Comprehensive Transportation Review

850 South Capitol (Square 695)

Washington, DC

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Executive Summary

This report presents a Comprehensive Transportation Review (CTR) to evaluate the transportation related aspects of the proposed 850 South Capitol (Square 695) project (formerly known as CSX West).

The purpose of this CTR is to evaluate whether the project will generate a detrimental impact to the transportation network surrounding the site. This evaluation is based on a technical comparison of Existing, Background, and Total Future Conditions. The findings of this report indicate that **the proposed project will not have a detrimental impact** to the surrounding transportation network assuming the proposed site design elements and TDM plan are implemented.

Proposed Project

The site is located within the Capitol Riverfront neighborhood of Washington, DC, bounded by Interstate 695 to the north (which actually occupies the northern portion of the site pursuant to recorded perpetual highway easements), a coal yard to the east, the Novel Apartments development and Eye Street SE to the south, and South Capitol Street to the west. A portion of the site is currently vacant, with the other portion currently occupied by a car wash.

The project will replace the existing vacant site and car wash with a 13-story multifamily residential building containing approximately 520 dwelling units.

Multimodal Overview

Trip Generation

The 850 South Capitol project is expected to generate new trips within the surrounding transportation network across all transportation modes during the morning and afternoon peak hours. However, with the implementation of the proposed Transportation Demand Management (TDM) plan, the resulting new trips generated by the project will not have a detrimental impact on the transportation network. The multimodal trip generation for the proposed project is as follows:

- AM Peak Hour: 55 vehicles/hour, 74 transit riders/hour, nine (9) bicycle trips/hour, and 38 walking trips/hour.
- PM Peak Hour: 64 vehicles/hour, 87 transit riders/hour, 11 bicycle trips/hour, and 44 walking trips/hour.

Transit

The site is located approximately 0.4 miles from the Navy Yard-Ballpark Metro station and 0.6 miles from the Capitol South Metro station and is served by local and regional bus routes.

Proposed (by others) transit projects, including high-capacity transit service along M Street SW/SE and streetcar service along M Street SW/SE and First Street SW, will improve transit access to the site and surrounding neighborhood.

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

Pedestrian

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

The project includes a new designated pedestrian pathway along the site's access drive connection to Eye Street SE where existing pedestrian infrastructure will provide convenient access to nearby destinations.

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-street bicycle facilities, including bike lanes on Eye Street SE adjacent to the site, bike lanes on First Street SE 0.2 miles east of the site, protected bike lanes on New Jersey Avenue SE 0.2 miles east of the site, and the car-free lanes on M Street SE 0.2 miles south of the site which allow buses and bikes. Using these facilities, bicyclists have access to several off-street bike facilities, such as the bikeway along Virginia Avenue SE 0.3 miles east of the site, and the Anacostia Riverwalk Trail 0.6 miles south of the site.

Several planned, proposed (by others) and recently completed bicycle projects will improve overall bicycle access to the site, including upgrading the existing bike lanes on Eye Street SW/SE and First Street SE to protected bike lanes, as well as other new protected bike lanes and an expansion of the Anacostia River Trail.

The project will include long-term bicycle parking inside the building and short-term bicycle parking along the perimeter of the site that meets zoning requirements.

The project will also provide a dedicated bike lane along the site's access drive connection to Eye Street SE that will lead to a bike storage room in Level 1 of the garage.

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

Vehicular

The site is accessible via South Capitol Street, a principal arterial, and Eye Street SE (proposed outbound residential traffic only), a collector. These roadways connect the site to expressways within the District such as the Southwest Freeway (I-395), the Southeast Freeway (I-695), the Anacostia Freeway (I-295/DC-295), and the Suitland Parkway. These expressways connect with the Capital Beltway (I-495) and other regional Interstates.

To determine the project's impact on the transportation network, future conditions were analyzed with and without the project based on the number of trips the site is expected to generate. Intersection analyses were performed to obtain the average delay and queue a vehicle will experience. These average delays and queues were 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 no intersections meet DDOT's delay- or queuing-related thresholds for requiring mitigation.

The proposed access for the site will include replacing one existing curb cut along South Capitol Street to serve as a right-in/right-out access point for residents and to accommodate all loading and delivery vehicles. The existing curb cut and adjacent driveway on Eye Street is proposed to be converted to outbound only for vehicles traffic to serve residents leaving the site from the parking garage only. No loading vehicles or inbound vehicular traffic would use the Eye Street driveway under the proposed plan. The reduction of this driveway to one-way outbound only for vehicles will provide the space needed along the west side of the driveway to accommodate separated pedestrian and bicycle pathways to connect pedestrians and cyclists from the site to their associated facilities along Eye Street.

Safety Recommendations

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 one (1) of the study intersections had comparatively high crash rates based on DDOT's most recent *Traffic Safety Statistics Report* (2016-2018) and was therefore identified for further evaluation to enhance the multimodal network surrounding the site. A qualitative review of the crash data available through the DDOT-maintained and publicly-available "Crashes in DC" database was also 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, three (3) additional intersections were identified for further evaluation. Recommendations for these intersections, presented for DDOT's consideration and not for the Applicant to complete as part of the proposed project, are summarized below:

Eye Street and Half Street SW

Install the planned protected bike lanes along Eye Street SW/SE, which would improve conditions for bicyclists and pedestrians. Perform a safety audit as part of DDOT's Traffic Safety Assessment program.

Eye Street and South Capitol Street

Install the planned protected bike lanes along Eye Street SW/SE, which would improve conditions for bicyclists and pedestrians. Implement the planned South Capitol Street Corridor project which will improve pedestrian conditions by adding curb ramps and a crosswalk to the northern leg, as well as simplifying the intersection's geometry by relocating the I-395 ramps to another location. Perform a safety audit as part of DDOT's Traffic Safety Assessment program.

Eye Street and New Jersey Avenue SE

Install the planned protected bike lanes along Eye Street SW/SE and New Jersey Avenue SE south of the intersection, which would improve conditions for bicyclists and pedestrians. Implement the planned signalization of the intersection including leading pedestrian intervals (LPI) on the north-south phases. Perform a safety audit as part of DDOT's Traffic Safety Assessment program.

Transportation Demand Management (TDM) Plan

Per the DDOT CTR guidelines, the goal of implementing 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 the CTR guidelines, and this project is proposing to implement a TDM plan consistent with these guidelines, as discussed in the Project Design section of this report.

