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TRANSPORTATION IMPACT STUDY

2 EYE STREET BZA

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EXECUTIVE SUMMARY

The following report is a Transportation Impact Study (TIS) for the 2 Eye Street project. This report reviews the transportation aspects of the projects Board of Zoning Adjustment (BZA) Application in which the Applicant is seeking loading relief. The BZA Case Number is 19175.

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

Proposed Project

This BZA application is for the mixed-use 2 Eye Street development. The Applicant is proposing to develop the existing McDonalds (with a double drive-thru and 60 parking spaces) on the northeast corner of South Capitol Street and Eye Street into a mixed-use project including residential and retail uses. The site is bounded by South Capitol Street to the west, Eye Street to the south, an existing driveway to the east, and adjacent parcels to the north. The development program includes 558 residential units and a maximum of 2,999 square feet of ground-floor retail space. There will be a below-grade parking garage that will include approximately 263 parking spaces for use by the residential component.

Parking and loading access will be off of Eye Street. One curb cut will lead to a vehicular turnaround that will provide access to both the parking garage and the loading area. The development will supply two (2) 30' loading berths and one (1) 20' delivery/service space. This amount of loading space is expected to be sufficient based on the size of the residential units and the projected daily loading demand at the site.

Multi-Modal Impacts and Recommendations

Transit

The site is well-served by regional and local transit services such as Metrorail, Metrobus, and Circulator. The site is approximately a quarter-mile from the nearest Navy Yard Metrorail Station portal at M Street and Half Street and many

Metrobus stops are located near the site along M Street and South Capitol Street.

Although the 2 Eye Street development will be generating new transit trips on the network, the existing facilities have enough capacity to handle the new trips. The Navy Yard Metrorail station and all nearby Metrobus lines do not have existing capacity concerns are not expected to as a result of the 2 Eye Street development.

Pedestrian

The site is surrounded by a well-connected pedestrian network. Most roadways within a quarter-mile radius provide sidewalks and acceptable crosswalks and curb ramps, particularly along the primary walking routes. There are some pedestrian barriers surrounding the site such as limited connectivity due to the Interstate to the north and the Anacostia River to the south.

As a result of the 2 Eye Street development, pedestrian facilities will be improved. The number of curb cuts along Eye Street will be reduced from two to one, improving the pedestrian environment. Also, the existing sidewalk along Eye Street that currently does not meet DDOT standards, will be improved such that they meet or exceed DDOT requirements and provide an improved pedestrian environment.

Bicycle

The site is located along Eye Street which provides a primary east-west bicycle lane. The site is also located just blocks away from additional trails, bike lanes, and signed bike routes such as the Anacostia Riverwalk Trail to the south and north-south bike lanes along 4th Street SE, 1st Street SE, and 4th Street SW. The site is served by the Capital Bikeshare program which provides an additional cycling option for residents, employees, and patrons of the 2 Eye Street development.

On site, the 2 Eye Street development will provide short-term bicycle parking along the perimeter of the site and secure long-term bicycle parking in the parking garage.

Vehicular

The 2 Eye Street site is well-connected to regional roadways such as I-395, I-695, and I-295, primary and minor arterials such as South Capitol Street, M Street, and I Street, and an existing network of collector and local roadways.

In order to determine if the proposed development will have a negative impact on this transportation network, this report

projects future conditions with and without the development of the site and performs analyses of intersection delays. These delays are compared to the acceptable levels of delay set by DDOT standards to determine if the site will negatively impact the study area.

The analyses conclude that the 2 Eye Street development will not have adverse impacts on the surrounding transportation network. All of the locations in the study area with unacceptable levels of delay occur in scenarios with and without the development of the project. That said, improvements to the intersection of South Capitol Street and Eye Street were evaluated as part of this report in order to improve overall operations along the Eye Street corridor. Potential improvements to this intersection include:

- The conversion of the eastbound lane configuration from a shared left-thru lane and a right-turn lane to an exclusive left-turn lane and a thru-right lane.
- Adjustments to the signal times such that some green time is shifted from South Capitol Street to Eye Street.

These changes greatly reduce delay at the intersection and reduce the excessive queue lengths along Eye Street.

In addition to these capacity improvements, signage and striping changes are proposed along Eye Street between South Capitol Street and Half Street to best integrate the site driveway into the existing roadway network and reduce any operational or safety concerns.

INTRODUCTION

This report is a Transportation Impact Study (TIS) in support of the Board of Zoning Adjustment (BZA) application for the 2 Eye Street project, in which the Applicant is seeking loading relief. The project is located in the Southeast quadrant of Washington DC at the northeast corner of South Capitol Street and Eye Street. This TIS is submitted into the zoning records for this case, as an evaluation of the transportation impacts of construction of the project. The BZA Case Number is 19175.

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

PURPOSE OF STUDY

This report reviews the transportation elements of the project, supplementing material provided in the Site Plan Package that accompanied the BZA Application.

The purpose of this report is to:

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

Proposed Project

This BZA application is for the mixed-use 2 Eye Street development. The Applicant is proposing to develop the

existing McDonalds (with a double drive-thru and 60 parking spaces) on the northeast corner of South Capitol Street and Eye Street into a mixed-use project including residential and retail uses. The site is bounded by South Capitol Street to the west, Eye Street to the south, an existing driveway to the east, and adjacent parcels to the north. The development program includes 558 residential units and a maximum of 2,999 square feet of ground-floor retail space. There will be a below-grade parking garage that will include approximately 263 parking spaces for use by the residential component.

Parking and loading access will be off of Eye Street. One curb cut will lead to a vehicular turnaround that will provide access to both the parking garage and the loading area. The development will supply two (2) 30' loading berths and one (1) 20' delivery/service space. This amount of loading space is expected to be sufficient based on the size of the residential units and the projected daily loading demand at the site.

CONTENTS OF STUDY

This report contains nine 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 project, including the site plan and access. This chapter also contains the proposed Transportation Demand Management (TDM) plan for the site.
- *Trip Generation*
This section outlines the travel demand of the proposed project. It summarizes the 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 safety impacts of the project. This includes a review of crash data at intersections in the study area and a qualitative discussion on how the development will influence safety.

- *Summary and Conclusions*

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

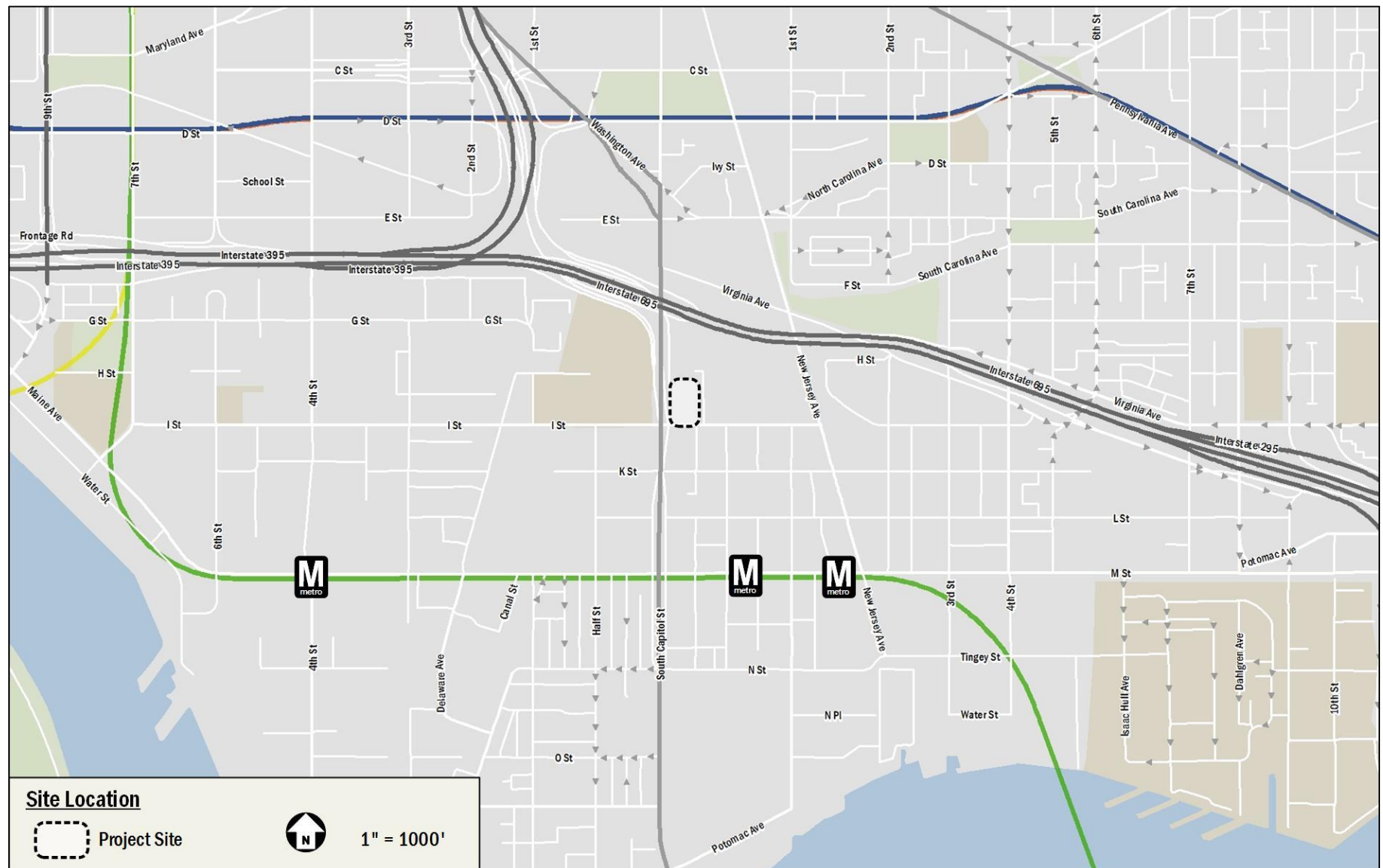


Figure 1: Site Location

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 will accommodate the residents, employees, and patrons of the proposed 2 Eye Street development.
- The site is well-served by public transportation with access to the Metrorail Green Line and several local and regional Metrobus lines.
- There is some existing bicycle infrastructure including the Anacostia Riverwalk Trail and several bike lanes and signed routes in the vicinity of the site.
- Pedestrian conditions are generally good, particularly along anticipated major walking routes.

MAJOR TRANSPORTATION FEATURES

Overview of Regional Access

The 2 Eye Street 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 interstates such as I-395, I-695, and I-295. These interstates create connectivity to the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs. All of these roadways bring vehicular traffic within half-mile of the site, at which point arterials and local roads can be used to access the site directly.

The 2 Eye Street site has access to the Green Line via the Navy Yard Metrorail Station which provides connections to areas in the District and Maryland. The Green Line connects Branch Avenue with Greenbelt while providing access to the District core. In addition, the Green 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 South Capitol Street, M Street, I Street, and Maine Avenue. In addition, there is an existing network of connector and local roadways that provide access to the site.

The Metrobus and Circulator systems provide local transit service in the vicinity of the site, including a connection to Union Station which acts as a primary hub for Amtrak, VRE, and Marc services. As shown in Figure 4, there are thirteen bus routes that service the site. In the vicinity of the site the majority of routes travel along M Street and South Capitol Street. These bus lines connect the site to many areas of the District and Maryland, including several Metrorail stations serving five of the six Lines.

There are existing bicycle facilities that connect the site to areas within the District, most notably the Anacostia Riverwalk Trail, Eye Street bike lanes, and 4th Street SE bike lanes which provide connections to the Mount Vernon Trail, Downtown DC, and other bicycle facilities. East and south of the site the Anacostia River Trail is primarily off-street, but some areas to the west require users to travel along signed routes throughout the roadway network. Other facilities include bike lanes along First Street SE, and signed bike routes along Half Street SW and 4th Street SW.

In the vicinity of the site, most roadways provide sidewalks with crosswalks present at most intersections. Anticipated pedestrian routes, such as those to public transportation stops, retail zones, and community amenities, provide acceptable pedestrian facilities; however there are some pedestrian barriers in the area that limit the overall connectivity to and from the site. A detailed review of existing and proposed pedestrian access and infrastructure is provided in a later section of this report.

Although there are some minor issues, overall the 2 Eye Street site is surrounded by an extensive local transportation network that allows for efficient transportation options via transit, bicycle, walking, or vehicular modes.

Car-sharing

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. There are multiple carshare locations located within a quarter-mile of the site; these locations are listed in Table 1.

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

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 2 Eye Street development is located within the Ballpark – Navy Yard Neighborhood. This neighborhood has a walk score of 83, a transit score of 81, and a bike score of 86. Within the neighborhood, the project location itself has a walk score of 80, transit score of 78, and a bike score of 74. Figure 2 shows the neighborhood borders in relation to the site location and displays a heat map for walkability and bikeability.

Table 1: Summary of Carshare Locations

Carshare Location	Number of Vehicles
Zipcar	
Capitol Skyline Hotel (10 I Street SW)	1 vehicle
3rd & K Street SW	3 vehicles
Enterprise Carshare	
N Place SE / First Street SE	5 vehicles
First Street SE and K Street SE	6 vehicles
Total	15 vehicles

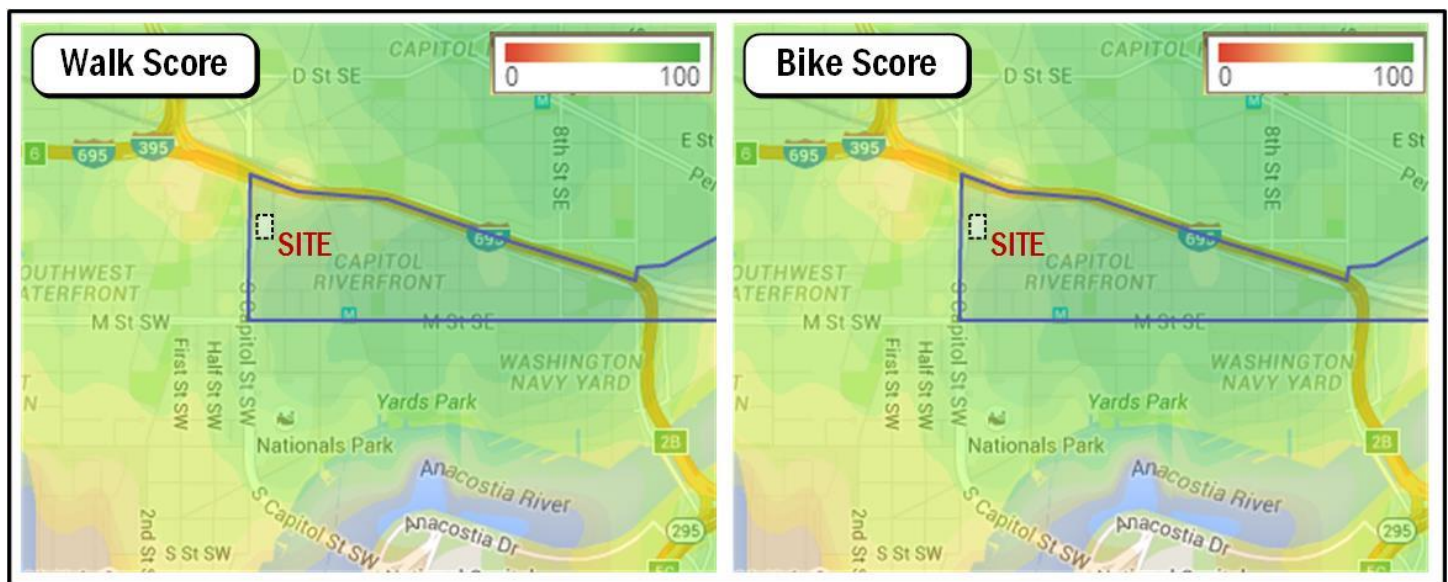


Figure 2: Summary of Walkscore and Bikescore



As represented in Figure 2, the site is situated in a neighborhood that encompasses some good and some average walk scores. However, the site is in an area that provides a better walking environment than areas to the south which observe barriers such as the Anacostia River. The site is situated in an area with good bike scores due to its proximity to bike facilities and flat topography.

