Table 5: Sidewalk Requirements

Street Type	Minimum Sidewalk Width	Minimum Buffer Width
Residential (Low to Moderate Density)	6 ft	4 ft (6 ft preferred for tree space)
Residential (High Density)	8 ft	4 ft (6 ft preferred for tree space)
Commercial (Non-downtown)	10 ft	4 ft
Downtown	16 ft	6 ft



include reducing the number of vehicular lanes and using this extra space to support additional and improved pedestrian space.

SITE IMPACTS

This section summarizes the impacts of the development on the overall pedestrian operations within and surrounding the Market.

Pedestrian Trip Generation

The Highline at Union Market development is expected to generate 16 walking trips (5 inbound, 11 outbound) during the morning peak hour and 25 walking trips (16 inbound, 9 outbound) during the afternoon peak hour. The origins and destinations of these trips are likely to be:

- Employment opportunities where residents can walk to work.
- Retail locations, such as Union Market and other retail sites within NoMa and along H Street.
- Customers patronizing on-site retail.

In addition to these trips, the transit trips generated by the site will also generate pedestrian demand between the Highline at Union Market site and nearby transit stops. The majority of these transit riders will be walking to Florida Avenue to access Metrobus Service or to the Metrorail portals at 2nd and N Street, NE or Delaware Avenue and M Street, NE.

Based on these origins/destinations, most pedestrian trips generated by the development will be traveling south of the site, along Florida Avenue or 3rd Street.

Pedestrian and Vehicular Interactions

Vehicular access to the site, including passenger cars and trucks, will be from an existing curb cut at the signalized 3rd Street/Florida Avenue intersection. Placement of the vehicular access at 3rd Street and Florida Avenue is the most beneficial for the overall operations of the site. The presence of the traffic signal at the 3rd Street and Florida Avenue intersection allows for better access for vehicular, bicycle, and pedestrian traffic to the site and creates a safer environment for pedestrians and cyclists.

Although vehicular access off 3rd Street and Florida Avenue is the best location for overall operations of the site, much of the site-generated pedestrian trips will also be traveling through this intersection. Therefore, it is vital that the intersection

provide a safe pedestrian environment. Under existing conditions, the intersection of 3rd Street and Florida Avenue is signalized with crosswalks on all approaches, with the exception of the southbound approach from the existing fast food restaurant. Field reviews indicate that curb ramps at this location currently comply with ADA requirements. The Applicant will ensure that a crosswalk and adequate pedestrian ramps will be provided across the southbound approach (or site entrance) to the 3rd Street/Florida Avenue intersection with the redevelopment of the site.

3rd Street south of the site provides complete sidewalk connections on the east side to and beyond M Street with further connections to the southern portal of the NoMa Metro Station. However, the northern portion of the sidewalk on the west side of 3rd Street does not exist. This portion is expected to be constructed by another developer when the property fronting that section of 3rd Street is redeveloped.