Site Access and Curb Cuts

Given the atypical access constraints at the 850 South Capitol site and lack of street frontage along Eye Street, both the South Capitol Street and Eye Street curb cuts, configured as proposed, will be necessary to provide safe and efficient access for pedestrians, bicycles and both residential and delivery vehicles accessing the site.

The reconfigured Eye Street driveway will provide critical pedestrian and bicycle connections between the building and Eye Street for residents, and the South Capitol Street curb cut will provide key access for residential vehicle traffic, service and delivery vehicles, and pick-up/drop-off.

The proposed access concept is a critical component of the proposed site plan, necessary to provide safe and efficient operations for all users of the site.

Summary

This report concludes that the 850 South Capitol project will not have a detrimental impact on the surrounding transportation network assuming the proposed site design elements are implemented.

The project has several positive design elements that minimize potential transportation impacts, including:

- The site's proximity to transit service and bicycle infrastructure;
- The site's location within in a well-connected pedestrian network;
- The proposed reduction of the Eye Street driveway to one-way outbound only access for vehicles that will allow for the installation of separated pedestrian and bicycle pathways to connect the proposed residential building to Eye Street.
- The site's loading facilities, which maintain loading activity within private property and provide loading circulation that ensures head-in/head-out truck movements are performed from the public roadway network;
- The inclusion of secure long-term bicycle parking spaces that meet zoning requirements;
- The inclusion of short-term bicycle parking spaces along the frontage of the site that meet zoning requirements;
- The inclusion of a new 19-dock Capital Bikeshare Station as part of the proposed TDM plan; and
- A TDM plan that reduces the demand of single-occupancy, private vehicles during peak period travel times and shifts single-occupancy vehicular demand to off-peak periods.

Introduction

This report presents a Comprehensive Transportation Review (CTR) to assess the transportation related aspects of the proposed 850 South Capitol (Square 695) development project. The site, shown in Figure 1 and Figure 2, is located at Square 0695 and covers Lots 0031 and 0034 within the Capitol Riverfront neighborhood of Washington, DC. The site is currently zoned -5.

Of the two lots that comprise the project site, Lot 34 is currently vacant and Lot 31 is currently improved with a car wash use accessed from Eye Street. The project will replace the existing vacant site and car wash with a 13-story multifamily residential building containing approximately 520 dwelling units.

Purpose of Study

The purpose of this report is to:

- Review the transportation elements of the proposed project and identify whether it conforms to DDOT's general policies of promoting non-automobile modes of travel;
- Provide information to DDOT and other agencies on how the proposed project will impact the local transportation network, accomplishing 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 the network;
- Determine whether the proposed project will lead to adverse impacts on the local transportation network; and
- Propose design elements and Transportation Demand Management (TDM) measures as necessary to mitigate any potential adverse impacts to the transportation network.

Project Summary

The site is located within the Capitol Riverfront neighborhood of Washington, DC, generally bounded by Interstate 695 to the north (which actually occupies the northern portion of the site pursuant to recorded perpetual highway easements), a coal yard to the east, the Novel Apartments development and Eye Street SE to the south, and South Capitol Street to the west. A portion of the site is currently vacant (Lot 34), with the other portion currently occupied by a car wash (Lot 31).

Access to Lot 34 is currently provided via a right-in/right-out curb cut on South Capitol Street, and access to Lot 31 is provided via a full-movement curb cut on Eye Street that connects to the site via an approximately 300' long driveway that passes between the Novel Apartments and the adjacent coal yard.

The project will replace the existing vacant site and car wash with a 13-story multifamily residential building containing approximately 520 dwelling units.

Primary pedestrian access is proposed to be provided via a separated pedestrian pathway to be located along the western side of the existing site driveway connecting to Eye Street. Additional pedestrian access will be provided via lobby access to a sidewalk along South Capitol Street.

Bicycle access is proposed to be provided via a dedicated bicycle pathway along the site's access drive connection to Eye Street SE that will lead to a bike storage room in Level 1 of the garage. This connection will directly link the site to the bike lanes on Eye Street SE, which will soon be converted to protected bike lanes. The project will meet zoning requirements by providing at least 112 long-term bicycle parking spaces inside the building and 26 short-term bicycle parking spaces on exterior racks along the site's frontage. The nearest Capital Bikeshare station is located 0.1 miles southeast of the site at First Street and K Street SE, and the Applicant will provide a new 19-stall Capital Bikeshare station (location to be determined) as part of the TDM plan requirements for the project.

Primary vehicular access to the site will be provided via the proposed right-in/right-out driveway located along northbound South Capitol Street via a reconstructed curb cut near the existing curb cut which will be removed. Additional vehicular egress is proposed for residential traffic only leaving the site from the garage via the existing connection from Lot 31 to Eye Street SE. This driveway will be reconfigured to serve outbound residential traffic only as well as provide dedicated pedestrian and bicycle pathways.

The proposed site plan and access along South Capitol Street reflects the future road layout with the planned removal of the I-695 ramp (by others) adjacent to the site.

Loading and deliveries will occur in an internal loading area accessed from the right-in/right-out curb cut on South Capitol Street. The proposed loading facilities will accommodate the project's loading needs, maintain loading activity within private

property, and provide loading circulation that ensures head-in/head-out truck movements are performed from the public roadway network.

The new curb cut along South Capitol Street will be located slightly north of the existing curb cut location, and the existing curb cut on Eye Street SE is proposed to be reused to provide vehicular egress for residents as well as accommodate new pedestrian and bicycle pathways.

Contents of Study

This report contains nine (9) chapters as follows:

- Study Area Overview
  This chapter reviews the transportation characteristics of the area surrounding the proposed project.
- Project Design
  This chapter reviews the transportation components of the proposed project, including site access and circulation, loading and trash operations, parking, and bicycle and pedestrian facilities,
- Travel Demand Assumptions
  This chapter outlines the travel demand and projected trip generation of the proposed 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 Facilities
  This chapter summarizes the existing and future transit service adjacent to the site and reviews how the project's transit demand will be accommodated.
- Pedestrian Facilities
  This chapter summarizes existing pedestrian access to the site, reviews walking routes to and from the proposed project, and reviews how the project's pedestrian demand will be accommodated.
- Bicycle Facilities
  This chapter summarizes existing and future bicycle access to the site and reviews how the project's bicycle demand will be accommodated.
- Safety 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 overall findings and conclusions.

