

Comprehensive Transportation Review

1319 South Capitol Street SW

Washington, DC

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Executive Summary

The following report is a Comprehensive Transportation Review (CTR) on behalf of 1319 South Capitol Owner, L.L.C. (the "Applicant") for Design Review by the Zoning Commission (Zoning Commission Case Number 20-18) for the property located at Square 653 and Lots 14, 15, 53, 54, 60-64, 68, 70, 810, 811, and 831 in Southwest, Washington, DC (and referred to herein as "1319 South Capitol Street").

The purpose of this CTR is to evaluate whether the 1319 South Capitol Street SW development will generate a detrimental impact to the transportation network surrounding the site. 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 the proposed site design elements, intersection mitigation measures, and TDM measures are implemented.

Proposed Project

The site is located at 1319 South Capitol Street SW, bounded by N Street SW to the north, an alley and private property to the west, private property to the south, and S Capitol Street and private property to the east.

The development scheme includes approximately 310 residential units ($\pm 10\%$ flexibility) and approximately 180 underground garage parking spaces. The project also includes the potential to utilize up to approximately 3,479 square feet of space as commercial or retail use.

Vehicular access to the site will consist of a 16-foot north-south public alley accessible from N Street SW to service the parking and loading facilities. Access to a vehicular pick-up/drop-off area will be accessed through an existing 10-foot east-west public alley accessible from S Capitol Street to which a private 10-foot wide east-west alley component is to connect. No new curb cut is proposed. One (1) existing curb cut along S Capitol Street serving the existing surface lot will be removed.

The loading areas within the site consist of one (1) 30-foot loading berth, one (1) service/delivery space, and one (1) 100 square foot loading platform. All truck turning maneuvers will occur within the site, allowing for head-in/head-out access to and from the public roadway network. The number of loading berths meet zoning and DDOT dimensional requirements.

The 1319 South Capitol Street SW development will satisfy the 2016 zoning requirements for bicycle parking by including 110 long-term bicycle parking spaces and 17 short-term bicycle parking spaces. The 1319 South Capitol Street SW development will supply long-term bicycle parking in secure locations within the building and short-term bicycle parking along the perimeter of the site. The vehicular and bicycle parking will also meet the practical needs of the development's employees, residents, and patrons.

Multi-Modal Overview

Trip Generation

The 1319 South Capitol Street SW development is transit-, pedestrian-, and bicycle-oriented. The proposed project is expected to generate new trips on the surrounding transportation network across all modes during the morning, afternoon, and Saturday peak hours. However, the new trips generated by the project will not have a detrimental impact on the transportation network due to the minor level of increased trips and as a result of mitigation measures and a TDM plan that will be implemented as part of the redevelopment. The multi-modal trip generation for the proposed project is as follows:

- The AM peak hour trip generation is projected to include 44 vehicles/hour, 65 transit riders/hour, 15 bicycle trips/hour, and 18 walking trips/hour.
- The PM peak hour trip generation is projected to include 54 vehicles/hour, 81 transit riders/hour, 20 bicycle trips/hour, and 36 walking trips/hour.
- The Saturday peak hour trip generation is projected to include 38 vehicles/hour, 58 transit riders/hour, 15 bicycle trips/hour, and 31 walking trips/hour.

Transit

The development site is well-served by transit. It is located approximately 0.4 miles from the Navy Yard-Ballpark Metro station, approximately 0.6 miles from the Waterfront Metro station, and is served by local and regional bus routes.

Several planned or proposed transit projects will improve transit access to the site, including a peak-hour bus and bike lane on M Street SE as well as other improvements proposed in *MoveDC*, the District's long-range transportation plan.

The site is expected to generate a manageable amount of transit trips, and the existing service can accommodate these new trips.

Pedestrian

The site is surrounded by a well-connected pedestrian network. Despite some incidences of missing crosswalks or sidewalks that do not meet width standards, overall there is an excellent, well-connected pedestrian network surrounding the site.

The site will improve the overall pedestrian environment on site by improving sidewalks along the perimeter of the site.

The site is expected to generate a manageable number of pedestrian trips, and the existing pedestrian facilities can accommodate these new trips.

Bicycle

The site has access to several on- and off-street bicycle facilities.

Several planned and proposed bicycle projects will improve bicycle access to the site, including a car-free lane for buses and bikes on M Street SE, as well as an expanded network of cycle tracks and bicycle trails in the area.

The site is expected to generate a manageable amount of bicycle trips, and the existing bicycle facilities can accommodate these new trips.

The development will include long-term bicycle parking within the parking garages and short-term bicycle parking along the perimeter of the site that meet zoning requirements.

Vehicular

The site is accessible from principal arterials such as South Capitol Street to the east. The site is also directly served by N Street SW, a minor arterial providing a robust network of local and regional connectivity. These roadways connect the site to I-395/I-695 and to DC-295, both of which provide access to the Capital Beltway (I-495), which surrounds Washington, DC and its inner suburbs, as well as providing connectivity to the District core.

In order to determine the project's impact on the transportation network, future conditions were analyzed with and without the development based on the number of trips the site is expected to generate under the development program. Intersection analyses are performed to obtain the average delay and queue a vehicle will experience. These average delays and queues are compared to the acceptable levels of delay set by DDOT standards as well as existing and background queues to determine if the project will negatively impact the study area.

The analysis concluded that four (4) intersections require mitigation as a result of the minor impacts to delay and/or queues created by the project. Mitigation measures, which will reduce impacts to delay caused by the project are recommended as follows:

S Capitol Street West Service Road & M Street SW

While signal timing adjustments were tested, this mitigation measure alone was not found to be effective in reducing delays. Since this intersection will be improved and redesigned as part of Phase 2 of DDOT'S South Capitol Street Corridor Project, this report does not recommend operational or intersection geometry changes at this time.

S Capitol Street East Service Road & M Street SE

While signal timing adjustments were tested, this mitigation measure alone was not found to be effective in improving the queueing issue. Since this intersection will be improved and redesigned as part of Phase 2 of DDOT'S South Capitol Street Corridor Project, this report does not recommend operational or intersection geometry changes at this time.

S Capitol Street & N Street SW

Signal timing and phasing adjustments are recommended to be coordinated with DDOT in the afternoon peak hour to ensure the most efficient future operation, following construction of the proposed project by 2024.

S Capitol Street & P Street SW

This report recommends installing pavement markings at the eastbound P Street SW to enhance the delineation of the dedicated left-turn lane and the right-turn bay. This report also recommends coordination with DDOT to restrict illegal left turns more strictly at the northbound S Capitol Street to ensure the most efficient operation in the future following the construction of the 1319 South Capitol Street SW development.

Safety

A qualitative review of study area intersections was performed to identify areas of concern due to vehicular, pedestrian, and bicycle interactions.

The analysis concluded that no study intersections are considered hazardous/high crash intersections. However, based on a review of facilities in the area, one (1) intersection was identified for further evaluation to enhance the multi-modal network surrounding the site. The evaluation of this intersection is as follows:

M Street and S Capitol Street

While this intersection is not considered a hazardous/high crash intersection, this location carries a high level of vehicle traffic and pedestrian activity. This intersection has received public comments regarding pedestrian and bicycle safety. Intersection geometry or operational changes are not recommended at this time as this intersection will be improved and redesigned as part of Phase 2 of DDOT's South Capitol Street Corridor Project.

times or shifts single-occupancy vehicular demand to off-peak periods.

Transportation Demand Management (TDM) Plan

Per the DDOT CTR guidelines, the goal of TDM measures is to reduce the number of single occupancy vehicles and vehicle ownership within the District. The promotion of various programs and existing infrastructure includes maximizing the use of transit, bicycle, and pedestrian facilities. DDOT has outlined expectations for TDM measures in their CTR guidelines, and this project has proposed a TDM plan based on these guidelines, which is set forth in Project Design chapter of this report.

Summary and Recommendations

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

The 1319 South Capitol Street SW project has several positive design elements that minimize potential transportation impacts, including:

- The site's close proximity to transit and existing bicycle infrastructure;
- The site being located in a well-connected pedestrian network;
- The inclusion of secure long-term bicycle parking that exceeds zoning requirements;
- The installation of short-term bicycle parking spaces along the frontage of the site that meet zoning requirements;
- The use of existing public alleys that will accommodate all parking and loading access;
- The inclusion of a designated pick-up and drop-off area that is internal to the project;
- The creation of new pedestrian sidewalks that meet or exceed DDOT and ADA requirements, improving the existing pedestrian environment; and
- A TDM plan that reduces the demand of single-occupancy, private vehicles during peak period travel

Introduction

This report is a CTR reviewing the transportation aspects of the 1319 South Capitol Street SW development. The site, shown in Figure 1 and Figure 2, is located at Square 653 and Lots 14, 15, 53, 54, 60-64, 68, 70, 810, 811, and 831 in Southwest, Washington, DC. The site is currently zoned CG-2. The proposed project is undergoing Design Review by the Zoning Commission (Zoning Commission Case Number 20-18).

Purpose of Study

The purpose of this report is to:

1. Review the transportation elements of the proposed project and demonstrate that it conforms to DDOT's general policies of promoting non-automobile modes of travel and sustainability.
2. Provide information to DDOT and other agencies on how the proposed project will influence the local transportation network. This report accomplishes this by identifying the potential trips generated by the proposed project on all major modes of travel and where these trips will be distributed on such network.
3. Determine whether the proposed project will lead to adverse impacts on the local transportation network.
4. Propose design elements and TDM measures that will mitigate any potential adverse impacts to the transportation network, and minimize adverse effects.

Project Summary

The site is currently occupied with a surface parking lot and eight (8) rowhomes. The site is located in the southwest quadrant of Washington, DC. The site is bounded by N Street SW to the north, an alley to the west, private property to the south, and S Capitol Street to the east.

The 1319 South Capitol Street SW development will redevelop the existing uses on-site into an 11-story residential building with approximately 310 residential units ($\pm 10\%$ flexibility), up to approximately 3,479 square feet of commercial/retail use, and approximately 180 underground garage parking spaces.

Vehicular Access to the site will consist of a 16-foot north-south public alley accessible from N Street to service the parking and loading facilities. Access to a vehicular pick-up/drop-off area will be accessed through an existing 10-foot east-west public alley along S Capitol Street. Both public alleys will function as two-way alleys.

The loading areas within the site consist of one (1) 30-foot loading berth, one (1) service/delivery space, and one (1) 100

square foot loading platform. The proposed loading facilities will accommodate the practical needs of the 1319 South Capitol Street SW development, maintain loading activity within private property, and provide loading circulation that accommodates head-in/head-out truck movements from the public roadway network.

Pedestrian access is proposed along the frontages of the site on S Capitol Street SW and N Street SW. The main pedestrian entrance will be located on S Capitol Street SW. As part of the 1319 South Capitol Street SW development, pedestrian facilities along the project site's frontage will be improved to meet DDOT and ADA standards. New sidewalks will be installed along the perimeter of the site, and those sidewalks will meet or exceed width requirements.

There are existing bicycle facilities near the site. These include signed routes along S Capitol Street and Half Street SW, bicycle lanes along N Street SE, First Street SE, and Potomac Avenue SE, and the Anacostia Riverwalk Trail to the south. Additionally, the proposed project will meet zoning requirements and provide 110 long-term bicycle parking spaces and 17 short-term bicycle parking. Short-term bicycle parking spaces will be provided along the perimeter of the site. The nearest Capital Bikeshare station is located 0.2 miles east of the site near the intersection of N Street SE and First Street SE.

Contents of Study

This report contains nine (9) chapters as follows:

- **Study Area Overview**
This chapter reviews the area near and adjacent to the proposed project and includes an overview of the site.
- **Project Design**
This chapter reviews the transportation components of the proposed project, including the site plan and access. This chapter also contains the proposed Transportation Demand Management (TDM) plan for the Project.
- **Travel Demand Assumptions**
This chapter outlines the travel demand of the proposed project. It summarizes the proposed trip generation of the project.
- **Traffic Operations**
This chapter provides a summary of the existing roadway facilities and an analysis of the existing and future roadway capacity in the study area. This section highlights

the vehicular impacts of the project, including presenting mitigation measures for minimizing impacts as needed.

- **Transit**

This chapter summarizes the existing and future transit service adjacent to the site, reviews how the project's transit demand will be accommodated, outlines impacts, and presents recommendations as needed.

- **Pedestrian Facilities**

This chapter summarizes existing and future pedestrian access to the site, reviews walking routes to and from the proposed project, outlines impacts, and presents recommendations as needed.

- **Bicycle Facilities**

This chapter summarizes existing and future bicycle access to the site, reviews the quality of cycling routes to and from the proposed project, outlines impacts, and presents recommendations as needed.

- **Safety/Crash Analysis**

This chapter summarizes the potential safety impacts of the project. This includes a qualitative review of existing and proposed safety features surrounding the site.

- **Summary and Conclusions**

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

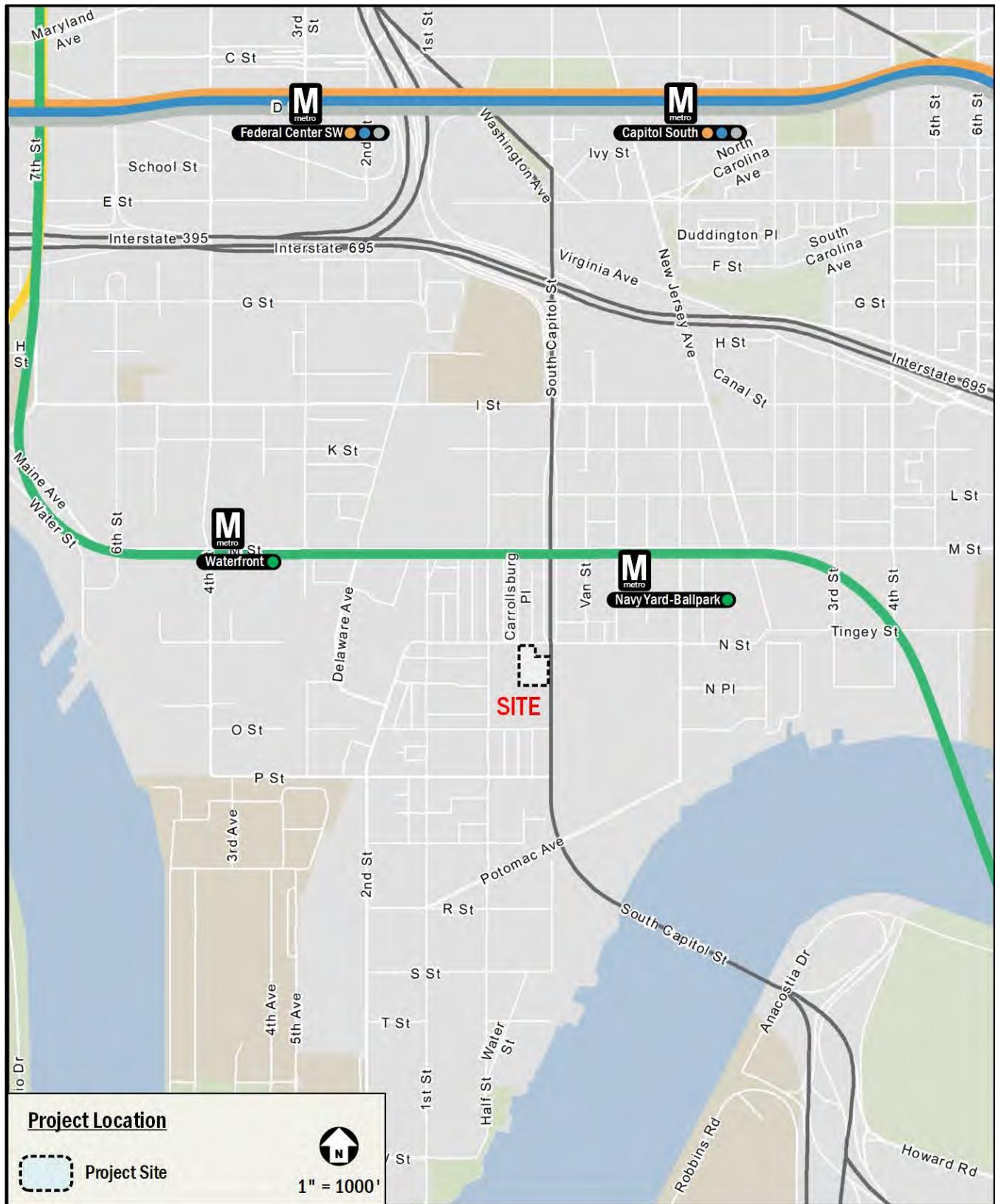


Figure 1: Site Location

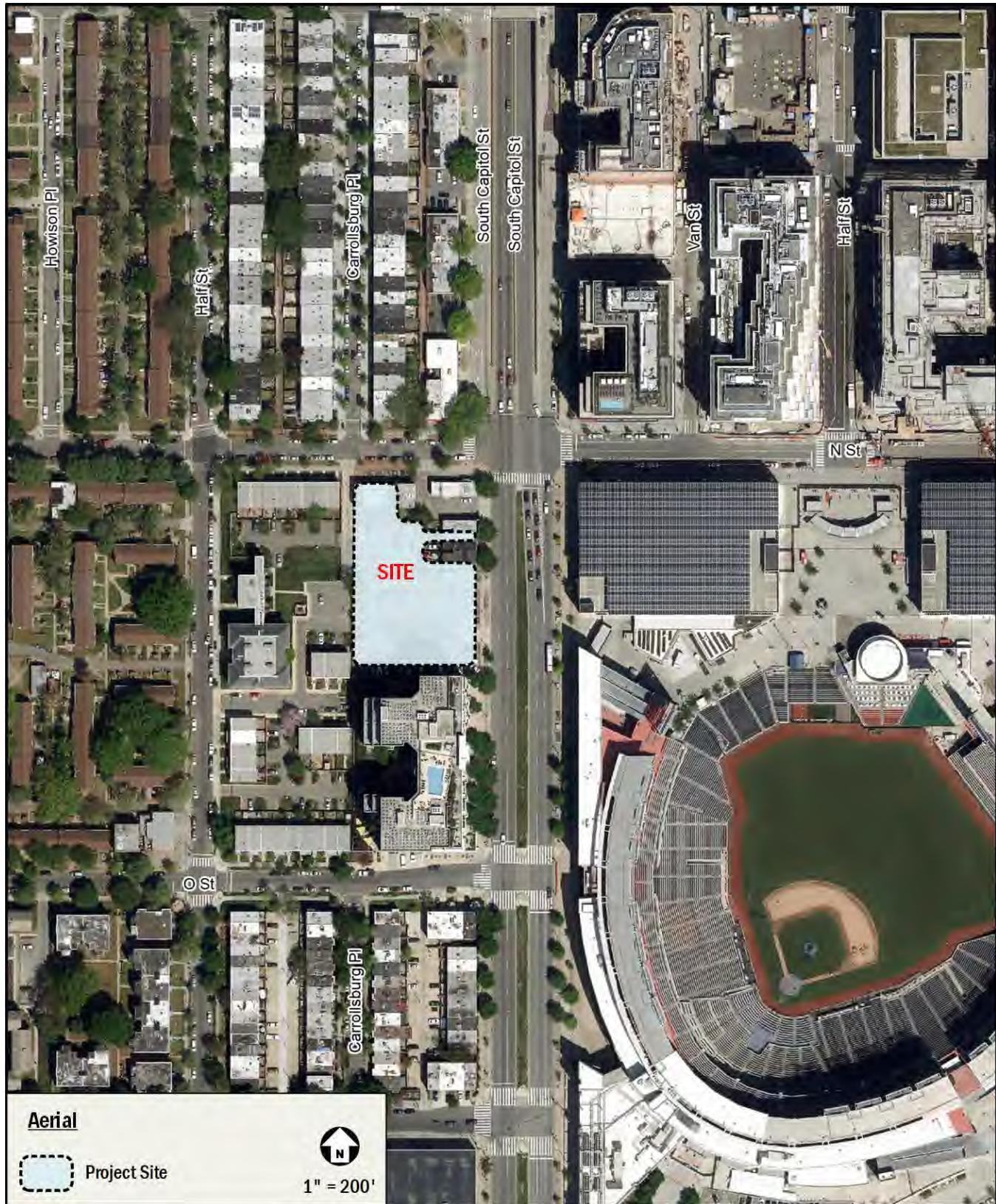


Figure 2: Site Aerial

Study Area Overview

This chapter 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.

This chapter concludes:

- The site is surrounded by an extensive regional and local transportation system that will connect the proposed project's employees, residents, and patrons to the rest of the District and surrounding areas.
- The site is served by public transportation with access to several local Metrobus routes and Metrorail. These routes provide direct service to all areas of Washington, DC.
- There is bicycle infrastructure in the vicinity of the site, with connectivity to east-west and north-south bicycle facilities.
- Pedestrian conditions are generally good, particularly along anticipated major walking routes with no major barriers impeding anticipated pedestrian routes.

Major Transportation Features

Overview of Regional Access

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

The site is accessible from principal arterials such as S Capitol Street. These roadways connect the site to I-395/I-695 and to DC-295, both of which provide access to the Capital Beltway (I-495), which surrounds Washington, DC and its inner suburbs, as well as providing connectivity to the District core.

The site is located 0.4 miles from the Navy Yard-Ballpark Metro station and 0.6 miles from the Waterfront Metro station, which are both served by the Green Line. The Green Line travels south from Greenbelt, MD through Downtown DC to Suitland, MD while providing access to the District core. Connections can be made at the Metro Center and Gallery Place-Chinatown stations to access the five (5) other Metrorail lines, allowing access to points in Virginia and Montgomery County, Maryland.

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

Overview of Local Access

There are a variety of local transportation options near the site that serve vehicular, transit, walking, and cycling trips, as shown on Figure 5. The site is directly served by principal arterial S Capitol Street and minor arterial N Street SW, which are supplemented by an existing network of connector and local roadways.

The Metrobus system provides extensive transit service in the vicinity of the site, including connections to several neighborhoods within the District and additional Metrorail stations. As shown in Figure 5, there are five (5) Metrobus routes and one (1) DC Circulator bus line that service the site. Multiple bus stops servicing the six (6) routes are located within a two-minute walk of the site. These bus routes connect the site to many areas of Southeast, DC, including several Metrorail stations where transfers can be made to reach areas in the District, Virginia, and Maryland. A detailed review of bus routes and transit stops within a quarter mile walk of the site is provided in a later chapter of this report.

The site is located in an area with several on-street bicycle facilities. Existing on-street facilities consist of signed routes along S Capitol Street and Half Street SW, and bicycle lanes along N Street SE, First Street SE, and Potomac Avenue SE. These facilities lead to the Anacostia Riverwalk Trail to the south. Using the available connections along the on-street and off-street routes within the study area, bicyclists have access to a number of regional bicycle facilities. To accommodate bicyclists, the project will provide on-site bicycle facilities as discussed in detail in the Project Design Review chapter. A detailed review of existing and proposed bicycle facilities and connectivity is provided in a later chapter of the report.

Anticipated pedestrian routes, such as those to public transportation stops, schools, and community amenities, provide adequate pedestrian facilities; however, there are a few sidewalks, generally located several blocks north from the site, that do not meet DDOT standards due to narrow or missing buffer widths. All primary pedestrian destinations are accessible via routes with sidewalks, all of which meet DDOT standards. No sidewalks within the study area limit connectivity. A detailed review of existing and proposed pedestrian access and infrastructure is provided in a later chapter of this report.

Overall, the site is surrounded by a well-connected local transportation network that allows for efficient transportation options via transit, bicycle, walking, or vehicular modes.

Carsharing

Two (2) carsharing companies provide service in the District: Zipcar and Free2Move. Both services are private companies that provide registered users access to a variety of automobiles. Of these, Zipcar has designated spaces for their vehicles. Currently, there are one (1) Zipcar location within a quarter-mile of the site. The nearby locations and the number of available vehicles are listed in Table 1.

Carsharing is also provided by Free2Move, which provides point-to-point carsharing. Free2Move currently has a fleet located within areas of the District and Arlington County. Free2Move vehicles may park in any non-restricted metered curbside parking space 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. Free2Move does not have permanent designated spaces for their vehicles; however, availability is tracked through their website and mobile phone application, which provides an additional option for car-sharing patrons.

Table 1: Carshare Locations

Carshare Location	Number of Vehicles
Zipcar	
1272 Van Street SE	2 Vehicles
Total	2 Vehicles

Bikeshare and Scooter Share

The Capital Bikeshare program provides additional cycle options for residents, employees, and visitors of the proposed project. The program has placed over 500 bikeshare stations across the Washington, DC metropolitan area with over 4,500 bicycles in the fleet.

In addition to Capital Bikeshare, five (5) electric-assist scooter (e-scooter) and electric-assist bicycle (e-bike) companies provide Shared Mobility Device (SMD) service in the District: JUMP, Lyft, Skip, Spin, and Helbiz. These SMDs are provided by private companies that give registered users access to a variety of e-scooter and e-bike options. These devices are used through each company-specific mobile phone application. Many SMDs do not have designated stations where pick-up/drop-off activities occur like with Capital Bikeshare; instead, many SMDs are

parked in public space, most commonly in the "furniture zone" (the portion of sidewalk between where people walk and the curb, often where you'll find other street signs, street furniture, trees, parking meters, etc.). At this time, SMD pilot/demonstration programs are underway in Arlington County, the District, Fairfax County, the City of Alexandria, and Montgomery County.

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 site is located in the Southwest - Waterfront neighborhood. The site has a walk score of 87 (or "Very Walkable"), a transit score of 58 (or "Good Transit"), and a bike score of 94 (or "Biker's Paradise"). Figure 3 shows the neighborhood borders in relation to the site and displays a heat map for walkability and bikeability. The following conclusions can be made based on the data obtained from Walkscore.com:

- The site is situated in an area with excellent walkability as most errands can be accomplished within walking distance;
- The site is situated in an area with good transit scores due to its proximity to a high number of bus routes and Metrorail; and
- The site is situated in an area with excellent bike scores due to its proximity to a number of bike facilities and flat topography.

Overall, the site and surrounding neighborhood have pedestrian, transit, and bike accessibility. The 1319 South Capitol Street SW development will directly improve the neighborhood's and surrounding area's walkability and bike score by enhancing the pedestrian and bicycle network with the provision of improved pedestrian sidewalks, neighborhood-serving retail and services, and new short-term bicycle parking facilities.