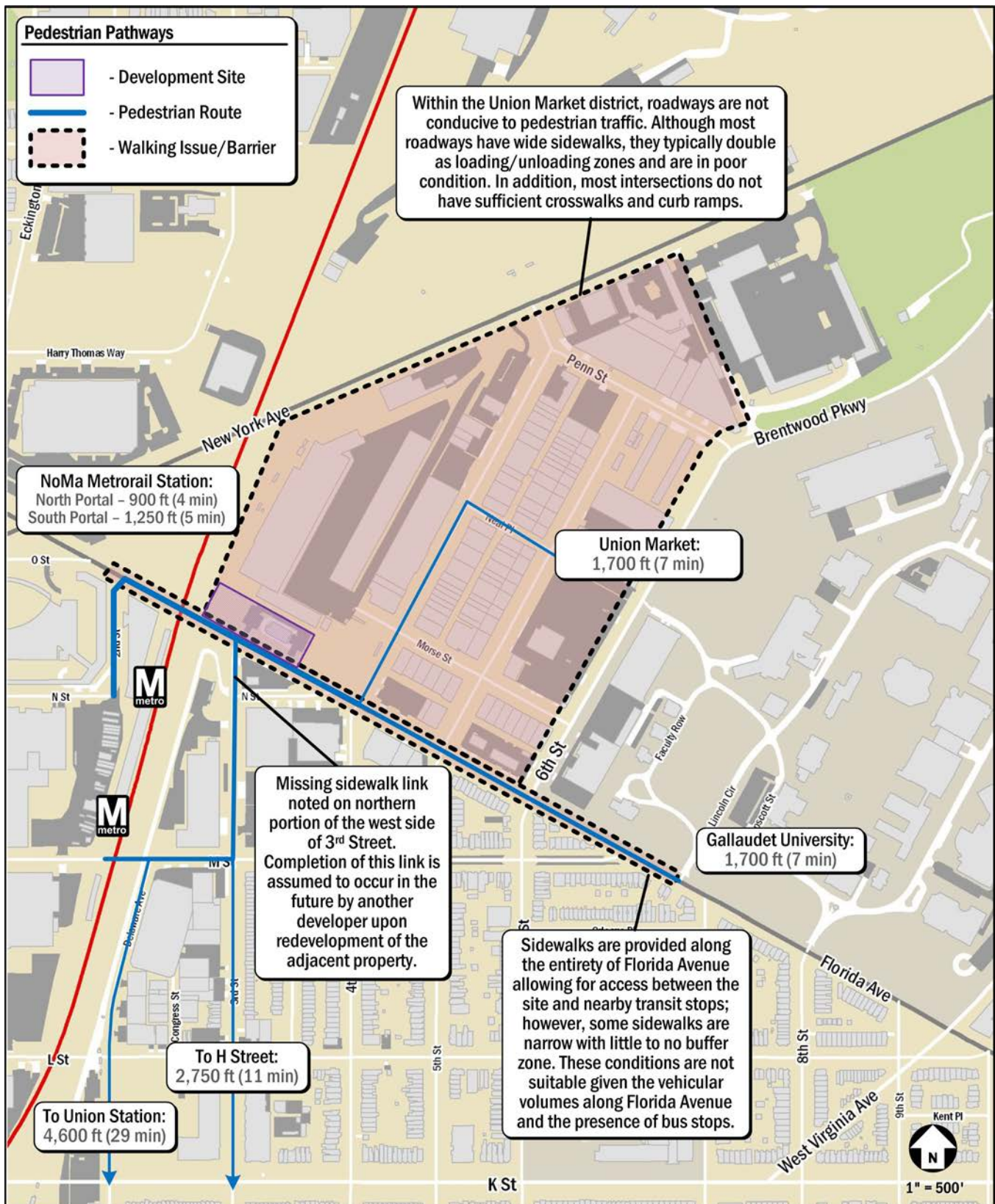


Figure 11: Pedestrian Pathways

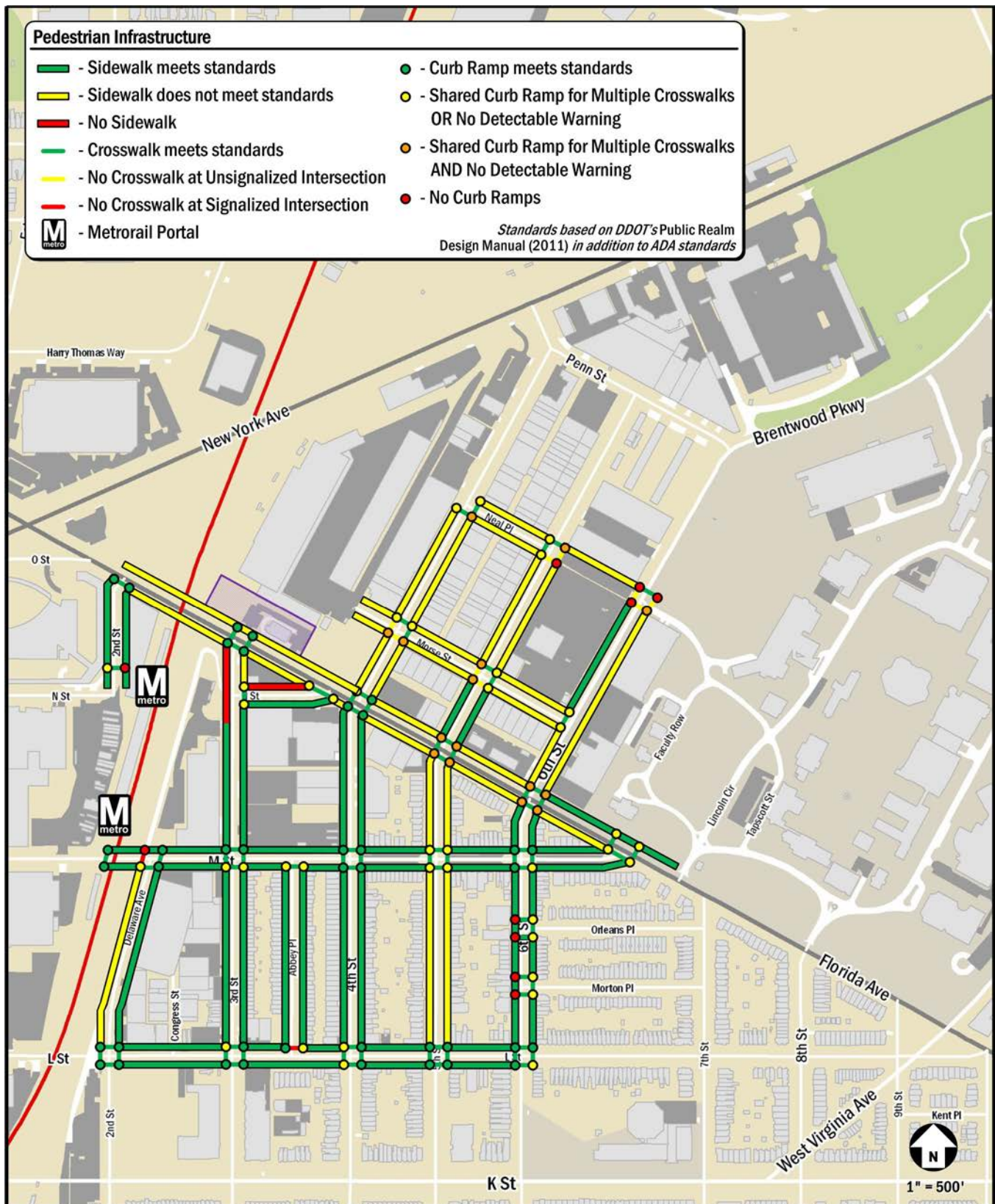


Figure 12: Existing Pedestrian Infrastructure

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:

- There are multiple high-quality bicycle facilities within the vicinity of the site.
- New protected bicycle infrastructure will likely be implemented near the site in the coming years that will further improve the cycling conditions in the area.
- There are several bicycle-focused elements of the development plan that will encourage cycling as a safe and effective transportation option for residents and patrons of the development.
- Given the existing and proposed bicycle infrastructure in the study area, the site-generated bicycle trips will not result in detrimental impacts to the bicycle system.

EXISTING BICYCLE FACILITIES

The site has excellent connectivity to existing on- and off-street bicycle facilities. Northbound bicycle lanes along 6th Street, NE and southbound bicycle lanes along 4th Street, NE provide two-way bicycle circulation between the site and the Navy Yard neighborhood in addition to providing a connection to the east-west bicycle facilities on I Street and G Street, NE. In addition, bicycle facilities along 6th Street, NE have been extended to include a two-way cycle track between Florida Avenue and Penn Street, NE. The site is located two blocks from the Metropolitan Branch Trail, an eight-mile, multi-use trail which provides on- and off-street bike facilities along the Red Line between Union Station and Silver Spring. The Metropolitan Branch Trail also provides connections to many east-west bicycle connections such as the R and Q Street bike lanes, which run eastbound and westbound, respectively. Additionally, south of the site, the Metropolitan Branch Trail connects the site to the E Street, NW bike lane. Figure 13 illustrates existing and planned bicycle facilities in the area.

Given the existing use of the site, little bike traffic is currently observed and thus no bike parking is currently provided in the direct vicinity of the site. Cyclists that do bike to the existing site are observed using street signs or similar objects to secure their bicycles.