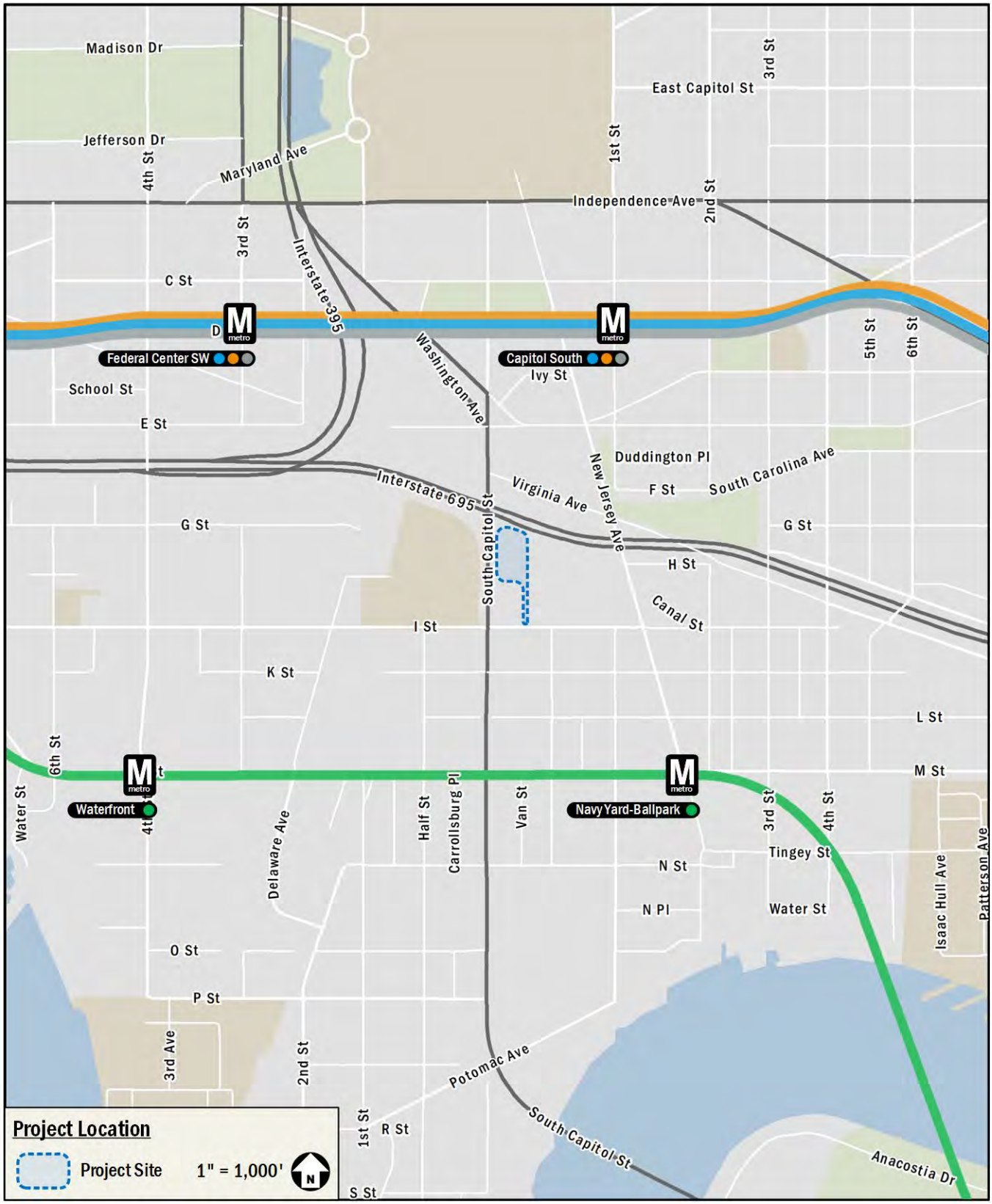

Figure 1: Site Location

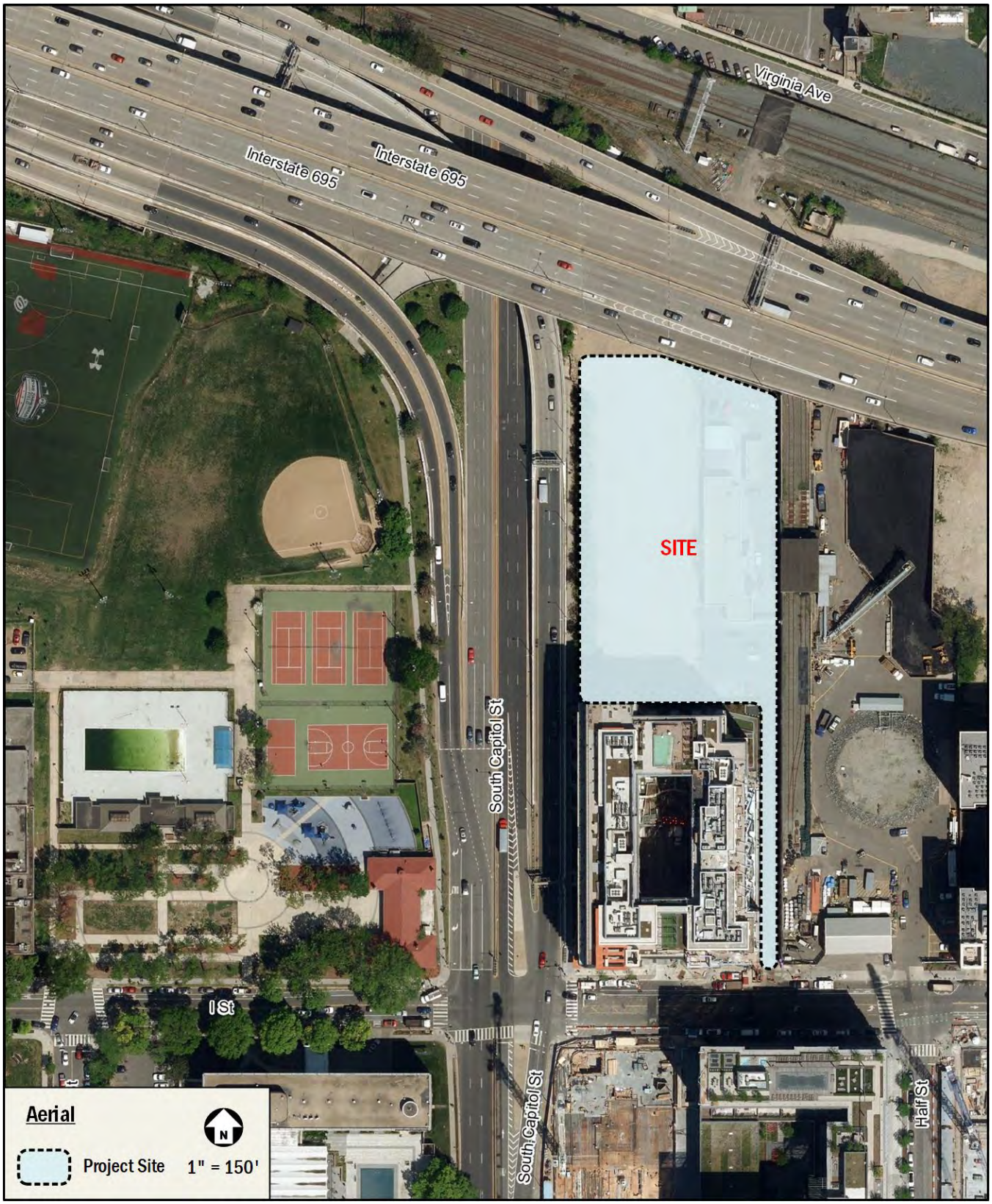

Figure 2: Site Aerial

Study Area Overview

This chapter reviews the major transportation characteristics of the study area and of future local and regional projects.

This chapter concludes:

- The site is surrounded by an extensive regional and local transportation system connecting it to the rest of the District and surrounding areas;
- The site is well-served by bus and rail transit providing service to local and regional destinations;
- The site is accessible to several shared mobility options, including car-sharing, Capital Bikeshare, and personal mobility devices;
- There are several on-street bicycle facilities near the site, with several nearby bicycle improvements planned or proposed;
- The existing pedestrian infrastructure surrounding the site provides a mostly adequate walking environment, particularly along anticipated major walking routes; and
- There are several nearby District-wide and local planning initiatives whose goals are supported by the proposed project.

Major Transportation Features

Overview of Regional Access

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

The site is accessible via South Capitol Street (a major arterial) and Eye Street SE (a collector). These roadways connect the site to expressways within the District such as the Southeast Freeway (I-695), the Southwest Freeway (I-395), and the Anacostia Freeway (DC-295). These expressways connect with the Capital Beltway (I-495) and other regional Interstates.

The site is located 0.4 miles from the Navy Yard-Ballpark Metro station on the Green Line, and 0.5 miles from the Capitol South Metro station on the Blue, Orange, and Silver Lines. The Green Line travels between the Greenbelt and Branch Avenue stations. The Blue Line travels between the Franconia-Springfield and Largo Town Center stations. The Orange Line travels between the Vienna and New Carrollton stations. The Silver Line travels between the Wiehle-Reston East and Largo Town Center stations.

Overall, the site has ample access to regional roadways and transit options, allowing convenient travel between the site and regional destinations.

Overview of Local Access

There are a variety of major local transportation facilities near the site that serve vehicular, transit, walking, and cycling trips, as shown on Figure 5.

For vehicular trips, site access is proposed to be provided via South Capitol Street (a major arterial) and Eye Street SE (a collector). These roadways connect the site to expressways within the District such as the Southeast Freeway (I-695), the Southwest Freeway (I-395), and the Anacostia Freeway (DC-295). For transit trips, the Metrobus and DC Circulator services provide extensive bus transit service in the vicinity of the site, including connections to several neighborhoods within the District and additional Metro stations. As shown in Figure 5, there are several major bus routes serving the site. Multiple bus stops serving these routes are located within a half-mile of the site. These bus routes connect the site to many areas of downtown Washington, DC, and other destinations, including several Metro stations where transfers can be made to reach areas in the District, Virginia, and Maryland. A detailed review of all bus routes and transit stops within a half-mile walk of the site is provided in a later chapter of this report.