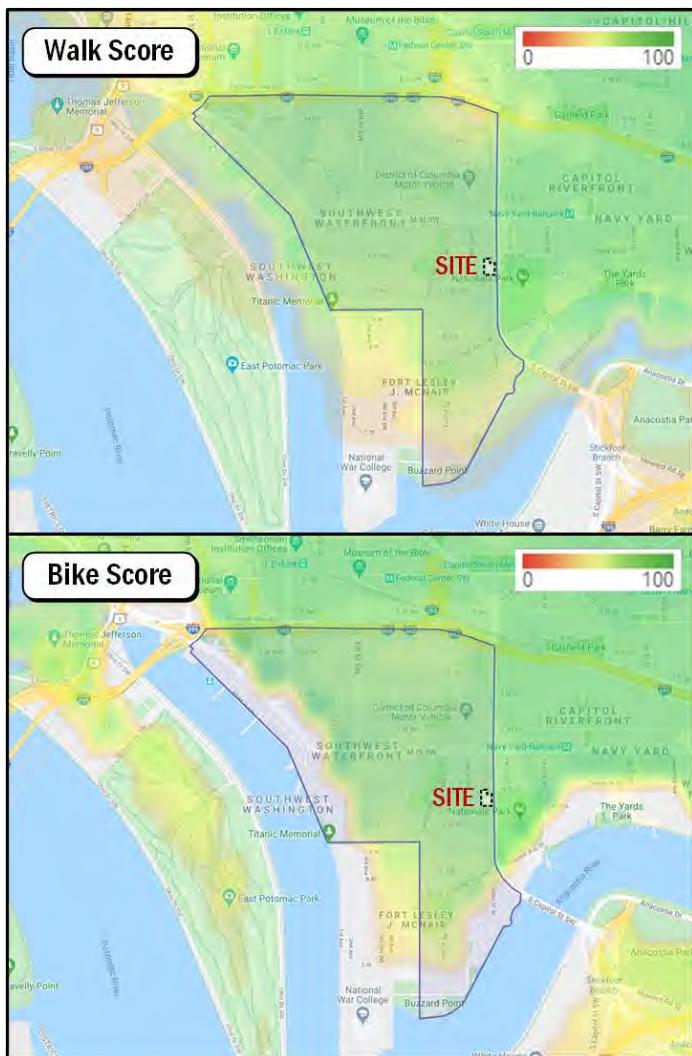


Figure 3: Summary of Site Walkscore and Bikescore

Future Projects

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

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; and
- Water taxis.

In direct relation to the proposed project, the *MoveDC* plan outlines recommended transit and bicycle improvements including the following:

- A segment of WMATA's Metrobus Priority Corridor Network (PCN), which would improve bus travel times, reliability, and capacity, along M Street SW/SE;
- High-capacity transit service along M Street SW/SE;
- Streetcar service along M Street SW/SE and First Street SW;
- Cycle tracks along P Street SW, South Capitol Street, 2nd Street SW, and 4th Street SW; and
- A bicycle trail connecting the Capitol with the Anacostia Riverwalk Trail.

Some other *MoveDC* recommendations are already being implemented and are detailed in their respective sections of this report.

South Capitol Street Corridor Project

DDOT's South Capitol Street project replaces the Frederick Douglass Memorial Bridge with a new span featuring a design that improves bicycle, pedestrian, and vehicular safety. The project also includes two new traffic ovals, one of each side of the bridge, as well as a reconstructed South Capitol Street north of the bridge, a reconstructed Suitland Parkway/Interstate 295 interchange, and improved drainage and stormwater management. S Capitol Street will be reconstructed as a six-lane boulevard with an improved streetscape from the traffic oval to Independence Avenue SW/SE and the intersection at M Street SE will be reconstructed to be at-grade. In direct relation to the proposed project, the South Capitol Street Corridor Project will provide a safer, more attractive bicycle and pedestrian link from the project's location in southwest, DC to areas east of the Anacostia River.

Phase 1 includes improvements from south of O Street SW to Ferth Sterling Avenue SE. This phase is currently under

construction and is planned to be complete by Summer 2022. Phase 2 includes improvements from O Street SW to I-695. This phase is not yet funded and is still under design.

M Street SE-SW Transportation Study

This study identified existing and future transportation challenges and ways to address them within a roughly 1.7-square-mile area along M Street SE/SW, and the Southwest waterfront from 12th Street SE to 14th Street SW, and from the Southwest/Southeast Freeway south to the Anacostia River/Washington Channel.

In direction relation to the proposed project, the M Street SE-SW Transportation Study identifies several potential improvement options for three conditions: near-term (2013-2016), mid-term (2015-2021), and long-term (2020 and beyond). These improvement options focused on:

- Encouraging the use of public transit and non-motorized modes by enhancing and increasing transit, bicycle, and pedestrian facilities;
- Improving capacity only on a few roadways and mostly modest improvements that are feasible for the main corridors;
- Providing a more balanced function for streets in terms of mobility and accessibility; and
- Increasing connectivity for all modes.

Southwest Neighborhood Plan

The Southwest Neighborhood Plan is a community-based strategy developed for the purpose of creating an urban design, land use, and neighborhood preservation framework to enhance parks, pedestrian and street connections, integrate community amenities, enhance transportation choices, and accommodate and guide the direction of future growth in the Southwest neighborhood.

In direction relation to the proposed project, the Southwest Neighborhood Plan identifies the following recommendations:

- Enhance neighborhood edges and gateways by improving crosswalks, signage, lighting, and/or streetscapes at key gateways, including S Capitol Street at Eye Street, L Street, M Street, and N Street;
- Improve pedestrian/bicyclist crossings through enhanced signage, redesigned crosswalk flashing signals and/or speed cameras at M Street at Half Street, First Street, 3rd Street, and 6th Street;

- Link bicycle routes across Southwest, DC by extending dedicated bicycle lanes along First Street between M Street and P Street; and
- Work with Capital Bikeshare to install additional bikeshare station at Eye Street at Randall Recreation Center.

Planned Developments

There are 19 potential development projects in the vicinity of the site. For the purpose of this analysis and consistent with DDOT and industry standards, only approved developments expected to be completed prior to the planned development with an origin/destination within the study should be included. All projects were ultimately included given the proximity of the developments from the site and site generated volumes of the planned developments impacting the study area intersections. The developments are described below.

Monument Valley

This development includes a mixed-use building with 60,000 square feet of retail space and 445 residential units. This development is currently under construction and has an expected completion year of 2019. Site observations confirmed that this development was not yet completed at the time of 2019 data collection and is still included as a background development.

West Half Street

This development includes a mixed-use building with 60,000 square feet of retail and 423 residential units. This development is currently under construction and is expected to be complete in 2020.

Square 769

Square 769 is proposed to contain 171 residential units and 4,000 square feet of retail with 215,000 square feet of office space. This development is expected to be complete in 2020. Site observations confirmed that this development was not yet completed at the time of 2019 data collection and is still included as a background development.

The Yards Parcel L1

This development has been completed and contains a hotel with 227 rooms and was not completed at the time of 2019 data collection.

The Yards Parcel L2

This development includes a mixed-use building with 285 residential units and 18,000 square feet of retail space. This development has been completed but was not open at the time of 2019 data collection.

The Yards Parcel O

The Yards Parcel O site includes a total of 330 residential units and 19,200 square feet of retail space. The parcel was split into two parts to develop two individual buildings. This development has been completed but was not open at the time of 2019 data collection.

DC Water Headquarters

The DC Water Headquarters will be a 167,000 square foot office building. The current 51,000 square foot site contains a warehouse and distribution building and the façade will be incorporated into the development. Construction on this development was completed in late 2018. Site observations confirmed that the completed development was not occupied at the time of 2019 data collection and is still included as a background development.

The Riverfront

This development is being completed over multiple phases and will include approximately 465,000 square feet of office space, 80,000 square feet of retail space, and 324 hotel rooms. This development is expected to open in 2020.

950 South Capitol Street

An under construction 13-story residential building with 300 dwelling units. This building is expected to be completed in the Summer of 2020.

Former Congressional Square

An under construction 11-story residential and retail building with 800 dwelling units and 44,000 square feet of retail. This building is expected to be complete in early 2022.

The Garrett at the Collective

An under construction 11-story residential and retail building with 375 dwelling units and 15,000 square feet of retail. This building is expected to be complete in 2020.

Capper Residential

A proposed 13-story residential building with 322 dwelling units and 9,250 square feet of retail. This building is expected to be completed in the Summer of 2022.

1000/1001 4th Street SW

As part of the larger Waterfront Station project, the 1000/1001 4th Street SW development includes 456 residential units, 11,000 square feet of retail and restaurant space, 9,000 square feet of arts/cultural space, and a 9,000 square feet daycare facility. This development is expected to be completed in 2022.

Randall School Redevelopment

A proposed mixed use 12-story building containing 470 dwelling units, 18,600 square feet of office space and 31,800 square feet of museum/library space. The Randall School Redevelopment building is expected to be completed in 2021.

CSX East Redevelopment

A mixed-use development consisting of three (3) buildings that include 222 hotel rooms, 758 residential units, and 49,000 square feet of retail. This development is expected to be completed by 2022.

375 & 425 M Street SW

375 M Street will consist of approximately 285 new residential dwelling units, 32,400 square feet of office, 18,800 square feet of retail, and a 6,000 SF community space.

425 M Street will consist of approximately 310 new residential dwelling units and 21,100 square feet of retail.

This development is expected to be completed prior to the completion of the 1319 South Capitol Street SW development.

The Bard

501 I (Eye) Street will consist of approximately 105 new residential dwelling units and 29,600 square feet of space for the Shakespeare Theatre Company. This development is expected to be completed prior to the completion of the 1319 South Capitol Street SW development.

Wharf Phase 2

The Wharf (Phase 2) is a large mixed-use development with retail, residential, office, and hotel uses. This development is expected to be complete along a similar timeline as the 1319 South Capitol Street SW development.

Novel Capitol View

An under construction 13-story residential and retail building with 558 residential units and 3,420 square feet of retail. The forecasted reduction in vehicle trips as a result of this development was not applied to the analysis included in this report.

Figure 6 shows the location of the developments considered in relation to the proposed project.

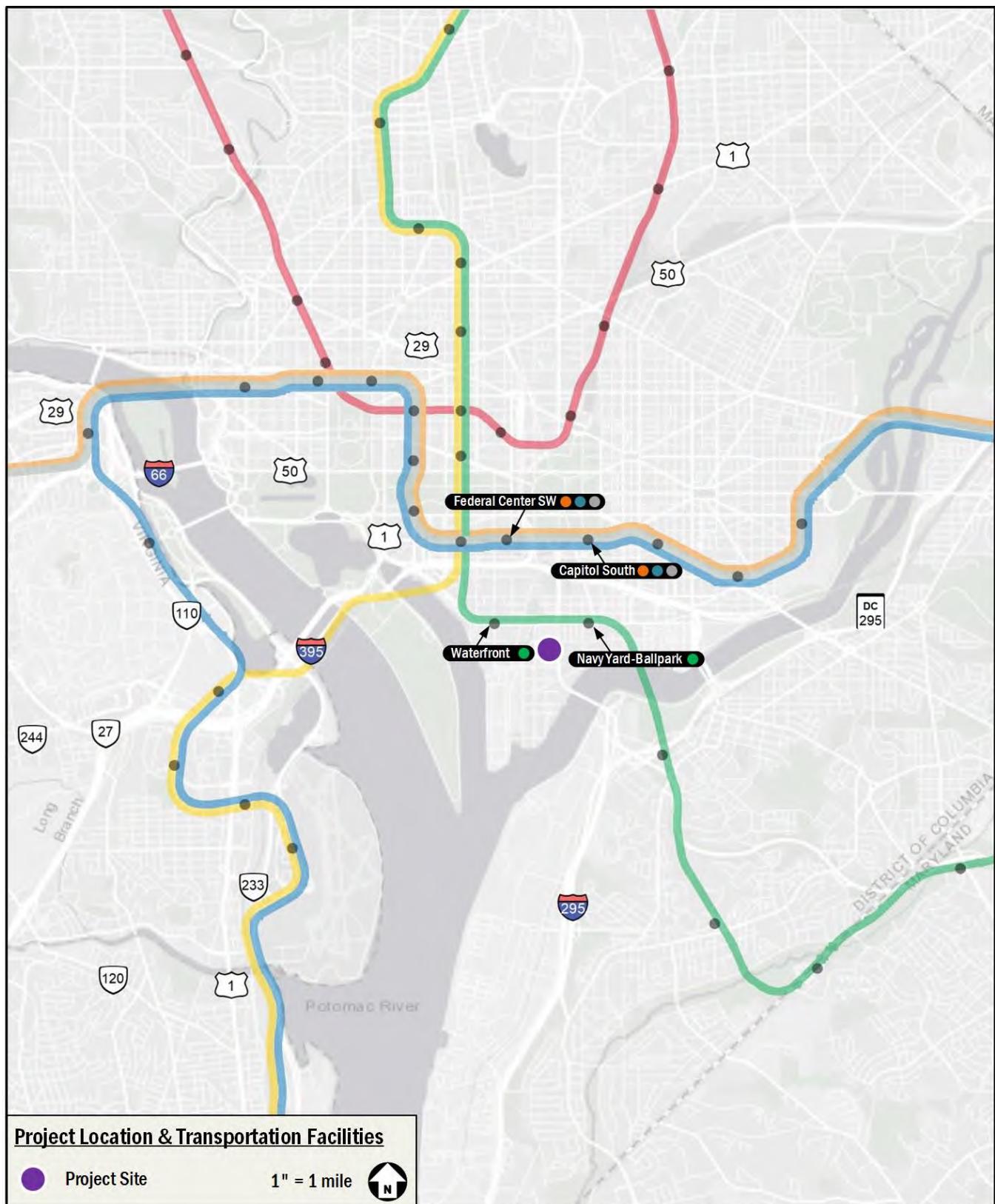


Figure 4: Major Regional Transportation Facilities

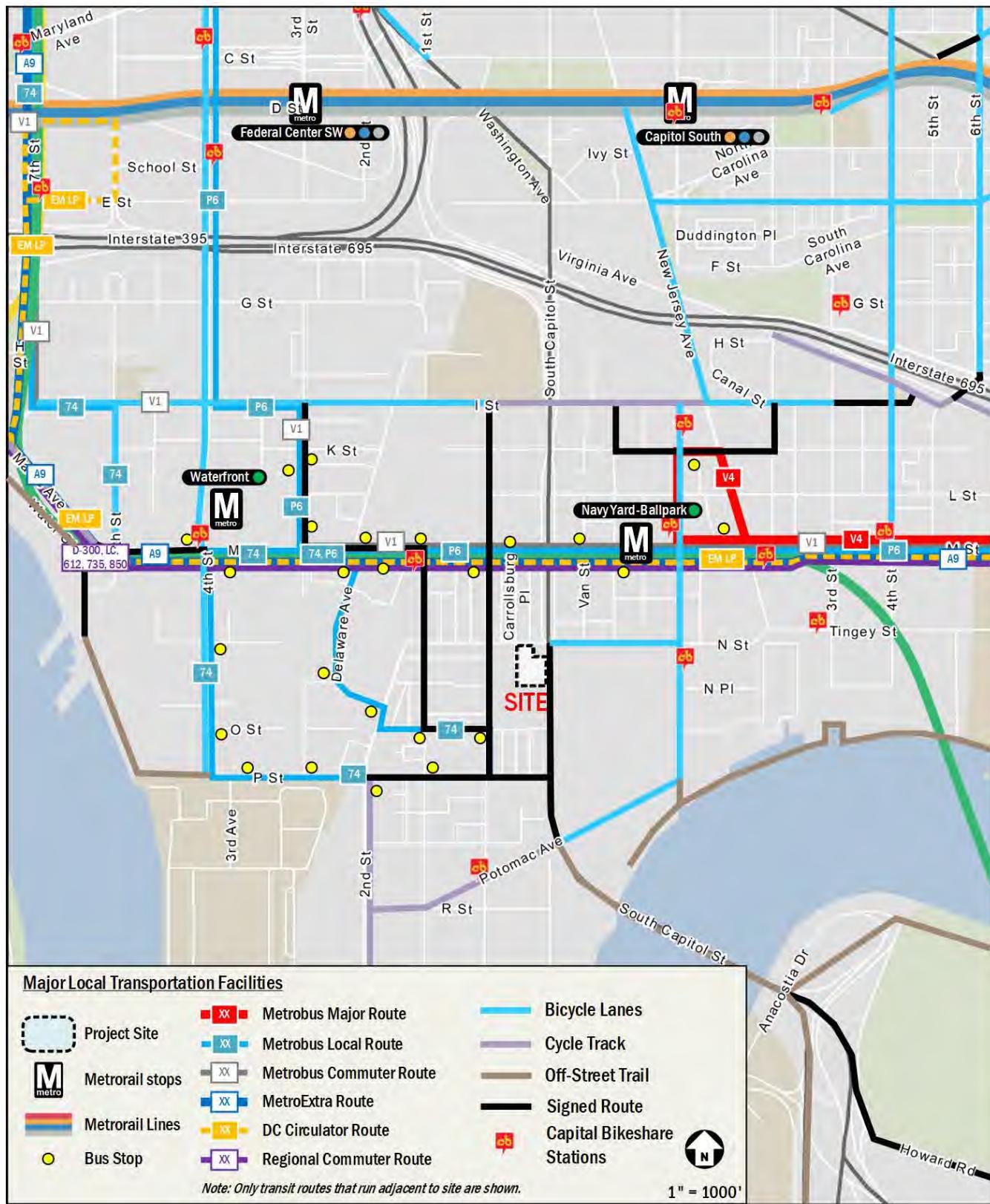


Figure 5: Major Local Transportation Facilities



Figure 6: Background Developments

Project Design

This chapter reviews the transportation components of the 1319 South Capitol Street SW development, including the proposed site plan and access points. It includes descriptions of the project's vehicular access, loading facilities, parking, bicycle and pedestrian facilities, and the proposed TDM plan.

The 1319 South Capitol Street SW development is bordered by N Street SW to the north, an alley and private property to the west, private property to the south, and South Capitol Street and private property to the east. The development program includes approximately 310 residential units ($\pm 10\%$ flexibility), up to approximately 3,479 square feet of commercial/retail use, and approximately 180 underground garage parking spaces. The project will replace a surface parking lot and eight (8) rowhouses and is undergoing Design Review by the Zoning Commission.

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

Site Access and Circulation

Pedestrian Access

Pedestrian access to the site will primarily utilize the planned entrances on S Capitol Street and off of the public alleys. The main pedestrian entrance will be located on S Capitol Street.

Pedestrian access to the site is shown on Figure 8.

Vehicular and Loading Access

The 1319 South Capitol Street SW development features two (2) curb cuts for the entire site, which are both in the form of existing public alleys. No new curb cuts are proposed as access to the parking and loading facilities will use existing public alleys. One (1) existing curb cut along S Capitol Street serving the existing surface lot will be removed.

Vehicular access to the site will consist of an existing 16-foot north-south public alley accessible from N Street SW to service the parking and loading facilities. Access to a vehicular pick-up/drop-off area will be accessed through an existing 10-foot east-west public alley along accessible from South Capitol Street to which a private 10-foot wide east-west alley component is to connect. Both public alleys will function as two-way alleys.

Figure 9 shows the location of the site access points for parking garage access and loading facilities.

Curbside Management

The existing curbside conditions around the site are shown on Figure 10. These parking restrictions will remain the same with the buildup of the 1319 South Capitol Street SW development. A pick-up/drop-off area is proposed within the 10-foot wide east-west public alley accessible from S Capitol Street. The private space adjacent to this public alley has been designed as a 10-foot wide private extension of the alley to allow for vehicular access such that multiple vehicles entering the site from S Capitol Street can be accommodated and conflicts and congestion on S Capitol Street can be minimized.

Loading and Trash

Loading

The proposed loading facilities will accommodate all loading activity and delivery demand for the residential uses without any detrimental impact to the surrounding transportation network. DDOT standards stipulate that truck movements for a development should be accommodated without back-in movements through public space. The 1319 South Capitol Street SW development has been designed to accommodate all loading activity and associated backing maneuvers within the public alley to the west of the site. Truck turning diagrams using AutoTurn are provided in the Technical Attachments.

The 1319 South Capitol Street SW development will provide one (1) 30-foot loading berth, one (1) 20-foot service/delivery space, and one (1) 100 square foot loading platform. Per 2016 Zoning Regulations, the 1319 South Capitol Street SW development is required to provide one (1) 30-foot loading berth, one (1) 20-foot service/delivery space, and one (1) 100 square foot loading platform. The proposed loading facilities satisfy the zoning requirements.

The site is expected to generate up to six (6) total loading trips per day. Table 2 summarizes the site's anticipated loading activity based on similar projects analyzed by Gorove Slade and truck trip generation methodology outlined in the newly released supplement to the Institute of Transportation Engineers' (ITE) *Trip Generation*, 10th Edition.

Table 2: Site Daily Loading Activity

Land Use/Truck Generator	Loading Trips
Residential	1
Retail	2
General	3
Total	6

The daily loading trip generation and assumptions for each use include the following:

- Residential: One (1) residential loading trip, calculated based on an average unit turnover of 18 months
- Retail: Two (2) retail deliveries; assuming one (1) retail delivery for each retailer
- General: Three (3) general deliveries consisting of trash removal, mail, and parcel delivery for the entire site

Trash

Trash for the 1319 South Capitol Street SW development will be accommodated using trash receptacles within the loading areas. No trash will be stored in public space.

Truck routing to and from the site will be focused on designated primary truck routes, such as S Capitol Street. Loading access and circulation is shown on Figure 9.

Based on the expected truck deliveries, the loading facilities for the 1319 South Capitol Street SW development are adequate and vehicles accessing the loading facilities will not adversely affect the local roadway network.

Parking

The site is located within a CG zone and has frontage located on S Capitol Street. Based on the Zoning Regulations for sites zoned as such, vehicle parking is not required for the site.

However, in order to meet the parking needs of the residential uses, the project will provide approximately 180 vehicle parking spaces. Four (4) electric vehicle stations will be included. These vehicular parking spaces will be provided in a below-grade parking garage.

Bicycle and Pedestrian Facilities

Bicycle Facilities

The 1319 South Capitol Street SW development will meet 2016 Zoning Regulations requirements for long-term and short-term bicycle parking.

Per the 2016 Zoning Regulations, the development is required to provide the following bicycle facilities:

- Long-Term Bicycle Parking Spaces (77 required)
 - Residential: One (1) space for every three (3) residential units applied at 50% after the first 50 spaces; 77 spaces are required.
 - Retail: One (1) space for each 10,000 square feet; zero (0) is required.
- Short-Term Bicycle Parking Spaces (17 required)
 - Residential: One (1) space for every 20 residential units; 16 spaces are required.
 - Retail: One (1) space for each 3,500 square feet; one (1) space is required.
- Showers and Lockers
 - Residential: None required.
 - Retail: None required.

The 1319 South Capitol Street SW development will exceed requirements by providing at least 110 long-term bicycle parking spaces within the below-grade garage and at least 17 short-term bicycle parking spaces throughout the site in highly accessible areas. The development will not provide showers and lockers.

Pedestrian Facilities

The 1319 South Capitol Street SW development will provide improved pedestrian facilities around the perimeter of the site that meet DDOT and ADA standards. New sidewalks will be installed around the perimeter of the site that will meet or exceed the width requirements, as well as curb ramps with detectable warnings and crosswalks at the new site entrances, as needed.

Transportation Demand Management

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

The TDM plan for the proposed project is based on DDOT expectations for TDM programs for developments of this type and size. As such, the applicant proposes the following TDM measures for the entire development and the uses onsite:

Residential TDM Plan

- Unbundle the cost of vehicle parking from the lease or purchase or lease agreement for each residential unit and

- charge a minimum rate based on the average market rate within a quarter mile.
- Identify Transportation Coordinators for the planning, construction, and operations phases of development. The Transportation Coordinators will act as points of contact with DDOT, goDCgo, and Zoning Enforcement.
 - Will provide Transportation Coordinators' contact information to goDCgo, conduct an annual commuter survey of employees on-site, and report TDM activities and data collection efforts to goDCgo once per year.
 - Transportation Coordinators will develop, distribute, and market various transportation alternatives and options to the employees, including promoting transportation events (i.e., Bike to Work Day, National Walking Day, Car Free Day) on property website and in any internal building newsletters or communications.
 - Transportation Coordinators will receive TDM training from goDCgo to learn about the TDM conditions for this project and available options for implementing the TDM Plan.
 - Provide welcome packets to all new residents that should, at a minimum, include the Metrorail pocket guide, brochures of local bus lines (Circulator and Metrobus), carpool and vanpool information, CaBi coupon or rack card, Guaranteed Ride Home (GRH) brochure, and the most recent DC Bike Map. Brochures can be ordered from DDOT's goDCgo program by emailing info@godcgo.com.
 - Provide residents who wish to carpool with detailed carpooling information and will be referred to other carpool matching services sponsored by the Metropolitan Washington Council of Governments (MWCOG) or other comparable service if MWCOG does not offer this in the future.
 - Transportation Coordinator will subscribe to goDCgo's residential newsletter.
 - Post all TDM commitments on website, publicize availability, and allow the public to see what commitments have been promised.
 - Provide a free SmarTrip card to every new resident and a complimentary Capital Bikeshare coupon good for one ride.
 - Will exceed ZR16 short- and long-term bicycle parking requirements. Long-term bicycle space will be provided free of charge to residents. 77 long-term bicycle parking spaces and 17 short-term bicycle parking spaces are required by ZR16. The development will provide 110 long-
- term bicycle parking spaces and 17 short-term bicycle parking spaces.
- Long-term bicycle storage rooms will accommodate non-traditional sized bikes including cargo, tandem, and kids bikes.
 - Following the issuance of a certificate of occupancy for the project, the Transportation Coordinator will submit a letter to the Zoning Administrator, DDOT, and goDCgo every five (5) years (as measured from the final certificate of occupancy for the project) summarizing continued compliance with the transportation and TDM conditions in the Order.
 - Install a Transportation Information Center Display (electronic screen) within the lobby containing information related to local transportation alternatives. At a minimum the display should include information about nearby Metrorail stations and schedules, Metrobus stops and schedules, car- sharing locations, and nearby Capital Bikeshare locations indicating the availability of bicycles.
 - Offer an annual CaBi membership or SmarTrip cards pre-loaded with \$85 for all new residents or employees for the first year after the building opens.
 - Additional 35 long-term bicycle parking spaces above ZR16 requirements.
 - Provide a bicycle repair station in each long-term bicycle parking storage room.
 - To encourage teleworking, a business center will be provided on-site and available for free to residents 24 hours per day, 7 days per week. Access to a copier and internet services will be included.
 - Will hold a transportation event for residents, employees, and members of the community once per year for a total of three (3) years. Examples include resident social, walking tour of local transportation options, goDCgo lobby event, transportation fair, WABA Everyday Bicycling seminar, bicycle safety/information class, bicycle repair event, etc.).