In addition to personal bicycles, the Capital Bikeshare program provides an additional cycling option for residents and patrons of the Highline at Union Market development. The Bikeshare program has placed over 300 bicycle-share stations across Washington, DC, Arlington and Alexandria, VA, and most recently Montgomery County, MD with over 2,500 bicycles provided. There is one station located within a quarter-mile of the site at 6th Street and Neal Place, NE, supplying 23 docks. In addition, there are three stations within a half mile that supply a total of 57 docks: 8th Street & Florida Avenue at Gallaudet University, M Street & Delaware Avenue at the NoMa Metrorail station, and 1st Street & M Street. Figure 13 identifies existing station locations in the study area.

PROPOSED BICYCLE FACILITIES

As discussed previously, the *Florida Avenue Multimodal Transportation Study* is currently in the process of being completed by DDOT. This study focuses on the Florida Avenue corridor between New York Avenue and H Street and will evaluate safety, streetscape, and operational improvements for all users of the corridor. Four alternatives have been conceived for Florida Avenue and 6th Street and one, or a combination of multiple, will be implemented.

Along Florida Avenue, some of the improvements involve adding bicycle facilities along Florida Avenue in the form of separate bicycle lanes east of the railroad bridge. Along 6th Street, the most favorable alternative includes a two-way cycle track on the east side of the road. A temporary two-way cycle track was recently installed along 6th Street between Florida Avenue and Penn Street, but 6th Street may undergo more extensive improvements in the future. These additional improvements may include further narrowing of the travel lanes to encourage slower vehicular speeds and widening of the two-way cycle track. DDOT is also considering placing a Capital Bikeshare station near the intersection of 6th Street and Neal Place in space made available through the temporary improvements.

Along 6th Street, all improvement alternatives include some kind of bicycle facility, ranging from bicycles lanes to a two-way cycle track. Overall, the Florida Avenue and 6th Street corridors will become more bicycle-friendly as a result of the improvements.

In addition to updates along Florida Avenue and 6th Street, the *moveDC* plan outlines several other 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 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.
- **Tier 2**
Investments within this tier are not high priorities in the early years of *moveDC* implementation. They could begin moving through the Project Development Process if there are compelling reasons for their advancement.
- **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 Highline at Union Market development, this report will focus on the Tier 1 recommendations within the vicinity of the site. These include the proposed extension of the M Street cycle track from Thomas Circle, NW to Florida Avenue, NE and a proposed bike trail along New York Avenue, NE, between Union Market and Ivy City.

Given the existing alignment of the M Street cycle track between Thomas Circle and 28th Street NW, this extension (ultimately connecting Georgetown with NoMa) would provide a safe and convenient east-west connection through the heart of downtown. An extension of the M Street cycletrack would provide a more proximate, protected, and extensive east-west connection for residents and visitors of the Highline at Union Market than the existing E Street G Street, and I Street east-west bicycle lanes.

Currently, New York Avenue serves as a vehicle-centric roadway, but provides convenient access to many residential, office, and retail destinations in neighborhoods to the east. A multi-use trail along New York Avenue between Union Market and Ivy City would open up these areas to more modes of transportation and promote economic development in these neighborhoods.

ON-SITE BICYCLE FACILITIES

The site will provide a substantial amount of short- and long-term bicycle parking. Short-term bicycle parking will be placed along the sidewalk on Florida Avenue, near retail entrances. The development will provide 105 long-term secure bicycle parking spaces, located on the first level of the development, adjacent to the loading facilities, with convenient access to the lobby. These numbers are based on the DC Zoning Regulations, which state that new residential building owners shall provide at least one secure bicycle parking space for every 3 residential units.

SITE IMPACTS

The Highline at Union Market site is expected to generate 7 bicycle trips (3 inbound, 4 outbound) during the morning peak hour and 10 bicycle trips (7 inbound, 3 outbound) during the afternoon peak hour. Although bicycling will be an important mode for getting to and from the site, with significant bicycle facilities located on site and quality routes to and from the site, the impacts from bicycling will be relatively less than impacts to other modes due to the low overall volumes of bicyclists.

Overall, the development is not expected to have a negative impact on bicycle facilities in the area.