For bicycle trips, the site is located in an area with several major bicycle facilities. Existing major facilities consist of the bike lanes on Eye Street SE adjacent to the site, the bike lanes on First Street SE located 0.2 miles east of the site, and protected bike lanes on New Jersey Avenue SE located 0.2 miles east of the site. Using these facilities, bicyclists have access to several other regional bicycle facilities. To accommodate bicyclists, the project will provide on-site bicycle facilities as discussed in detail in the Project Design chapter. A detailed review of existing and proposed bicycle facilities and connectivity is provided in the Bicycle Facilities chapter of this report. One key consideration given to bicycle safety in the proposed project plan is the proposed separated bicycle pathway to be provided along the site driveway between the residential building and Eye Street.

Anticipated pedestrian routes such as those to transit stops, schools, and community amenities, provide adequate pedestrian

facilities; however, there are a few sidewalks nearby that do not meet DDOT width standards, as well as several missing curb ramps and crosswalks at minor intersections. The site area is mostly free of major barriers to pedestrian connectivity, with the exception of the Southeast Freeway (I-695) and the CSX railroad track, both located directly north of the site. A detailed review of existing and future pedestrian access and infrastructure is provided in the Pedestrian Facilities chapter of this report. One key consideration given to pedestrian safety in the proposed project plan is the proposed separated pedestrian pathway to be provided along the site driveway between the residential building and Eye Street.

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. The nearest Zipcar location to the site is located near the intersection of Van Street and N Street SE, approximately 0.4 miles south of the site.

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.

Bikeshare and Shared Mobility

The Capital Bikeshare program provides an additional bicycle option for residents, staff, 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.

The Applicant will provide a new 19-stall Capital Bikeshare station (location to be determined) as part of the proposed TDM measures for the project.

In addition to Capital Bikeshare, eight (8) electric-assist scooter (e-scooter) and electric-assist bicycle (e-bike) companies provide Personal Mobility Device (PMD) service in the District: Bird, Lime, Lyft, Razor, Skip, Spin, Helbiz, and JUMP. 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, many PMDs 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). Currently, PMD pilot/demonstration programs are underway in Arlington County, the District, Fairfax County, the City of Alexandria, and Montgomery County.