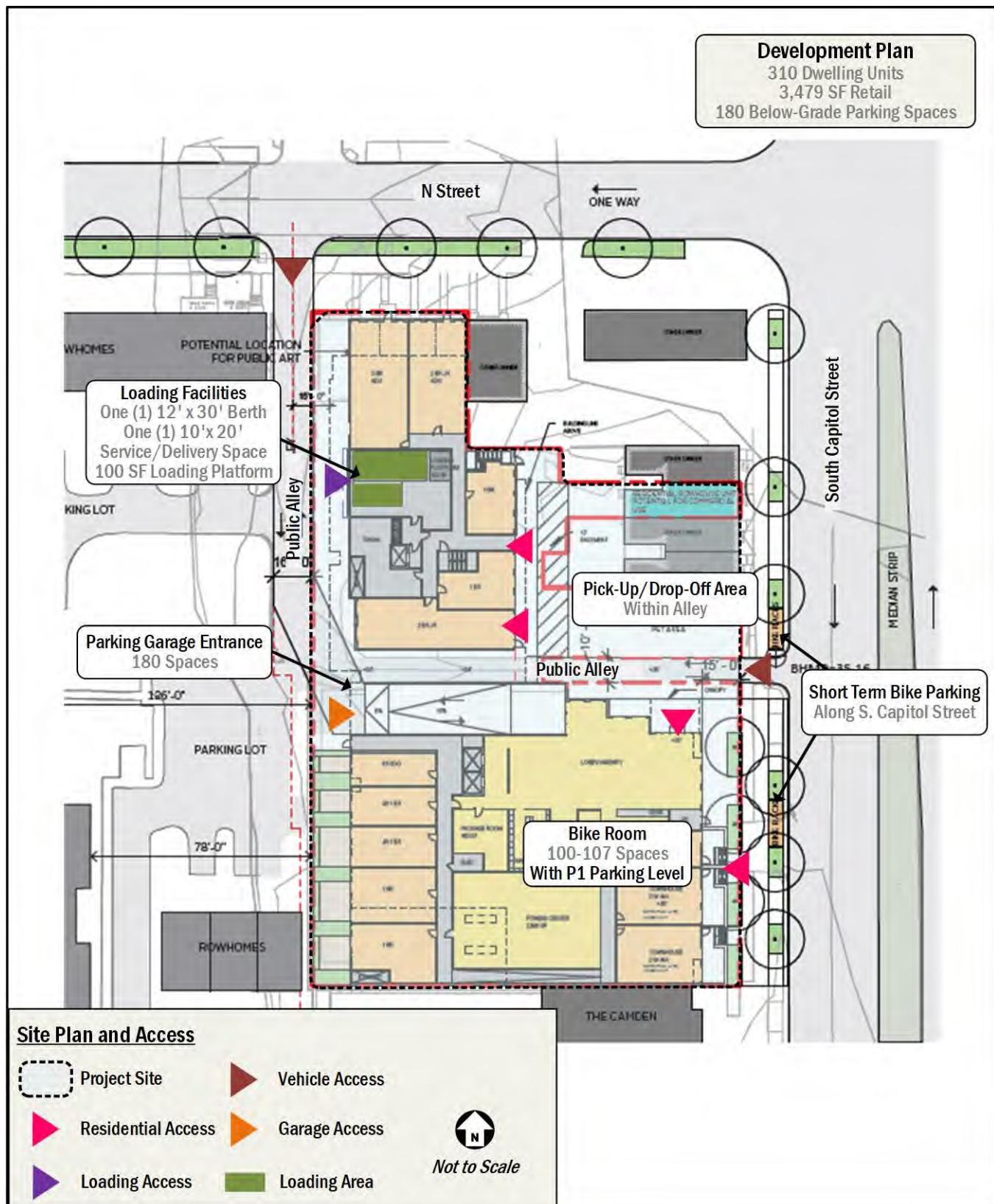


Figure 7: Site Plan and Access

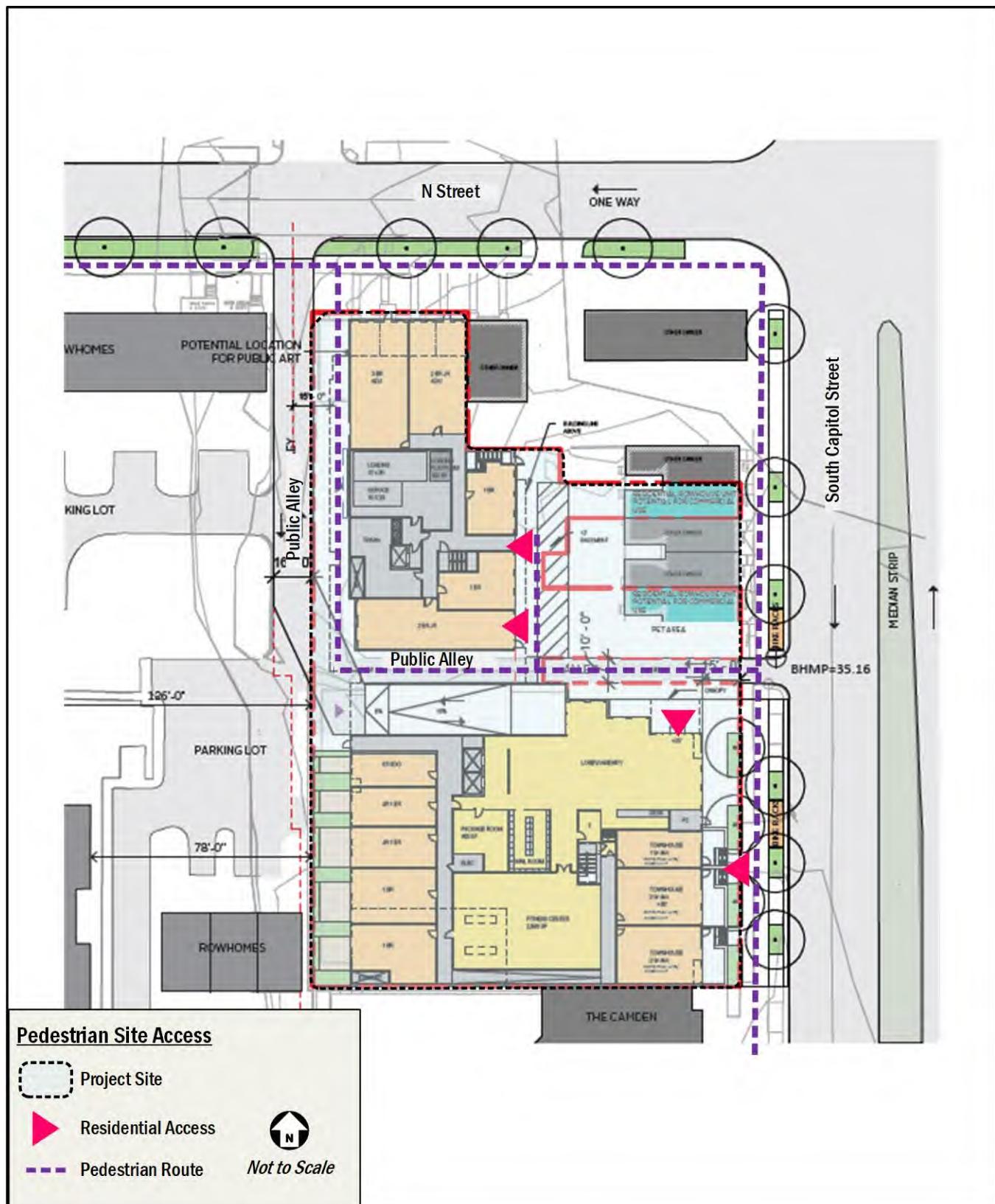


Figure 8: Pedestrian Site Access

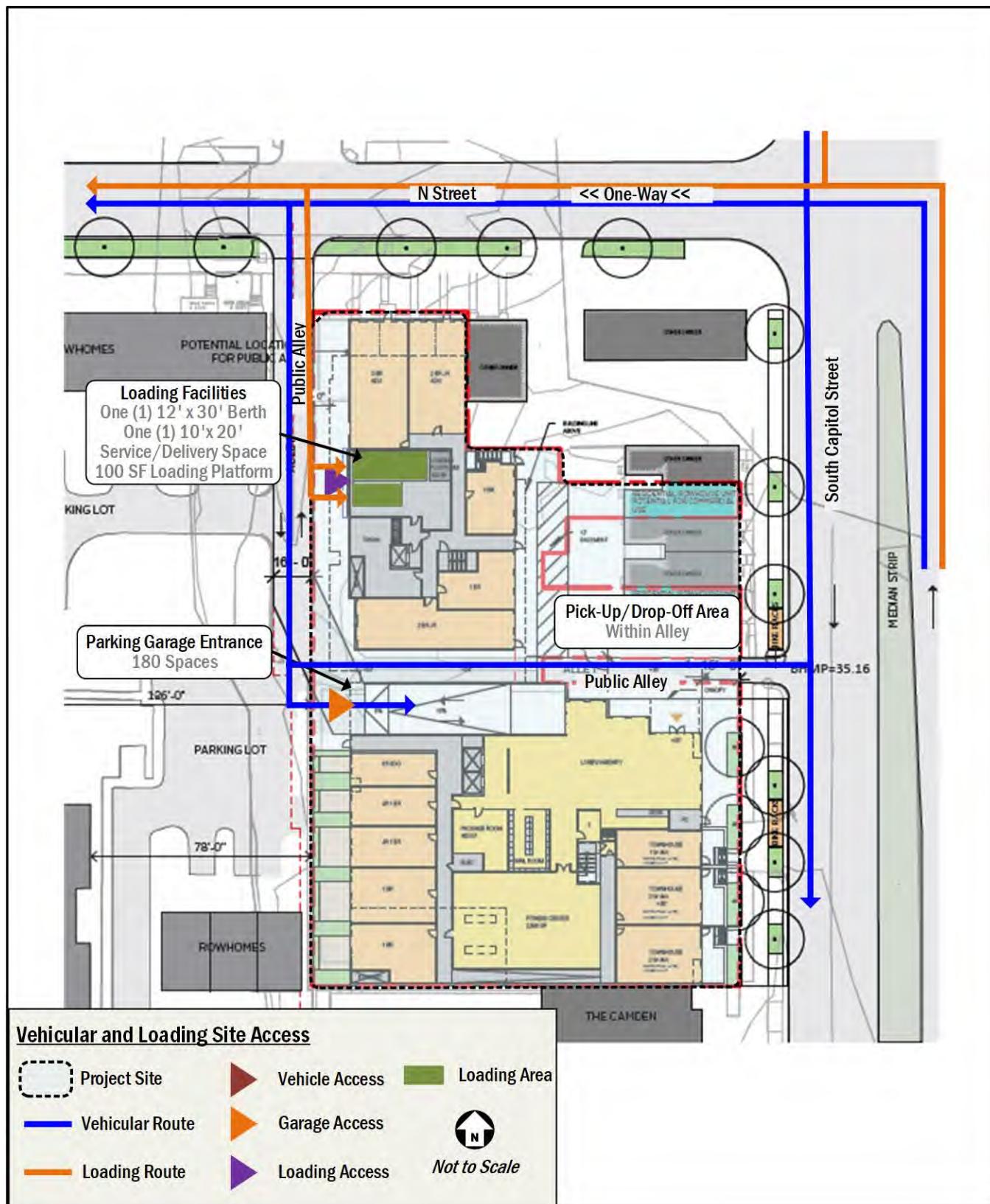


Figure 9: Vehicular and Loading Site Access

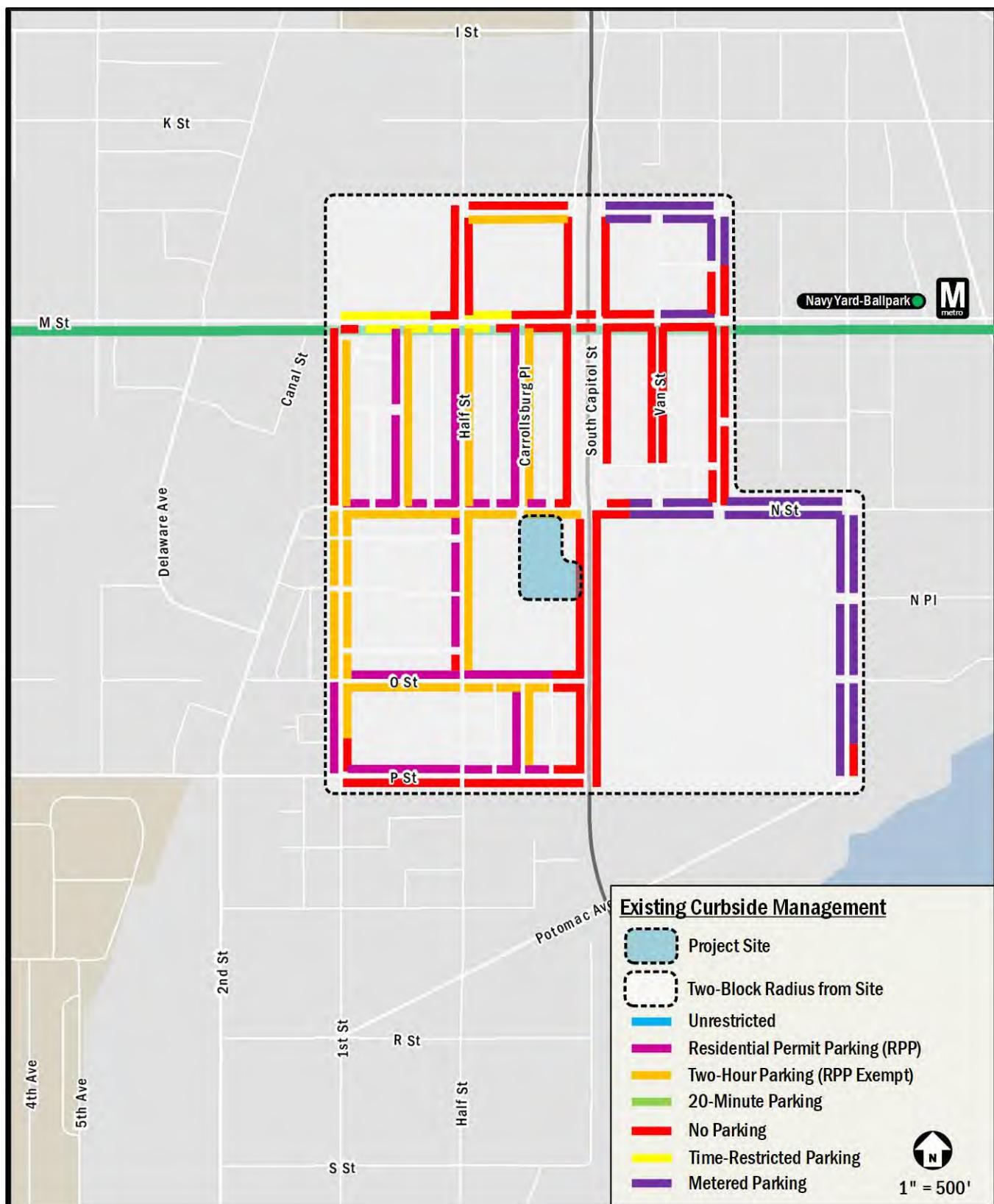


Figure 10: Existing Curbside Management

Travel Demand Assumptions

This chapter outlines the 1319 South Capitol Street SW development's transportation demand. It summarizes the projected trip generation of the proposed project by mode, which forms the basis for the chapters that follow. These assumptions were vetted and approved by DDOT as a part of the scoping process for the study.

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

Existing Trip Generation

The site is currently occupied by eight (8) rowhouses and a 50-space surface parking lot.

Residential trip generation is based on the existing eight (8) rowhouses and was calculated based on ITE land use 210, *Single-Family Detached Housing*. Trips were split into auto and non-auto modes using assumptions derived from census data for the residents that currently live near the site, census data for the commuters that currently work near the site, and WMATA ridership survey data. As such, a 35% auto/65% non-auto mode split was assumed for the rowhouses. Detailed calculations are included in the Technical Attachments.

The existing 50-space surface parking lot is used primarily for sporting events and is assumed to have a peak occupancy outside of the typical weekday morning and afternoon peak hours. Therefore, it is conservatively assumed that the existing trips for the surface parking lot will not be included as a credit for the trip generation.

Proposed Trip Generation

Proposed residential and retail trip generation was calculated based on ITE land use 221, *Multifamily Housing (Mid-Rise)* and ITE land use 820, *Shopping Center*, respectively. To provide a more conservative approach, the trip generation assumes a 10%

flexibility in the number of units. As such, the trip generation was assumed with a development program of 341 residential units and 3,479 SF of retail use.

Trips were split into different modes using assumptions derived from census data for the residents that currently live near the site, census data for the commuters that currently work near the site, WMATA ridership survey data, and the proposed parking supply. A summary of the mode split assumptions is provided in Table 3.

A summary of the multimodal trip generation for the proposed development based on ITE is provided in Table 4 for the morning, afternoon, and Saturday peak hours. Detailed calculations are included in the Technical Attachments.

Table 3: Mode Split Assumptions

Land Use	Mode			
	Drive	Transit	Bike	Walk
Residential	35%	45%	10%	10%
Retail	10%	5%	10%	75%

As shown on Table 4, the 1319 South Capitol Street SW development is expected to generate trips on the surrounding transportation network across all modes. The AM peak hour trip generation is projected to include 44 vehicles/hour, 65 transit riders/hour, 15 bicycle trips/hour, and 18 walking trips/hour. The PM peak hour trip generation is projected to include 54 vehicles/hour, 81 transit riders/hour, 20 bicycle trips/hour, and 36 walking trips/hour. The Saturday peak hour trip generation is projected to include 38 vehicles/hour, 58 transit riders/hour, 15 bicycle trips/hour, and 31 walking trips/hour.

A comparison of the vehicle trip generation between the existing site and the proposed development is presented in Table 5. As shown on Table 5, the 1319 South Capitol Street SW development results in a net increase in vehicular trip generation during the morning peak hour, with 41 additional vehicle trips (10 additional inbound and 31 additional outbound), and a net increase in vehicular trip generation during the afternoon peak hour, with 51 additional trips (31 additional inbound and 20 additional outbound).

Table 4: ITE Multi-Modal Trip Generation Summary

Mode	AM Peak Hour			PM Peak Hour			Saturday Peak Hour			Daily Total
	In	Out	Total	In	Out	Total	In	Out	Total	
Residential (341 Units)										
Auto (veh/hr)	11	32	43	32	21	53	19	18	37	650
Transit (ppl/hr)	17	48	65	49	31	80	28	29	57	986
Bike (ppl/hr)	4	11	15	11	7	18	6	7	13	219
Walk (ppl/hr)	4	10	14	11	6	17	6	7	13	219
Neighborhood-Serving Retail (3,479 SF)										
Auto (veh/hr)	0	1	1	1	0	1	1	0	1	13
Transit (ppl/hr)	0	0	0	1	0	1	1	0	1	12
Bike (ppl/hr)	0	0	0	1	1	2	1	1	2	24
Walk (ppl/hr)	4	0	4	8	11	19	10	8	18	178
Total										
Auto (veh/hr)	11	33	44	33	21	54	20	18	38	663
Transit (ppl/hr)	17	48	65	50	31	81	29	29	58	998
Bike (ppl/hr)	4	11	15	12	8	20	7	8	15	243
Walk (ppl/hr)	8	10	18	19	17	36	16	15	31	397

Table 5: Net Vehicular Trip Generation

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Existing Auto Trips (veh/hr)						
Rowhouses	1	2	3	2	1	3
Proposed Auto Trips (veh/hr)						
Residential	11	32	43	32	21	53
Retail	0	1	1	1	0	1
Total	11	33	44	33	21	54
Net Auto Trips (veh/hr)	+10	+31	+41	+31	+20	+51

Traffic Operations

This chapter provides a summary of an analysis of the existing and future roadway capacity surrounding the site. Included is an analysis of potential vehicular impacts of the 1319 South Capitol Street SW development and a discussion of potential improvements.

The purpose of the capacity analysis is to:

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

This analysis was accomplished by determining the traffic volumes and roadway capacity for Existing Conditions, Background Conditions, and Total Future Conditions, including taking into account reductions in traffic volumes and roadway capacity for the existing uses on the site. The scope of the capacity analysis was developed based on DDOT guidelines and agreed to by DDOT staff.

The capacity analysis focuses on the weekday morning and afternoon commuter peak hours.

This chapter concludes:

- Under Existing Conditions, seven (7) study intersections operate at unacceptable levels of service, indicating areas of concern along S Capitol Street and M Street.
- The addition of site generated trips does not significantly affect the delays or queuing at most intersections.
- Four (4) intersections meet DDOT's threshold for mitigation measures as a result of minor impacts to delay created by the project.
- Mitigations in the form of signal timing adjustments are recommended at selected intersections.
- The project will not have a detrimental impact to the surrounding vehicular network, with the implementation of all site design elements and mitigation measures.

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 upon by DDOT. The general methodology of the analysis follows national and DDOT guidelines on the preparation of transportation impact evaluations of site development.

Capacity Analysis Scenarios

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

Specifically, the roadway capacity analysis examined the following scenarios:

1. Existing Conditions (Existing Conditions);
2. 2024 Future Conditions without the Project (2024 Background Conditions); and
3. 2024 Future Conditions with the Project (2024 Total Future).

Study Area

The study area of the analysis is a set of intersections where detailed capacity analyses were performed for the scenarios listed above. The set of intersections decided upon during the study scoping process with DDOT are those intersections most likely to have potential impacts or require changes to traffic operations to accommodate the project. Although it is possible that impacts will occur outside of the study area, those impacts are neither significant enough to be considered a material adverse impact nor worthy of mitigation measures.

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

1. M Street & First Street, SW
2. M Street & Half Street, SW
3. S Capitol Street & M Street, SE (East)
4. S Capitol Street & M Street, SW (West)
5. M Street & Van Street, SE
6. M Street & Half Street, SE
7. S Capitol Street & I Street, SW/SE
8. S Capitol Street & K Street, SW/SE

9. Half Street & N Street, SW
10. S Capitol Street & N Street, SW/SE
11. O Street & Half Street, SW
12. S Capitol Street & O Street, SW
13. P Street & Half Street, SW
14. S Capitol Street & P Street, SW
15. N Street & Carrollsburg Place/Site Alley (N-S), SW
16. S Capitol Street & Site Alley (E-W), SW

Figure 11 shows a map of the study area intersections.

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

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.

The lane configurations and traffic controls for the Existing Conditions are shown on Figure 12.

2024 Background Geometry and Operations Assumptions

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

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

Based on these criteria, the following improvements were assumed:

- Implementation of eastbound/westbound car free lanes along M Street SE east of Half Street SE. These improvements will include the following changes to roadway geometry and operations:
 - The reconfiguration of the eastbound and westbound approaches of the Half Street and M Street SE intersection to include one left/thru lane, one thru lane, and one right-turn lane.
 - The reconfiguration of the eastbound and westbound approaches of the First Street and M Street SE intersection to include one

left/thru lane, one thru lane, and one right-turn lane.

- South Capitol Street is expected to be improved as part of the Frederick Douglas Memorial Bridge Project. Phase 1 includes improvements from south of O Street SW to Ferth Sterling Avenue SE. This phase is currently under construction and is planned to be complete by Summer 2022. Phase 2 includes improvements from O Street SW to I-695. This phase is not yet funded and is still under design. The South Capitol Street segment south of O Street SW to P Street SW in Phase 1 is within the study area of this project. However, since there are no proposed lane use changes on South Capitol Street or P Street SW, the Phase 1 improvements were not included in the analysis of this report.

The lane configurations and traffic controls for the Background Conditions are shown on Figure 13.

2024 Total Future Geometry and Operations Assumptions

The configurations and traffic controls for the 2024 Total Future Conditions were based on those for the 2024 Background Conditions with the addition of the proposed project. As part of the proposed project, the following roadway or operational changes are included:

- The addition of the unsignalized Half Street SW & Site Driveway intersection. This intersection is configured with one westbound left/right lane, one northbound thru/right lane, and one southbound left/thru lane.
- The addition of the unsignalized L Street SW and Site Driveway intersection. This intersection is configured with one eastbound thru/right lane, one westbound left/thru lane, and one northbound left/right lane.

The lane configurations and traffic controls for the Total Future Conditions are shown on Figure 14.

Traffic Volume Assumptions

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

Existing Traffic Volumes

Data collection was not possible during Spring 2020 as traffic volumes were not representative of typical traffic conditions due to District-wide restrictions in response to the COVID-19 public

health crisis. In order to establish baseline conditions, the study analyzed 2020 traffic volumes comprised of turning movement count data collected between 2013-2019, with applied growth based on data collection year. Where historical intersection count data was not available, a methodology using vehicle probe data was applied at those intersections. The traffic volume sources for each study intersection are summarized below.