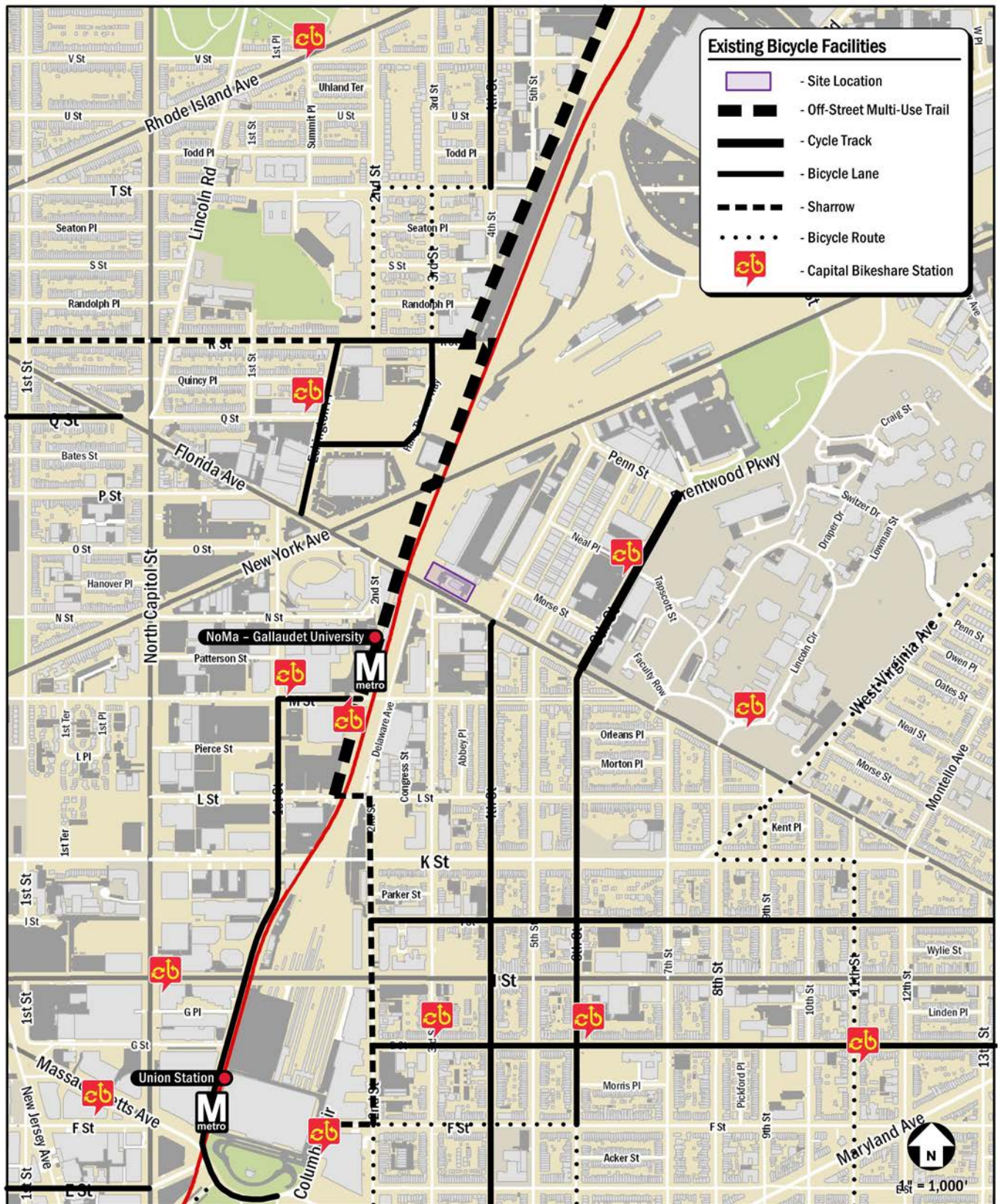


Figure 13: Existing Bicycle Facilities

CRASH DATA ANALYSIS

This section of the report reviews available crash data within the study area, reviews potential impacts of the 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 study area intersections. DDOT provided three years of intersection crash data, from 2011 to 2013, for most intersections in the study area. The data that was provided 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 7.