Overall, the Ballpark - Navy Yard neighborhood has high walk, transit, and bike scores. Additionally, other planned developments and roadway improvements will help improve the walk and bike scores in the Ballpark - Navy Yard 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

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 having them complete by 2040. The plan hopes to achieve a transportation system for the District that includes:

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

In direct relation to the proposed development, the MoveDC plan outlines recommended transit and bicycle improvements such as a Streetcar route and new bicycle trails and cycle tracks. These recommendations would create additional multi-modal capacity and connectivity to the proposed development.

South Capitol Street Project

The purpose of the South Capitol Street project is to improve safety, mobility, and accessibility and to support economic development in the vicinity of the project. The project will: (1) correct the design and deteriorating condition of the transportation infrastructure which creates safety concerns for vehicular, pedestrian, and bicycle traffic and transit riders; (2) construct missing critical regional roadway connections for vehicles, pedestrians, and bicycles; (3) correct mobility barriers that limit access to activity centers in the study area; and (4) support economic growth in order to improve the density of employment and residential development. Ultimately, the goal of the South Capitol Street projects is to address the problems of the corridor in a way that both addresses the transportation issues, while also revitalizing the surrounding neighborhoods south of the National Mall and transforming the roadway into a grand urban gateway in to the District. The future South Capitol Street corridor will correct design deficiencies, improving safety issues for all users, including drivers, transit riders, pedestrians, and bicyclists, as well as providing key connections in the local, regional, and national transportation network.

The Preferred Alternative from the Final Environmental Impact Statement includes rebuilding South Capitol Street as a six-lane boulevard with a landscaped median west of the Anacostia River. Along South Capitol Street, at-grade intersections will be reconstructed at I, N, O, P, K, L, and M Streets. The existing ramp from northbound South Capitol Street to I-395 will also be reconstructed as an at-grade interaction. A four- to five-lane traffic oval will be constructed to connect South Capitol Street, Potomac Avenue, R Street, and Q Street. The existing Frederick Douglas Memorial Bridge will be replaced and will include bicycle and pedestrian access. An additional traffic circle will be constructed to connect South Capitol Street, Suitland Parkway, and Howard Road, and several other roadway improvements are included on the eastern/southern side of the Anacostia River.

In addition to vehicular improvements, streetscape design features will be added to project area streets, including South Capitol Street, New Jersey Avenue, and Suitland Parkway. The reconstruction of South Capitol Street will also include pedestrian and bicycle facilities, which will consist of widened sidewalks, widened curbside lanes on some streets for bicycle travel, and increased pedestrian- and bicycle-oriented



elements such as street trees, benches, and decorative streetlights. The proposed bicycle routes through the project area will consist primarily of signed bicycle routes that connect to local activity centers, as well as other area facilities such as the Anacostia Riverwalk Trail.

The South Capitol Street project will also improve access to transit already in the corridor by providing additional pedestrian and bicycle facilities, streetscape, and pedestrian-friendly amenities. The Preferred Alternative will also provide linkages between transit nodes and the local and regional bicycle network, and will support future transit (streetcar and bus service) throughout the corridor. The Preferred Alternative will be better equipped to accommodate the proposed future Anacostia Line of the streetcar transit system due to the proposed wide sidewalks, streetlights, signed bike routes, and multi-use trails.

M Street SE/SW Transportation Study

The purpose of the M Street SE/SW Transportation Study is to prepare for the substantial new growth along the M Street/Maine Avenue corridor in the near Southeast and Southwest Waterfront area. The study area is projected to see in excess of 36 million square feet of development concentrated within a 0.78 square mile core area. The premise of the study is to better integrate the area of development with the surrounding neighborhoods and to improve multimodal travel and the public realm within the neighborhood. The study area encompasses an area of approximately 1.7 square miles along the M Street SE/SW corridor and the Southwest Waterfront from 12th Street SE to 14th Street SW. The study considers existing and future transportation conditions, reviews the planned future land uses in the study area, and develops solutions for the transportation network in order to promote livable communities and to encourage reinvestment within the study area. The study recommends improvements for three conditions: near term (2013-2016), mid-term (2015-2021), and long-term (2020 and beyond).

The Draft report recommends several potential near-term projects and policy updates. The policy updates include suggestions to improve travel demand management (TDM) strategies, parking systems and regulations, transit policies, motor coach and commuter bus staging/parking, freight loading and truck routes, bicycle and pedestrian policies, and sustainable design. Potential low-cost operational and system management projects include signing and pavement marking

improvements, signal timing optimization along M Street, pedestrian and Anacostia Riverwalk Trail connectivity improvements, bicycle network improvements, transit service improvements, parking changes, and sustainability and low-impact development improvements.

For the mid-term, three multimodal projects are proposed and investigated: Alternative 1 – M Street “Main Street”, Alternative 2 – “Balanced Links” and Alternative 3 – M Street “Mobility Arterial”. Alternative 1 includes prioritizing non-automobile transportation and establishing M Street as a core premium transit corridor, which would reduce M Street to two vehicular lanes in each direction with an exclusive outer transit lane. Alternative 2 balances the transit network to provide wider coverage to the entire study area by allocating new transit services to parallel corridors while creating new bicycle facilities along the M Street corridor. Alternative 3 focuses on preserving M Street as a primarily vehicular corridor with less emphasis on alternative modes by implementing operational improvements to maximize vehicular throughput, maintaining three vehicular travel lanes in each direction, and providing a shared outer lane for streetcar and transit. The three alternatives from the Draft report will be used to develop and analyze potential “hybrid” alternatives to be implemented in the mid-term.

The long-term improvements focus on potential new connections to complete the street grid in the study area if future development (beyond 2035) were to occur in areas not currently available. The long-term options include roadway improvements in the Buzzard Point area, as well as improvements to east-west connectivity; Metrorail station capacity improvements, along with Yellow line improvements; commuter rail enhancements; and multimodal transfer centers. These options would all require further study and significant agency coordination and public involvement. The study projects that the options could possibly be implemented between 2020 and 2040.

Planned Developments

There are several potential development projects in the vicinity of the 2 Eye Street site. For the purpose of this analysis, only approved developments expected to be complete prior to 2 Eye Street with an origin/destination within the study area were included. A detailed list of all background developments considered and a description of their applicability for incorporation in the study is included in the Technical

Attachments. Of the background developments considered, five were ultimately included and are described below. Figure 5 shows the location of these developments in relations to the proposed development.

The Randall School

The Randall School development will include 550 residential units and 56,000 square feet of retail/institutional space. The development is expected to be complete prior to the 2 Eye Street development

909 Half Street SE

This development includes 400 residential units. As part of the development a private alley will be constructed connecting Eye Street and K Street. The development is currently under construction.

The Plaza on K

This development will be built in two phases: Phase 1 will have 290,000 square feet of office space and 14,000 square feet of retail space. Phase 2 will have 505,000 square feet of office space and 16,000 square feet of retail space. Only Phase 1 is expected to be complete prior to the 2 Eye Street development. The Phase 1 parking garage will be accessible from Eye Street.

Park Chelsea

Park Chelsea will be developed in two phases: Phase 1 will include 432 residential units and Phase 2 will include 336 residential units with a 35,000 square foot grocery store. Only Phase 1 is expected to be complete prior to the 2 Eye Street development.

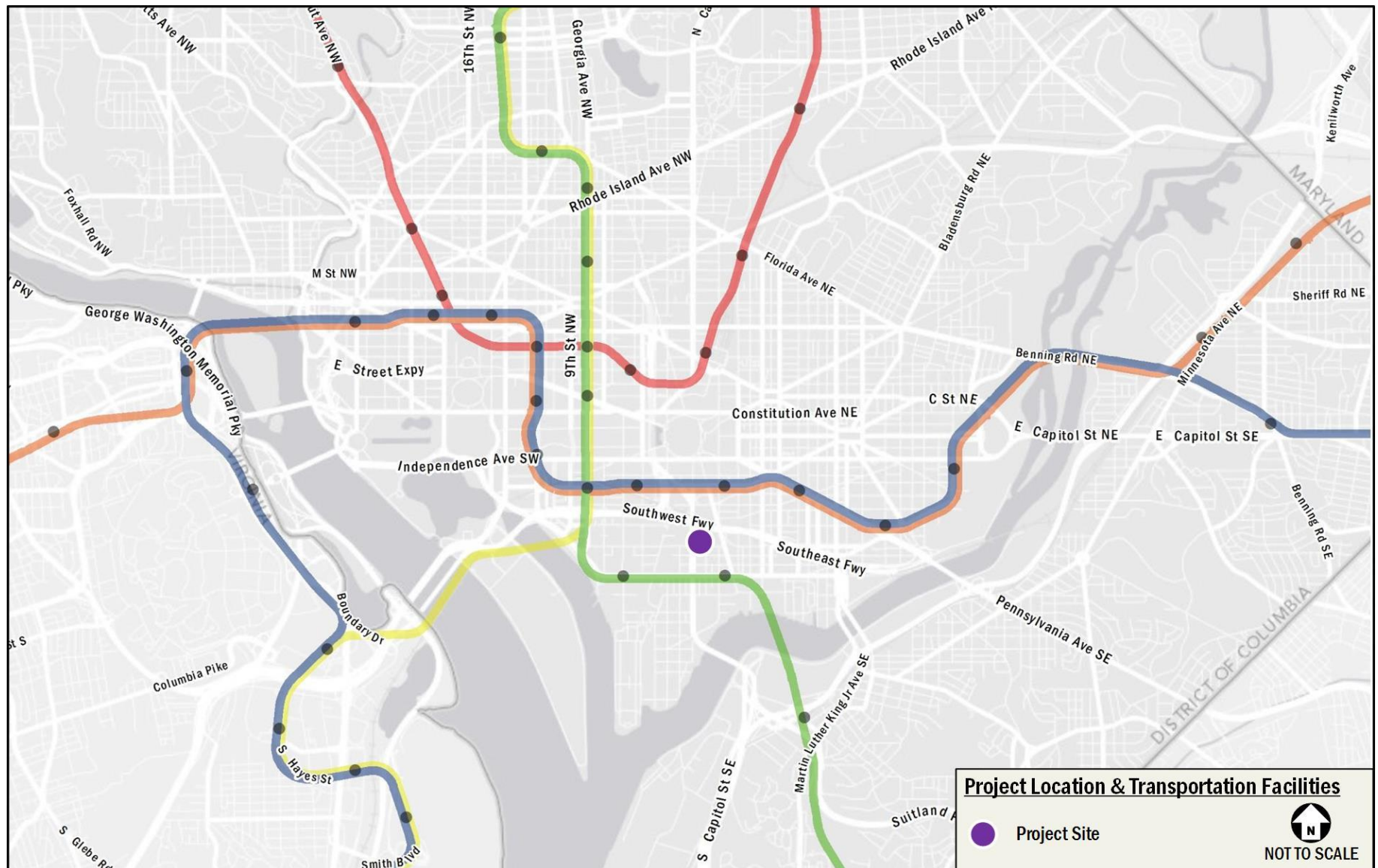


Figure 3: Major Regional Transportation Facilities

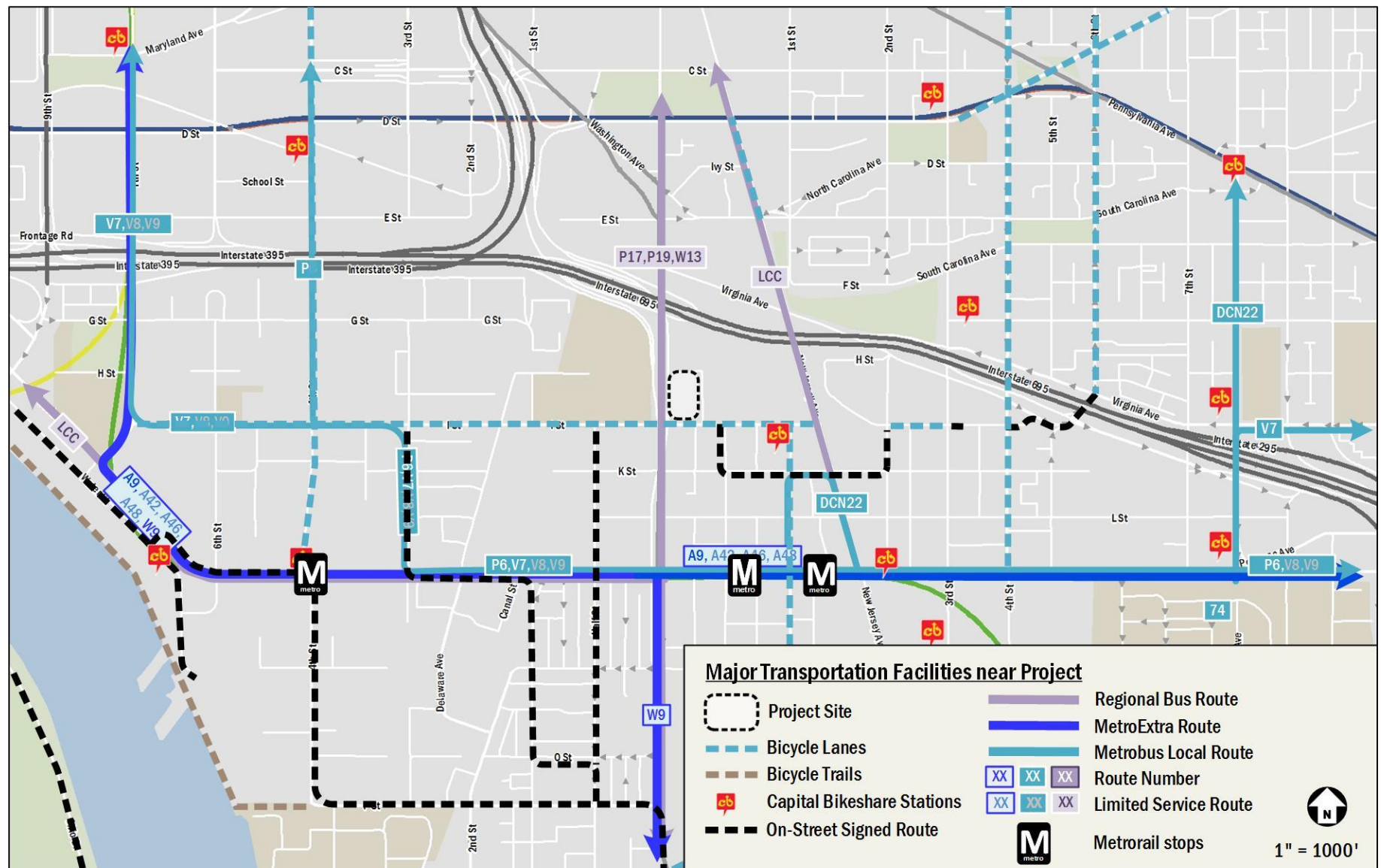


Figure 4: Major Local Transportation Facilities



Figure 5: Planned Development Map

PROJECT DESIGN

This section reviews the transportation components of the 2 Eye Street development, including the proposed site plan and access points. It includes descriptions of the site's vehicular access, loading, parking, and Transportation Demand Management (TDM) plan. It supplements the information provided in the site plans package that accompanied the BZA Application, which includes several illustrations of site circulation and layout.