Walk Score and Bike Score

Walkscore.com is a website that provides scores and rankings for walking, biking, and transit conditions within neighborhoods of the District. The subject site is currently ranked as follows:

- Walk Score: 89 - “Very Walkable”
- Transit Score: 84 - “Excellent Transit”
- Bike Score: 87 - “Very Bikeable”

Figure 3 shows the site’s location within a heat map illustrating walkability and bikeability with the surrounding area. The following conclusions can be made based on the data obtained from Walkscore.com:

- The site is situated in a very walkable location where some errands can be accomplished on foot;
- The site is situated in an area with excellent transit due to its proximity to a high number of bus routes and Metrorail; and
- The site is situated in a very bikeable area due to its proximity to bike facilities and flat topography.

Overall, the site and surrounding neighborhood have well established pedestrian, transit, and bike accessibility. The 850 South Capitol project will directly improve the neighborhood’s pedestrian and bike accessibility by ensuring sidewalks on the project site meet DDOT standards and providing new short- and long-term bicycle parking facilities. The proposed plan also includes separated pedestrian and bicycle pathways to link the site to the adjacent pedestrian and bicycle network via the driveway connection to Eye Street.

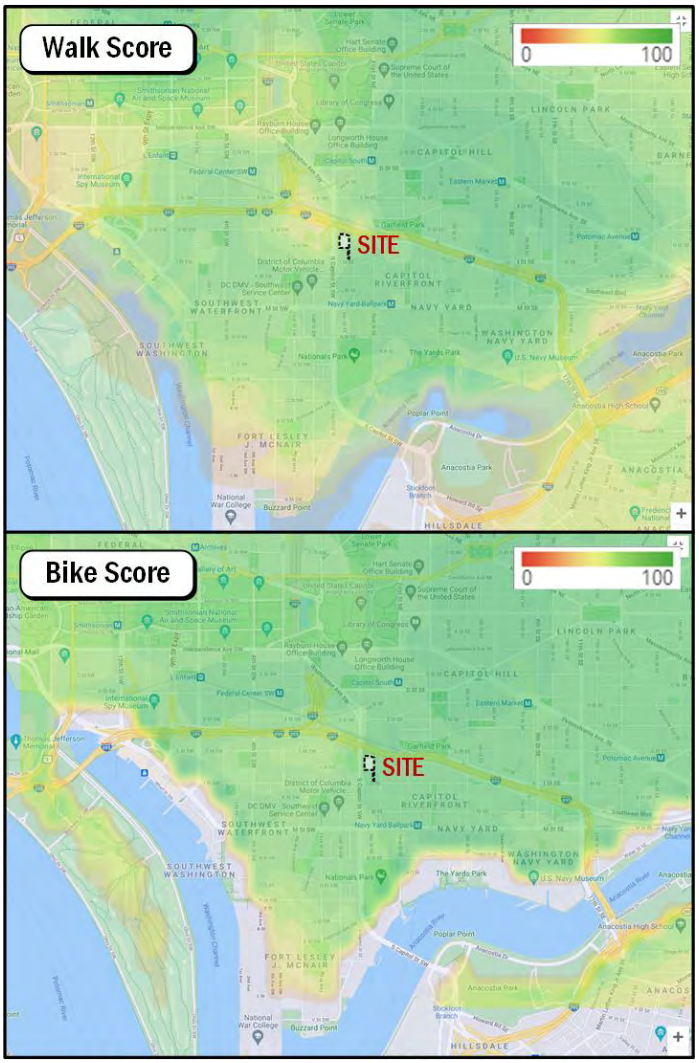

Figure 3: Walk Score and Bike Score

Future Projects

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

Planning Documents

The following is a review of District-wide or neighborhood-level planning documents which relate to the proposed project.

MoveDC

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

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

In the direct vicinity of the proposed project, the *MoveDC* plan recommends 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, 4th Street NE, and 6th Street NE; 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.

Vision Zero Action Plan

DDOT's *Vision Zero Action Plan* is the implementation strategy of DC's Vision Zero Initiative, which commits to reaching zero fatalities and serious injuries to travelers of DC's transportation system by the year 2024. The *Action Plan* is based on DC interagency workgroups, public input, local transportation data and crash statistics, and national and international best practices. Workgroups identified the guiding themes for the *Vision Zero Action Plan* and the goals of the DC government. The *Action Plan* focuses on the following themes:

- Create Safe Streets

- Protect Vulnerable Users
- Prevent Dangerous Driving
- Be Transparent and Responsive

Strategies within each theme assign lead and supporting agencies responsible for the planning and implementation of each program. The plan also calls for partners external to District government to ensure accountability and aid in implementation.

While the *Vision Zero Action Plan* does not propose any location-specific actions that relate to the proposed project, the proposed project supports DC's overall Vision Zero goals by providing quality pedestrian facilities and by not creating any new curb cuts on the site.

Sustainable DC 2.0 Plan

Sustainable DC is the District of Columbia's major planning effort to make DC the most sustainable city in the nation. It proposes a variety of sustainability goals, targets, and actions related to the built environment, transportation, and other topics.

The 2019 iteration of the plan, the *Sustainable DC 2.0 Plan*, includes the following proposed action which is supported by the proposed project.

- Expand safe, connected infrastructure for pedestrians and cyclists.
- Reduce greenhouse gas emissions and air pollution from the transportation sector.

The 850 South Capitol project will support these actions by reducing the Eye Street driveway to one-way outbound only for vehicular traffic in order to provide separated pedestrian and bicycle pathways to provide a safe link between the residential building and pedestrian and bicycle infrastructure along Eye Street. Further, the development will ensure sidewalks along the site's frontage on South Capitol Street meet DDOT standards and provide a safe, attractive pedestrian experience.

Capital Bikeshare Development Plan

DDOT's *Capital Bikeshare Development Plan* was originally released in 2016 to guide the continued growth of Capital Bikeshare in the District of Columbia. The most recent update of the *Development Plan* was released in 2020 and includes a new station at New Jersey Avenue and L Street SE, 0.3 miles from the site.

The Applicant will provide a new 19-stall Capital Bikeshare station (location to be determined) as part of the proposed TDM measures for the project.

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. In direct relation to the proposed project, the South Capitol Street Corridor project will reconfigure the intersection of South Capitol Street and Eye Street SW/SE, as well as relocate the I-395 ramps to and from South Capitol Street.

Phase 1 of the project includes improvements from Potomac Avenue to Firth Sterling Avenue SE. This phase is currently under construction and is planned to be complete by Summer 2022. Phase 2 includes improvements from Potomac Avenue to the Southeast Freeway (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.