According to the Institute of Transportation Engineer's *Transportation Impact Analysis for Site Development (2010)*, a crash rate of 1.0 or higher is an indication that further study is required. Based on the data provided, one intersection in this study area meets this criterion (as shown in red in Table 7 and detailed in Table 6), at Florida Avenue and 3rd Street, NE.

The crash summary data in Table 7 shows one intersection with a crash rate over 1.0 crashes per million entering vehicles – the

Table 7: Intersection Crash Rates (2011 to 2013)

Intersection	Total Crashes	Ped Crashes	Bike Crashes	Rate per MEV*
1. Florida Avenue & 6th Street NE	24	1	0	0.92
2. Florida Avenue & 5th Street NE	6	1	0	0.35
3. Florida Avenue & 4th Street NE	18	0	0	0.97
4. Florida Avenue & 3rd Street NE	48	1	2	3.26
5. Florida Avenue & O Street NE^	0	0	0	0.00
6. Florida Avenue & New York Avenue NE^	0	0	0	0.00
7. Florida Avenue & 1st Street NE^	0	0	0	0.00

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

^ - As of the publish date of this report, crash data has not been provided from DDOT for this intersection.

rate which is considered a threshold for further analysis, based on the data provided by DDOT. 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 issues. 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 this intersection at Florida Ave. and 3rd Street, NE, 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 some possible causes. Table 6 contains a breakdown of crash types reported for the seven intersections with a crash rate over 1.0 per MEV.

POTENTIAL IMPACTS

This section reviews the single location with existing crash rates over 1.0 MEV and reviews potential impacts of the proposed development.

Table 7: High Crash Rate Intersections by Crash Type

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
Florida Avenue & 3rd Street NE	3.26	6 13%	5 10%	2 4%	18 38%	11 23%	0 0%	0 0%	1 2%	0 0%	1 2%	0 0%	0 0%	0 0%	4 8%	48

- Florida Avenue & 3rd Street NE

This intersection was found to have a crash rate of 3.26 crashes per MEV over the course of the 3-year study period. The majority of crashes at this intersection were rear-ended and side-swiped vehicles. DDOT is in the process of completing a safety study along the Florida Avenue corridor between New York Avenue and H Street. It is expected that more in depth crash analyses along the corridor associated with DDOT's study will result in improved safety at this intersection, and thus decrease the number of crashes. It should be noted that crash data provided by DDOT does not contain the level of detail to determine the impact that the confined lanes created by the Florida Avenue underpass have on the crash rate. The traffic signal located at this intersection, combined with the small number of left turns from Florida Avenue into the site during the peak hours (two morning peak hour trips and seven afternoon peak hour trips), will allow the site access for the Highline at Union Market PUD to function adequately at this intersection.

Overall, the combination of thoughtful site design elements and the *Florida Avenue Multimodal Transportation Study* provide the opportunity to greatly improve the overall transportation operations in the area.

SUMMARY AND CONCLUSIONS

The TIS for the proposed Highline at Union Market development, Zoning Case Number 15-01, reviewed the transportation aspects of the PUD application. This report concluded that **the PUD will not have a detrimental impact** to the surrounding transportation network, assuming completion of all background improvements and site improvements.

The purpose of this study is to evaluate whether the PUD will generate a detrimental impact to the surrounding transportation network. This evaluation is based on a technical comparison of the existing conditions and two future conditions: 2018 future background conditions without the PUD, and 2018 future conditions with the PUD. This report concludes that **the PUD will not have a detrimental impact** to the surrounding transportation network, assuming that all background improvements are executed, all planned site design elements are implemented, and all mitigation measures are incorporated into the PUD application.

Proposed PUD

The Highline at Union Market PUD proposes to replace an existing fast food building (Burger King) with a 12-story mixed-use building containing 9,880 sf of ground-floor retail space and approximately 315 residential units.

The ground-floor retail is designed to provide an engaging street retail experience. The retail located along Florida Avenue will be filled with shops and restaurants whose activity will spill out onto the sidewalk – characterized by a wide pedestrian zone and vibrant outdoor seating areas. The retail spaces will be accessed through storefronts on Florida Avenue that will bring new life to the neighborhood. The residential component will be comprised of floors two through twelve of the building and will also include numerous interior amenity spaces for residents.