Of note, in addition to the BZA Application, the proposed access will be reviewed by the Public Space Committee on January 28, 2016. Gorove/Slade compiled a separate analysis relating specifically to the site access that is included in the Technical Attachments. The analysis concluded that the site driveway can have full access operations without impacting the surrounding transportation network.

The 2 Eye Street project will replace the existing McDonalds with a mixed-use development including 558 residential units and a maximum of 2,999 square feet of ground-floor retail space. There are currently two curb cuts along Eye Street to access and egress the site. As part of the 2 Eye Street development, these curb cuts will be abandoned and one new curb cut along Eye Street will be constructed. This curb cut will provide access to the parking garage with approximately 263 parking spaces and the site's loading area. Figure 6 shows an overview of the development program and site plan elements.

ACCESS AND LOADING

All vehicular access to the site will be off of one curb cut along Eye Street. As shown in Figure 6, one shared curb cut is proposed to provide both parking and loading access to the 2 Eye Street development.

Truck routing to and from the site will be focused on South Capitol Street, which is a designated truck route and has access to the surrounding interstate system. Truck turning diagrams showing maneuvers into and out of the loading docks will be provided in a supplemental document.

According to DC zoning requirements, the residential use is required to provide one (1) 55' loading berth and one (1) 20' service/delivery space. Based on the size of the retail component, no loading berths are required by zoning. Alternatively, the development proposed to include two (2) 30' loading berths and one (1) 20' service/delivery spaces.

The amount of loading expected at the site is estimated based on the following assumptions:

- As a baseline, it is assumed that there will be three daily truck deliveries for the site as a whole (covering trash, a general shared delivery, and mail)
- Residential loading activity is estimated assuming an expected rental turnover of 18 months, with two trucks per move – one move-in and one move-out.
- A general retail store is expected to generate an additional two (2) deliveries per day over the shared deliveries.

Based on the size of the retail space, it is assumed that there will be one individual retail space. Therefore, it is expected that there will be three (3) shared deliveries per day, two (2) residential deliveries per day, and two (2) retail deliveries per day. This amounts to a total of 7 deliveries per day.

The proposed amount of loading facilities will be sufficient to accommodate all loading and service demand. Additionally, the size of the residential units will not require deliveries from trucks larger than an SU-30.

PARKING

Based on current District zoning laws, the following outlines the parking requirements for all land uses of the development:

- Residential
1 space per 4 dwelling units, amounting to a minimum requirement of 140 parking spaces
- Retail
1 space per 750 square feet of retail space in excess of 3,000 square feet, thus no retail parking is required.

The practical demand of the site, based on typical parking demands observed in the district, is 1 space per 1,000 square feet of retail space and approximately 0.4 spaces per dwelling unit. This amounts to a total of 226 spaces. Therefore the proposed development satisfies both the zoning requirements and the practical demand by supplying 263 parking spaces.

BICYCLE AND PEDESTRIAN FACILITIES

The project will include short-term public bicycle spaces along the perimeter of the site. These short term spaces will include inverted U-racks placed in high-visibility areas. The Applicant is

willing to work with DDOT in selecting locations for the racks in public space.

The project will also include secure long-term bicycle parking within the parking garage. According to the *DC Zoning Regulations and Bicycle Commuter and Parking Expansion Act of 2007*, all residential developments must provide at least one secure bicycle parking space for each 3 residential units. In addition the number of bicycle parking spaces for all other land uses amount to 5 percent of the automobile parking spaces required. Based on these regulations the development must provide at least 186 bicycle parking spaces. The development will at minimum meet these requirements.

Pedestrian facilities will be improved along the perimeter of the site. Sidewalks along Eye Street will be improved to comply with DDOT standards where they currently do not exist.

TRANSPORTATION DEMAND MANAGEMENT (TDM)

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

The Transportation Demand Management (TDM) plan for the 2 Eye Street development is based on the DDOT expectations for TDM programs. The Applicant proposes the following TDM measures:

- The Applicant will comply with Zoning requirements to provide bicycle parking/storage facilities. This includes secure parking located in the garage for residents.
- The Applicant will unbundle the cost of residential parking from the cost of lease or purchase.
- The Applicant will identify a TDM Leader (for planning, construction, and operations). The TDM Leaders will work with residents in the building to distribute and market various transportation alternatives and options.
- The Applicant will dedicate two spaces in the residential garage for car sharing services to use with right of first refusal. These spaces will be convenient to the garage entrance, available to members of the car sharing 24 hours a day, seven days a week, without restrictions (the garage may be gated – members of the service would

have access to the spaces via a key pad combinations to a pass code system or other similar device).

- The Applicant will place electronic message boards in the building lobby that provide real-time information on nearby transit services.

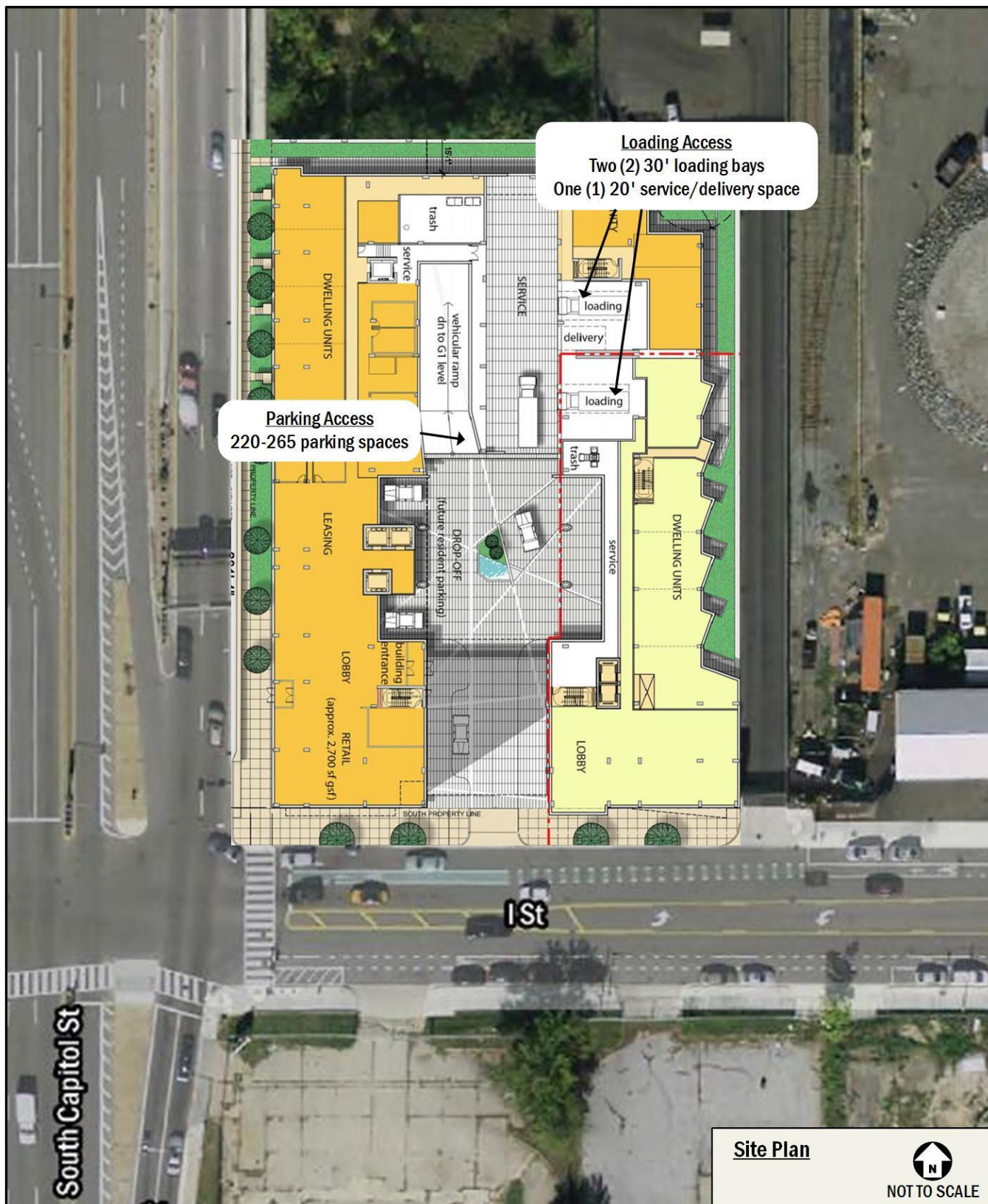


Figure 6: Site Plan

TRIP GENERATION

This section outlines the transportation demand of the proposed 2 Eye Street project. It summarizes the existing and projected trip generation of the site by land use (residential and retail) and by mode, which forms the basis for the chapters that follow.

The existing McDonalds' trip generation was determined by collecting vehicular counts at the two existing site access points along Eye Street. The existing trip generation during the morning and afternoon peak hours (based on the peak hours at the intersection of South Capitol Street and Eye Street) was determined for the McDonalds as shown in Table 2. Of note, trip generation for non-auto uses was not determined for the existing McDonalds; however, it is assumed that the vast majority of trips are vehicle-based, given the reliance on the drive-thru.

Weekday peak hour trip generation for the proposed 2 Eye Street development was 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 (Trip Generation provides data for non-urban, low transit use sites) and to generate trips for multiple modes including vehicle, transit, biking, and walking.

Residential trip generation was calculated based on ITE land use 220, Apartment, splitting trips into different modes using assumptions derived from census data for the residents that currently live near the site and mode splits used for residential developments that have recently been studied. Mode splits were adjusted based on the anticipated parking supply for residents.

Retail trip generation was calculated based on ITE land use 820, Shopping Center. Rates based on average vehicle trip ends per 1,000 square feet of gross leasable area were used. Mode splits for the retail portion of the site were based on information contained in WMATA's 2005 *Development-Related Ridership Survey*.

A summary of mode splits for all land uses within the development is shown on Table 3. A summary of the net trip generation is shown in Table 2. Detailed trip generation calculations are included in the Technical Appendix. As shown, the proposed 2 Eye Street development is projected to generate significantly fewer trips than the existing McDonalds for both the morning and afternoon peak hours.

Table 3: Mode Split Summary

Land Use	Mode Split			
	Auto	Transit	Bike	Walk
Residential	37%	43%	5%	15%
Retail	50%	25%	5%	20%

Table 2: Summary of Multi-Modal Trip Generation

Mode	Land Use	Trip Generation					
		AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto	Apartments	20 veh/hr	83 veh/hr	103 veh/hr	78 veh/hr	42 veh/hr	120 veh/hr
	Retail	1 veh/hr	1 veh/hr	2 veh/hr	3 veh/hr	3 veh/hr	6 veh/hr
	Existing	-169 veh/hr	-176 veh/hr	-345 veh/hr	-97 veh/hr	-97 veh/hr	-194 veh/hr
	Total	-148 veh/hr	-92 veh/hr	-240 veh/hr	-16 veh/hr	-52 veh/hr	-68 veh/hr
Transit	Apartments	27 ppl/hr	108 ppl/hr	135 ppl/hr	102 ppl/hr	56 ppl/hr	158 ppl/hr
	Retail	1 ppl/hr	0 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	5 ppl/hr
	Total	28 ppl/hr	108 ppl/hr	136 ppl/hr	104 ppl/hr	59 ppl/hr	163 ppl/hr
Bike	Apartments	3 ppl/hr	13 ppl/hr	16 ppl/hr	12 ppl/hr	6 ppl/hr	18 ppl/hr
	Retail	0 ppl/hr	0 ppl/hr	0 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr
	Total	3 ppl/hr	13 ppl/hr	16 ppl/hr	12 ppl/hr	7 ppl/hr	19 ppl/hr
Walk	Apartments	9 ppl/hr	38 ppl/hr	47 ppl/hr	36 ppl/hr	19 ppl/hr	55 ppl/hr
	Retail	1 ppl/hr	0 ppl/hr	1 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr
	Total	10 ppl/hr	38 ppl/hr	48 ppl/hr	38 ppl/hr	21 ppl/hr	59 ppl/hr

TRAFFIC OPERATIONS

This section provides a summary of an analysis of the existing and future roadway capacity in the study area. Included is an analysis of potential vehicular impacts of the 2 Eye Street project and a discussion of potential improvements.

The purpose of the capacity analysis is to:

- Determine the existing capacity of the study area roadways;
- Determine the overall impact of the 2 Eye Street project on the study area roadways; and
- Discuss potential improvements and mitigation measures to accommodate the additional vehicular trips.

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

1. 2015 Existing Conditions
2. 2017 Background Conditions without the development (2017 Background)
3. 2017 Future Conditions with the development (2017 Total Future)

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 majority of intersections operate at an acceptable level of service during all analysis scenarios for both the morning and afternoon peak hours.
- All intersections that operate at an unacceptable level of service during the future conditions are present during the existing or background conditions.
- Although no mitigations are necessary as a result of the site, it is recommended that improvements be made to the intersection of South Capitol Street and Eye Street including adjustments to the signal timings and to the eastbound lane configurations.
- Additional signage and striping is recommended along Eye Street between South Capitol Street and Half Street SE to improve the overall operations and safety into and out of the site.

- Overall, this report concludes that the project will not have a detrimental impact to the surrounding transportation network

STUDY AREA, SCOPE, & METHODOLOGY

This section outlines the 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 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 West Half Street project will lead to adverse impacts on traffic operations. (A review of impacts to each of the other modes is outlined later in this report.) This is accomplished by comparing future scenarios: (1) without the proposed development (referred to as the Background condition) and (2) with the development approved and constructed (referred to as the Total Future condition).

Specifically, the roadway capacity analysis examined the following scenarios:

1. 2015 Existing Conditions
2. 2017 Background Conditions without the development (2017 Background)
3. 2017 Future Conditions with the development (2017 Total Future)

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. Eye Street & Half Street SW
2. Eye Street & South Capitol Street
3. Eye Street & Carwash Driveway
4. Eye Street & Half Street SE
5. Eye Street & First Street SE
6. Eye Street & New Jersey Avenue SE
7. Eye Street & McDonalds Driveway #1 (Existing and Background Conditions Only)
8. Eye Street & McDonalds Driveway #2 (Existing and Background Conditions Only)
9. Eye Street & Site Driveway (Future Condition Only)

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, which was collected on Thursday, November 19, 2015. The results of the traffic counts are included in the Technical Attachments. The morning and afternoon peak hours at the intersection of South Capitol Street and Eye Street were used to determine the analysis peak hours for the entirety of the study area. This intersection was chosen as it is most likely to have the highest impact on operations at the site access, with consistent peak hours creating a better basis for simulation analysis. The peak hours used for the study area were 7:30 to 8:30 am for the morning and 4:00 to 5:00 pm for the afternoon. The existing peak hour traffic volumes are shown in the Technical Attachments.