DDOT's Traffic Engineering and Signals Division (TESD) Volumes

DDOT's Traffic Engineering and Signals Division (TESD) collected turning movement counts in the vicinity of the project site over a 10-month period between 2017 and 2018 for traffic signal timing optimization purposes. The following intersections are based on TESD volumes:

- M Street & First Street, SW
- M Street & Half Street, SW
- S Capitol Street & M Street, SW (East)
- S Capitol Street & M Street, SW (West)
- M Street & Van Street, SE
- M Street & Half Street, SE
- S Capitol Street & I Street, SW
- S Capitol Street & O Street, SW
- S Capitol Street & P Street, SW

Historical Volumes from Approved Transportation Studies

Historical turning movement counts were collected as part of several approved transportation studies in the vicinity of the project site in 2015 and 2019. The following intersections are based on available historical volumes:

- S Capitol Street & N Street, SW (2019)
- P Street & Half Street, SW (2019)
- Half Street & N Street, SW (2015)
- Half Street & O Street, SW (2015)
- N Street & Carrollsburg Place/Site Alley, SW (2015)

StreetLight Volumes

StreetLight Insight® origin and destination data was used to determine traffic patterns during pre-COVID conditions (2019) at intersections without available data. StreetLight metrics are derived from a combination of two types of data: navigation-GPS data and Location Based Services (LBS) data, including historical data, with a sample size of approximately 23% of the

adult population. This data is then transformed into contextualized, aggregated, and normalized travel patterns that can be used to create origin and destination analyses. StreetLight data was used to estimate the pre-COVID turning movement ratios at intersections without available count data. Using these turning movement ratios, existing field-collected data at adjacent intersections was extrapolated to estimate the pre-COVID turning movement counts at the following intersections:

- S Capitol Street & K Street, SW/SE

Baseline conditions were established by projecting the available volumes into 2020 using growth rates based on DDOT's Traffic Volume Maps, using StreetLight data to estimate volumes at the intersections without available traffic count data, and balancing volumes between intersections.

The existing 2020 system peak hour traffic volumes are shown in Figure 15.

2024 Background Traffic Volumes (without the Project)

The traffic projections for the 2024 Background Conditions consist of the existing volumes with two (2) additions:

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

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

- Be located in the study area, defined as having an origin or destination point within the cluster of study area intersections;
- Have entitlements; and
- Have a construction completion date prior or close to the future analysis year of 2024.

Based on these criteria, and as discussed with and agreed upon by DDOT, 19 developments were considered and determined to meet the above criteria. These developments include the following:

- Monument Valley
- West Half Street
- Square 769

- The Yards Parcel L1
- The Yards Parcel L2
- The Yards Parcel O
- DC Water Headquarters
- The Riverfront
- Novel Capitol View
- 950 South Capitol Street
- Former Congressional Square Project
- The Garrett at the Collective
- Capper Residential
- 1000 4th Street SW
- Randall School Redevelopment
- CSX East Redevelopment
- 375 & 421319 South Capitol Street SW
- The Bard
- Wharf Phase 2

Trip generation for the background developments is based on available studies or *ITE Trip Generation 10th Edition*. The trip generation for background developments with available transportation studies is included in the Technical Attachments.

Trip generation for the following projects was calculated using *ITE Trip Generation 10th Edition*:

- Monument Valley
- Square 769
- The Yards Parcel O
- 950 South Capitol Street
- Former Congressional Square Project
- The Garrett at the Collective
- Capper Residential

The mode splits and trip distribution assumptions for these developments were primarily based on those used in similar developments throughout the Southwest/Waterfront/Navy Yard neighborhoods and the proposed 1319 South Capitol Street SW development.

A summary of the trip generation for the background developments is shown in Table 7 and the combined background projects peak hour volumes are shown in Figure 16. Detailed mode split and trip generation information is included in the Technical Attachments.

While the background developments represent local traffic changes, regional traffic growth is typically accounted for using growth rates. The growth rates used in this analysis are derived using the Metropolitan Washington Council of Government's (MWCOG) currently adopted regional transportation model, comparing the difference between the year 2019 and 2025 model scenarios as vetted and agreed to by DDOT. The growth rates observed in this model served as a basis for analysis assumptions, and where negative growth was observed a conservative 0.10 percent annual growth rate was applied to the roadway. The applied growth rates are shown in Table 6. The traffic volumes generated by the inherent growth along the network are shown in Figure 17.

Table 6: Applied Annual and Total Growth Rates

Road & Direction	Proposed Annual Growth Rate		Total Growth between 2020 and 2024	
	AM Peak	PM Peak	AM Peak	PM Peak
EB M St SW (west of S. Capitol St)	0.50%	0.50%	2.02%	2.02%
WB M St SW (west of S. Capitol St)	0.20%	0.50%	0.80%	2.02%
EB M St SE (east of S. Capitol St)	0.50%	0.10%	2.02%	0.40%
WB M St SE (east of S. Capitol St)	0.10%	0.16%	0.40%	0.64%
EB I St	0.50%	0.31%	2.02%	1.25%
WB I St	0.26%	0.50%	1.04%	2.02%
SB S Capitol St	0.35%	0.50%	1.41%	2.02%
NB S Capitol St	0.50%	0.50%	2.02%	2.02%
All Other	0.10%	0.10%	0.40%	0.40%

The existing peak hour volumes, presented in Figure 15, were combined with the background projects' peak hour volumes, shown in Figure 16, and background growth peak hour volumes shown in Figure 17, in order to establish the 2024 Background traffic volumes. The traffic volumes for the 2024 Background conditions are shown in Figure 18.

Table 7: Summary of Background Trip Generation

Background Development	Trip Generation Source	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)		
		In	Out	Total	In	Out	Total
Monument Valley	ITE Trip Gen. 10 th Ed.	33	56	89	97	84	181
W Half St	Grove Slade Study	35	85	120	119	91	210
Square 769	ITE Trip Gen. 10 th Ed.	8	19	27	22	16	38
Yards Parcel L	Grove Slade Study	36	25	61	42	42	84
Yards Parcel L2	Grove Slade Study	10	40	50	39	21	60
Parcel O	ITE Trip Gen. 10 th Ed.	16	35	51	45	31	76
DC Water HQ	Grove Slade Study	112	13	125	19	102	121
Riverfront	Grove Slade Study	297	131	428	163	285	448
950 S Capitol S	ITE Trip Gen. 10 th Ed.	15	61	76	59	33	92
Former Congressional Square Project	ITE Trip Gen. 10 th Ed.	43	91	134	122	95	217
The Garrett at the Collective	ITE Trip Gen. 10 th Ed.	18	42	60	53	39	92
Capper	ITE Trip Gen. 10 th Ed.	15	36	51	43	30	73
1000/1001 4th St	Grove Slade Study	58	115	173	122	82	204
Randall School Redevelopment	Grove Slade Study	32	106	138	110	67	177
CSX East Redevelopment	Grove Slade Study	132	232	364	176	144	320
375 & 421319 South Capitol Street SW	Grove Slade Study	60	119	179	136	104	240
The Bard	Grove Slade Study	35	19	54	44	19	63
Wharf Phase 2	Grove Slade Study	379	108	487	176	396	570
Total		1,222	1,189	2,114	1,405	1,294	2,697

2024 Total Future Traffic Volumes (with the Project)

The 2024 Total Future traffic volumes consist of the following:

- Existing volumes, shown in Figure 15;
- Background developments, shown in Figure 16;
- Inherent growth on the study area roadways, shown in Figure 17;
- Removed existing site volumes for the existing uses on site, shown in Figure 22;
- Site-generated volumes for the 1319 South Capitol Street development based on the development scheme under consideration.

Trip distribution for the site-generated trips was determined based on: (1) Census Transportation Planning Products (CTPP) Traffic Analysis Zone (TAZ) data, (2) existing and future travel patterns in the study area, and (3) previously approved methodologies employed in approved studies in the vicinity of the site.

Based on this review and the site access locations, the site-generated trips were distributed through the study area intersections. Trip distribution assumptions and specific routing was analyzed by land use for inbound and outbound trips.

Residential distribution assumptions for the project are provided in Figure 19 and Figure 20 for inbound and outbound trips, respectively. Detailed distributions at each study intersection are shown in Figure 21.

Site-generated volumes for the development program are presented in Figure 23. The 2024 Total Future traffic volumes with the 1319 South Capitol Street SW development are presented in Figure 24.

Vehicular Analysis Results

Intersection Capacity Analysis

Intersection capacity analyses were performed for the three (3) scenarios outlined previously at the intersections contained within the study area during the morning and afternoon peak hours. Synchro version 10 was used to analyze the study intersections based on the HCM 2000 methodology.

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. A LOS grade is a letter grade based on the average delay (in seconds) experienced by motorists traveling through an intersection. LOS results range from "A" being the best to "F"

being the worst. LOS D is typically used as the acceptable LOS threshold in the District; although LOS E or F is sometimes accepted in urbanized areas if vehicular improvements would be a detriment to safety or non-auto modes of transportation.

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

Table 8 shows the results of the capacity analyses, including LOS and average delay per vehicle (in seconds) for the Existing, 2024 Background, and 2024 Total Future scenarios. Table 9 shows a comparison of the volume to capacity (v/c) ratios for each scenario.

As shown in Table 8, seven (7) of the study intersections operate at unacceptable conditions or have one or more approaches operating at unacceptable levels during the existing conditions:

- First Street SW & M Street SW
 - Southbound (AM)
- Half Street SW & M Street SW
 - Southbound (PM)
- W S Capitol Street Service Road & M Street SW
 - Southbound (AM/PM)
- E S Capitol Street Service Road & M Street SE
 - Northbound (AM)
- S Capitol Street & Eye Street SW/SE
 - Eastbound (AM/PM)
- S Capitol Street & N Street SW/SE
 - Overall (PM)
 - Westbound (AM/PM)
- S Capitol Street & P Street SW
 - Eastbound (AM/PM)

The introduction of trips from background developments results in eight (8) study intersections that operate at unacceptable conditions or have one or more approaches operating at unacceptable levels during the background conditions:

- First Street SW & M Street SW
 - Southbound (AM)

- Half Street SW & M Street SW
 - Southbound (AM/PM)
- W S Capitol Street Service Road & M Street SW
 - Southbound (AM/PM)
- E S Capitol Street Service Road & M Street SE
 - Westbound (AM)
 - Northbound (AM)
- Van Street SE & M Street SE
 - Northbound (AM/PM)
- S Capitol Street & Eye Street SW/SE
 - Overall (PM)
 - Eastbound (AM/PM)
 - Westbound (AM)
- S Capitol Street & N Street SW/SE
 - Overall (PM)
 - Westbound (AM/PM)
- S Capitol Street & P Street SW
 - Eastbound (AM/PM)

The introduction of the site-generated trips results in additional delays that meet DDOT's mitigation threshold at three (3) study intersections where an approach delay was increased to unacceptable levels or an unacceptable delay increased by over five (5) percent as compared to background conditions:

- W S Capitol Street Service Road & M Street SW
 - Eastbound (AM)
- S Capitol Street & N Street SW/SE
 - Southbound (PM)
- S Capitol Street & P Street SW
 - Eastbound (AM)

Measures mitigating vehicular capacity concerns at these intersections are discussed in the Mitigation Measures section of this report.

Queuing Analysis

In addition to the capacity analyses presented above, a queuing analysis was performed at each of the study intersections. The queuing analysis was performed using *Synchro* software. The 50th percentile and 95th percentile maximum queue lengths are shown for each lane group at the study area signalized 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. For unsignalized intersections, the 95th percentile queue is reported for each lane group (including free-flowing left turns and stop-controlled movements) based on the HCM calculations.

Table 10 shows the queuing results for the study area intersections. Eight (8) of the study intersections exhibit one or more lane group that exceeds the given storage length during the existing conditions:

- First Street SW & M Street SW
 - Northbound Right (PM)
- Half Street SW & M Street SW
 - Westbound Through/Right (AM)
 - Southbound Left/Through/Right (PM)
- W S Capitol Street Service Road & M Street SW
 - Southbound Left (AM/PM)
 - Southbound Left/Through/Right (AM/PM)
- E S Capitol Street Service Road & M Street SE
 - Eastbound Left (AM)
 - Northbound Left (AM)
 - Northbound Left/Through/Right (AM)
- S Capitol Street & Eye Street SW/SE
 - Eastbound Left/Through (PM)
 - Westbound Through (PM)
 - Northbound Through/Right (AM/PM)
- S Capitol Street & N Street SW/SE
 - Westbound Left/Through/Right (AM/PM)
 - Northbound Through (AM)
 - Northbound Right (AM)
 - Southeastbound Through (Service Road/Ramp) (PM)
- S Capitol Street & O Street SW
 - Northbound Left/Through (AM/PM)
- S Capitol Street & P Street SW
 - Eastbound Left/Right (PM)
 - Northbound Through (AM)
 - Southbound Through/Right (PM)

The introduction of trips from background developments and improvements results in nine (9) study intersections that exhibit one or more lane group that exceeds the given storage length:

- First Street SW & M Street SW
 - Northbound Right (PM)
- Half Street SW & M Street SW
 - Eastbound Left (AM)
 - Westbound Through/Right (AM)
 - Southbound Left/Through/Right (AM/PM)
- W S Capitol Street Service Road & M Street SW
 - Southbound Left (AM/PM)
 - Southbound Left/Through/Right (AM/PM)
- E S Capitol Street Service Road & M Street SE
 - Eastbound Left (AM)
 - Westbound Through/Right (AM)

- Northbound Left (AM)
- Northbound Left/Through/Right (AM)
- Half Street & M Street SE
 - Eastbound Left/Through (PM)
- S Capitol Street & Eye Street SW/SE
 - Eastbound Left/Through (AM/PM)
 - Westbound Through (AM/PM)
 - Westbound Right (AM)
 - Northbound Through/Right (AM/PM)
- S Capitol Street & N Street SW/SE
 - Westbound Left/Through/Right (AM/PM)
 - Northbound Through (AM)
 - Northbound Right (AM)
 - Southeastbound Through (Service Road/Ramp) (PM)
- S Capitol Street & O Street SW
 - Northbound Left/Through (AM/PM)
- S Capitol Street & P Street SW
 - Eastbound Left/Right (PM)
 - Northbound Through (AM)
 - Southbound Through/Right (PM)

The introduction of the site-generated trips results in two (2) additional study intersections exhibiting a queue which exceeds the storage length or increases a queue exceeding storage in the background scenario by 150 feet:

- E S Capitol Street Service Road & M Street SE
 - Eastbound Left (PM)
- S Capitol Street & P Street SW
 - Northbound Through (AM)

Measures mitigating vehicular capacity concerns at these intersections are discussed below.

Mitigation Measures

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

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

- There is an increase in the 95th percentile queues by more than 150 feet along an approach in that exceeds storage in the background scenario.

Based on these criteria, the following intersections are impacted by the development program of the project:

- S Capitol Street West Service Road & M Street SW
- S Capitol Street East Service Road & M Street SE
- S Capitol Street & N Street SE/SW
- S Capitol Street & P Street SW

Project Impact and Recommendations

This section summarizes the results of the capacity analyses for the intersections with movements or approaches that operate at unacceptable conditions and lists the scenarios for which this occurs. Impacts associated with the 1319 South Capitol Street SW development are noted where delays for failing approaches or intersections increase by five percent or more or where an intersection or approach change from an acceptable LOS to an unacceptable one as compared between Background and Total Future conditions.

S Capitol Street West Service Road & M Street SW

During the morning peak hour, the eastbound approach experiences unacceptable delays in the Total Future conditions as a result of the project's traffic volumes.

The eastbound delays at this intersection are primarily due to the addition of trips generated by both the background developments and the proposed 1319 South Capitol Street development in conjunction with the limited amount of green time given to the eastbound approach. While signal timing adjustments were tested, this mitigation measure alone was not found to be effective in reducing delays. Signal timing adjustments would generate minimal improvements while worsening conditions for a different approach of this intersection or for the adjacent clustered S Capitol Street East Service Road & M Street SW intersection.

The delay increase resulting from the 1319 South Capitol Street development is 4.1 seconds (1.9 seconds over the LOS E threshold) for the eastbound approach, with the overall intersection operating at an acceptable level of service (LOS C) during the morning peak hour. In addition, this intersection will be improved and redesigned as part of Phase 2 of DDOT'S South Capitol Street Corridor Project. Therefore, this report does not recommend operational or intersection geometry changes at this

time. The increased vehicular delays would not impact the amount of time pedestrians receive to navigate the intersection.

S Capitol Street East Service Road & M Street SE

During the afternoon peak hour, the eastbound left turning lane exhibits a queue which exceeds the storage length as a result of the project's traffic volumes.

The eastbound queueing at this intersection is primarily due to the addition of trips generated by both the background developments and the proposed 1319 South Capitol Street development in conjunction with the limited amount of green time given to the eastbound approach of the two clustered intersection, i.e., S Capitol Street West Service Road & M Street SE and S Capitol Street East Service Road & M Street SW. While signal timing adjustments were tested, this mitigation measure alone was not found to be effective in reducing queues. Signal timing adjustments would generate minimal improvements while worsening conditions for a different approach of this intersection or for the adjacent clustered S Capitol Street West Service Road & M Street SE intersection.

This intersection will be improved and redesigned as part of Phase 2 of DDOT'S South Capitol Street Corridor Project. Therefore, in lieu of operational or intersection geometry changes, this report does not recommend improvements at this time.

S Capitol Street & N Street SW/SE

During the afternoon peak hour, the southbound approach experiences unacceptable delays in the Total Future conditions as a result of the project's traffic volumes.

Delays in the southbound direction can be reduced to levels comparable to those seen in background conditions through minor signal timing adjustments to increase the green time for the southeastbound (service road/ramp) phase and adjusting the intersection offset. This report recommends coordination with DDOT to optimize signal timings at this intersection to ensure the most efficient operation in the future following the construction of the 1319 South Capitol Street SW development.

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

S Capitol Street & P Street SW

During the morning peak hour, the eastbound approach experiences unacceptable delays in the Existing, Background,

and Total Future study conditions. The eastbound approach delay increases by more than DDOT's five (5) percent mitigation threshold between Background and Total Future conditions as a result of the project's traffic volumes.

The eastbound delays at this intersection are primarily due to the addition of trips generated by both the background developments and the proposed 1319 South Capitol Street development in conjunction with the limited amount of green time given to the eastbound approach. While signal timing adjustments were tested, this mitigation measure alone was not found to be effective in reducing delays.

It was found that the eastbound approach delay and the overall intersection level of service can be improved by implementing right turn bay at the eastbound approach instead of being single-lane. In fact, the existing curb layout would accommodate an approximately 50 feet long right turn bay. As such, this report recommends coordination with DDOT to install pavement markings to delineate the dedicated left-turn lane as well as the right-turn bay.

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

In addition to the eastbound queues at this intersection, the northbound approach also exhibits a queue which exceeds the storage length in the Existing, Background, and Total Future study conditions. The northbound approach increases by over 150 feet as a result of the project's traffic volumes as compared to the queue experienced under background conditions.

It was found that removal of the illegal northbound left turns made onto P Street SW can reduce the queue length such that it will not exceed the storage length. This report recommends coordination with DDOT to restrict illegal left turns at the northbound approach to ensure the most efficient operation in the future following the construction of the 1319 South Capitol Street SW development.

The recommended mitigation to this intersection would have no negative impact on the amount of time pedestrians receive to navigate the intersection and would reduce pedestrian-vehicle interactions on the western crosswalk of this intersection.