Pedestrian access will be from Florida Avenue. A below-grade parking garage will serve the site, accessed from an existing curb cut at the signalized Florida Avenue/3rd Street intersection. The garage will provide 143 parking spaces, which will be designated primarily for residents and also for retail employees. Loading activities and service vehicle parking would occur within a newly created loading dock accessed from the parking garage entrance at the signalized Florida Avenue/3rd Street intersection.

At present, the Highline at Union Market site is occupied by a Burger King fast food restaurant and a small surface parking lot. The existing building is currently operational and generates ample trips to the neighborhood. The existing fast food restaurant is accessed via two curb cuts; one which will be reused by the Highline at Union Market at the signalized Florida Avenue/3rd Street intersection, and a second curb cut approximately 150 feet east of the intersection that will be abandoned upon redevelopment.

This project also proposes to implement public space improvements along Florida Avenue in front of the site, including new street trees, plantings, bike racks and streetlights.

Parking

The PUD will include a below-grade parking garage with 143 parking spaces accessed from an existing curb cut at the signalized Florida Avenue/3rd Street intersection. The 143 parking spaces are planned to be primarily for residential use, which equates to a parking ratio of 0.45 spaces per unit. This amount of parking is typical for new residential developments in the District, especially ones with multi-modal access such as this project's location. Given that the retail in the building is primarily intended to be neighborhood serving, no on-site parking was assumed to be reserved for retail customers, but the garage will be available for retail employee parking.

Loading Facilities

The loading area provided in the PUD is adequate to serve the expected loading demand. Zoning Regulations state that a building of this size must contain one 30' berth for the retail use in addition to one 55' berth and a 20' service and delivery space for the residential use. The PUD proposes one 30' berth and one 20' service and delivery space, which will be adequate to serve the residential and retail uses of the development. None of the tenants will be large enough to require 55' truck service, instead resupplying using smaller trucks on a regular basis.

Trash operations will also occur from the driveway at the 3rd Street/Florida Avenue with trash trucks entering the site, picking up, and leaving via the same entrance. Trash facilities are located adjacent to the loading areas.

All trucks can access the loading docks without negatively impacting public space between the docks and the nearest DDOT designated truck routes. All trucks will be able to



sufficiently maneuver in and out of the driveway front-in, front-out.

Vehicular Impacts

The report includes an analysis of potential vehicular impacts of the Highline at Union Market PUD and recommendations for improvements and mitigation measures. The following conclusions are reached:

- The existing study area roadways generally operate under acceptable capacity conditions during the morning and afternoon peak hour.
- Existing areas of concern for roadway capacity are primarily focused along the heavily trafficked commuter routes: New York Avenue NE and Florida Avenue NE.
- The addition of the trips generated by the background developments has a negligible impact on the study area roadways.
- The background roadway improvements due to the *Florida Avenue Multimodal Study* are projected to have negligible impact on the roadway capacity in the study area.
- Impacts attributable to the PUD are minimal and have no significant effect on the surrounding roadway network.
- **The Highline at Union Market PUD will have no detrimental impacts to the study area.**

Crash Data Analysis

Crash data for the past three years was analyzed at the study intersections. The analysis came to the following conclusions:

- The combination of thoughtful site design elements and the *Florida Avenue Multimodal Transportation Study* provide the opportunity to greatly improve the overall transportation operations in the area.
- One intersection within the study area was found to have an elevated crash rate:
 - The intersection of 3rd Street and Florida Avenue serves the site and is currently being studied by DDOT as a part of the *Florida Avenue Multimodal Transportation Study*. Multimodal safety along the Florida Avenue corridor in the vicinity of the site is expected to improve as a result of the implementation of the study.

Transit

The following summarizes the site's access to transit and the expected site impacts:

- The site is served by the Metrorail Red Line via the NoMa-Gallaudet University Station two blocks from the site, and four Metrobus routes that travel along Florida Avenue.
- The Metrobus routes along Florida Avenue have been studied by DDOT and WMATA, with proposed recommendations for improved service including a Metro Express route with limited-stop service.
- Transit-trips generated by the site will not have a detrimental impact on the surrounding transit system.