2017 Background Traffic Volumes (without the project)

The traffic projections for the 2017 Background conditions consist of the existing volumes with two additions:

- Traffic generated by developments expected to be completed prior to the project (known as background developments); and

- Inherent growth on the roadway (representing regional traffic growth).

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

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

Based on these criteria, and discussed previously, four developments were included in the 2017 Background scenario:

- Randall School
- 909 Half Street SE
- The Plaza on K
- Park Chelsea

Available background development traffic studies were used to determine the number of trips added for the background developments. These documents were used to determine the number of trips generated, the mode split percentages, and trip routing, as available. For developments that have updated development programs since being approved, the trip generation was recalculated accordingly. The most up to date site plans were sought out in order to properly portray the future operations along Eye Street. Of note, the 909 Half Street NW project will have a curb cut on Eye Street (resulting in a private alley that connects through to K Street) across the street from the 2 Eye Street development. Construction of this development will also result in the elimination of four other curb cuts on the south side of Eye Street between South Capitol Street and Half Street SW.

When approved background studies were not available, trip generation for the background developments was calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) Trip Generation, 9th Edition. The Shopping Center trip rate was applied in lieu of individual trip rates because applying individual rates would not account for interaction between the retail uses (shoppers visiting more than one store), and the Shopping Center trip rate does account for these uses and interactions. Additionally, the



General Office Building, Hotel, and Residential Apartments rates were applied for office, hotel, and residential uses to estimate trips generated by the background developments.

Additionally, for this report, the Trip Generation methodology was supplemented to account for the urban nature of the site (Trip Generation provides data for non-urban, low transit use sites). The WMATA Ridership Survey was used to determine transit reduction rates in order to account for trips taken by walking, bicycling, and transit. The mode split assumptions were based on the patterns and general findings from that document, observations of existing traffic, and the type and density of surrounding land uses. It was assumed that retail uses would generate a lot of local demand and therefore, have the highest assumed percentage of walking and biking trips. Residential based trips would be the most likely to use public transit, since they will be regular users that will be able to figure out and take advantage of the various routes and schedules. Although the location of the site near several major highways could lead to driving mode splits, the Metrorail, Metrobus, and DC Circulator service will be utilized to reach destinations in downtown areas of the District and to surrounding areas.

Table 5 summarizes the mode split assumptions for the background developments with no available approved study. The mode split assumptions were applied to the base trip generation for the background developments as a reduction to the vehicular trips estimated by Trip Generation.

Table 5: Background Non-Auto Reduction Assumptions

Land Use	Non-Auto Reduction
Office	50%
Residential	55%
Retail	60%
Hotel	45%

Based on the available background studies and the trips estimated following the methodology outlined above, Table 4 shows the total number of trips generated by the background developments. Detailed trip generation tables are included in the Technical Attachments.

These trips were then distributed and assigned to the network based on the direction of approach included in the background study. Where a background study was not available, trips generated by the background developments were distributed using an analysis based on Metropolitan Washington Council of Governments (MWCOG) transportation planning models, as shown in Figure 8. Data from Traffic Analysis Zones (TAZs), including home-based and non-home-based trips, were used to determine the inbound and outbound vehicular trip distribution. The data used encompassed trips to and from the Southwest Waterfront development in 2010 and 2030. The data obtained from the MWCOG model was used in order to estimate the directions of approach for the study area. One trip distribution was assumed for all land uses because the MWCOG data for Southwest Waterfront aggregated all land uses for each TAZ.

While the background developments represent local traffic changes, regional traffic growth is typically accounted for using percentage growth rates. The growth rates used in this analysis were derived using the Metropolitan Washington Council of Government's (MWCOG) currently adopted regional transportation model and historic AADT volumes. These background growth rates, summarized in Table 6, were applied to thru movements at study area intersections.

The traffic volumes generated by the background developments and the inherent growth along the network were added to the existing traffic volumes in order to establish the 2017 Background traffic volumes. The traffic volumes for

Table 4: Summary of Background Development Trip Generation

Development	Trip Generation					
	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
The Plaza on K	199	28	227	39	172	211
909 Half Street	18	58	76	65	41	106
The Randall School	32	106	138	110	67	177
Park Chelsea	15	60	75	59	31	90
Total	264	252	516	273	311	584

Table 6: Summary of Background Growth Rates

Road & Direction	Proposed Annual Growth Rate		Total Growth between 2015 and 2017	
	AM Peak	PM Peak	AM Peak	PM Peak
South Capitol Street NB	0.73%	0.82%	1.50%	1.70%
South Capitol Street SB	1.54%	0.62%	3.10%	1.20%
Eye Street EB	1.60%	1.60%	3.20%	3.20%
Eye Street WB	1.60%	1.60%	3.20%	3.20%

the 2017 Background conditions are included in the Technical Attachments.

2017 Total Future Traffic Volumes (with the project)

The 2017 Total Future traffic volumes consist of the 2017 Background volumes with the addition of the traffic volumes generated by the proposed development (site-generated trips) and the removal of existing site trips. Thus, the 2017 Total Future traffic volumes include traffic generated by: the existing volumes, background developments, the inherent growth on the study area roadways, the elimination of existing site trips, and trips generated by the proposed project.

The trip distribution for project generated trips was assembled based on a review of existing traffic patterns and flow data from CTPP (Census Transportation Planning Products). Separate distributions were developed for the residential and retail components of the project. The residential trip distribution was influenced significantly by the CTPP TAZ flow data for drivers commuting from the site's TAZ and adjusted based on traffic volumes and patterns. The retail distribution was mostly based on locations of other retail centers, with some influence on the CTPP TAZ flow data for drivers commuting to the site's TAZ (representing retail employees that drive). Thus, the retail trip distribution is weighted more towards nearby residential areas and less on regional origins.

Based on this review and the site access locations, the site-generated trips were distributed through the study area intersections. A summary of trip distribution assumptions is provided on Figure 9 and specific routing to and from the site is shown on Figure 10 and Figure 11.

Existing trips were removed from the network based on existing travel patterns. To remain a conservative analysis it was assumed that 75 percent of trips to the McDonalds are pass-by trips during the AM peak hour and 25 percent of trips are pass-by trips during the PM peak hour. These values are

based off of pass-by data found in the Trip Generation Manual and adjusted based on the turning restrictions along South Capitol Street. Therefore, although these trips were removed from the driveways, they remain on the network, primarily rerouted to stay on South Capitol Street.

The traffic volumes for the 2017 Total Future conditions were calculated by adding the development-generated traffic volumes to the 2017 Background traffic volumes. The 2017 Total Future traffic volumes 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

Future Geometry and Operations Assumptions

Following national and DDOT methodologies, a background improvement must meet the following criteria to be incorporated into the analysis:

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

Based on these criteria, one background improvement was included in the future scenarios. As part of the Park Chelsea background development, Eye Street will be connected between New Jersey Avenue and 2nd Street SE, where it currently does not exist. At the site, the two curb cuts that are currently used by the McDonalds will be eliminated and replaced by one curb cut that will serve parking and loading access for the 2 Eye Street development. The lane configurations and traffic controls for the 2017 Background and Total Future conditions are shown in the Technical Attachments

Vehicular Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for the three Intersection capacity analyses were performed for the three scenarios outlined previously at the intersections contained within the study area during the morning and afternoon peak hours. *Synchro*, Version 8.0 was used to analyze the study intersections. Capacity analysis results were reported using Highway Capacity Manual 2010 (HCM 2010) methodologies.

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. A LOS grade is a letter grade based on the average delay (in seconds) experienced by motorists traveling through an intersection. LOS results range from “A” being the best to “F” being the worst. LOS D is typically used as the acceptable LOS threshold in the District; although LOS E or F is sometimes accepted in urbanized areas if vehicular improvements would be a detriment to safety or non-auto modes of transportation.

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

Table 7 shows the results of the capacity analyses, including LOS and average delay per vehicle (in seconds) for the Existing, 2017 Background, and 2017 Total Future scenarios. The

capacity analysis results for the morning and afternoon peak hours are shown in the Technical Attachments.

The majority of study intersections operate at acceptable conditions during the morning and afternoon peak hours for the Existing, 2017 Background, and 2017 Future scenarios. However, the following intersections operate under unacceptable conditions during one or more peak hour:

- *Eye Street & South Capitol Street*

The overall intersection and eastbound approach operate at LOS F and the westbound approach operates at LOS E during the morning peak hour under existing conditions. The eastbound approach operates at LOS F and the westbound approach operates at LOS E during the afternoon peak hour under existing conditions. The addition of background trips degrades the overall intersection to LOS F during the afternoon peak hour. With the addition of site-generated trips and the removal of existing trips the intersection remains to operate under unacceptable conditions, however the delays decrease in the Future conditions from those observed in the Background conditions.

- *Eye Street & Half Street*

The northbound approach of Half Street at Eye Street operates at LOS E during the morning peak hour under Background conditions. The addition of site-generated trips and the removal of existing trips improves this approach such that it operates at acceptable conditions under the Future conditions.

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 or LOS F at an intersection or along an approach in the future conditions with the proposed development where one does not exist in the existing or background conditions, or when delay at an intersection or approach operating under LOS E or LOS F increase by more than 5 seconds, when compared to the background conditions. Following these guidelines, no intersections are impacted by the development. The LOS and delay of the overall Eye Street corridor effectually improves as a result of the development as the overall trips on the network decrease.

Queuing Analysis

In addition to the capacity analyses presented above, a queuing analysis was performed at the study intersections. The queuing analysis was performed using the *Synchro* software. The 50th percentile and 95th percentile maximum queue lengths are shown for each lane group at the study area signalized intersections. The 95th percentile maximum queue lengths are shown for each lane group at the study area unsignalized intersections. The 50th percentile maximum queue is the maximum back of queue on a typical cycle. The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. Table 8 shows the queuing results for the study area intersections.

The proposed development is considered to have an impact to queuing if the analyses show an increase in the 95th percentile queue length of greater than 150 feet, when compared to the background scenario. Based on this criteria, there are no intersections that observe queuing impacts as a result of the development. In fact, due to the decrease in traffic generated by the site, queues are shown to decrease at almost all intersection approaches as a result of the development.

Capacity Improvements

Although there are no intersections that require mitigation as a result of the development, capacity improvements are suggested at the intersection of South Capitol Street and Eye Street in order to improve overall operations along the Eye Street corridor. The proposed improvements are as follows:

- Because there is such a high volume of eastbound left turns, it is beneficial to convert the eastbound lane configurations from a shared left-thru lane and a right lane, to an exclusive left-turn lane and a thru-right lane. This could have a negative impact to bicycle traffic; however, under existing conditions it is observed that vehicles swerve over the bike lane to the right turn lane to avoid waiting behind left-turning vehicles. If the eastbound approach of Eye Street was officially signed and striped as a left-turn lane and a thru-right lane, both drivers and cyclists would be more aware of the potential conflict zone.
- The capacity along Eye Street can be greatly improved by shifting some green time from South Capitol Street to Eye Street. This greatly reduces queues along the eastbound and westbound approaches without having detrimental impacts to the South Capitol Street approaches.

Safety and Operations Discussion

In addition to the capacity analysis of the Eye Street corridor, safety and operations of the site access were evaluated. Under existing conditions, there are two curb cuts that serve the McDonalds site. The curb cut nearest South Capitol Street operates as outbound only and is approximately 40 feet from South Capitol Street. The curb cut nearest Half Street is full access and is approximately 160 feet from South Capitol Street. The development of the 2 Eye Street project will result in the elimination of these two curb cuts and the addition of a new curb cut along Eye Street that will be located approximately 100 feet from the intersection of South Capitol Street. Due to the infeasibility to locate the site access anywhere other than Eye Street, and the limited vehicular porosity due to the interstate directly north of the site and many turn restrictions and geometric restrictions along South Capitol Street, full access is being requested at the site driveway. The accommodation of a full access driveway can be accommodated assuming some safety and operational improvements are made along Eye Street, and will ultimately result in less circulation throughout the surrounding neighborhood than if turning restrictions were implemented.

Due to the proximity of the site driveway to the intersection of South Capitol Street and Eye Street, the existing queuing observed along the westbound approach of Eye Street, and the existing bike lanes along the north and south sides of Eye Street, several operational and safety improvements should be implemented surrounding the site access as follows:

- *Don't Block The Box*
“Don't Block The Box” signage and striping should be implemented along the westbound approach of Eye Street, such that vehicles entering and exiting the site are able to do so even when westbound queues at the intersection of South Capitol Street and Eye Street extend past the driveway. Additionally, by allocating a clear area surrounding the driveway, the sight lines for vehicles exiting the driveway will be improved. Under existing conditions the primary outbound McDonalds driveway is closer to the intersection of South Capitol Street and Eye Street, observes more traffic than anticipated by the 2 Eye Street development, and does not provide any enhanced operational or safety signage or striping; therefore, the addition of “Don't Block The Box” signage and striping as part of the 2 Eye Street development will result in improved operations over the existing conditions.

- *Eastbound Left-Turn Lane*

Although a left-turn lane may not be necessary based on the capacity analysis as the queuing results do not show vehicles backed up to South Capitol Street, the lane width on Eye Street leading up the driveway has enough width to extend the shared center turn lane by adjusting the existing lane striping. Although it is the intention of the “Don’t Block The Box” signage and striping to deter drivers from blocking access to the driveway, if there are instances in which the driveway is blocked, a left turn lane will allow for queuing to take place in a separate lane and not impact through traffic along Eye Street.

This is an improvement over the existing conditions, which see nearly triple the amount of left turns into the site from McDonalds than projected for the 2 Eye Street development, without an exclusive lane for left-turning vehicles. Additionally, the inclusion of a left turn lane will improve the overall sight lines for left-turning vehicles. The left-turn lane will shift left-turning vehicles closer to the northern side of Eye Street, allowing for an improved sight line to the westbound travel lanes and bike lane.

- *Bicycle Traffic and Striping Considerations*

Although there will be potential for conflicts between vehicles and bicycles as a result of the 2 Eye Street development, the amount of conflicts will be substantially reduced from existing conditions. As stated above, there are more than double the number of trips into and out of the site under existing conditions as there will be upon redevelopment of the 2 Eye Street site.

Left-turning vehicles may not have a completely clear line of sight to the bicycle lane when queues are backed up along Eye Street therefore alterations to the bike lane striping in front of the driveway should be implemented to more distinctly denote to vehicles that they are crossing a bike lane and to bicyclists that there is a potential for vehicles to be crossing their path. Additionally, if left turns into the site were restricted, vehicle trips would still be forced to access the site along Eye Street from the east which would involve turning right into the site across the bike lane. Therefore, the full access does not have any significant bicycle safety impacts.

operations, and safety improvements implemented. The proposed signage and striping plan as a result of these improvements is shown in Figure 12.