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 direct 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 South 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 and Southeast DC by extending dedicated bicycle lanes along First Street SE 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 28 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 are 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.

Because traffic volume data for this analysis was collected in 2015 and 2018, this list of development projects includes some that are already completed but were not at the time of data collection. These projects are noted as such.

Figure 6 shows the location of the background development projects considered in relation to the proposed project. The projects are described below.

Kelvin Apartments/Envy Condos

This development, located at 1250 Half Street SE and 70 N Street SE, was approved as a mixed-use building with 60,000 square feet of retail space and 445 residential units. The residential components of this development have been completed. This development has been completed but was not open at the time of 2015 or 2018 data collection.

West Half Street

This development includes a mixed-use building with 60,000 square feet of retail and 423 residential units. This development has been completed but was not open at the time of 2015 or 2018 data collection.

Square 769

Square 769, located at 1100 2nd Place SE, includes 171 residential units and 4,000 square feet of retail with 215,000 square feet of office space. This development has been completed but was not open at the time of 2015 or 2018 data collection.

The Yards Parcel L1

This development contains a hotel with 227 rooms. This development has been completed but was not open at the time of 2015 or 2018 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 2015 or 2018 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, Parcels O1 and O2, to develop two individual buildings. This development has been completed but was not open at the time of 2015 or 2018 data collection.

DC Water Headquarters

The DC Water Headquarters, located at 125 O Street SE, will be a 167,000 square foot office building. This development has been completed but was not open at the time of 2015 or 2018 data collection.

The Riverfront

This development includes approximately 465,000 square feet of office space, 80,000 square feet of retail space, and 324 hotel rooms. This development has been completed but was not open at the time of 2015 or 2018 data collection.

Novel Capitol View

This development includes 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. This development has been completed but was not open at the time of 2015 or 2018 data collection.

950 South Capitol Street

This development includes 300 dwelling units. This development has been completed but was not open at the time of 2015 or 2018 data collection.

Former Congressional Square

This development will include an 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

This development includes an 11-story residential and retail building with 375 dwelling units and 15,000 square feet of retail. This development has been completed but was not open at the time of 2015 or 2018 data collection.

Capper Residential

This development includes a 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

This development includes a 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 2022.

CSX East Redevelopment

This development includes 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 850 South Capitol 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 850 South Capitol development.

The 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 850 South Capitol development.

DDOT Headquarters

This development includes a 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. This development has been completed but was not open at the time of 2015 or 2018 data collection.

The Yards Parcel G

This development includes a mixed-use building with 300,000 square feet of office space and 13,680 square feet of retail space. This development has been completed but was not open at the time of 2015 or 2018 data collection.

The Yards Parcel I

This development includes a mixed-use building with 379 residential units and 18,000 square feet of retail space. This approved development is anticipated to open in 2023.

The Yards Parcel F1

This development includes a 600-seat theatre and a parking garage with approximately 230 spaces. This development has not yet started construction and is anticipated to open in 2024.

The Yards Parcel A1

This development includes a mixed-use building with approximately 300,000 square feet of office space and approximately 12,500 square feet of retail space. This development has not yet started construction and is anticipated to open in 2024.

The Yards Parcel F

This development includes a mixed-use building with approximately 278,017 square feet of office space and approximately 23,225 square feet of retail space. This development has not yet started construction and is anticipated to open in 2024.

5 M Street SW

This development includes a mixed-use building with approximately 615 residential units and 23,026 square feet of retail space. This approved development is anticipated to open in 2024.

1000 South Capitol Street SE

This development includes a mixed-use building with approximately 244 residential units and 14,000 square feet of retail space. This approved development is expected to be completed prior to the completion of the 850 South Capitol development.

1319 South Capitol Street SW

This development includes a mixed-use building with approximately 330 residential units and up to 3,479 square feet of retail space. This approved development is expected to be completed prior to the completion of the 850 South Capitol development.