Figure 11: Study Area Intersections

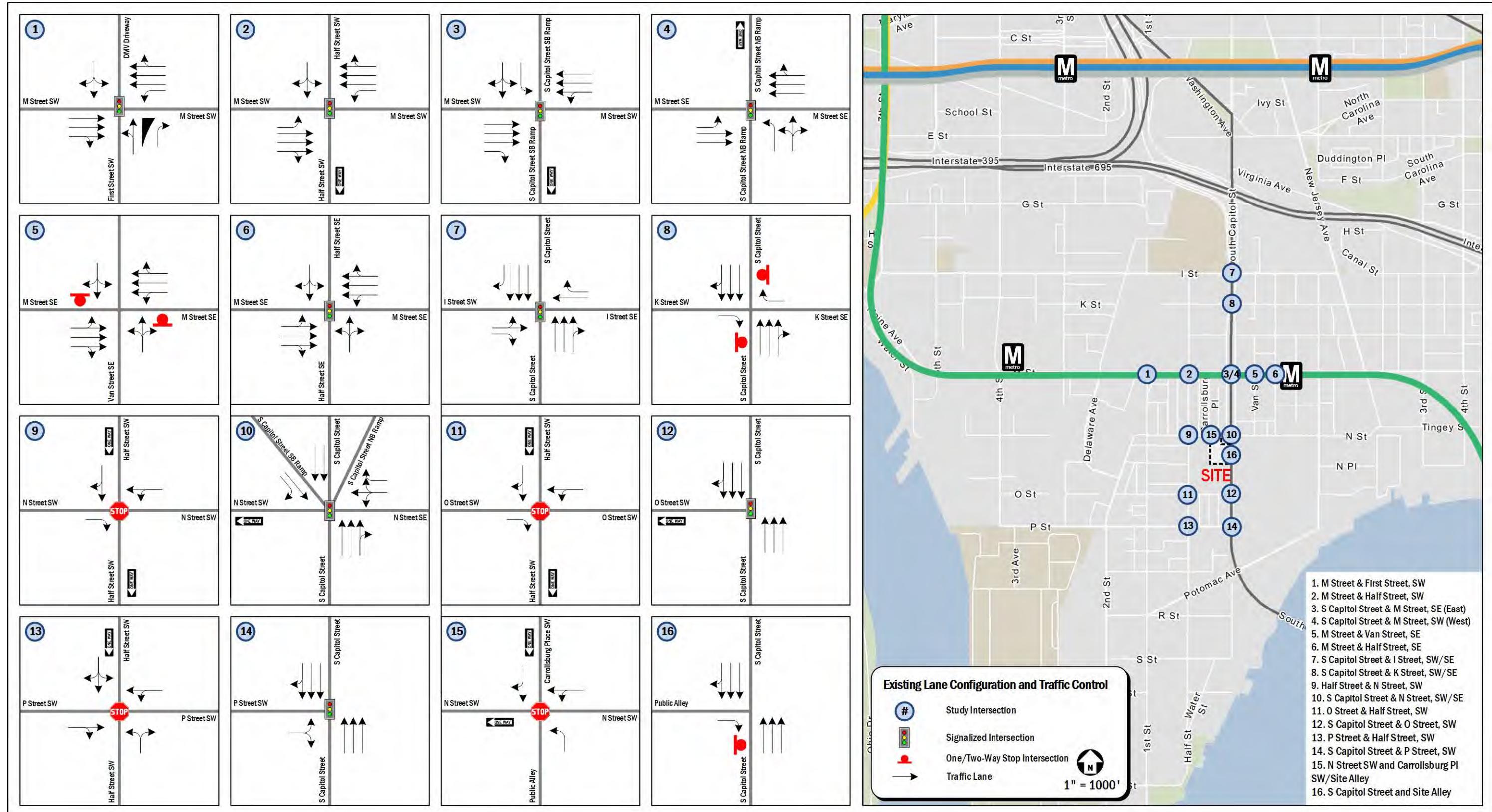


Figure 12: Existing Lane Configuration and Traffic Control

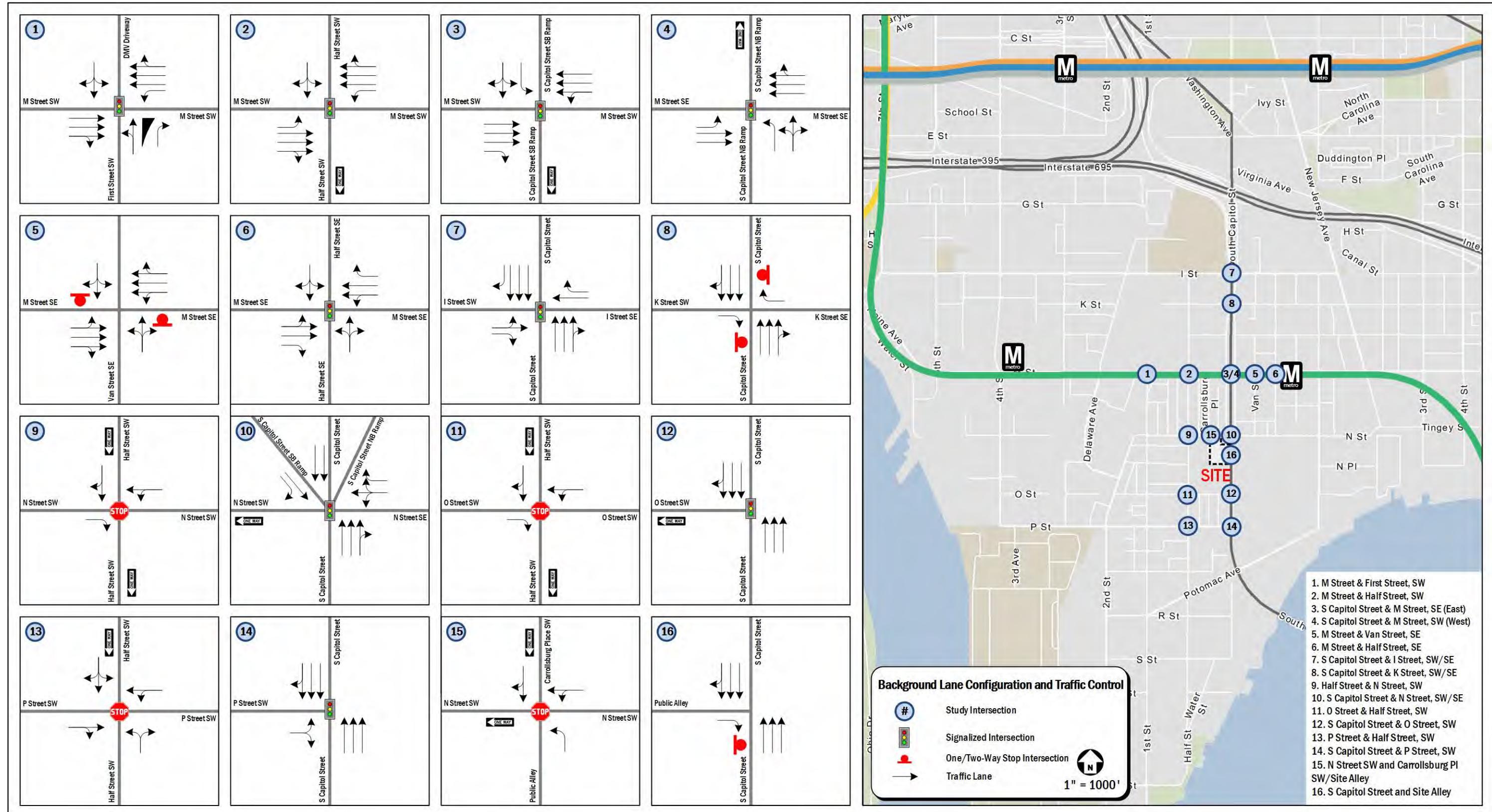


Figure 13: Background Lane Configuration and Traffic Control

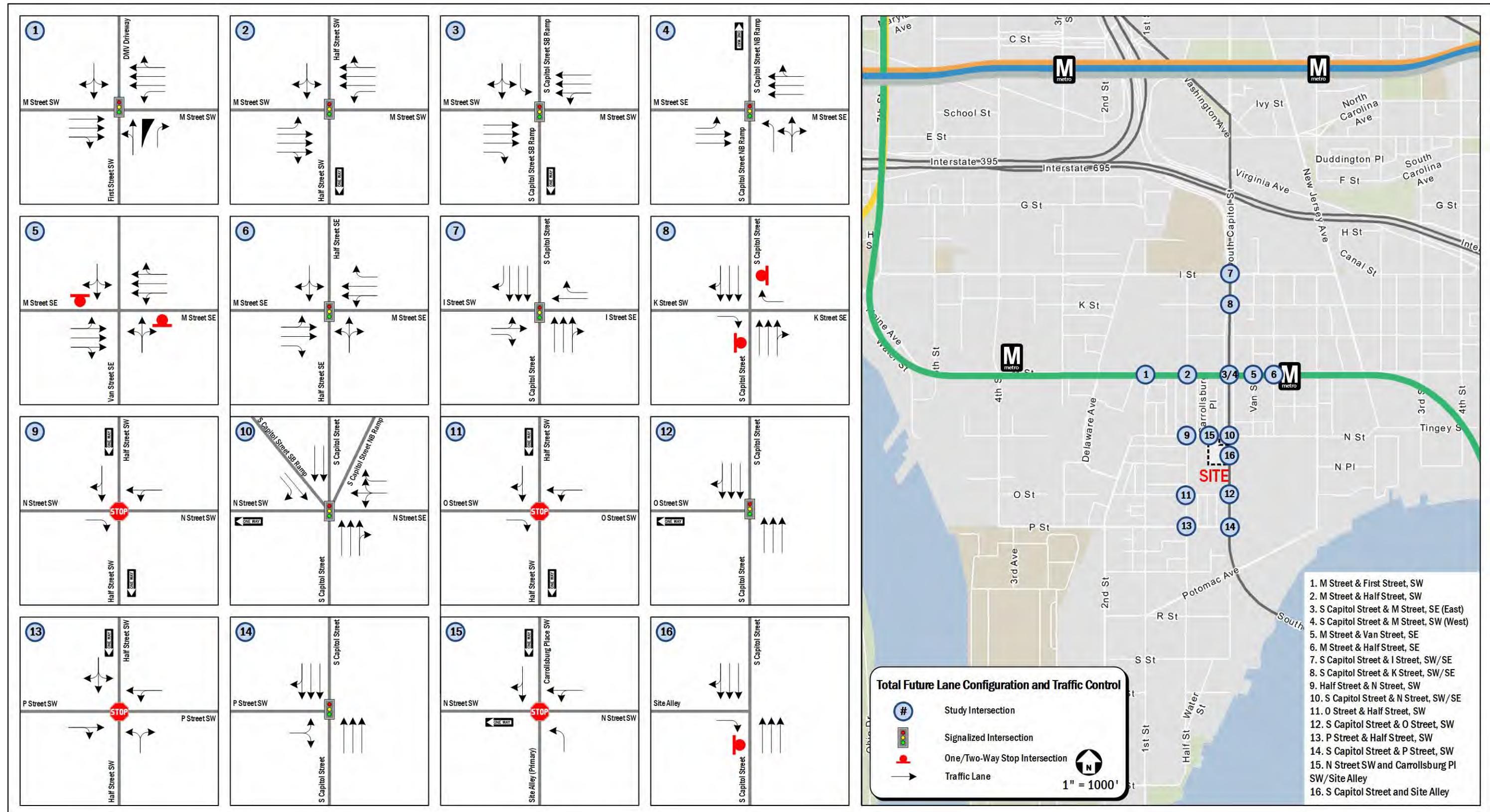


Figure 14: Total Future Lane Configuration and Traffic Control

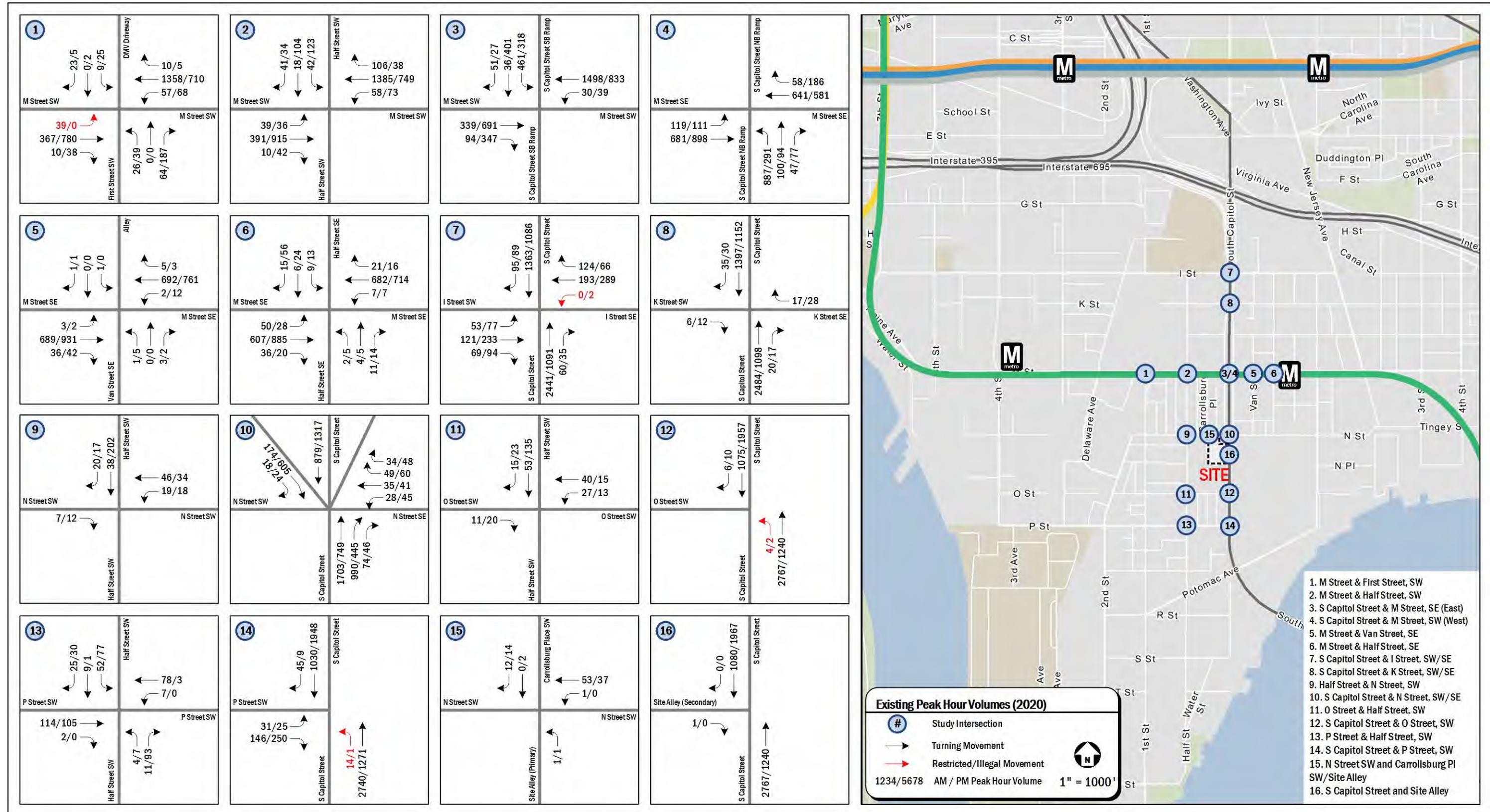


Figure 15: Existing Peak Hour Volumes

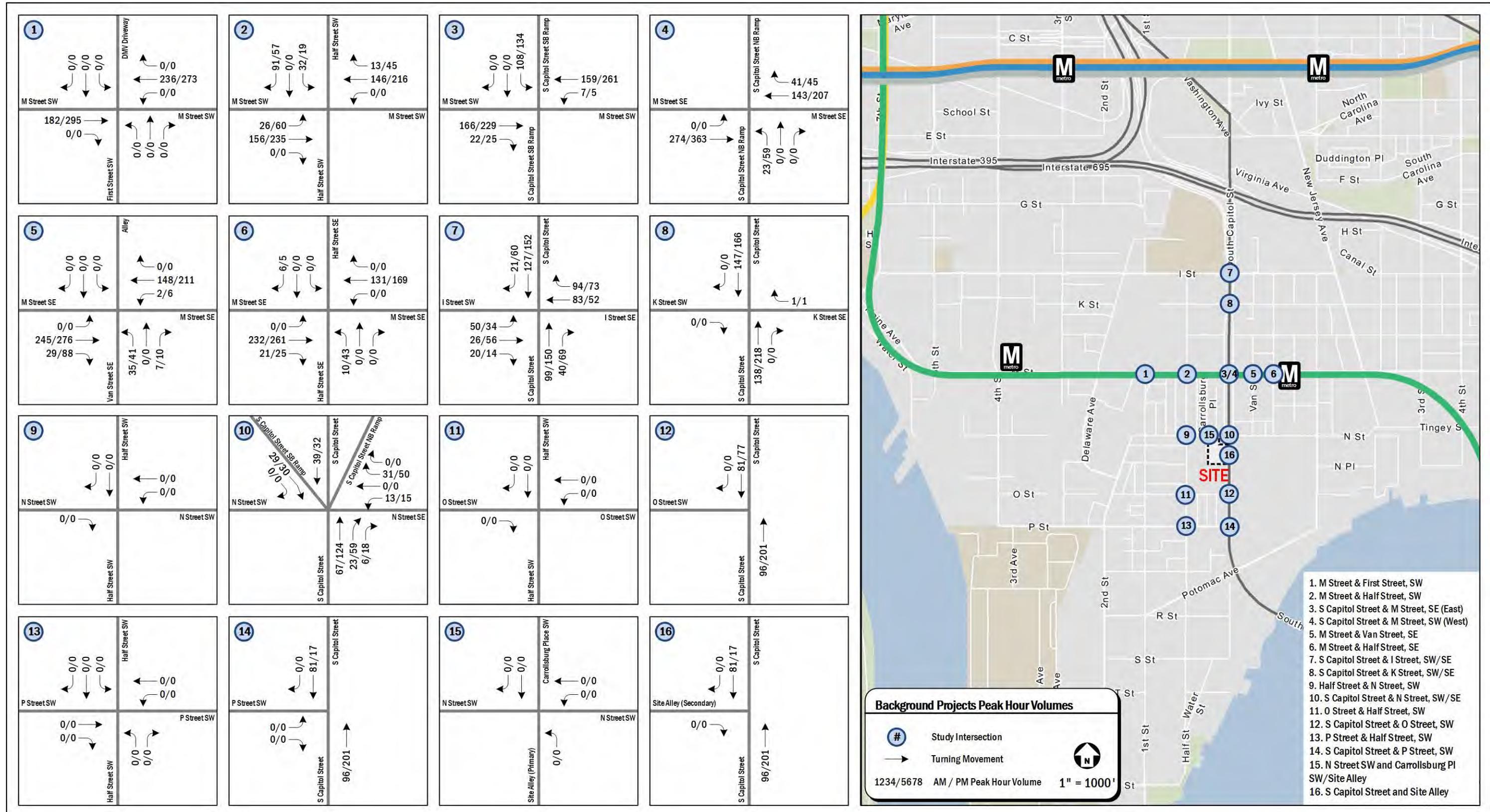


Figure 16: Background Projects Peak Hour Volumes

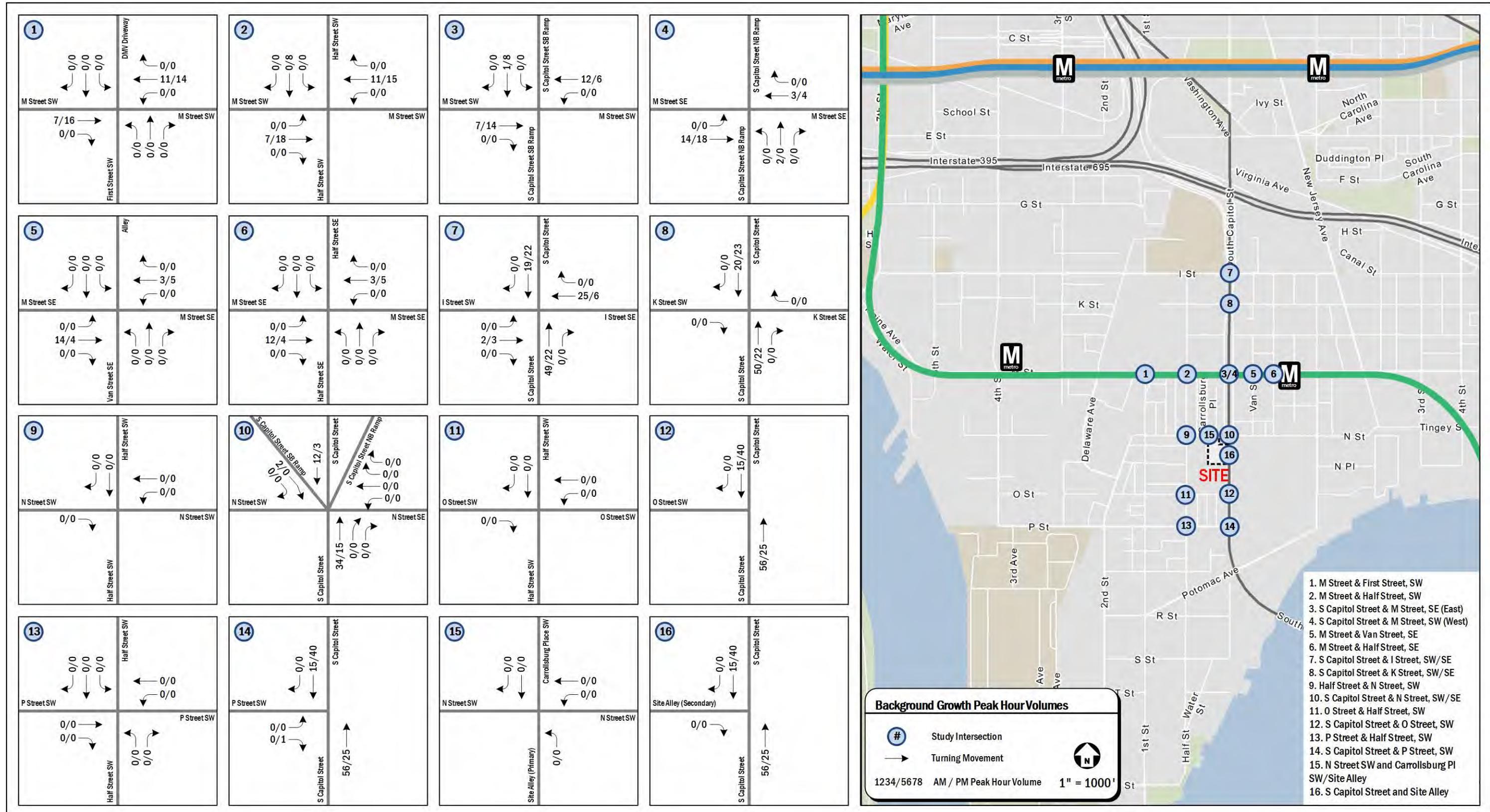


Figure 17: Background Growth Peak Hour Volumes

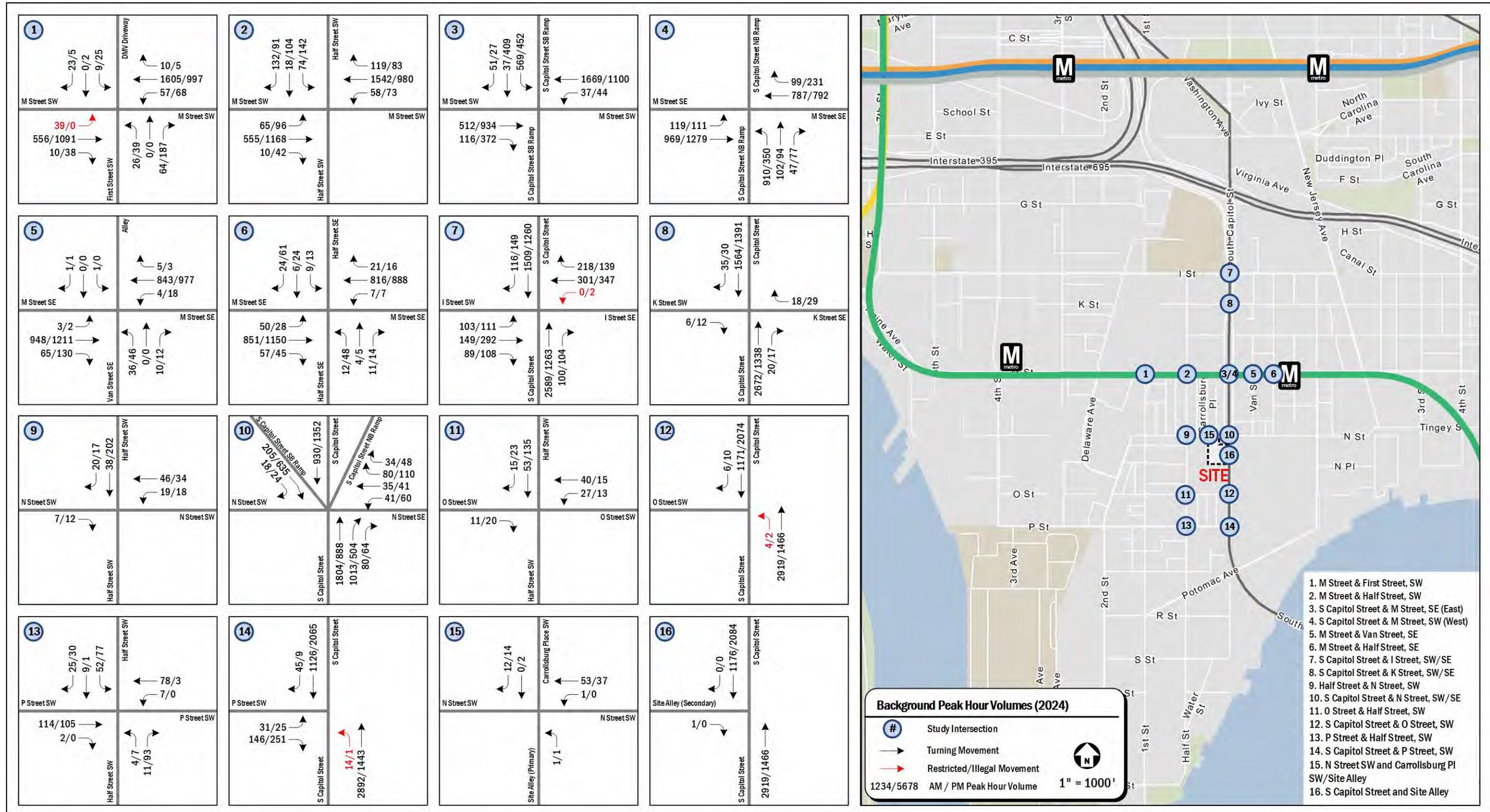


Figure 18: Background Peak Hour Traffic Volumes

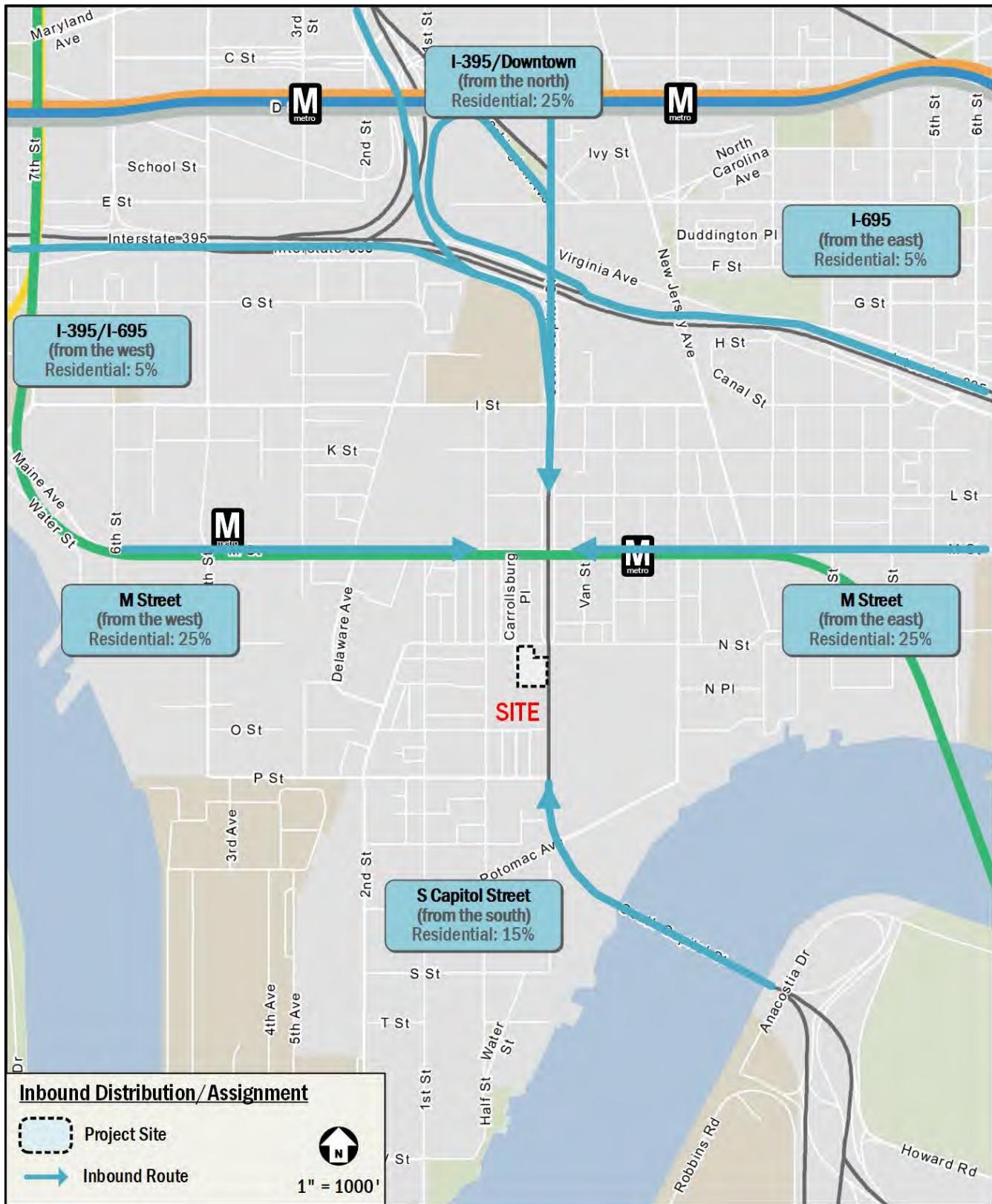
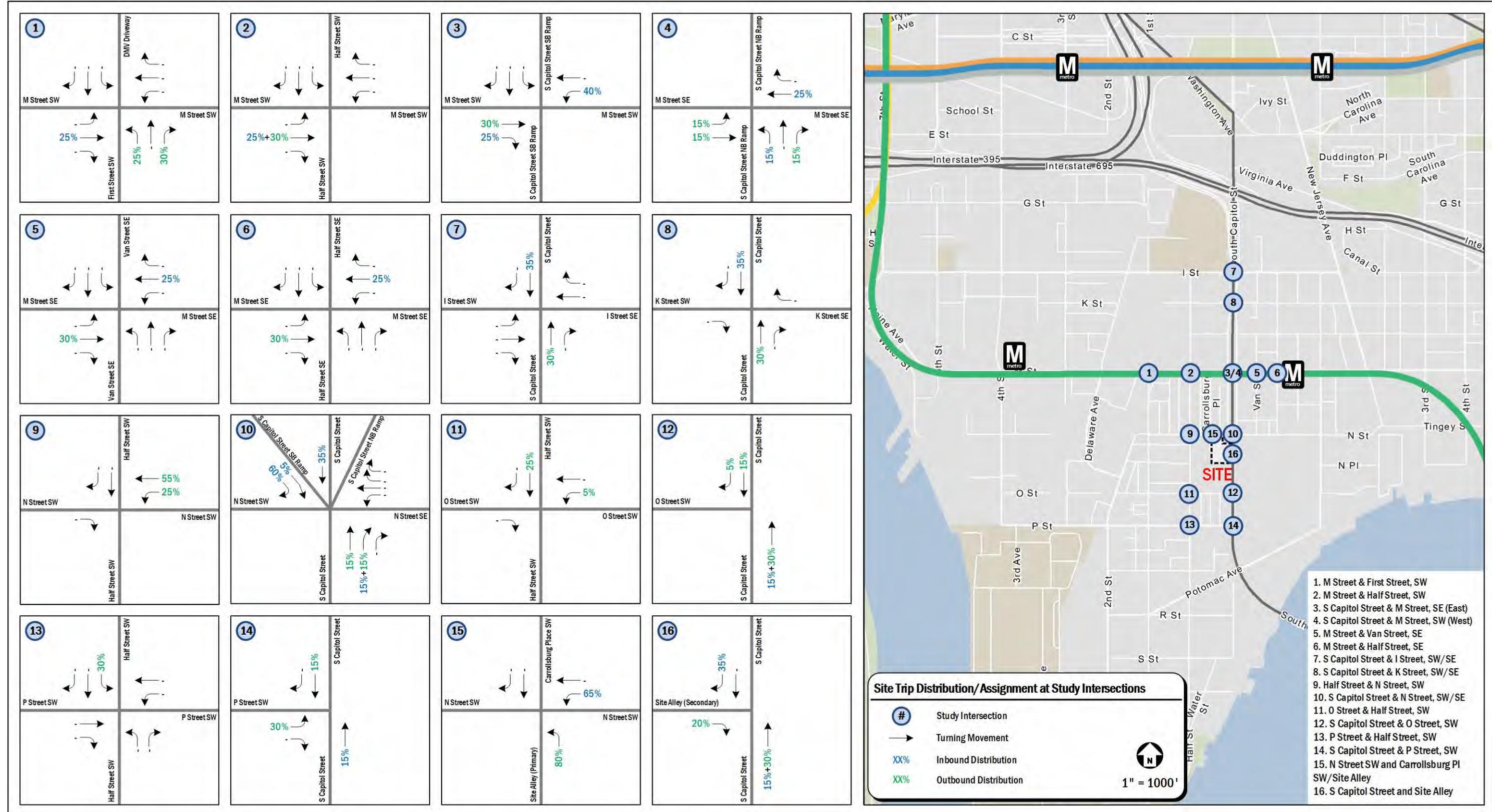