Table 7 and Table 8 show the improved vehicular capacity analysis and queuing results with the addition of all capacity,



Figure 7: Study Area

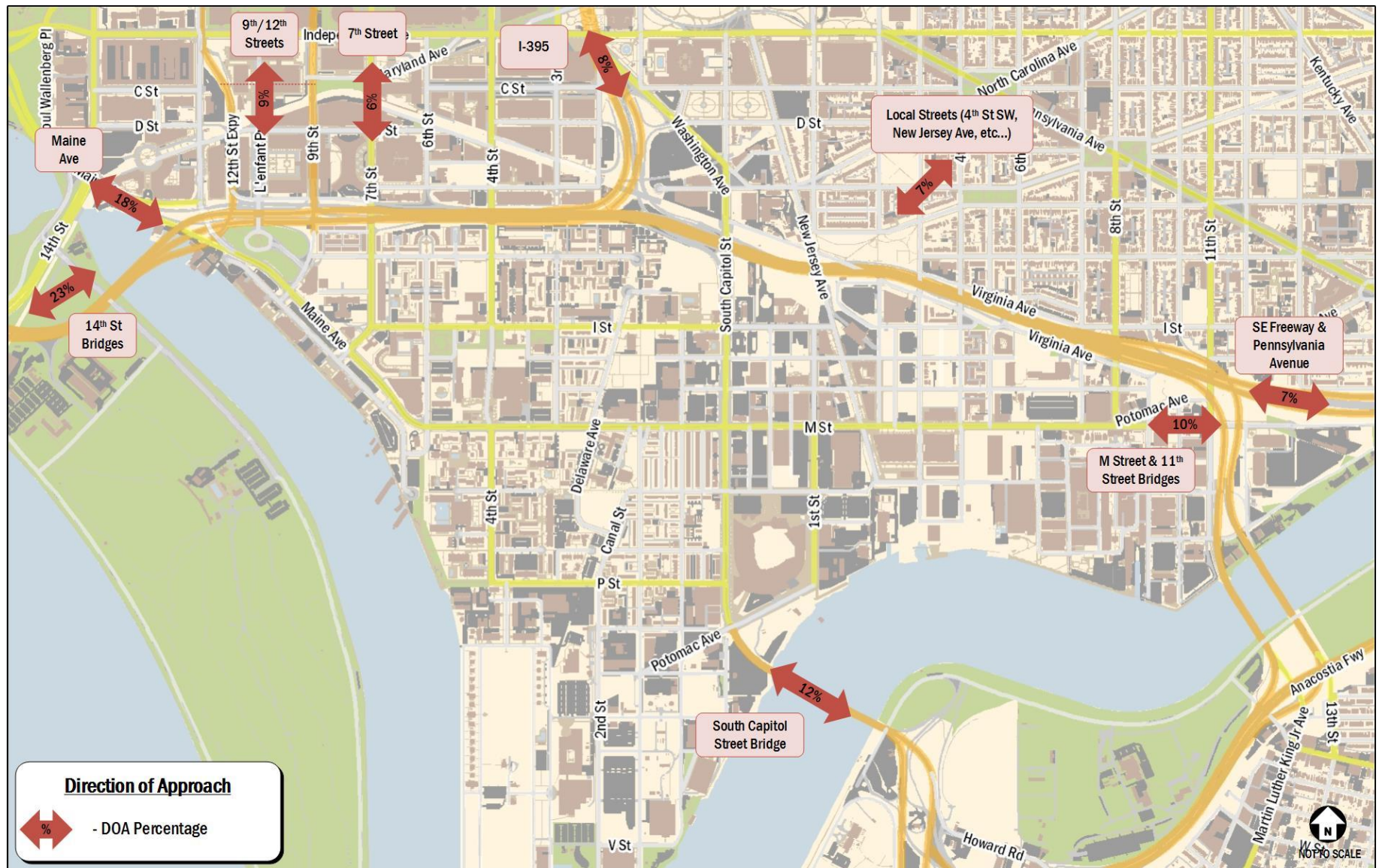


Figure 8: Background Direction of Approach

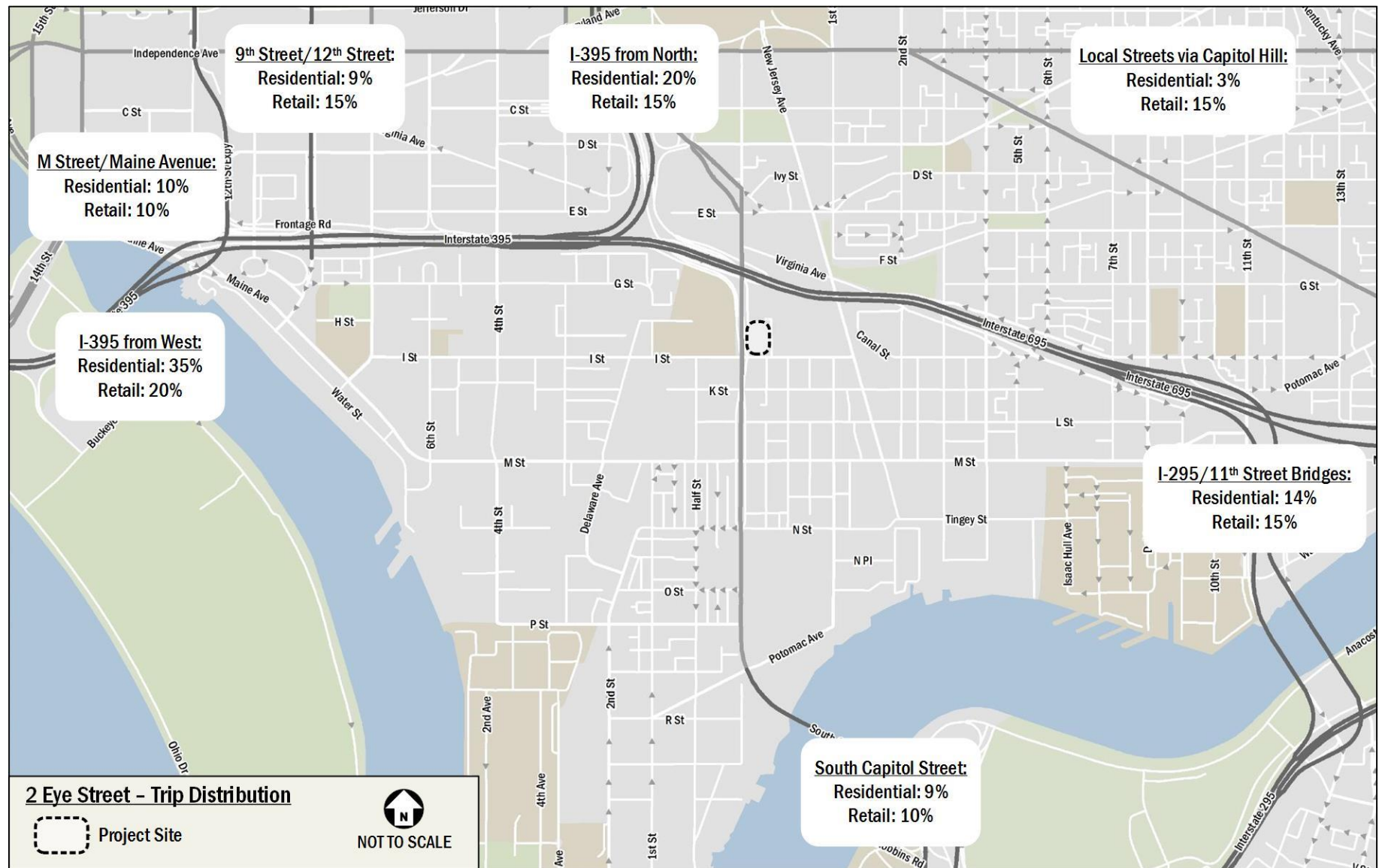


Figure 9: 2 Eye Street Trip Distribution

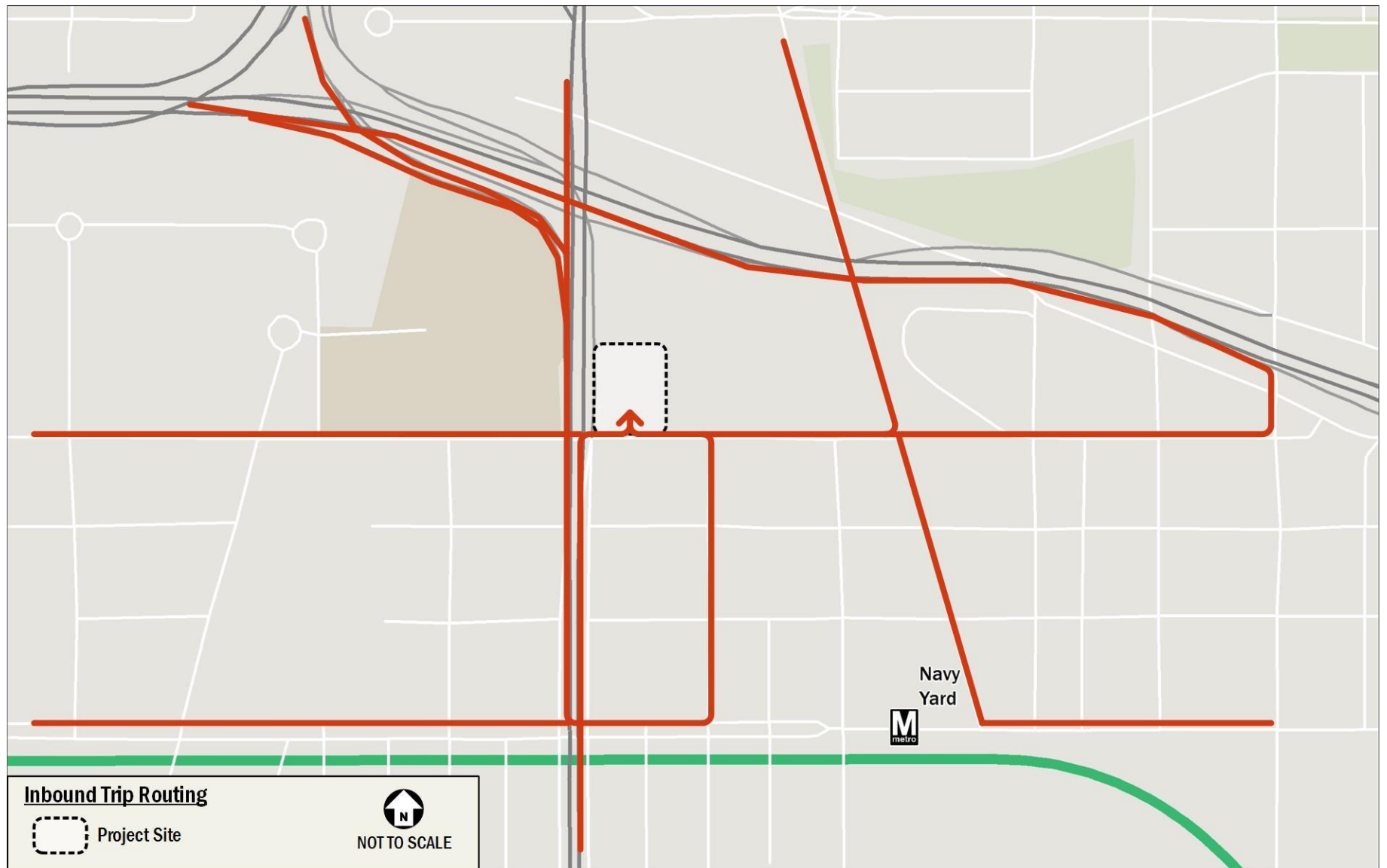


Figure 10: 2 Eye Street Inbound Trip Routing

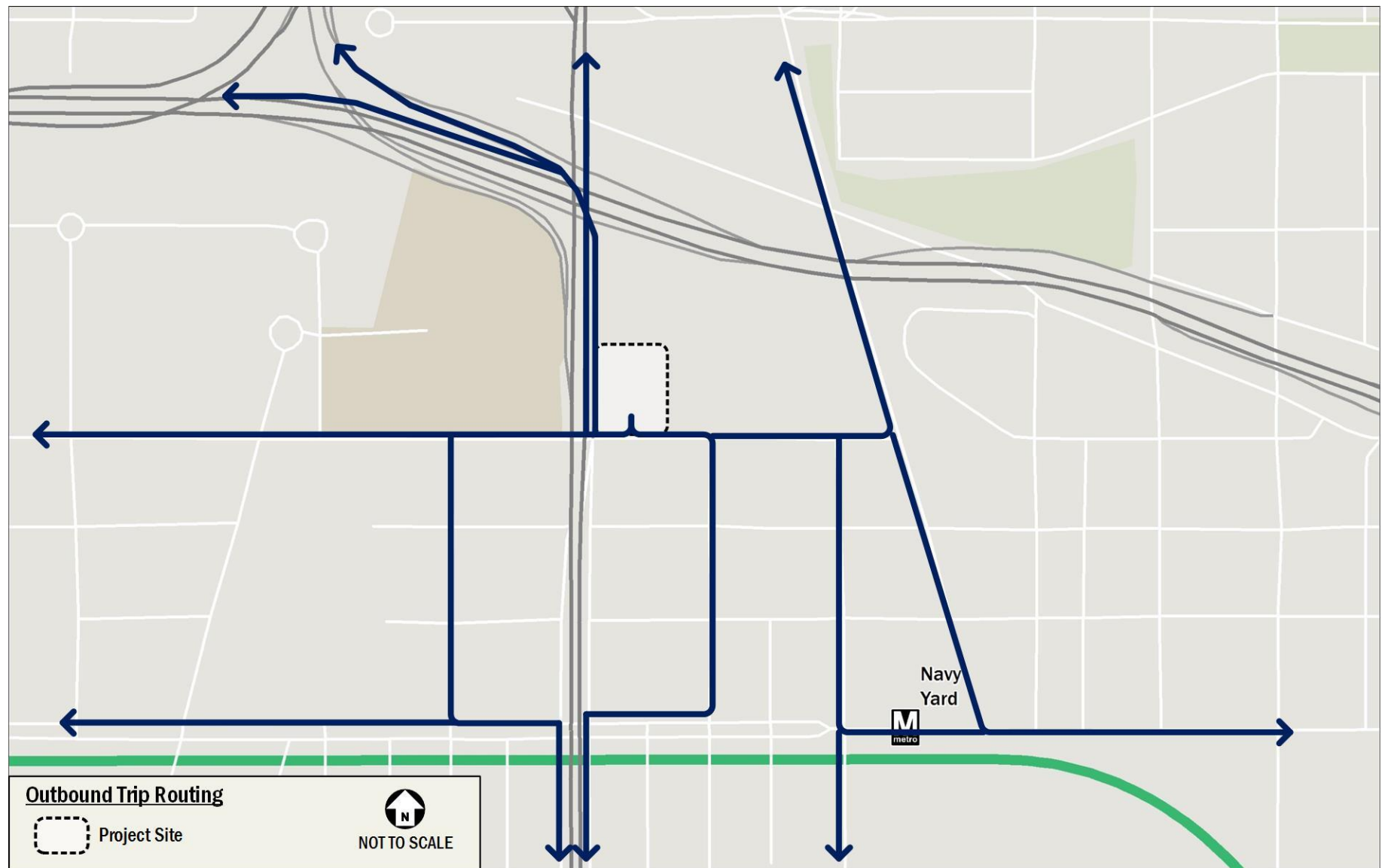


Figure 11: 2 Eye Street Outbound Trip Routing



Table 7: LOS Results

Intersection	Approach	Existing Conditions				Background Conditions (2017)				Total Future Conditions (2017)				Total Future Conditions - with Mitigations (2017)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Eye Street & Half Street SW	Northbound	16.7	C	13.9	B	24.4	C	19.2	C	24.1	C	20.8	C	24.1	C	20.8	C
	Westbound Left	8.0	A	8.1	A	8.5	A	8.3	A	8.5	A	8.4	A	8.5	A	8.4	A
Eye Street & South Capitol St	Overall	99.1	F	35.8	D	94.8	F	96.8	F	79.3	F	80.8	F	27.8	C	26.6	B
	Eastbound	1275.9	F	193.9	F	878.8	F	695.3	F	674.3	F	535.0	F	65.1	E	57.2	E
	Westbound	67.6	E	58.4	E	68.0	E	69.5	E	60.6	E	68.4	E	50.1	D	50.1	D
	Northbound	17.4	B	12.3	B	18.2	B	12.5	B	18.2	B	12.3	B	24.7	C	18.2	B
	Southbound	12.3	B	11.4	B	12.5	B	11.6	B	12.3	B	11.4	B	16.5	B	16.8	B
Eye Street & Carwash Dwy	Eastbound Left	8.3	A	8.0	A	8.5	A	8.4	A	8.3	A	8.4	A	8.3	A	8.4	A
	Southbound	11.0	B	11.7	B	11.6	B	13.9	B	11.1	B	13.6	B	11.1	B	13.6	B
Eye Street & Half Street SE	Eastbound Left	8.5	A	7.9	A	8.7	A	8.4	A	8.5	A	8.3	A	8.5	A	8.3	A
	Westbound Left	7.9	A	7.8	A	8.3	A	7.9	A	8.2	A	7.8	A	8.2	A	7.8	A
	Northbound	22.9	C	14.4	B	37.7	E	19.7	C	28.6	D	18.1	C	28.6	D	18.1	C
	Southbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
Eye Street & First Street SE	Overall	10.2	B	11.2	B	12.7	B	13.2	B	11.2	B	11.8	B	11.2	B	11.8	B
	Eastbound	10.0	A	10.1	B	11.2	B	12.1	B	10.2	B	11.1	B	10.2	B	11.1	B
	Westbound	10.8	B	12.6	B	14.9	B	15.2	C	12.6	B	13.3	B	12.6	B	13.3	B
	Northbound	10.0	A	10.3	B	10.9	B	11.0	B	10.0	B	10.3	B	10.0	B	10.0	B
	Southbound	9.2	A	9.1	A	9.8	A	9.6	A	9.4	A	9.3	A	9.4	A	9.3	A
Eye Street & New Jersey Ave SE	Overall	9.5	A	9.4	A	10.2	B	10.2	B	10.0	A	9.9	A	10.0	A	9.9	A
	Eastbound	9.7	A	9.2	A	10.2	B	9.8	A	9.8	A	9.7	A	9.8	A	9.7	A
	Westbound	--	--	--	--	9.2	A	9.0	A	9.1	A	8.9	A	9.1	A	8.9	A
	Northbound	9.9	A	9.4	A	10.8	B	10.1	B	10.6	B	10.2	B	10.6	B	10.2	B
	Southbound	8.9	A	9.6	A	9.9	A	10.6	B	9.7	A	10.1	B	9.7	A	10.1	B
Eye Street & McDonalds Dwy 1	Southbound	10.3	B	10.0	B	10.8	B	10.9	B	--	--	--	--	--	--	--	--
Eye Street & McDonalds Dwy 2	Eastbound Left	8.6	A	8.1	A	8.9	A	8.6	A	--	--	--	--	--	--	--	--
	Southbound	16.3	C	13.3	B	20.5	C	16.5	C	--	--	--	--	--	--	--	--
Eye Street & Site Driveway	Eastbound Left	--	--	--	--	--	--	--	--	8.3	A	8.6	A	8.3	A	8.6	A
	Southbound	--	--	--	--	--	--	--	--	11.8	B	11.3	B	11.8	B	11.3	B



Table 8: Queuing Results

Intersection	Approach	Existing Conditions				Future Background Conditions (2017)				Total Future Conditions (2017)				Total Future Conditions with Mitigations (2017)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Eye Street & Half Street SW	Northbound LTR	--	35	--	15	--	58	--	33	--	55	--	38	--	55	--	38
	Westbound Left	--	8	--	8	--	8	--	8	--	8	--	8	--	8	--	8
Eye Street & South Capitol St	Eastbound LT (Left)	~237	#420	299	#434	~559	#766	~537	#671	~555	#766	~509	#718	113	190	81	141
	Eastbound Right (TR)	9	50	10	45	17	60	19	56	19	63	20	65	270	381	292	407
	Westbound Thru	245	340	174	241	296	#425	266	350	255	362	241	322	237	337	221	294
	Westbound Right	194	285	116	187	213	309	199	285	132	213	197	283	122	197	197	276
	Northbound TR	460	506	206	234	491	538	215	243	501	549	205	234	596	653	262	298
	Southbound Thru	231	260	175	186	243	273	185	195	232	262	174	200	277	312	222	254
	Southbound Right	0	24	0	21	14	40	26	50	0	25	12	40	0	30	0	34
Eye Street & Carwash Dwy	Eastbound Left	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
	Southbound LR	--	0	--	3	--	0	--	5	--	0	--	5	--	0	--	5
Eye Street & Half Street SE	Eastbound Left	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
	Westbound Left	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
	Northbound LTR	--	33	--	18	--	60	--	28	--	43	--	28	--	43	--	28
	Southbound LTR	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
Eye Street & First Street SE	Eastbound Left	--	0	--	0	--	0	--	0	--	0	--	0	--	0	--	0
	Eastbound TR	--	30	--	33	--	43	--	55	--	33	--	45	--	33	--	45
	Westbound LTR	--	33	--	58	--	80	--	85	--	58	--	65	--	58	--	65
	Northbound LTR	--	23	--	20	--	25	--	23	--	20	--	18	--	20	--	18
	Northbound Right	--	5	--	5	--	5	--	5	--	5	--	5	--	5	--	5
	Southbound LTR	--	3	--	0	--	3	--	3	--	3	--	0	--	3	--	0
Eye Street & New Jersey Ave SE	Eastbound Left	--	23	--	15	--	25	--	15	--	18	--	13	--	18	--	13
	Eastbound TR	--	8	--	10	--	13	--	20	--	13	--	20	--	13	--	20
	Westbound LTR	--	--	--	--	--	8	--	5	--	8	--	5	--	8	--	5
	Northbound LTR	--	30	--	23	--	38	--	28	--	35	--	30	--	35	--	30