Pedestrian

Based on an analysis of the existing pedestrian conditions, a review of the background improvements and planned site design elements, the following conclusions were made:

- The majority of pedestrian facilities outside of the Union Market district provide a pedestrian friendly environment. Those that do not, particularly along Florida Avenue, are being studied to improve pedestrian safety as part of DDOT's *Florida Avenue Multimodal Transportation Study*.
- Within the Union Market district, pedestrian facilities reflect the industrial origins of the site. The Highline at Union Market development will greatly improve pedestrian conditions adjacent to the site by increasing the amount of pedestrian space and adding trees, plantings, bike racks and streetlights.
- 3rd Street south of the site provides complete sidewalk connections on the east side to and beyond M Street with further connections to the southern portal of the NoMa Metro Station. However, the northern portion of the sidewalk on the west side of 3rd Street does not exist. This portion is expected to be constructed by another developer when the property fronting that section of 3rd Street is redeveloped.

Bicycle

The bicycle facilities within the study area were evaluated and the following conclusions were made in regards to the existing and proposed bicycle facilities and the overall impact of the site on bicycle infrastructure:

- There are multiple high-quality bicycle facilities within the vicinity of the site.
- New protected bicycle infrastructure will likely be implemented near the site in the coming years that will further improve the cycling conditions in the area, including a potential bike trail from Union Market to Ivy



City, and a potential extension of the M Street cycletrack from Thomas Circle, NW to Florida Avenue, NE.

- There are several bicycle-focused elements of the development plan that will encourage cycling as a safe and effective transportation option for residents and patrons of the development, including short- and long-term bicycle parking.
- Residents of the building will have a secure bicycle room on the first level of the building to encourage cycling.
- Given the existing and proposed bicycle infrastructure in the study area, the site-generated bicycle trips will not result in detrimental impacts to the bicycle system.

Transportation Demand Management

The Highline at Union Market PUD will include an extensive TDM plan in order to help minimize its potential traffic impacts to the surrounding neighborhood. The following TDM plan is based on the DDOT expectations for TDM programs, modified to fit the specific needs of the PUD and transportation network. The Applicant proposes that upon construction, the project incorporate several TDM measures, including the following:

- The Applicant shall designate a TDM coordinator, who is responsible for organizing and marketing the TDM plan and who will act as a point of contact with DDOT.
- All parking on site will be priced at market rates at minimum, defined as the average cost for parking in a 0.25 mile radius from the site. All residential parking will be unbundled from the costs of leasing apartments or purchasing condos.
- Move-in transportation welcome packets will be distributed to each resident upon move-in that includes information such as:
 - Promotion for DDOT's goDCgo website.
 - Brochures on carsharing, ridesharing, and bikesharing programs.
 - Tips on apps and websites to use to navigate public transportation.
 - Maps for nearby bicycle trail routes and bike lanes.
 - Maps for Metro, bus and streetcar routes.
 - Advice to efficiently maintain cars to maximize fuel efficiency.
- The property will hold annual used bicycle drives for residents to donate bicycles to Gearin' Up Bicycles, a nearby non-profit 501(c)(3) community bike shop located in Ward 5 that creates career development

opportunities and teaches essential workplace skills to teenagers from underserved communities, while encouraging cycling as a practical, healthy means of transportation. Gearin' Up provides access to quality, affordable, used bicycles for those in need and hosts community outreach programs throughout the year.

- Power stations will be provided for electric vehicle car charging capability in up to 5% of garage parking spaces.
- Bicycle parking will be provided meeting existing regulatory minimums. The bicycle room will include a bike maintenance area with a bike pump and set of tools.
- The residential building lobby will display transit and other alternate mode information, using an electronic message board.
- Each new resident will have the option to receive a one-time, one-year car-sharing or bike-sharing program membership. This benefit will discontinue upon the earliest to occur of a) five years after the issuance of the Certificate of Occupancy, or b) upon the total aggregate benefit value reaching \$15,000.
- Priority parking spaces in the garage for fuel-efficient vehicles.
- Contribution of \$10,000 to a study being commissioned by the NoMa BID regarding improving safety and connections for the Metropolitan Branch Trail.