Figure 19: Inbound Distribution



Figure 20: Outbound Distribution



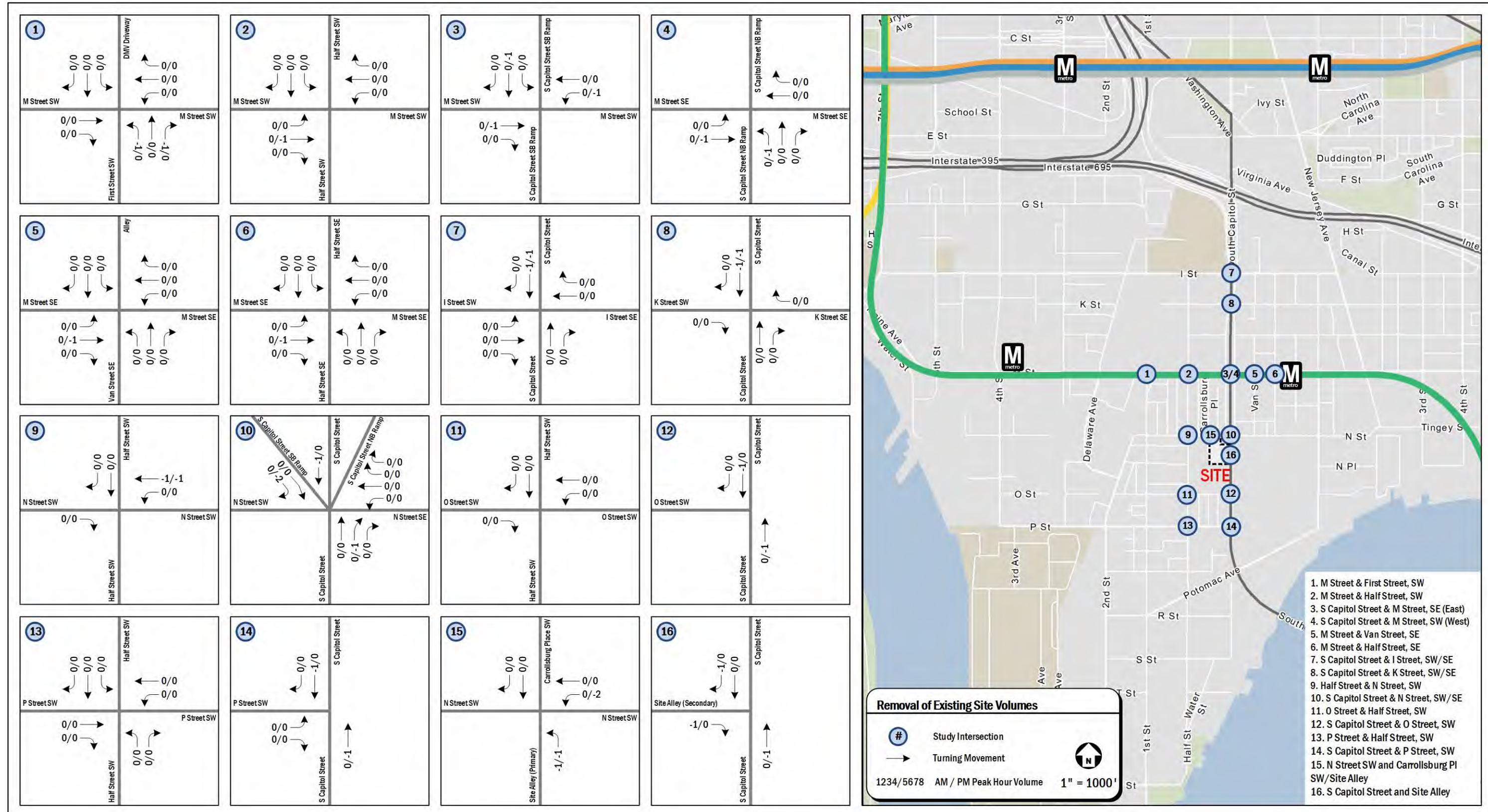


Figure 22: Removal of Existing Site Volumes

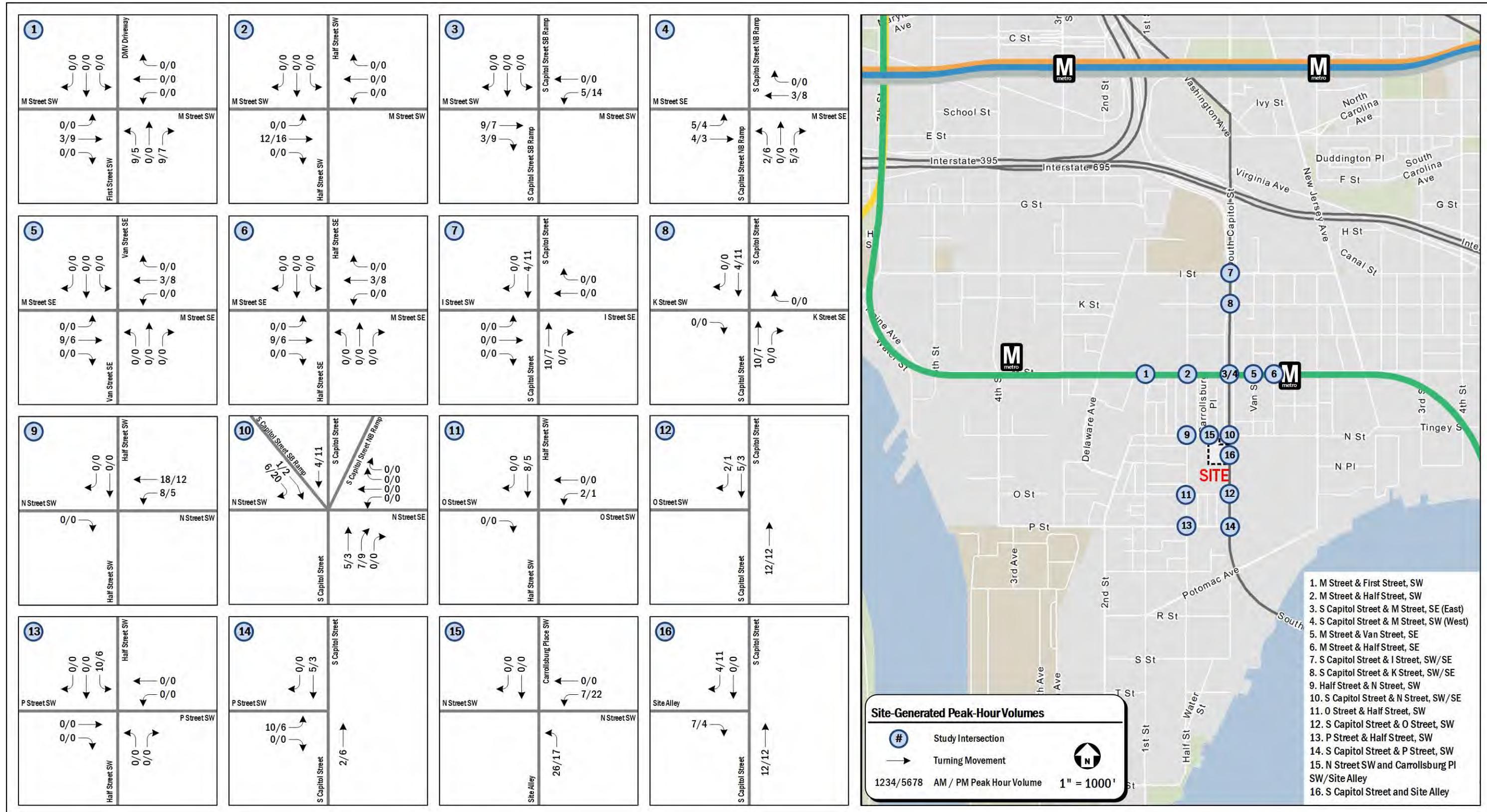


Figure 23: Site-Generated Peak Hour Volumes

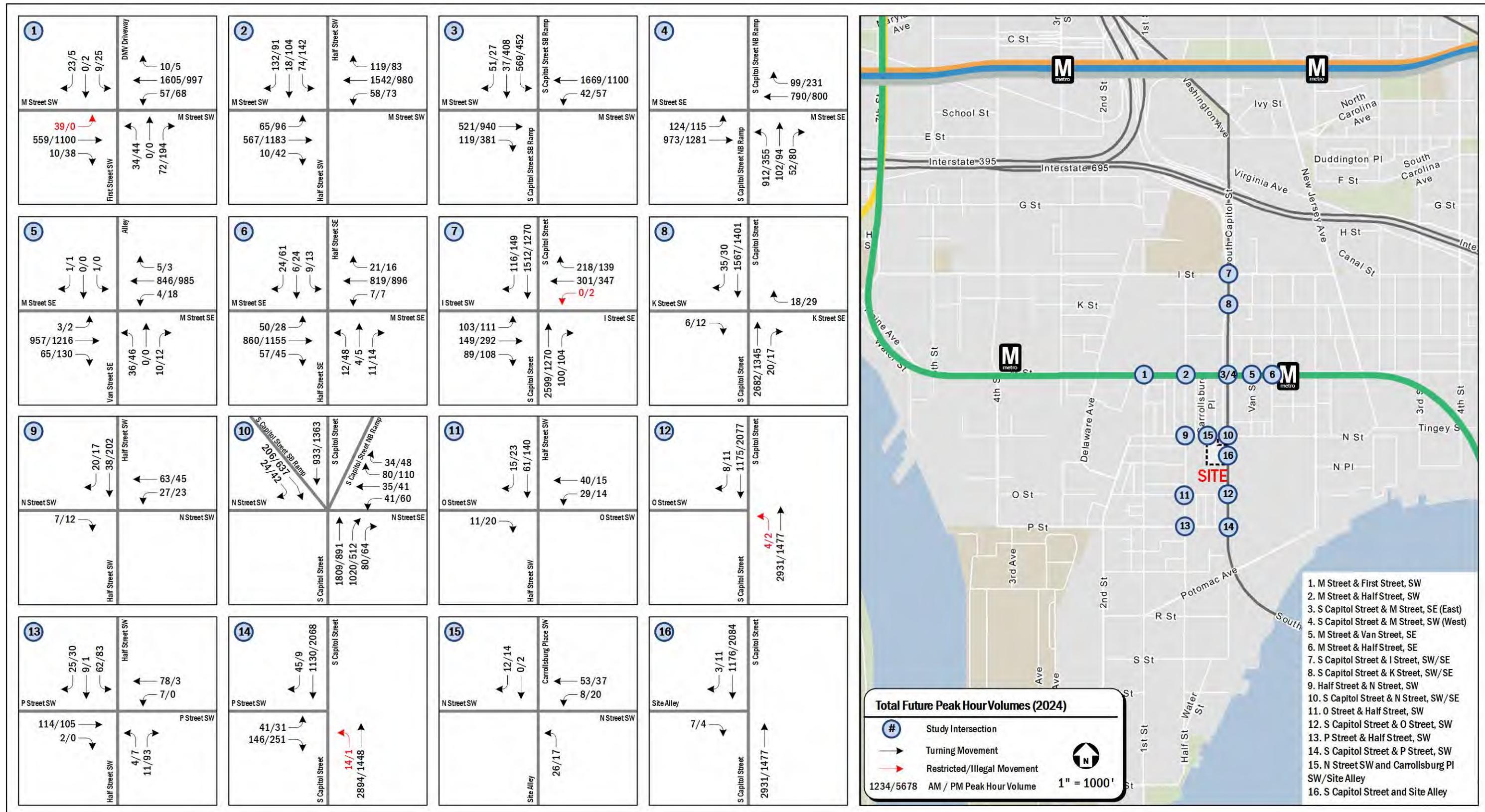


Figure 24: Total Future Peak Hour Traffic Volumes

Table 8: LOS Results

Intersection and Movement	Existing (2020)				Background (2024)				Future (2024)				Future (2024) with Mitigations			
	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
1. First St SW & M St SW																
Overall	10.2	B	13.3	B	12.9	B	14.1	B	13.1	B	14.3	B	--	--	--	--
Eastbound	13.7	B	11.7	B	14.3	B	12.9	B	14.3	B	13.1	B	--	--	--	--
Westbound	6.6	A	5.1	A	10.3	B	8.4	A	10.4	B	8.1	A	--	--	--	--
Northbound	34.5	C	41.9	D	34.5	C	41.9	D	35.2	D	42.6	D	--	--	--	--
Southbound	58.6	E	51.3	D	58.6	E	51.3	D	58.6	E	51.3	D	--	--	--	--
2. Half St SW & M St SW																
Overall	15.7	B	9.8	A	19.2	B	13.9	B	19.2	B	13.6	B	--	--	--	--
Eastbound	4.7	A	4.7	A	9.4	A	5.6	A	9.4	A	5.6	A	--	--	--	--
Westbound	17.1	B	2.0	A	17.6	B	2.8	A	17.8	B	2.2	A	--	--	--	--
Southbound	41.7	D	55.5	E	58.9	E	83.5	F	58.9	E	83.5	F	--	--	--	--
3. W St Capitol St Service Rd & M St SW																
Overall	24.2	C	37.6	D	33.8	C	44.6	D	34.8	C	45.3	D	--	--	--	--
Eastbound	53.3	D	35.3	D	52.8	D	42.2	D	56.9	E	44.9	D	--	--	--	--
Westbound	0.6	A	0.8	A	0.8	A	0.8	A	0.9	A	0.8	A	--	--	--	--
Southbound	67.3	E	83.8	F	101.4	F	104.4	F	101.4	F	103.9	F	--	--	--	--
4. E St Capitol St Service Rd & M St SE																
Overall	39.0	D	22.8	C	47.9	D	25.6	C	48.6	D	25.9	C	--	--	--	--
Eastbound	5.5	A	2.2	A	7.7	A	4.0	A	7.8	A	4.1	A	--	--	--	--
Westbound	50.1	D	34.6	C	81.1	F	40.9	D	82.0	F	41.2	D	--	--	--	--
Northbound	57.2	E	48.5	D	61.5	E	52.9	D	62.8	E	53.7	D	--	--	--	--
5. Van St SE & M St SE																
Eastbound	0.2	A	0.1	A	0.2	A	0.1	A	0.2	A	0.1	A	--	--	--	--
Westbound	0.1	A	0.8	A	0.3	A	1.2	A	0.3	A	1.2	A	--	--	--	--
Northbound	13.1	B	17.5	C	59.2	F	93.0	F	60.8	F	95.3	F	--	--	--	--
Southbound	14.9	B	8.9	A	25.9	D	12.1	B	26.1	D	12.1	B	--	--	--	--
6. Half St SE & M St SE																
Overall	8.6	A	10.4	B	11.1	B	17.9	B	11.2	B	18.1	B	--	--	--	--
Eastbound	10.8	B	12.1	B	15.3	B	24.2	C	15.4	B	24.5	C	--	--	--	--
Westbound	5.5	A	5.9	A	5.6	A	8.2	A	5.6	A	8.4	A	--	--	--	--
Northbound	20.8	C	20.9	C	21.2	C	22.8	C	21.2	C	22.8	C	--	--	--	--
Southbound	21.8	C	25.8	C	22.3	C	26.2	C	22.3	C	26.2	C	--	--	--	--
7. S Capitol St & I (Eye) St SW/SE																
Overall	14.5	B	43.4	D	44.4	D	103.1	F	44.4	D	102.7	F	--	--	--	--
Eastbound	59.3	E	197.6	F	427.0	F	616.3	F	427.0	F	616.3	F	--	--	--	--
Westbound	50.2	D	49.3	D	61.6	E	54.0	D	61.6	E	54.0	D	--	--	--	--
Northbound	12.2	B	17.8	B	16.9	B	20.3	C	17.2	B	20.4	C	--	--	--	--
Southbound	3.3	A	13.0	B	4.0	A	14.2	B	4.0	A	14.2	B	--	--	--	--

Intersection and Movement	Existing (2020)				Background (2024)				Future (2024)				Future (2024) with Mitigations			
	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
8. S Capitol St & K St SW/SE																
Eastbound	8.9	A	8.8	A	9.0	A	9.0	A	9.0	A	9.0	A	--	--	--	--
Westbound	19.4	C	11.5	B	21.3	C	12.5	B	21.4	C	12.5	B	--	--	--	--
Northbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	--	--	--	--
Southbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	--	--	--	--
9. N St SW & Half St SW																
Eastbound	6.7	A	7.0	A	6.7	A	7.0	A	6.7	A	7.0	A	--	--	--	--
Westbound	7.6	A	7.9	A	7.6	A	7.9	A	7.7	A	8.0	A	--	--	--	--
Southbound	7.4	A	8.6	A	7.4	A	8.6	A	7.4	A	8.7	A	--	--	--	--
10. S Capitol St & N St SW/SE																
Overall	40.3	D	93.6	F	45.1	D	99.3	F	45.4	D	100.2	F	--	--	103.2	F
Westbound	55.2	E	58.3	E	60.6	E	79.6	E	60.6	E	79.6	E	--	--	79.6	E
Northbound	37.1	D	3.6	A	41.6	D	3.9	A	41.9	D	4.0	A	--	--	4.2	A
Southbound	38.5	D	48.3	D	38.4	D	53.0	D	38.6	D	55.0	E	--	--	51.2	D
11. Half St SW & O St SW																
Eastbound	6.8	A	7.0	A	6.8	A	7.0	A	6.8	A	7.0	A	--	--	--	--
Westbound	7.6	A	7.7	A	7.6	A	7.7	A	7.6	A	7.7	A	--	--	--	--
Southbound	7.5	A	8.0	A	7.5	A	8.0	A	7.6	A	8.0	A	--	--	--	--
12. S Capitol St & O St SW																
Overall	3.5	A	1.1	A	4.2	A	1.4	A	3.5	A	1.5	A	--	--	--	--
Northbound	4.1	A	1.8	A	5.0	A	2.0	A	4.0	A	2.0	A	--	--	--	--
Southbound	2.1	A	0.7	A	2.2	A	1.0	A	2.2	A	1.0	A	--	--	--	--
13. Half St SW & P St SW																
Eastbound	8.1	A	8.3	A	8.1	A	8.3	A	8.2	A	8.3	A	--	--	--	--
Westbound	7.9	A	7.6	A	7.9	A	7.6	A	8.0	A	7.7	A	--	--	--	--
Northbound	7.4	A	7.4	A	7.4	A	7.4	A	7.4	A	7.4	A	--	--	--	--
Southbound	8.0	A	8.2	A	8.0	A	8.2	A	8.2	A	8.2	A	--	--	--	--
14. S Capitol St & P St SW																
Overall	8.5	A	21.1	C	9.7	A	24.3	C	12.7	B	25.1	C	7.1	A	--	--
Eastbound	66.8	E	83.8	F	66.7	E	83.7	F	71.0	E	86.1	F	65.3	E	--	--
Northbound	7.8	A	11.5	B	9.8	A	12.8	B	13.8	B	12.9	B	6.0	A	--	--
Southbound	0.5	A	18.3	B	0.6	A	24.5	C	0.9	A	25.3	C	0.6	A	--	--
15. N St SW & Site Alley/Carrollsburg PI SW																
Westbound	0.1	A	0.0	A	0.1	A	0.0	A	1.0	A	2.6	A	--	--	--	--
Northbound	9.0	A	9.2	A	9.0	A	9.2	A	9.3	A	9.6	A	--	--	--	--
Southbound	8.7	A	9.0	A	8.7	A	9.0	A	8.7	A	9.0	A	--	--	--	--
16. S Capitol St & Site Alley																
Eastbound	11.0	B	0.0	B	11.3	B	0.0	A	11.4	B	10.7	B	--	--	--	--

Table 9: v/c Comparison

Intersection and Movement	Existing (2020)		Background (2024)		Future (2024)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
	v/c	v/c	v/c	v/c	v/c	v/c
1. First St SW & M St SW	0.30	0.43	0.44	0.59	0.44	0.60
	0.14	0.26	0.17	0.36	0.17	0.36
	0.60	0.32	0.71	0.45	0.71	0.45
	0.08	0.13	0.08	0.13	0.11	0.14
	0.19	0.57	0.19	0.57	0.22	0.59
	0.30	0.20	0.30	0.20	0.30	0.20
2. Half St SW & M St SW	0.39	0.13	0.84	0.47	0.84	0.47
	0.18	0.37	0.25	0.47	0.25	0.47
	0.14	0.28	0.17	0.38	0.17	0.38
	0.60	0.29	0.67	0.40	0.67	0.40
	0.35	0.74	0.76	0.96	0.76	0.96
3. W S Capitol St Service Rd & M St SW	0.36	0.47	0.55	0.64	0.56	0.64
	0.11	0.37	0.13	0.40	0.14	0.41
	0.62	0.37	0.70	0.49	0.71	0.52
	0.85	0.68	1.02	0.97	1.02	0.97
	0.85	1.07	1.03	1.12	1.03	1.12
4. E S Capitol St Service Rd & M St SE	0.52	0.37	0.68	0.49	0.71	0.52
	0.46	0.45	0.66	0.64	0.66	0.64
	0.80	0.59	1.02	0.79	1.03	0.80
	0.92	0.64	0.94	0.72	0.96	0.73
	0.94	0.64	0.96	0.72	0.95	0.74
5. Van St SE & M St SE	0.00	0.00	0.00	0.00	0.00	0.00
	0.21	0.30	0.29	0.39	0.29	0.39
	0.13	0.18	0.18	0.28	0.18	0.28
	0.00	0.02	0.01	0.03	0.01	0.03
	0.21	0.25	0.26	0.32	0.26	0.32
	0.11	0.12	0.13	0.16	0.13	0.16
	0.01	0.02	0.42	0.65	0.43	0.66
	0.01	0.03	0.01	0.00	0.01	0.00
6. Half St SE & M St SE	0.38	0.51	0.68	0.89	0.68	0.90
	0.36	0.39	0.59	0.66	0.59	0.66
	0.04	0.06	0.08	0.20	0.08	0.20
	0.11	0.35	0.15	0.37	0.15	0.37

Intersection and Movement	Existing (2020)		Background (2024)		Future (2024)	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
	v/c	v/c	v/c	v/c	v/c	v/c
7. S Capitol St & I (Eye) St SW/SE	0.70	1.38	2.07	2.56	2.07	2.56
	0.06	0.09	0.08	0.13	0.08	0.13
	0.51	0.65	0.80	0.78	0.80	0.78
	0.16	0.05	0.46	0.20	0.46	0.20
	0.86	0.43	0.93	0.53	0.93	0.53
	0.47	0.42	0.52	0.48	0.52	0.49
	0.07	0.07	0.09	0.12	0.09	0.12
8. S Capitol St & K St SW/SE	0.01	0.01	0.01	0.01	0.01	0.01
	0.07	0.05	0.08	0.06	0.08	0.06
	0.65	0.29	0.70	0.35	0.70	0.35
	0.65	0.29	0.70	0.35	0.70	0.35
	0.34	0.15	0.36	0.19	0.36	0.19
	0.37	0.30	0.41	0.36	0.41	0.37
	0.37	0.30	0.41	0.36	0.41	0.37
	0.21	0.17	0.23	0.20	0.23	0.20
9. N St SW & Half St SW	--	--	--	--	--	--
	--	--	--	--	--	--
	--	--	--	--	--	--
	--	--	--	--	--	--
10. S Capitol St & N St SW/SE	0.45	0.59	0.64	0.87	0.64	0.87
	0.14	0.21	0.14	0.21	0.14	0.21
	0.79	0.36	0.83	0.42	0.83	0.42
	1.15	0.49	1.18	0.57	1.19	0.58
	0.56	0.96	0.59	0.98	0.59	0.99
	0.79	1.71	0.93	1.80	0.94	1.80
	0.01	0.02	0.01	0.02	0.02	0.03
11. Half St SW & O St SW	--	--	--	--	--	--
	--	--	--	--	--	--
	--	--	--	--	--	--
	--	--	--	--	--	--
12. S Capitol St & O St SW	0.86	0.38	0.91	0.45	0.91	0.45
	0.38	0.74	0.42	0.78	0.42	0.78
13. Half St SW & P St SW	--	--	--	--	--	--
	--	--	--	--	--	--
	--	--	--	--	--	--
	--	--	--	--	--	--

Intersection and Movement	Existing (2020)				Background (2024)				Future (2024)			
	AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
	v/c	v/c	v/c	v/c	v/c	v/c	v/c	v/c	v/c	v/c	v/c	v/c
14. S Capitol St & P St SW												
Eastbound LR		0.47		0.92		0.48		0.92		0.64		0.93
Northbound T		0.82		0.46		0.87		0.54		0.90		0.54
Southbound TR		0.36		0.91		0.40		0.97		0.41		0.97
15. N St SW & Site Alley/Carrollsburg PI SW												
Westbound LT		0.00		0.00		0.00		0.00		0.01		0.01
Northbound L		0.00		0.00		0.00		0.00		0.03		0.02
Southbound TR		0.01		0.02		0.01		0.02		0.01		0.02
16. S Capitol St & Site Alley												
Eastbound R		0.00		0.00		0.00		0.00		0.01		0.01

Table 10: 50th and 95th Percentile Queueing Results (in feet)