	Southbound LTR	--	23	--	40	--	33	--	48	--	33	--	40	--	33	--	40
Eye Street & McDonalds Dwy 1	Eastbound Left	--	0	--	0	--	0	--	0	--	--	--	--	--	--	--	--
	Southbound LR	--	10	--	5	--	10	--	5	--	--	--	--	--	--	--	--
Eye Street & McDonalds Dwy 2	Eastbound Left	--	10	--	5	--	10	--	5	--	--	--	--	--	--	--	--
	Southbound LR	--	23	--	10	--	30	--	15	--	--	--	--	--	--	--	--



Intersection	Approach	Existing Conditions				Future Background Conditions (2017)				Total Future Conditions (2017)				Total Future Conditions with Mitigations (2017)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
Eye Street & Site Dwy	Eastbound Left	--	--	--	--	--	--	--	--	--	0	--	5	--	0	--	5
	Southbound LTR	--	--	--	--	--	--	--	--	--	13	--	5	--	13	--	5

~ Volume exceeds capacity, queue is theoretically infinite. Queue shown is maximum after two cycles.

95th percentile volume exceeds capacity, queue may be longer. Queue shown is maximum after two cycles.

m Volume for 95th percentile queue is metered by upstream signal.

Proposed Signage and
Striping Plan

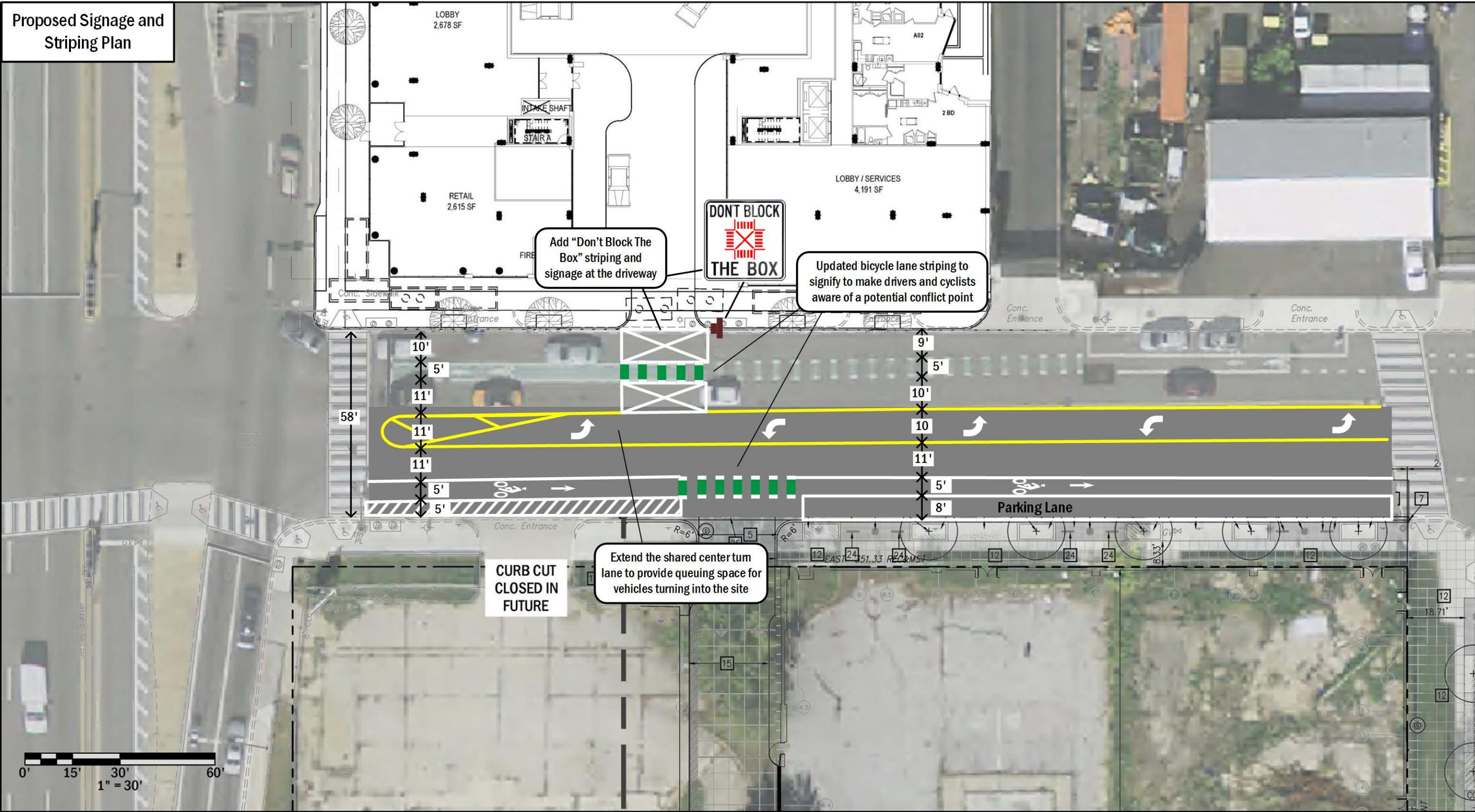


Figure 12: Proposed Signage and Striping Plan

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 2 Eye Street project.

The following conclusions are reached within this chapter:

- The development site is near one Metrorail station and surrounded by several Metrobus routes that travel along multiple primary corridors
- One new Streetcar line is expected to travel along M Street in the vicinity of the site
- The site is expected to generate a manageable amount of transit trips, and the existing service is capable of handling these new trips

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

The Navy Yard Metrorail station is located approximately 0.25 miles from the development site and is served by the Green Line. The Green Line travels south from Greenbelt, travels through downtown DC, and then continues southwards through Anacostia to Branch Avenue. Trains run approximately every six minutes during the morning and afternoon peak hours. They run about every 12 minutes during weekday non-peak hours, every 20 minutes on weekday evenings after 9:30 pm and 12 to 20 minutes on the weekends.

The site is also serviced by Metrobus along multiple primary corridors. These bus lines connect the site to many areas of the District, Maryland and Virginia, including several Metrorail stations serving five of the six Lines. Table 8 shows a summary of the bus route information for the routes that serve the site, including service hours, headway, and distance to the nearest bus stop.

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 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.

One streetcar route is expected to travel near the site. This route would run along M Street and connect the site with the Anacostia and Navy Yard Metrorail stations. This route is planned to be part of Phase 1.

SITE-GENERATED TRANSIT IMPACTS

The proposed development is projected to generate 136 transit trips (28 inbound, 108 outbound) during the morning peak hour and 163 transit trips (104 inbound, 59 outbound) during the afternoon peak hour.

US Census data was used to determine the distribution of those taking Metrorail and those taking Metrobus. The site lies adjacent to TAZ 20371 which shows that approximately 80 percent of transit riders used Metrorail and the remainder use Metrobus or Circulator. That said, approximately 109 people will use Metrorail and 27 will use Metrobus or Circulator during the morning peak hour; approximately 130 people will use Metrorail and 33 will use Metrobus or Circulator during the afternoon peak hour.

WMATA studied capacity of Metrorail stations in its *Station Access & Capacity Study*. The study analyzed Metrorail station capacity 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 stations capacity to process riders at fare card gates. For both analyses, volume-to-capacity ratios were calculated 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 Navy Yard Metrorail Station in 2005 but were expected at faregates by 2030. The above study does note that the improvements planned to

coincide with the opening of the Nationals Ballpark in 2008 would address the issue of capacity at faregates.

WMATA also studied capacity along Metrobus routes. DC's *Transit Future System Plan* (2010) lists the bus routes with the highest load factor (a ratio of passenger volume to bus capacity). A load factor is considered unacceptable if it is over

1.2 during peak periods or over 1.0 during off-peak or weekend periods. According to this study Metrobus routes that travel near the site operate at an acceptable load factor during all periods of the day. Based on this information and the extensive Metrobus service surrounding the site, site-generated transit trips will not cause detrimental impacts to Metrobus service.