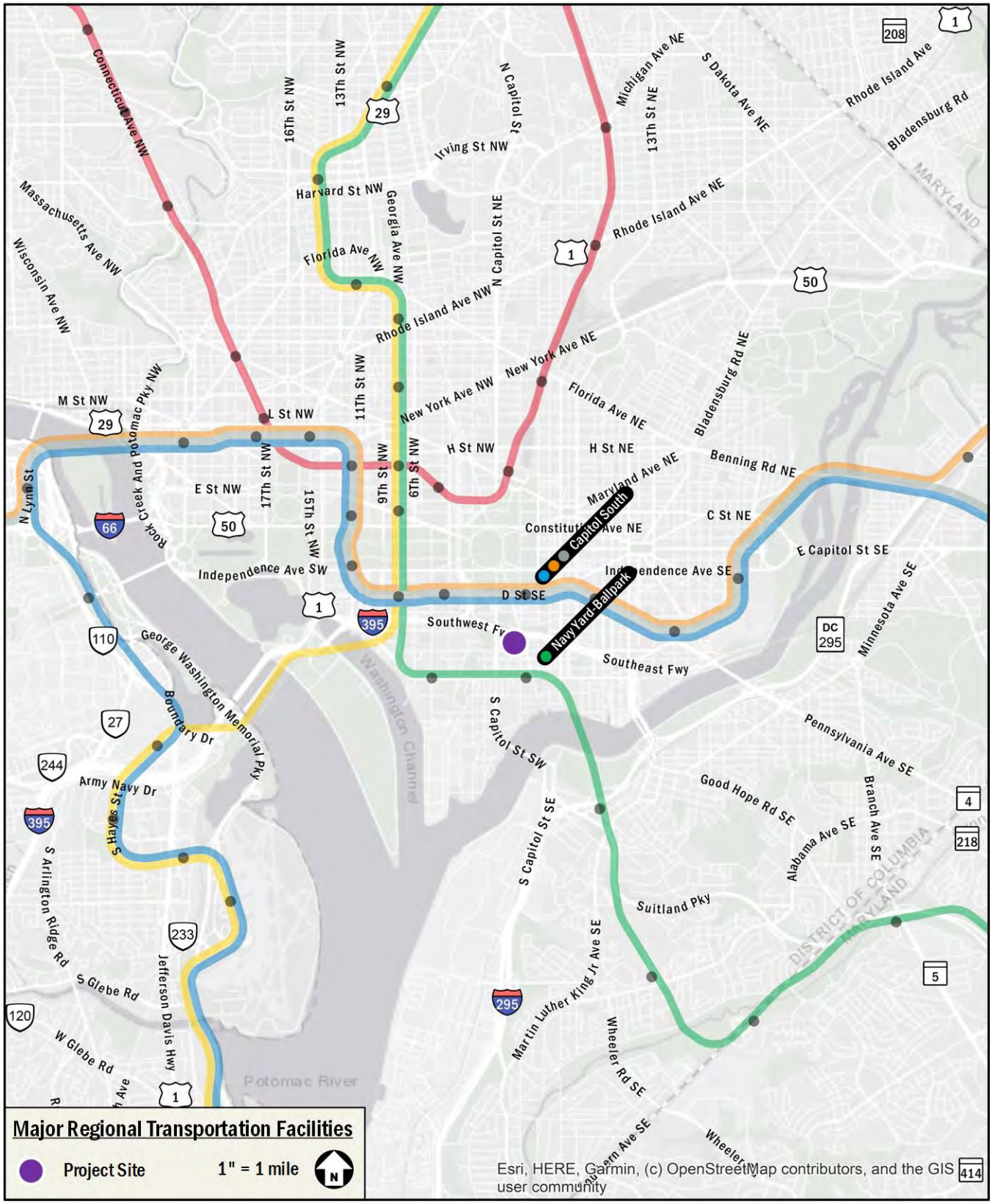

Figure 4: Major Regional Transportation Facilities

Figure 5: Major Local Transportation Facilities

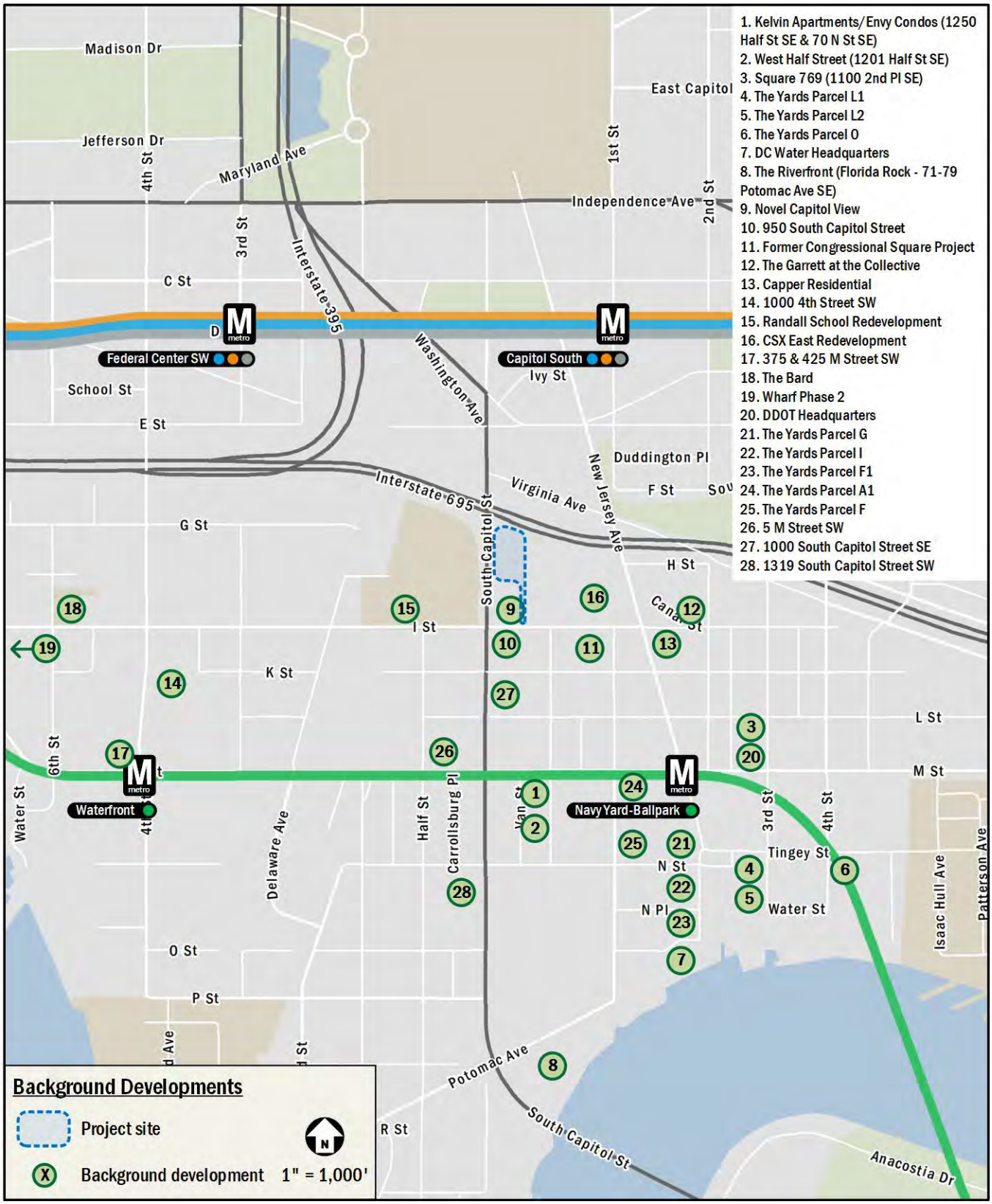

Figure 6: Background Developments

Project Design

This section reviews the transportation components of the 850 South Capitol project, including the proposed site plan and access points. It includes descriptions of the site's vehicular access, pick-up/drop-off operations, parking, and pedestrian and bicycle accommodations.

The site is located within the Capitol Riverfront neighborhood of Washington, DC, generally bounded by Interstate 695 to the north, a coal yard to the east, the Novel Apartments development and Eye Street SE to the south, and South Capitol Street to the west. A portion of the site is currently vacant, with the other portion currently occupied by a car wash.

The project will replace the existing vacant site and car wash with a 13-story multifamily residential building containing approximately 520 dwelling units.

A detailed site plan is shown on Figure 7.

Site Access and Circulation

Pedestrian Access

Primary pedestrian access is proposed to be provided via a new separated pedestrian pathway connecting the residential building to Eye Street SE via the existing driveway that would be reduced to one-way outbound only for vehicular traffic. Additional pedestrian access will be provided via lobby access to and from the sidewalk along South Capitol Street.