Intersection and Lane Group	Storage Length (ft)	Existing (2020)				Background (2024)				Future (2024)				Future (2024) with Mitigations			
		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
1. First St SW & M St SW																	
Eastbound LTR	400	38	49	50	60	53	65	66	76	53	65	68	78	--	--	--	--
Westbound L	140	3	m16	7	m16	8	m19	9	m24	8	m19	9	m24	--	--	--	--
Westbound TR	325	47	118	37	46	115	191	84	m126	115	191	69	m117	--	--	--	--
Northbound LT	550	17	44	26	59	17	44	26	59	23	53	30	64	--	--	--	--
Northbound R	125	40	79	132	217	40	79	132	217	45	89	138	226	--	--	--	--
Southbound LTR	155	24	59	24	57	24	59	24	57	24	59	24	57	--	--	--	--
2. Half St SW & M St SW																	
Eastbound L	150	5	30	4	m9	21	#151	11	m40	21	#149	11	m37	--	--	--	--
Eastbound TR	280	18	24	40	46	19	23	52	58	21	26	52	58	--	--	--	--
Westbound L	140	22	m34	4	m8	20	m32	5	m10	20	m31	4	m8	--	--	--	--
Westbound TR	305	379	442	14	m17	419	m572	26	m31	432	m578	17	m23	--	--	--	--
Southbound LTR	250	72	128	191	#308	177	#299	258	#449	177	#299	258	#449	--	--	--	--
3. W S Capitol St Service Rd & M St SW																	
Eastbound T	300	71	95	111	150	123	166	183	m232	116	166	183	m231	--	--	--	--
Eastbound R	110	8	47	21	87	13	m47	28	m87	21	m55	46	m109	--	--	--	--
Westbound LT	50	1	m1	5	5	2	m2	5	4	2	m2	5	4	--	--	--	--
Southbound L	100	230	#391	209	317	~296	#502	332	#549	~296	#502	332	#549	--	--	--	--
Southbound LTR	315	220	#383	~418	#640	~297	#500	~457	#684	~297	#500	~455	#680	--	--	--	--
4. E S Capitol St Service Rd & M St SE																	
Eastbound L	50	4	m63	2	m7	11	m79	5	m7	52	m85	5	m73	--	--	--	--
Eastbound T	50	8	m40	18	m21	44	m47	27	m34	44	m47	27	m34	--	--	--	--
Westbound TR	350	196	248	168	214	~280	#373	254	313	~282	#375	257	317	--	--	--	--
Northbound L	345	417	#652	175	271	433	#676	203	#309	448	#695	206	#317	--	--	--	--
Northbound LTR	500	423	#667	158	255	440	#690	187	#312	435	#685	192	#321	--	--	--	--

Intersection and Lane Group	Storage Length (ft)	Existing (2020)				Background (2024)				Future (2024)				Future (2024) with Mitigations			
		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
5. Van St SE & M St SE																	
Eastbound LTR	260	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	--
Westbound LTR	260	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	--
Northbound LTR	260	--	1	--	2	--	45	--	80	--	46	--	81	--	--	--	--
Southbound LTR	260	--	0	--	0	--	1	--	0	--	1	--	0	--	--	--	--
6. Half St SE & M St SE																	
Eastbound LT	345	68	94	108	142	160	228	279	#444	163	232	281	#446	--	--	--	--
Eastbound R	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Westbound LT	345	19	24	35	45	46	m63	67	m92	47	m63	68	m94	--	--	--	--
Westbound R	50	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northbound LTR	575	6	21	9	27	10	29	27	60	10	29	27	60	--	--	--	--
Southbound LTR	260	11	31	40	84	14	38	42	88	14	38	42	88	--	--	--	--
7. S Capitol St & I (Eye) St SW/SE																	
Eastbound LT	340	168	263	-451	#645	-416	#605	-739	#948	-416	#605	-739	#948	--	--	--	--
Eastbound R	150	0	21	3	48	0	44	13	63	0	44	13	63	--	--	--	--
Westbound T	315	177	264	277	383	300	#445	-795	#996	300	#445	-795	#996	--	--	--	--
Westbound R	100	24	83	0	17	113	206	39	99	113	206	39	99	--	--	--	--
Northbound TR	260	686	520	282	324	831	720	384	434	828	732	387	436	--	--	--	--
Southbound T	245	51	56	143	158	71	77	173	189	71	78	175	191	--	--	--	--
Southbound R	135	0	m0	8	m20	0	m0	13	30	0	m0	13	30	--	--	--	--
8. S Capitol St & K St SW/SE																	
Eastbound R	340	--	1	--	1	--	1	--	1	--	1	--	1	--	--	--	--
Westbound R	355	--	6	--	4	--	7	--	5	--	7	--	5	--	--	--	--
Northbound TR	340	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	--
Southbound TR	355	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	--
9. N St SW & Half St SW																	
Eastbound R	150	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Westbound LT	160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southbound TR	560	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
10. S Capitol St & N St SW/SE																	
Westbound LTR	150	102	169	139	220	147	231	214	#366	147	231	214	#366	--	--	--	--
Westbound R	90	29	64	43	86	29	64	43	86	29	64	43	86	--	--	--	--
Northbound T	500	513	11	33	35	560	12	38	40	385	12	40	41	--	--	--	--
Northbound R	190	~1237	#1495	27	44	~1300	#1568	33	46	~1312	#1581	35	49	--	--	--	--
Southbound T	1250	435	498	690	#851	450	523	722	#891	452	525	733	#903	--	--	--	--
Southeastbound T (SB Ramp)	550	173	#294	~914	#1156	210	#374	~977	#1221	211	#376	~983	#1229	--	--	--	--
Southeastbound R (SB Ramp)	100	0	0	0	0	0	0	0	0	0	0	0	0	--	--	--	--
11. Half St SW & O St SW																	
Eastbound R	350	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Westbound LT	160	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southbound LR	530	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--

Intersection and Lane Group	Storage Length (ft)	Existing (2020)				Background (2024)				Future (2024)				Future (2024) with Mitigations			
		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
12. S Capitol St & O St SW																	
Northbound LT	245	17	#1168	4	298	23	#1288	6	382	30	#1295	6	387	--	--	--	--
Southbound TR	500	0	146	0	m71	0	m164	0	m83	0	m165	0	m82	--	--	--	--
13. Half St SW & P St SW																	
Eastbound TR	350	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Westbound LT	350	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Northbound LTR	400	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
Southbound LTR	260	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
14. S Capitol St & P St SW																	
Eastbound LR	350	38	119	268	#440	39	121	270	#444	81	162	277	#455	40	79	--	--
Northbound T	340	345	726	204	235	431	902	263	301	594	#1172	264	303	321	531	--	--
Southbound TR	250	6	5	372	337	9	7	413	#1186	52	8	419	#1188	8	8	--	--
15. N St SW & Site Alley/Carrollsburg PI SW																	
Westbound LT	150	--	0	--	0	--	0	--	0	--	0	--	1	--	--	--	--
Northbound L	150	--	0	--	0	--	0	--	0	--	3	--	2	--	--	--	--
Southbound TR	560	--	1	--	1	--	1	--	1	--	1	--	2	--	--	--	--
16. S Capitol St & Site Alley																	
Eastbound R	170	--	0	--	0	--	0	--	0	--	1	--	0	--	--	--	--

95th percentile volume exceeds capacity, queue may be longerM Volume for 95th percentile queue is metered by upstream signal

~ Volumes exceeds capacity, queue is theoretically infinite

Transit Facilities

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

This chapter concludes that:

- The site is well-served by existing transit;
- The development site is approximately 0.4 miles from the Navy Yard-Ballpark Metro station, approximately 0.6 miles from the Waterfront Metro station, and is served by local and regional bus routes;
- The development site is surrounded by five (5) Metrobus routes and one (1) DC Circulator route that travel along multiple primary corridors;
- Several planned and proposed transit projects will improve transit access to the site; and
- The project is expected to generate a manageable amount of transit trips that the existing transit service is capable of handling.

Existing Transit Service

The study area is well-served by Metrobus and has access to Metrorail. Combined, these transit services provide local and regional transit connections and link the site with major cultural, residential, employment, and commercial destinations throughout the region. Figure 25 identifies the major transit routes, stations, and stops in the study area.

The Navy Yard-Ballpark and Waterfront Metro stations are located approximately 0.4 miles and 0.6 miles from the development site, respectively. Both stations are served by the Green Line, which travels through the District core and serves destinations in the District and Maryland, terminating to the south at Branch Avenue station in Maryland and to the north in Greenbelt, Maryland. Under normal operating conditions, Green Line trains run approximately every eight (8) minutes during the morning and afternoon peak periods. They run approximately every 12 minutes during weekday non-peak periods of 5am to 9:30am and 3pm to 7pm. They run every 15 to 20 minutes on weekday evenings after 9:30am, and every 12 to 20 minutes on the weekends. During the current COVID-19 emergency, Green Line trains run approximately every 20 minutes from 5:00am to 9:00pm on weekdays and approximately every 30 minutes from 8:00am to 9:00pm on weekends.

The site is also serviced by five (5) Metrobus routes and one (1) DC Circulator bus route along multiple primary corridors. These bus routes connect the site to many areas of the region, as well as several Metro stations serving all six (6) Metrorail lines which provide further connections to Virginia and Maryland. Table 11 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. Several peak-only commuter bus lines also stop near the site, but they are not included in this report.

Table 12 shows WMATA's recommended amenities for each type of bus stop. Table 13 shows a detailed inventory of the amenities appearing at each of the existing bus stop within the transit study area.

Planned Transit Service

DDOT Car Free Lanes for Buses and Bikes

DDOT has included the segment of M Street SE between Half Street SE and 10th Street SE as one of its quick-build bus priority pilot projects that are part of the District's COVID-19 response and recovery. These projects are being implemented along corridors DDOT has already identified for permanent transit improvements.

Eastbound/westbound car free lanes will be added along M Street SE between Half Street SE and 10th Street SE. These car free lanes will be accessible by buses and bikes during the morning (7:00am – 9:30am) and evening (4:00pm – 6:30pm) peak periods. This project is scheduled to be implemented in late summer 2020.

MoveDC Transit Element

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 future 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. *MoveDC* is a long-range plan that provides a vision for the future of DC's transportation choices while improving the reliability of all transportation modes.

The transit element of *MoveDC*, proposes the following transit service improvements near the proposed project:

- A segment of WMATA's Metrobus Priority Corridor Network (PCN), which would improve bus travel times, reliability, and capacity, along M Street SW/SE;
- High-capacity transit service along M Street SW/SE; and
- Streetcar service along M Street SW/SE and First Street SW.

These improvements are proposed as part of the long-range plan, but not yet funded.

Site-Generated Transit Impacts

Transit Trip Generation

The proposed project is projected to generate 65 transit trips (17 inbound, 48 outbound) during the morning peak hour and 81 transit trips (50 inbound, 31 outbound) during the afternoon peak hour.

It is expected that existing transit service can accommodate these new site-generated trips.

Table 11: Local Bus Route Information

Route Number	Route Name	Service Hours at Stop Closest to Site ¹			Headway (minutes) ¹	Walking Distance to Nearest Stop
		Weekdays	Saturdays	Sundays		
WMATA routes						
A9 ²	Martin Luther King Jr. Avenue Limited Line	6:17am-9:18am; 3:59pm-7:18pm	-	-	15	0.5 mi (9 min)
74	Convention Center-Southwest Waterfront Line	4:59am-12:00am	5:02am-12:08am	5:02am-12:04am	11-20	0.2 mi (4 min)
P6	Anacostia-Eckington Line	4:22am-3:25am	4:20am-3:02am	4:31am-2:28am	10-35	0.2 mi (4 min)
V1 ²	Benning Heights-M Street Line	5:33am-9:23am; 3:11pm-7:12pm	-	-	16-25	0.2 mi (4 min)
V4	Capitol Heights-Minnesota Avenue Line	4:42am-2:30am	4:52am-2:30am	4:52am-1:00am	12-62	0.4 mi (9 min)
DDOT routes						
EM-LP	Eastern Market-L'Enfant Plaza	6:00am-9:00pm	7:00am-9:00am	7:00am-9:00am	10	0.1 mi (2 min)

¹ Service hours and headways reflect regular pre-COVID-19 bus service. During the current COVID-19 emergency, all WMATA routes shown run a Sunday schedule on weekdays with headways of approximately 30 minutes and with the last buses departing starting points at or before 11:00pm. All routes shown operate only on weekdays during the emergency. The A9 and V1 routes are not operating at all during the COVID-19 emergency.

² Peak hour, peak direction only.

Table 12: WMATA Recommended Bus Stop Amenities

Amenity	Basic Stop		Enhanced Stop	Transit Center Stop
	< 50 daily boardings	≥ 50 daily boardings		
Bus stop flag	●	●	●	●
Route map and schedule	●	●	●	●
5' x 8' landing pad	●	●	●	●
40'/60' x 8' landing pad			●	●
4' sidewalk	●	●	●	●
Bench		●	●	●
Shelter		●	●	●
Lighting (on shelter or within 30' if overhead)	Recommended for stops with early morning and evening service		●	●
Dynamic information signage	Contingent on presence of shelter			
Trash and recycling receptacles	Recommended where surrounding uses may generate trash			

Source: 2019 WMATA Bus Stop Amenity Reference Guide

Table 13: Bus Stop Inventory

Location	Stop ID	Routes Served	Amenities								
			Bus stop flag	Route map & schedule	Landing pad	Sidewalk	Bench	Shelter	Dynamic info sign	Lighting	Trash Recp.
P St + 1 st St SW (WB)	1000464	74	●	●	●	●	●	●		●	●
Half St + O St SW (SB)	1000472	74	●	●	●	●				●	●
O St + 1 st St SW (EB)	1000475	74	●	●	●	●					●
Delaware Ave + Canal St SW (SB)	1000479	74	●	●	●	●				●	●
Delaware Ave SW + #1301-1311 (SB)	1000484	74	●	●		●					●
M St + Delaware Ave SW (EB)	1000495	P6, V1, EM-LP	●	●	●	●	●	●		●	●
M St + Howison Pl SW (EB)	1000497	P6, V1	●		●	●				●	●
M St + 4th St SW (EB)	1000498	A9, 74, EM-LP	●	●	●	●				●	●
M St + Half St SE (WB)	1000509	P6, V1, EM-LP	●		●	●				●	●
M St + 1 st St SW (WB)	1000516	P6, V1	●	●	●	●				●	●
M St + Delaware Ave SW (WB)	1000517	P6, V1, EM-LP	●	●	●	●	●	●		●	●
3rd St + M St SW (NB)	1000520	P6, V1	●	●		●					●
3rd St + L St SW (SB)	1000525	P6, V1	●	●	●	●					
3rd St + K St SW (NB)	1000530	P6, V1	●	●	●	●	●	●		●	●
M St + Half St SW (WB)	1003001	P6, V1	●	●	●	●					●
M St + Half St SE (EB)	1003032	P6, V1, EM-LP	●	●	●	●				●	●
M St + New Jersey Ave SE (WB)	1003148	A9, P6, V1, V4, EM-LP	●	●	●	●	●	●		●	●
M St + 4th St SW (WB)	1003690	A9, 74, EM-LP	●	●	●	●					●
M St + Delaware Ave SW (EB)	1003704	74			●	●				●	●
1 st St + K St SE (NB)	1003793	V4	●	●	●					●	

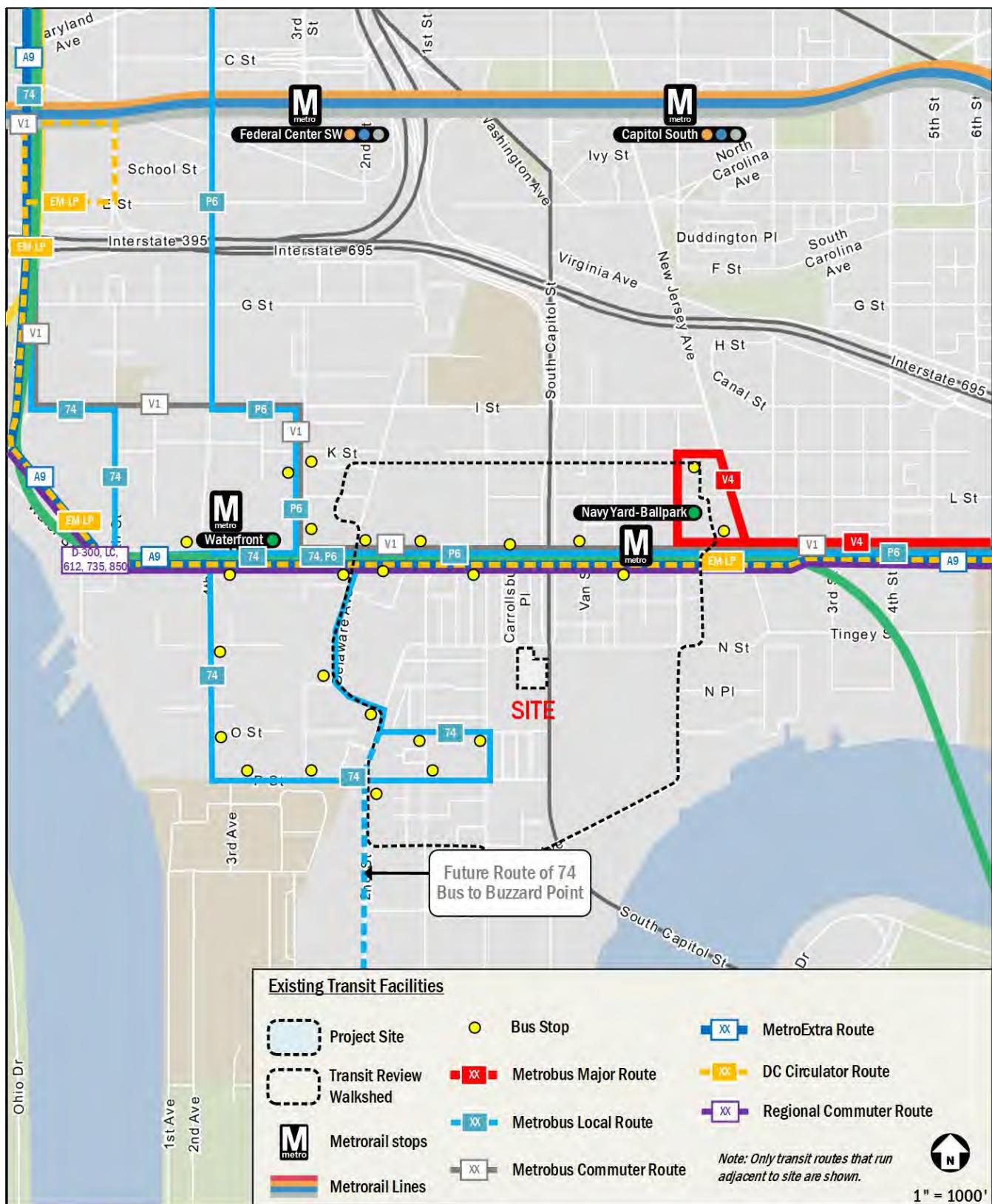


Figure 25: Existing Transit Facilities

Pedestrian Facilities

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

The following conclusions are reached within this chapter:

- Despite some incidences of missing crosswalks or sidewalks that do not meet width standards, overall there is an excellent, well-connected pedestrian network surrounding the site;
- There are no barriers which block pedestrian pathways to nearby attractions;
- The site will improve the overall pedestrian environment on site by improving sidewalks along the perimeter of the site; and
- The project is expected to generate pedestrian trips to origins and destinations nearby, in addition to pedestrian trips generated by walking to and from transit stops. The pedestrian facilities surrounding the project can accommodate these new trips.

Pedestrian Study Area

Pedestrian facilities within a quarter-mile of the site were evaluated, as well as walking routes to major destinations including the Navy Yard-Ballpark, Waterfront, Capitol South, and Federal Center SW Metro stations. There are a few sidewalks north of the site that do not meet minimum sidewalk width. These few shortcomings do not overall affect the quality or attractiveness of the walking environment within the study area. Figure 26 shows suggested pedestrian pathways, walking time and distances, and any barriers and areas of concern.

Pedestrian Infrastructure

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

Existing Conditions

Overall, the pedestrian facilities within the study area provide excellent connectivity to major local destinations. A summary of pedestrian facilities within the study area is shown on Figure 27. These facilities are shown within their respective land use types based on DC's Zoning Regulations of 2016, which determines which of DDOT's sidewalk width requirements apply to them. These sidewalk width requirements are shown in Table 14.

There are minor areas of concern within the study area that may impact the quality and attractiveness of walking, such sidewalks

that do not meet DDOT's minimum width requirements and intersections that do not have crosswalks and curb ramps on every leg.

The study area contains all three street types described in Table 14. For the most part, the sidewalks in the study area that do not meet DDOT standards for their street type at least meet the standards of low to moderate density residential streets. Almost every street has a sidewalk on both sides.

Americans with Disabilities Act (ADA) standards require that all curb ramps be provided wherever an accessible route crosses a curb and must have a detectable warning. Additionally, curb ramps shared between two crosswalks are not desired but where they are present, a 48" clear space is required outside active vehicle traffic lanes and within marked crossings. As shown in Figure 27, virtually all existing curb ramps near the site meet ADA standards, but some signalized intersections lack a crosswalk and curb ramp on one leg, and some unsignalized intersections lack crosswalks and curb ramps altogether.

Pedestrian Infrastructure Improvements

As part of the project, pedestrian facilities around the perimeter of the site will be improved to meet DDOT and ADA standards.

Site-Generated Pedestrian Impacts

Pedestrian Trip Generation

The proposed project is projected to generate 18 pedestrian trips (8 inbound, 10 outbound) during the morning peak hour and 36 pedestrian trips (19 inbound, 17 outbound) during the afternoon peak hour.

The origins and destinations of pedestrian trips are likely to be:

- Nearby residential areas that allow employees the opportunity to walk to work;
- Retail locations outside of the site; and
- Neighborhood destinations such as schools, libraries, and parking in the vicinity of the site.

In addition to these trips, the transit trips generated by the site will also generate pedestrian demand between the site and nearby bus stops and Metrorail. It is expected that existing pedestrian facilities can accommodate these new site-generated trips.

Table 14: DDOT Sidewalk Width Requirements

Street Type	Curb Walk	Tree/Furnishing Zone	Sidewalk Unobstructed Clear Width	Total Minimum Sidewalk Width
Low to Moderate Density Residential	None	4 - 6 feet	6 feet	10 feet
High Density Residential or Light Commercial	1 foot	4 - 8 feet	8 feet	13 feet
Central DC and Commercial Areas	1 - 2 feet	4 - 10 feet	10 feet	16 feet