Table 9: Metrobus Route Information

Route Number	Route Name	Service Hours	Headway	Walking Distance to Nearest Bus Stop
A42,46,48	Anacostia-Congress Heights Line	Weekdays: 4:00AM – 12:00 AM Weekends: 4:04AM – 12:40 AM	15-30 min	0.2 miles, 4 min
DCN22	Union Station - Navy Yard Circulator	Winter: 6:00AM- 7:00PM Summer: 6:00AM - 9:00PM Sundays: 7:00AM - 9:00PM	5-40 min	0.2 miles, 4 min
LCC	Loudoun County to Washington DC	Weekdays: Inbound: 5:00AM – 9:09 AM Outbound: 3:42PM – 5:00PM	25-45 min	0.2 miles, 4 min
P6	Anacostia-Eckington Line	Weekdays: 5:05AM – 2:04 AM Weekends: 8:27AM – 11:56 PM	15-30 min	0.2 miles, 4 min
P17,P19	Oxon Hill-Fort Washington Line	Weekdays: Northbound 4:47AM – 9:53AM Southbound 2:57PM – 7:10PM	5-15 min	0.3 miles, 5 min
V7, V8, V9	Minnesota Avenue-M Street Line	Weekdays: 4:38AM – 2:01 AM	30 min	0.2 miles, 4 min
W9	South Capitol Street Limited Line	Weekdays: Southbound 6:15AM – 9:07AM Northbound 3:15PM – 6:15PM	15-30 min	0.2 miles, 4 min
W13	Bock Road Line	Weekdays: Northbound 4:52AM – 9:02AM Southbound 3:35PM – 7:53PM	5-15 min	0.3 miles, 5 min

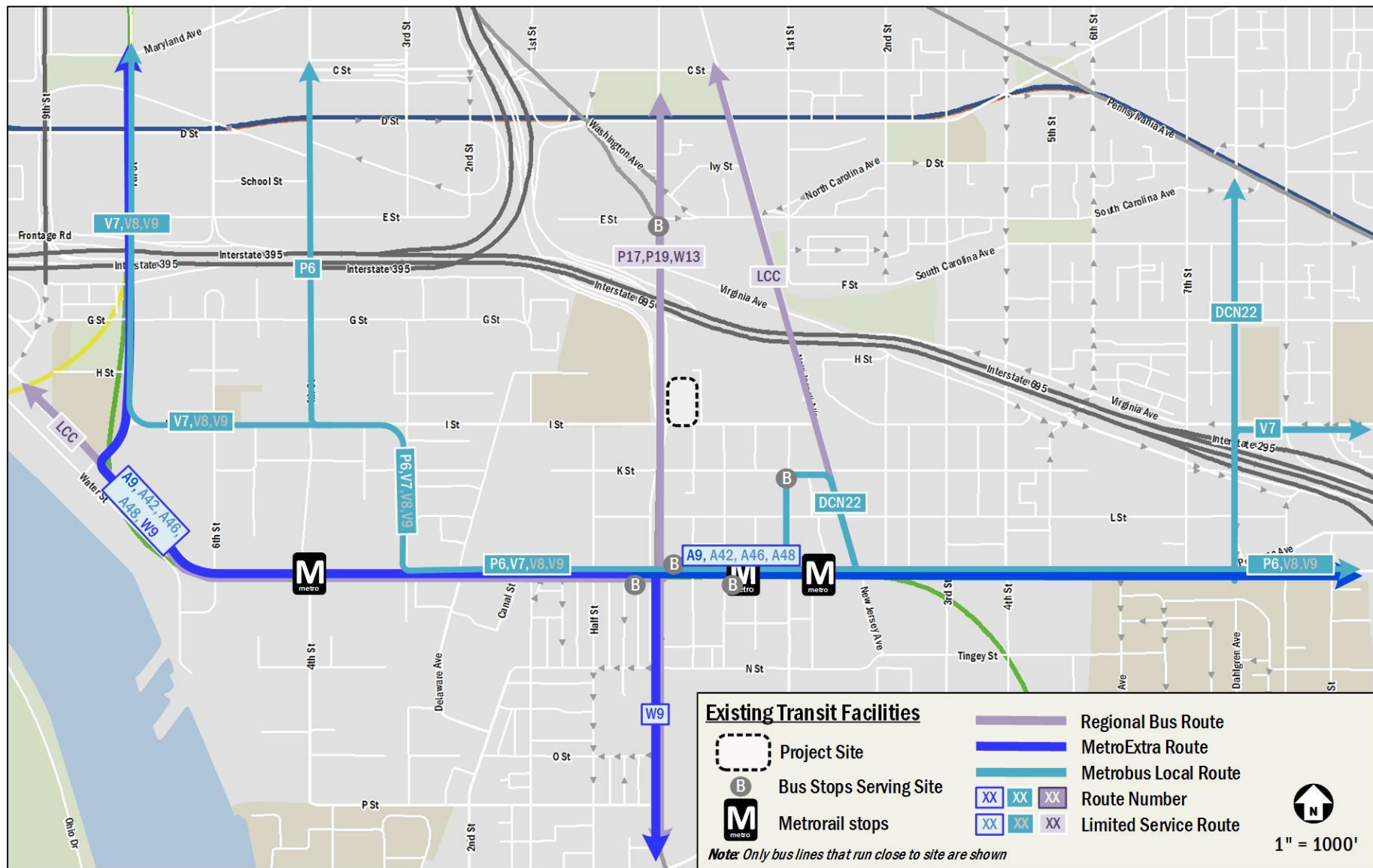


Figure 13: Existing Transit Service



PEDESTRIAN FACILITIES

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

The following conclusions are reached within this chapter:

- The existing pedestrian infrastructure surrounding the site provides a quality walking environment. There are some gaps in the system, but there are sidewalks along all primary routes to pedestrian destinations.
- The site is not expected to generate a significant amount of pedestrian trips; however, the pedestrian trips generated by walking to and from transit stops will be more substantial, particularly along Half Street SE.
- As part of the project, sidewalk facilities will be improved along Eye Street
- Continual development of nearby parcels will enhance the pedestrian facilities that currently exist.

PEDESTRIAN STUDY AREA

Facilities within a quarter-mile of the site were evaluated as well as routes to nearby transit facilities and prominent retail and neighborhood destinations. The site is easily accessible to transit options such as bus stops along M Street, South Capitol Street and the Navy Yard Metrorail Station. The site is also within walking distance of many destinations such as Yards Park and Nationals Ballpark. There are some barriers and areas of concern within the study area that negatively impact the quality of and attractiveness of the walking environment. This includes roadway conditions that reduce the quality of walking conditions, narrow or nonexistent sidewalks, incomplete or insufficient crossings at busy intersections, and the Interstate that limits connectivity to the north. Figure 14 shows suggested pedestrian pathways, walking time and distances, and barriers and areas of concern.

PEDESTRIAN INFRASTRUCTURE

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

Existing Conditions

A review of pedestrian facilities surrounding the 2 Eye Street development shows that many facilities meet DDOT standards and provide a quality walking environment. Figure 15 shows a detailed inventory of the existing pedestrian infrastructure surrounding the site. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by DDOT’s *Public Realm Design Manual* in addition to ADA standards. Sidewalk widths and requirements for the District are shown below in Table 10.

Within the area shown, most roadways are considered residential with a low to moderate density. Some areas along South Capitol Street and Eye Street are considered commercial and thus require wider sidewalks. Most of the sidewalks surrounding the site comply with DDOT standards; however there are some areas, which have inadequate sidewalks or no sidewalks at all. All primary pedestrian destinations are accessible via routes with sidewalks, most of which meeting DDOT standards. The sidewalks that do not meet DDOT standards are typically along routes that do not provide an acceptable buffer width, but do maintain the minimum sidewalk width. Some of these issues will be remedied as part of the project or other background developments.

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 is not desired. As shown in the figure, under existing conditions there are some issues with crosswalks and curb ramps near the site.

SITE IMPACTS

This section summarizes the impacts of the development on the overall pedestrian operations in the vicinity of the site.

Table 10: 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

Pedestrian Trip Generation

The West Half Street development is expected to generate 48 walking trips (10 inbound, 38 outbound) during the morning peak hour and 59 walking trips (38 inbound, 21 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 outside of the site, such as the Safeway or Harris Teeter
- Neighborhood destinations such as Yards Park, Nationals Park, the Anacostia Riverwalk Trail, etc.

In addition to these trips, the transit trips generated by the site will also generate pedestrian demand between the West Half Street site and nearby transit stops. About 80 percent of these will be walking to the Navy Yard Metrorail Station located approximately a quarter mile from the site and the other 20 percent will be walking to Metrobus stops, which are primarily located along M Street and South Capitol Street.

On-Site Pedestrian Infrastructure

The 2 Eye Street project will be constructing enhanced pedestrian facilities around the perimeter of the site. As shown on Figure 15, the existing sidewalk conditions directly surrounding the site on Eye Street do not meet DDOT standards. As part of the project sidewalks along Eye Street will be improved to meet DDOT standards. These facilities will improve the pedestrian environment around the site and help to create a more connected and inviting pedestrian network. This network will be further enhanced as nearby parcels are redeveloped.

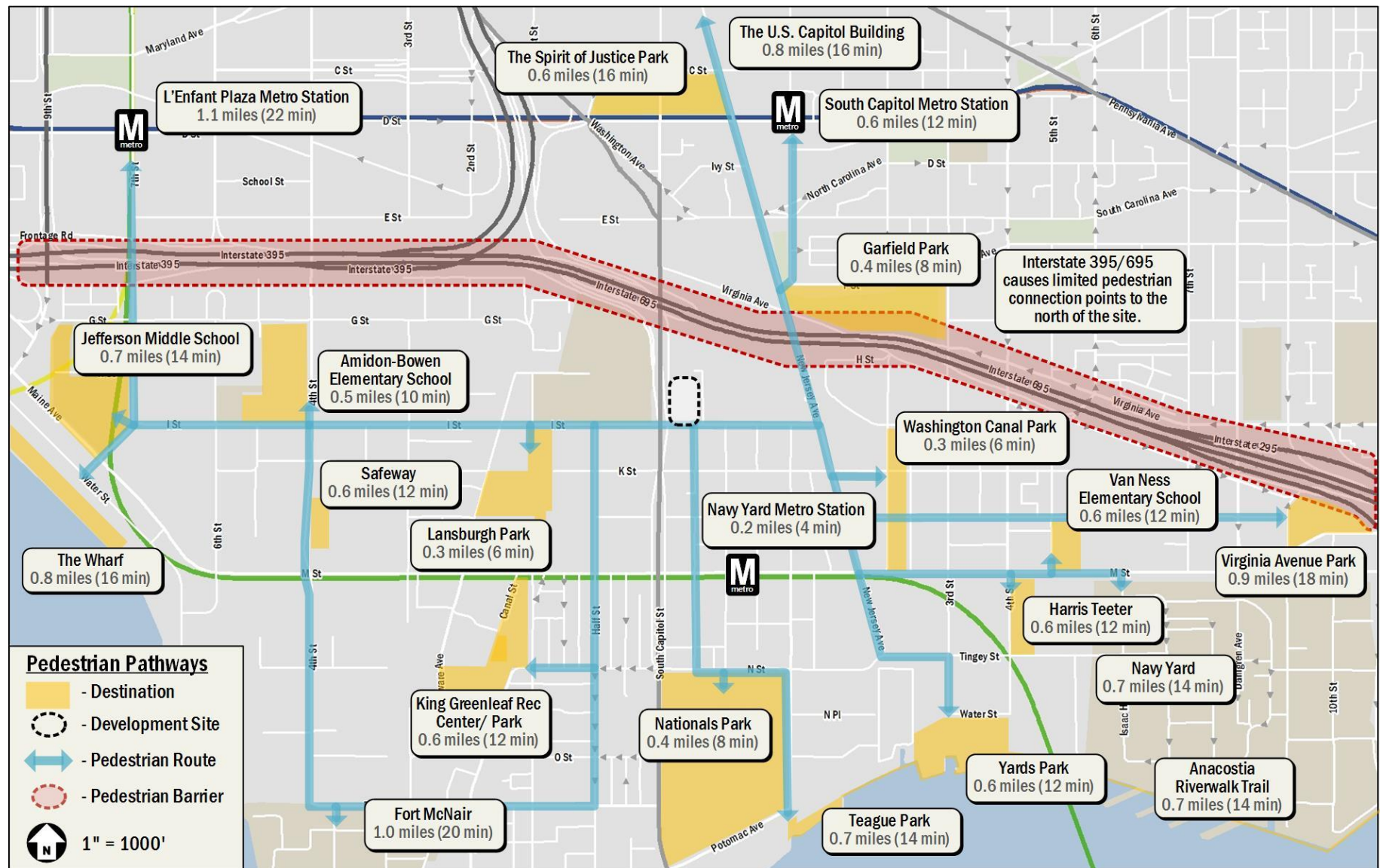


Figure 14: Pedestrian Pathways

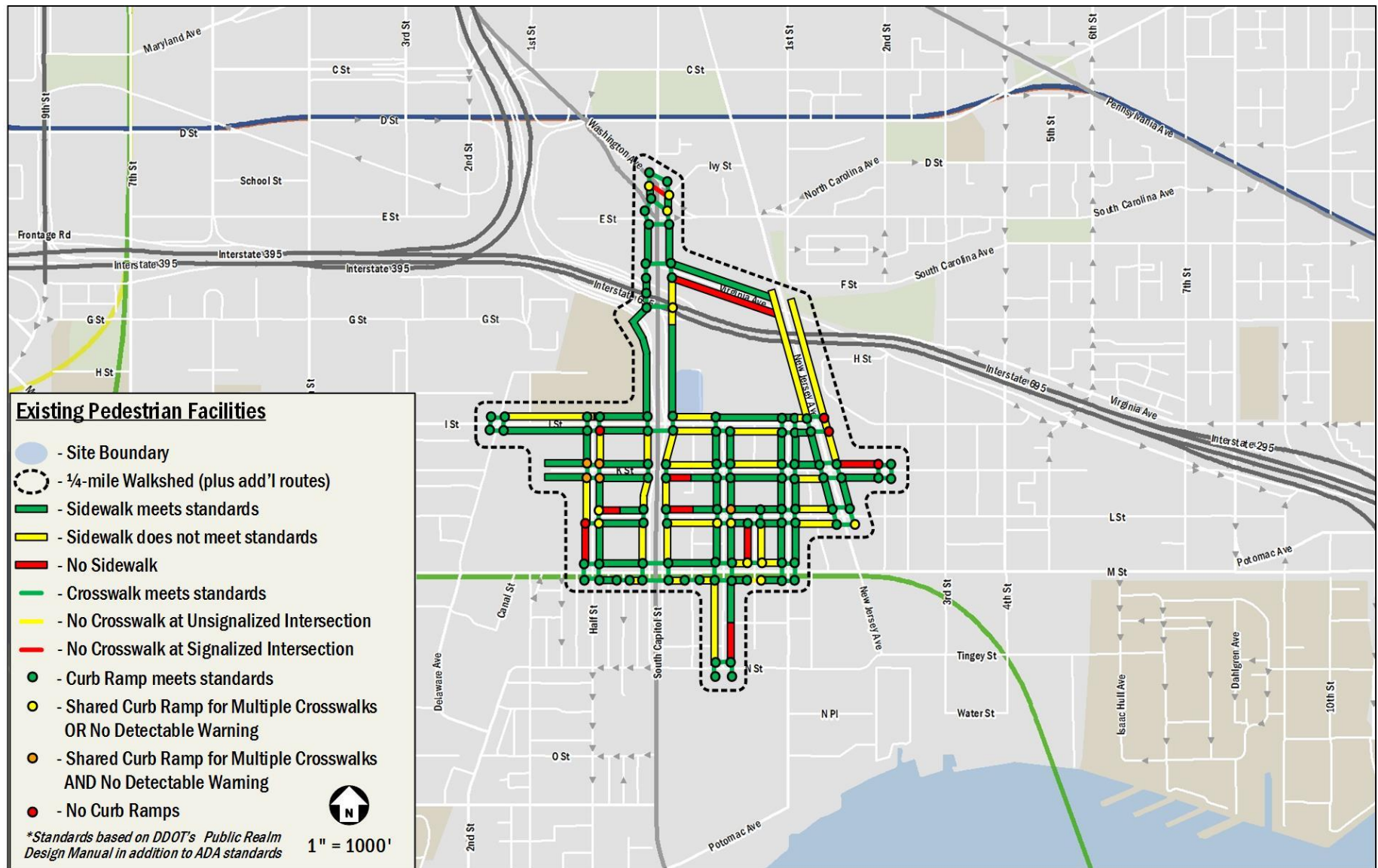


Figure 15: Existing Pedestrian Infrastructure

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:

- The site has access to several bike trails, bike lanes, and signed bike routes in addition to multiple nearby Capital Bikeshare stations.
- The site is not expected to generate a significant amount of bicycle trips, therefore all site-generated bike trips can be accommodated on existing infrastructure.
- The development site will include secure bicycle parking in the parking garage and short-term bicycle racks along the perimeter of the site.