Source: DDOT *Design and Engineering Manual*

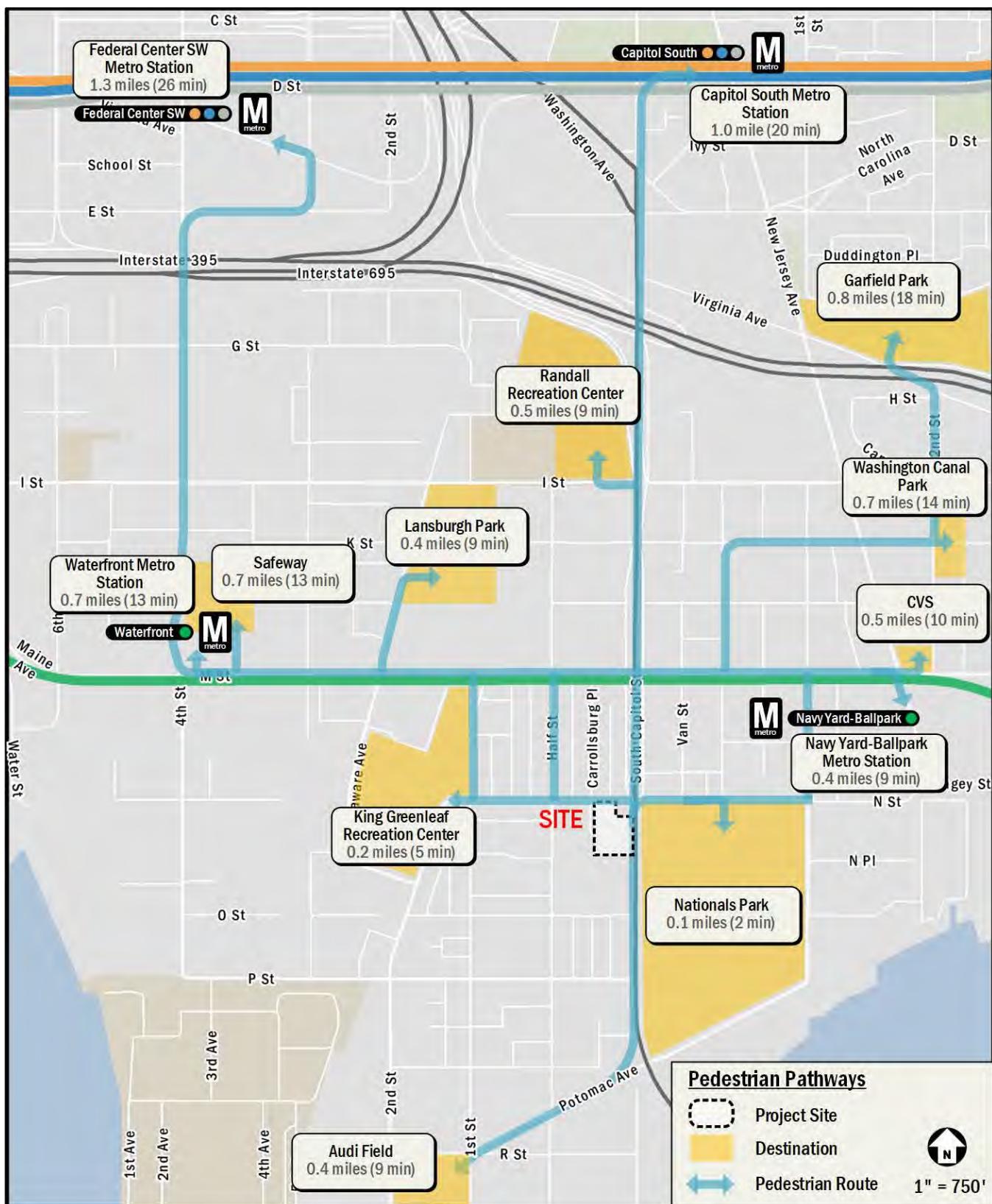


Figure 26: Pedestrian Pathways

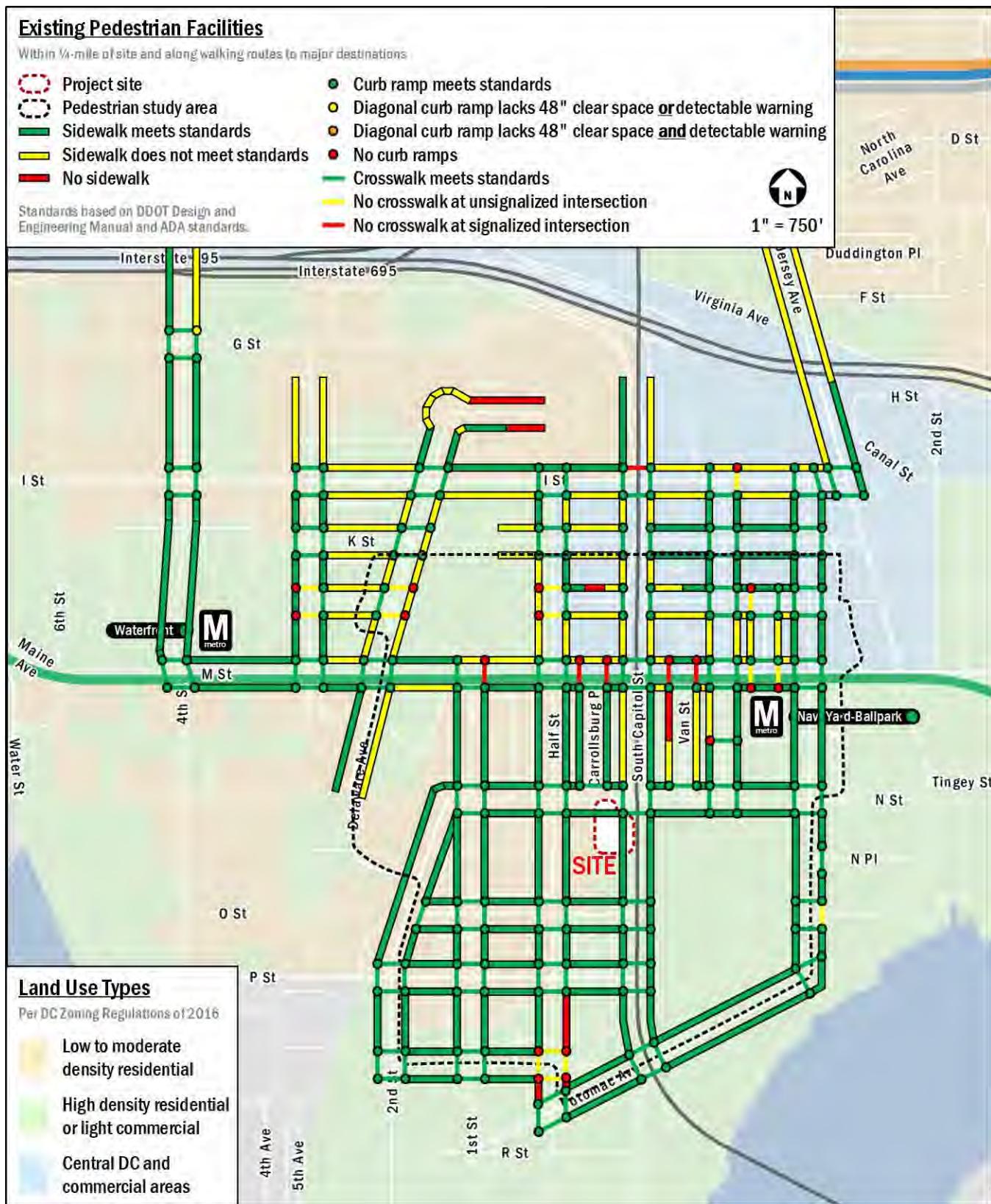


Figure 27: Existing Pedestrian Facilities

Bicycle Facilities

This chapter 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 on- and off-street bicycle facilities within the study area;
- Several planned and proposed bicycle projects will improve bicycle access to the site;
- The project is expected to generate a manageable number of bicycle trips; therefore, site-generated bike trips can be accommodated on existing infrastructure; and
- The development site will include long-term bicycle parking within the parking garages and short-term bicycle parking along the perimeter of the site that meet zoning requirements.

Existing Bicycle Facilities

The site has access to existing on- and off-street bicycle facilities. The development is located adjacent to the signed bicycle route on S Capitol Street, which can be used to access the bicycle lanes and cycle tracks on Eye Street SW/SE and Potomac Avenue SW. These facilities connect with major off-street bicycle facilities like the Anacostia Riverwalk Trail. Figure 28 illustrates existing bicycle facilities in the area.

No short-term bicycle parking is provided along the perimeter of the site under existing conditions.

Capital Bikeshare

In addition to personal bicycles, the Capital Bikeshare program provides additional cycle options for residents, employees, and patrons of the 1319 South Capitol Street SW development. The program has placed over 500 bikeshare stations across the Washington, DC metropolitan area with over 4,500 bicycles in the fleet. The following Capital Bikeshare stations are within a quarter-mile of the site:

- A 19-dock station at King Greenleaf Rec Center, 0.2 miles from the site; and
- A 19-dock station at First and M Street SE, 0.2 miles from the site.

Figure 28 illustrates these and other Capital Bikeshare locations in the area.

Dockless E-Scooters and E-Bicycles

Personal Mobility Device (PMD) service in the District is provided by five (5) electric-assist scooter (e-scooter) and electric-assist bicycle (e-bike) companies including Jump, Lyft, Skip, Spin, and Helbiz. These PMDs are provided by private companies that give registered users access to a variety of e-scooter and e-bike options. These devices are used through each company-specific mobile phone application. Many PMDs do not have designated stations where pick-up/drop-off activities occur like with Capital Bikeshare; instead, they are parked in public space, most commonly in the “furniture zone” (the portion of sidewalk between where people walk and the curb, often where other street signs, street furniture, trees, parking meters, etc. are found). At this time, PMD pilot/demonstration programs are underway in Arlington County, the District, Fairfax County, the City of Fairfax, the City of Alexandria, and Montgomery County.

Planned Bicycle Improvements

Several bicycle improvements are planned near the site. These are shown on Figure 29.

DDOT Car Free Lanes for Buses and Bikes

DDOT has included the segment of M Street SE between Half Street SE and 10th Street SE as one of its quick-build bus priority pilot projects that are part of the District's COVID-19 response and recovery. These projects are being implemented along corridors DDOT has already identified for permanent transit improvements.

The M Street SE car free lanes will be accessible by buses and bikes during the morning (7:00am – 9:30am) and evening (4:00pm – 6:30pm) peak periods. This project is scheduled to be implemented in late summer 2020.

DDOT Bikeways Expansion

DDOT has embarked on a plan to build over 20 miles of new protected bike lanes, or cycle tracks, between 2020 and 2022. This plan includes cycle tracks on M Street SW/SE, Eye Street SW/SE, 4th Street NW/SW, First Street SE, and New Jersey Avenue SE near the site.

Anacostia Riverwalk Trail

As part of the District's multi-agency Anacostia Riverfront Initiative, the existing Anacostia Riverwalk Trail will be extended from its current terminus near South Capitol Street around

Buzzard Point, connecting to the existing cycle track on 2nd Street SW.

South Capitol Street Corridor Project

This project replaces the Frederick Douglass Memorial Bridge carrying South Capitol Street across the Anacostia River with a new span featuring an improved bicycle trail, providing a better link to bicycle facilities east of the Anacostia River. The bridge is scheduled to open in late 2021.

Capital Bikeshare Expansion

Capital Bikeshare's 2019 development plan calls for two (2) new Capital Bikeshare stations near the site: one at 4th and G Street SW and one at 4th and P Street SW.

Proposed Bicycle Improvements

There are several bicycle improvements that are proposed near the site, but not yet funded or planned. These are shown on Figure 29.

MoveDC Bicycle Element

The bicycle element of *MoveDC*, the District's multimodal long-range transportation plan, includes the following bicycle improvements near the development that are proposed but not yet funded or planned:

- Cycle tracks along P Street SW, South Capitol Street, 4th Street NE, and 6th Street NE; and

- A bicycle trail connecting the Capitol with the Anacostia Riverwalk Trail.

Site-Generated Bicycle Impacts

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

On-site Bicycle Infrastructure

The development will provide short- and long-term bicycle parking spaces, the quantities of which meet zoning requirements.

The development will supply 17 short-term bicycle spaces. The short-term spaces will be provided on exterior bike racks along the site's S Capitol Street frontage.

The development will provide 110 long-term spaces, provided on Lower Level 1 parking. The bicycle parking spaces on Lower Level 1 parking will be accessible from the garage ramps from the public alley, which will be accessed from S Capitol Street and N Street SW.

Bicycle Trip Generation

The proposed project is projected to generate 15 bicycle trips (4 inbound, 11 outbound) during the morning peak hour and 20 bicycle trips (12 inbound, 8 outbound) during the afternoon peak hour.

It is expected that existing bicycle facilities can accommodate these new site-generated trips.

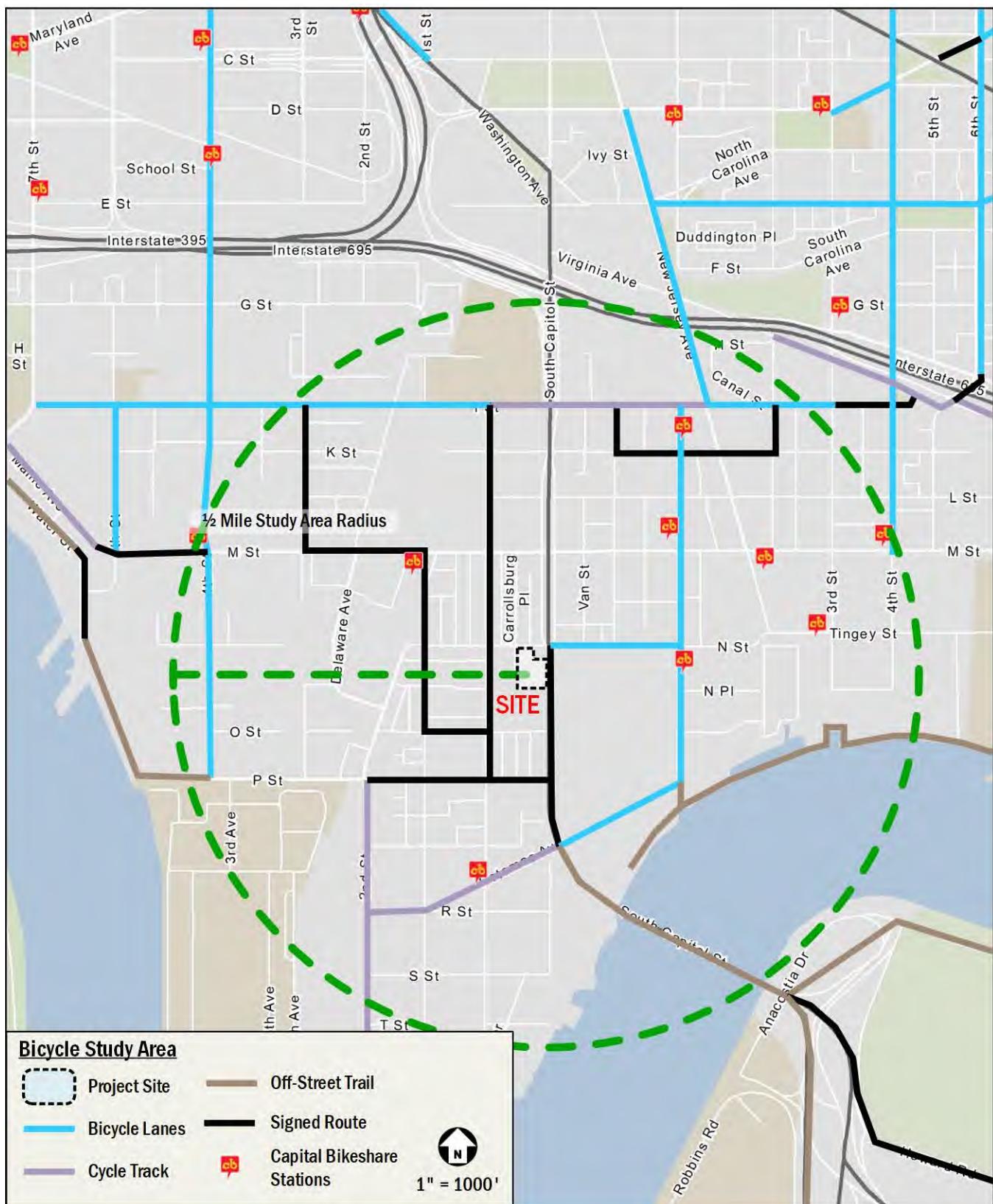


Figure 28: Existing Bicycle Facilities

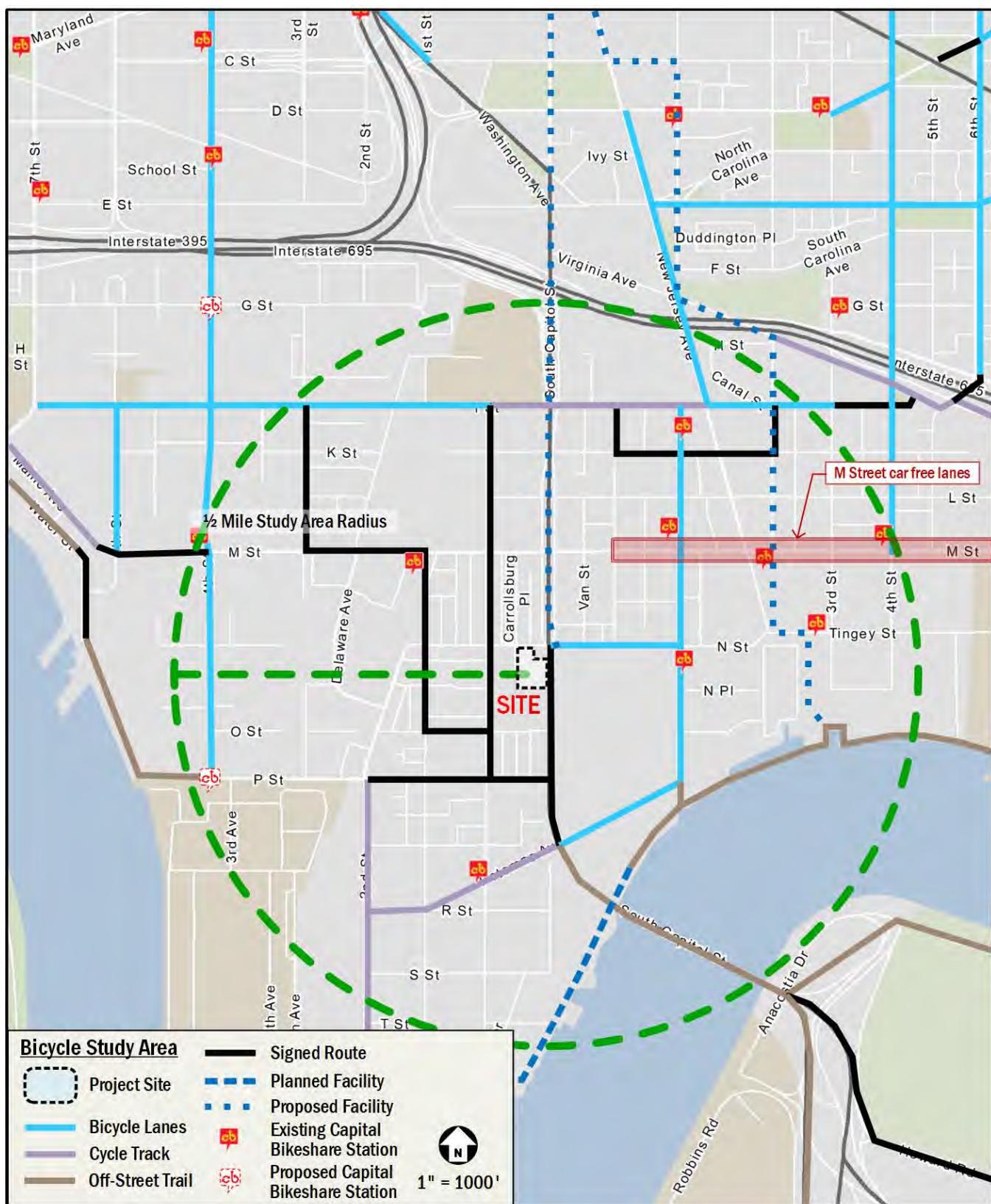


Figure 29: Existing and Future Bicycle Facilities

Safety Analysis

This chapter qualitatively reviews any vehicle, pedestrian, or bicycle conflicts at the study area intersections or street links within the study area. This review includes identifying any intersections within the study area that have been identified by DDOT as high crash locations.

Summary of Safety Analysis

A safety analysis was performed to determine if there are any intersections that pose any obvious conflicts with vehicles, pedestrians, or bicyclists. Data to determine this included DDOT's most recent *Traffic Safety Statistics Report* (2015-2017), *Vision Zero Action Plan*, and Open Data DC Vision Zero Safety data. Based on available data, no study intersections have been identified by DDOT as hazardous/high crash intersections, however, a qualitative review of the crash data available through the DDOT-maintained and publicly-available "Crashes in DC" database was performed to identify study intersections in which conditions for vehicles, pedestrians, and bicyclists can be improved.

Based on a review of facilities in the area, in addition to crash data, one (1) intersection was identified for further evaluation. The following section details the potential conflicts at the identified study area intersections.

Potential Impacts

This section reviews the one (1) intersection that was identified to pose potential conflicts to vehicles, pedestrians, or bicyclists.

- **M Street & South Capitol Street SE/SW**

While this intersection was not identified in DDOT's *Traffic Safety Statistics Report* (2015-2017), this location carries a high level of vehicle traffic and pedestrian activity. Additionally, public-submitted comments express concerns related to pedestrian and bicycle safety at this intersection.

As it currently operates, pedestrian signalized intervals provide ample crossing time to pedestrians and bicycles with refuge islands in between the South Capitol Street service roads and "Yield to Pedestrians" signs on every approach.

Intersection configuration or operational changes have not been identified as this intersection will be improved as part Phase 2 of DDOT's South Capitol Street Corridor Project.

Summary and Conclusions

This report is a Comprehensive Transportation Review (CTR) on behalf of 1319 South Capitol Owner, L.L.C. (the “Applicant”) for a Design Review by the Zoning Commission (Zoning Commission Case Number 20-18) for the property located at Square 653 and Lots 14, 15 ,53, 54, 60-64, 68, 70, 810, 811, and 831 in Southwest, Washington, DC.

The purpose of this CTR is to evaluate whether the 1319 South Capitol Street SW development will generate a detrimental impact to the transportation network surrounding the site. 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 the proposed site design elements and TDM measures are implemented.

Proposed Project

The site is located at 1319 South Capitol Street SW, bounded by N Street SW to the north, an alley and private property to the west, private property to the south, and S Capitol Street and private property to the east.

The development program includes approximately 310 residential units ($\pm 10\%$ flexibility), up to approximately 3,479 square feet of commercial/retail use, and approximately 180 underground garage parking spaces.

Vehicular access to the site will consist of a 16-foot north-south public alley accessible from N Street SW to service the parking and loading facilities. Access to a vehicular pick-up/drop-off area will be accessed through an existing 10-foot east-west public alley accessible from S Capitol Street to which a private 10-foot wide east-west alley component is to connect. Both public alleys will function as two-way alleys. No new curb cut is proposed. One (1) existing curb cut along S Capitol Street serving the existing surface lot will be removed.

The loading areas within the Site consist of one (1) 30-foot loading berth, one (1) service/delivery space, and one (1) 100 square foot loading platform. All truck turning maneuvers will occur within the Site, allowing for head-in/head-out access to and from the public roadway network. The number of loading berths meet all zoning and DDOT dimensional requirements.

The 1319 South Capitol Street SW development will satisfy the 2016 zoning requirements for bicycle parking by including 110

long-term bicycle parking spaces and 17 short-term bicycle parking spaces. The project will supply long-term bicycle parking in secure locations within the building and short-term bicycle parking within and along the perimeter of the Site. The vehicular and bicycle parking will also meet the practical needs of the project’s employees, residents, and patrons.

Multi-Modal Overview

Trip Generation

The 1319 South Capitol Street SW development is transit-, pedestrian-, and bicycle-oriented. The proposed project is expected to generate new trips on the surrounding transportation network across all modes during the morning, afternoon, and Saturday peak hours. The multi-modal trip generation for the project is as follows:

The AM peak hour trip generation is projected to include 44 vehicles/hour, 65 transit riders/hour, 15 bicycle trips/hour, and 18 walking trips/hour. The PM peak hour trip generation is projected to include 54 vehicles/hour, 81 transit riders/hour, 20 bicycle trips/hour, and 36 walking trips/hour. The Saturday peak hour trip generation is projected to include 38 vehicles/hour, 58 transit riders/hour, 15 bicycle trips/hour, and 31 walking trips/hour.

Transit

The development site is well-served by transit. It is located approximately 0.4 miles from the Navy Yard-Ballpark Metro station, approximately 0.6 miles from the Waterfront Metro station, and is served by local and regional bus routes.

Several planned or proposed transit projects will improve transit access to the site, including a peak-hour bus and bike lane on M Street SE as well as other improvements proposed in *MoveDC*, the District’s long-range transportation plan.

The site is expected to generate a manageable amount of transit trips, and the existing service can accommodate these new trips.

Pedestrian

The site is surrounded by a well-connected pedestrian network. Despite some incidences of missing crosswalks or sidewalks that do not meet width standards, overall there is an excellent, well-connected pedestrian network surrounding the site.

The site will improve the overall pedestrian environment on site by improving sidewalks along the perimeter of the site.

The site is expected to generate a manageable amount of pedestrian trips, and the existing pedestrian facilities can accommodate these new trips.

Bicycle

The site has access to several on- and off-street bicycle facilities.

Several planned and proposed bicycle projects will improve bicycle access to the site, including a car-free lane for buses and bikes on M Street SE, as well as an expanded network of cycle tracks and bicycle trails in the area.

The site is expected to generate a manageable amount of bicycle trips, and the existing bicycle facilities can accommodate these new trips.

The development will include long-term bicycle parking within the parking garages and short-term bicycle parking along the perimeter of the site that meet zoning requirements.

Vehicular

The site is accessible from principal arterials such as South Capitol Street to the east. The site is also directly served by N Street SW, a minor arterial providing a robust network of local and regional connectivity. These roadways connect the site to I-395/I-695 and to DC-295, both of which provide access to the Capital Beltway (I-495), which surrounds Washington, DC and its inner suburbs, as well as providing connectivity to the District core.

In order to determine the project's impact on the transportation network, future conditions were analyzed with and without the development based on the number of trips the site is expected to generate under the development program. Intersection analyses are performed to obtain the average delay and queue a vehicle will experience. These average delays and queues are compared to the acceptable levels of delay set by DDOT standards as well as existing and background queues to determine if the project will negatively impact the study area.

The analysis concluded that four (4) intersections require mitigation as a result of the minor impacts to delay and/or created by the project. Mitigation measures, which will reduce impacts to delay caused by the project are recommended as follows:

S Capitol Street West Service Road & M Street SW

While signal timing adjustments were tested, this mitigation measure alone was not found to be effective in reducing delays. Since this intersection will be improved and redesigned as part of

Phase 2 of DDOT'S South Capitol Street Corridor Project, this report does not recommend operational or intersection geometry changes at this time.

S Capitol Street East Service Road & M Street SE

While signal timing adjustments were tested, this mitigation measure alone was not found to be effective in improving the queueing issue. Since this intersection will be improved and redesigned as part of Phase 2 of DDOT'S South Capitol Street Corridor Project, this report does not recommend operational or intersection geometry changes at this time.

S Capitol Street & N Street SW

Signal timing and phasing adjustments will be coordinated with DDOT in the afternoon peak hour to ensure the most efficient future operation, following construction of the proposed project by 2024.

S Capitol Street & P Street SW

This report recommends installing pavement markings at the eastbound P Street SW to enhance the delineation of the dedicated left-turn lane and the right-turn bay. This report also recommends coordination with DDOT to restrict illegal left turns more strictly at the northbound S Capitol Street to ensure the most efficient operation in the future following the construction of the 1319 South Capitol Street SW development.

Safety

A qualitative review of study area intersections was performed to identify areas of concern due to vehicular, pedestrian, and bicycle interactions.

The analysis concluded that no study intersections are considered hazardous/high crash intersections. However, based on a review of facilities in the area, one (1) intersection was identified for further evaluation to enhance the multi-modal network surrounding the site. The evaluation of this intersection is as follows:

M Street and S Capitol Street

While this intersection is not considered a hazardous/high crash intersection, this location carries a high level of vehicle traffic and pedestrian activity. This intersection has received public comments regarding pedestrian and bicycle safety. Intersection geometry or operational changes are not recommended at this time as this intersection will be improved and redesigned as part of Phase 2 of DDOT'S South Capitol Street Corridor Project.

Transportation Demand Management (TDM) Plan

Per the DDOT CTR guidelines, the goal of TDM measures is to reduce the number of single occupancy vehicles and vehicle ownership within the District. The promotion of various programs and existing infrastructure includes maximizing the use of transit, bicycle, and pedestrian facilities. DDOT has outlined expectations for TDM measures in their CTR guidelines, and this project has proposed a TDM plan based on these guidelines.

Summary and Recommendations

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

The 1319 South Capitol Street SW project has several positive design elements that minimize potential transportation impacts, including:

- The site's close proximity to transit and existing bicycle infrastructure;
- The site being located in a well-connected pedestrian network;
- The inclusion of secure long-term bicycle parking that exceeds zoning requirements;
- The installation of short-term bicycle parking spaces along the frontage of the site that meet zoning requirements;
- The inclusion of an internal private driveway that will accommodate all parking and loading access;
- The inclusion of a designated pick-up and drop-off area that is internal to the project;
- The creation of new pedestrian sidewalks that meet or exceed DDOT and ADA requirements, improving the existing pedestrian environment; and
- A TDM plan that reduces the demand of single-occupancy, private vehicles during peak period travel times or shifts single-occupancy vehicular demand to off-peak periods.