EXISTING BICYCLE FACILITIES

The site is well-connected to existing on- and off-street bicycle facilities. North-south connectivity is provided along the along bike lanes on 4th Street SE, 1st Street SE, and 4th Street SW. East-west connectivity is provided along the Anacostia Riverwalk Trail and I Street SE/SW. Figure 31 illustrates the existing bicycle facilities in the area.

Some short-term bicycle parking exists in the vicinity of the site, particularly surrounding recently developed sites. However, no permanent bike parking is provided along the perimeter of the site under existing conditions.

In addition to personal bicycles, the Capital Bikeshare program provides an additional cycling option for residents, employees, and patrons of the West Half Street development. The Bikeshare program has placed over 350 bicycle-share stations across Washington, DC, Arlington and Alexandria, VA, and most recently Montgomery County, MD with over 3,000 bicycles provided. Within a quarter-mile of the site there is Capital Bikeshare station. Figure 31 illustrates the existing bicycle facilities in the area.

PROPOSED BICYCLE FACILITIES

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

- **Tier 1**
Investments should be considered as part of DDOT's 6-year 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 2 Eye Street development, this report will focus on the Tier 1 recommendations within the vicinity of the site. These include the South Capitol Street Bridge Crossing Trail between Potomac Avenue SE and First Sterling Avenue SE and a cycle track along 4th Street/P Street SW between South Capitol Street and M Street SW. These facilities would greatly improve the bicycle connectivity near the site.

Although these projects are discussed in the MoveDC plan, they are not currently funded or included in DDOT's Transportation Implementation Plan thus they will not be assumed as complete for this analysis.

SITE IMPACTS

This section summarizes the impacts of the development on the overall bicycle operations surrounding the site and develops recommendations for connectivity improvements.

Bicycle Trip Generation

The West Half Street development is expected to generate 16 bicycle trips (3 inbound, 13 outbound) during the morning peak hour and 19 bicycle trips (12 inbound, 7 outbound) during the



afternoon peak hour. Although bicycling will be an important mode for getting to and from the site, with quality cycling routes available to and from the site, the impacts from bicycling will be relatively less than impacts to other modes.

On-Site Bicycle Elements

The project will provide amenities that cater to cyclists including secure long-term bicycle parking and short-term bicycle racks. The development will supply long-term bicycle parking in the garage and will comply with zoning requirements.

Exact numbers and locations of bicycle racks have not yet been determined; however, it is expected that bicycle racks will be located along the perimeter of the site. The Applicant is willing to work with DDOT to determine the locations of bicycle racks within public space.

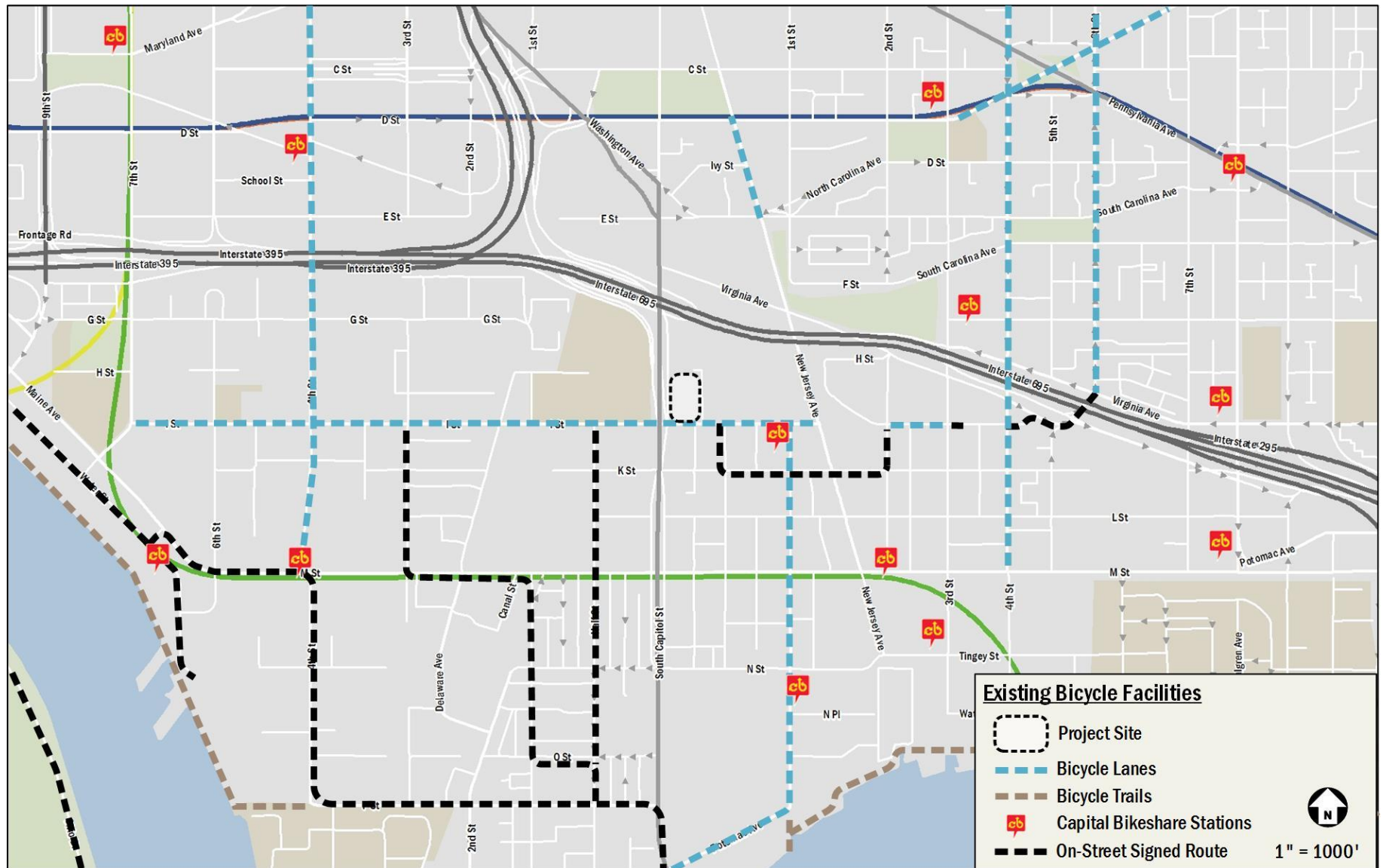


Figure 16: Existing Bicycle Facilities

CRASH DATA ANALYSIS

This section of the report reviews available crash data for the two intersections nearest the proposed site driveway (as agreed upon with DDOT during the scoping process), reviews potential impacts of proposed development on crash rates, and makes recommendations for mitigation measures where needed.

SUMMARY OF AVAILABLE CRASH DATA

A safety analysis was performed to determine if there was an abnormally high accident rate at any of the intersections directly surrounding the site. The District Department of Transportation (DDOT) provided the last three years of intersection accident data; from 2012 to 2014.

This data set included the intersections of Eye Street with South Capitol Street and Half Street SE. This data was reviewed and analyzed to determine the accident rate at each location. For intersections, the accident rate is measured in accidents per million-entering vehicles (MEV). The accident rates per intersection are shown in Table 11.

According to the Institute of Transportation Engineer's *Transportation Impact Analysis for Site Development*, a crash rate of 1.0 or higher is an indication that further study is required. One intersection in this study area meet this criterion (as shown in red in Table 11 and detailed in Table 12). The 2 Eye Street development should be developed in a manner to help alleviate, or at minimum not add to, the conflicts at this intersection.

A rate over 1.0 does not necessarily mean there is a significant problem at an intersection, but rather it is a threshold used to identify which intersections may have higher crash rates due to operational, geometric, or other 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.

Table 11: Summary of Crash Data by Intersection

Intersection	Total Crashes	Ped Crashes	Bike Crashes	Rate per MEV*
1. Eye Street & South Capitol Street	114	2	3	2.08
2. Eye Street & Half Street SE	3	0	0	0.34

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

For this intersection, the crash type information from the DDOT crash data was reviewed to see if there is a high percentage of certain crash types. Generally, the reasons for why an intersection has a high crash rate cannot be derived from crash data, as the exact details of each crash are not represented. However, some summaries of crash data can be used to develop general trends or eliminate some possible causes. Table 12 contains a breakdown of crash types reported for the intersections with a crash rate over 1.0 per MEV.

POTENTIAL IMPACTS

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

■ South Capitol Street & Eye Street

This intersection is over the threshold of 1.0 crashes per MEV, with a rate of approximately 2.08 crashes per MEV over the course of the 3-year study period. The majority of the crashes at this intersection were side swiped and rear end crashes. Sideswipe crashes can often occur when a vehicle going straight through an intersection makes a last-second lane change to get around a vehicle waiting for a gap to make a left turn from a shared through/left lane, as is the case in this location along the eastbound approach of Eye Street. Elevated rear-end collision rates are typical at intersections controlled by a traffic signal.

This report recommends restriping the eastbound approach of Eye Street from a thru-left lane and right-turn lane to a left-turn lane and a thru-right lane. This may help alleviate side swiped crashes at the intersection.

Table 12: Crash Data Breakdown

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
Eye Street & South Capitol Street	2.08	11 10%	11 10%	2 2%	44 39%	26 23%	1 1%	2 2%	3 3%	3 3%	1 1%	1 1%	1 1%	0 0%	8 7%	114

SUMMARY AND CONCLUSIONS

This report reviews the transportation aspects of the projects Board of Zoning Adjustment (BZA) Application, in which the Applicant is seeking zoning relief. The BZA Case Number is 19175. This evaluation is based on a technical comparison of the existing conditions, background conditions, and total future conditions. This report concludes that **the project will not have a detrimental impact** to the surrounding transportation network assuming that all planned site design elements are implemented.

Proposed Project

This BZA application is for the mixed-use 2 Eye Street development. The Applicant is proposing to develop the existing McDonalds (with a double drive-thru and 60 parking spaces) on the northeast corner of South Capitol Street and Eye Street into a mixed-use project including residential and retail uses. The site is bounded by South Capitol Street to the west, Eye Street to the south, an existing driveway to the east, and adjacent parcels to the north. The development program includes 558 residential units and a maximum of 2,999 square feet of ground-floor retail space. There will be a below-grade parking garage that will include approximately 263 parking spaces for use by the residential component.

Parking and loading access will be off of Eye Street. One curb cut will lead to a vehicular turnaround that will provide access to both the parking garage and the loading area. The development will supply two (2) 30' loading berths and one (1) 20' delivery/service space. This amount of loading space is expected to be sufficient based on the size of the residential units and the projected daily loading demand at the site.

Multi-Modal Impacts and Recommendations

Transit

The site is well-served by regional and local transit services such as Metrorail, Metrobus, and Circulator. The site is approximately a quarter-mile from the nearest Navy Yard Metrorail Station portal at M Street and Half Street and many Metrobus stops are located near the site along M Street and South Capitol Street.

Although the 2 Eye Street development will be generating new transit trips on the network, the existing facilities have enough capacity to handle the new trips. The Navy Yard Metrorail station and all nearby Metrobus lines do not have existing

capacity concerns are not expected to as a result of the 2 Eye Street development.

Pedestrian

The site is surrounded by a well-connected pedestrian network. Most roadways within a quarter-mile radius provide sidewalks and acceptable crosswalks and curb ramps, particularly along the primary walking routes. There are some pedestrian barriers surrounding the site such as limited connectivity due to the Interstate to the north and the Anacostia River to the south.

As a result of the 2 Eye Street development, pedestrian facilities will be improved. The number of curb cuts along Eye Street will be reduced from two to one, improving the pedestrian environment. Also, the existing sidewalk along Eye Street that currently does not meet DDOT standards, will be improved such that they meet or exceed DDOT requirements and provide an improved pedestrian environment.

Bicycle

The site is located along Eye Street which provides a primary east-west bicycle lane. The site is also located just blocks away from additional trails, bike lanes, and signed bike routes such as the Anacostia Riverwalk Trail to the south and north-south bike lanes along 4th Street SE, 1st Street SE, and 4th Street SW. The site is served by the Capital Bikeshare program which provides an additional cycling option for residents, employees, and patrons of the 2 Eye Street development.

On site, the 2 Eye Street development will provide short-term bicycle parking along the perimeter of the site and secure long-term bicycle parking in the parking garage.

Vehicular

The 2 Eye Street site is well-connected to regional roadways such as I-395, I-695, and I-295, primary and minor arterials such as South Capitol Street, M Street, and I Street, and an existing network of collector and local roadways.

In order to determine if the proposed development will have a negative impact on this transportation network, this report projects future conditions with and without the development of the site and performs analyses of intersection delays. These delays are compared to the acceptable levels of delay set by DDOT standards to determine if the site will negatively impact the study area.

The analyses conclude that the 2 Eye Street development will not have adverse impacts on the surrounding transportation network. All of the locations in the study area with unacceptable levels of delay occur in scenarios with and without the development of the project. That said, improvements to the intersection of South Capitol Street and Eye Street were evaluated as part of this report in order to improve overall operations along the Eye Street corridor. Potential improvements to this intersection include:

- The conversion of the eastbound lane configuration from a shared left-thru lane and a right-turn lane to an exclusive left-turn lane and a thru-right lane.
- Adjustments to the signal times such that some green time is shifted from South Capitol Street to Eye Street.

These changes greatly reduce delay at the intersection and reduce the excessive queue lengths along Eye Street.

In addition to these capacity improvements, signage and striping changes are proposed along Eye Street between South Capitol Street and Half Street to best integrate the site driveway into the existing roadway network and reduce any operational or safety concerns.