Pedestrian access to the site is shown on Figure 7.

Bicycle Access

Primary bicycle access is proposed to be provided via a dedicated bike pathway along the site's access drive connection to Eye Street SE that will lead to a bike storage room in Level 1 of the garage. This new connection will link the residential building to the bike lanes on Eye Street SE, which will soon be converted to protected bike lanes. The project will meet zoning requirements by providing at least 112 long-term bicycle parking spaces inside the building and 28 short-term bicycle parking spaces on exterior racks along the site's frontage.

The locations of these facilities are shown on Figure 7.

Vehicular and Loading Access

Primary vehicular access to the site will be provided via the proposed right-in/right-out driveway located along northbound South Capitol Street via a new curb cut near the existing curb cut which will be removed. Additional vehicular egress is proposed for residential traffic only leaving the site from the garage via the existing connection from Lot 31 to Eye Street SE. This driveway will be reconfigured to serve outbound residential traffic only as well as provide dedicated pedestrian and bicycle pathways. Only residents leaving the garage will utilize the outbound only driveway connection to Eye Street.

Loading and deliveries will occur in an internal loading area accessed from the right-in/right-out curb cut on South Capitol Street. The proposed loading facilities will accommodate the project's loading needs, maintain loading activity within private property, and provide loading circulation that ensures head-in/head-out truck movements are performed from the public roadway network.

The new curb cut along South Capitol Street will be located slightly north of the existing curb cut location, and the existing Eye Street curb cut will be reused with the previously discussed modifications to the driveway connection.

Figure 7 shows the location of the vehicular access points for the parking garage, pick-up/drop-off area, and loading facilities.

Pick-up/Drop-off Operations

An internal curbside pick-up/drop-off area is proposed with the site, off of South Capitol Street, that will be access from the right-in/right-out access drive from South Capitol Street. The pick-up/drop-off area is shown on Figure 7.

Loading and Trash

Loading

The proposed loading facilities will accommodate all loading activity and delivery demand for the proposed project without any detrimental impact to the surrounding transportation network. DDOT standards stipulate that truck movements be accommodated without back-in movements through public space. The 850 South Capitol project has been designed to accommodate all loading activity and associated backing maneuvers within the site. Truck turning diagrams using AutoTURN are provided in the Technical Attachments.

Loading and deliveries will occur in an internal loading area accessed from the right-in/right-out curb cut on South Capitol Street. Loading vehicles will not be allowed to exit the site via the one-way egress to Eye Street. The loading area will include at

least one (1) 30' x 12' loading berth and one (1) 20' x 10' service/delivery space, satisfying ZR16 regulations.

Truck routing to and from the site will be focused on South Capitol Street, a designated primary truck route.

Loading access and circulation is shown on Figure 7.

Trash

Trash operations for the 850 South Capitol project will be accommodated using trash receptacles within the loading areas. No trash will be stored in public space.

Parking

The proposed plan includes 272 parking spaces to be located within the building's garage. Vehicle parking is not required within Downtown (D) zones per ZR16 11C702.3. However, for purposes of assessing excess parking, the project's ZR16 requirement would otherwise be 172 spaces. The parking garage's location and access points within the site are shown on Figure 7.

Since the site will provide parking in excess of DDOT's preferred parking, the Applicant will provide a robust TDM plan as part of the project.

Bicycle Facilities

The 850 South Capitol project will meet 2016 Zoning Regulations requirements for long-term and short-term bicycle parking. Per the Zoning Regulations, the project is required to provide the following bicycle facilities:

- Long-Term Bicycle Parking Spaces (112 required)
  - One (1) space per 3 dwelling units
- Short-Term Bicycle Parking Spaces (26 required)
  - One (1) space per 20 dwelling units

The project will meet or exceed zoning requirements by providing at least 112 long-term bicycle parking spaces inside the garage and 28 short-term bicycle parking spaces on exterior racks along the site's street frontage. The long-term bicycle spaces will adhere to Subtitle C § 805.9 of DC's zoning requirements, as well as DDOT's Bike Parking Guide, which stipulate that long-term spaces be located indoors in a parking garage or bike storage room, and that at least 50 percent of required long-term spaces be placed horizontally on the floor or ground, without bicycles being suspended.

Further, the proposed project plan includes a separated bicycle pathway to be provided along the site driveway between the residential building and Eye Street.

Pedestrian Facilities

The 850 South Capitol project will ensure pedestrian facilities around the perimeter of the site meet DDOT and ADA standards. Sidewalks will be maintained and/or installed as needed along the South Capitol Street and Eye Street SE frontages of the site that meet or exceed width requirements, as well as curb ramps with detectable warnings and crosswalks at the new driveway from South Capitol Street.

Further, the proposed project plan includes a separated pedestrian pathway to be provided along the site driveway between the residential building and Eye Street.

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 zoning regulations in addition to 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:

- Unbundle the cost of vehicle parking from the lease or purchase 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 residents, 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 meet ZR16 short- and long-term bicycle parking requirements by providing 112 long-term spaces and 28 short-term spaces free of charge to residents.
- Long-term bicycle storage rooms will accommodate non-traditional sized bikes including cargo, tandem, and kids' bikes.
- 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, carsharing locations, and nearby Capital Bikeshare locations indicating the availability of bicycles.
- Will not lease unused residential parking spaces to anyone aside from tenants of the building (e.g., will not lease to other nearby office employees, single-family home residents, or sporting events).
- Designate one (1) parking space in the vehicle parking garage for car-sharing and micromobility services to use with right of first refusal. If an agreement has not been reached with one of these services to occupy all of the dedicated spaces, the Applicant will provide one (1) additional year of membership to Capital Bikeshare for each resident after the building has opened.
- Designate two (2) parking spaces for vans to be used by District residents who vanpool to work.
- Will provide additional short- and long-term bicycle parking spaces above ZR16 requirements (amount to be determined at a later date).
- Provide a bicycle repair station in each long-term bicycle parking storage room.
- Provide one (1) collapsible shopping cart (utility cart) for every 50 residential units, for a total of 10, to encourage residents to walk to the grocery shopping and run errands.
- 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.
- Provide an annual membership to Bikeshare to each resident for one (1) year after the building opens.
- Offer SmarTrip cards pre-loaded with $25 for all new residents for one (1) year after the building opens.
- Fund and install a 19-dock Capital Bikeshare station with 12 bikes and fund one-year of maintenance and operations costs.

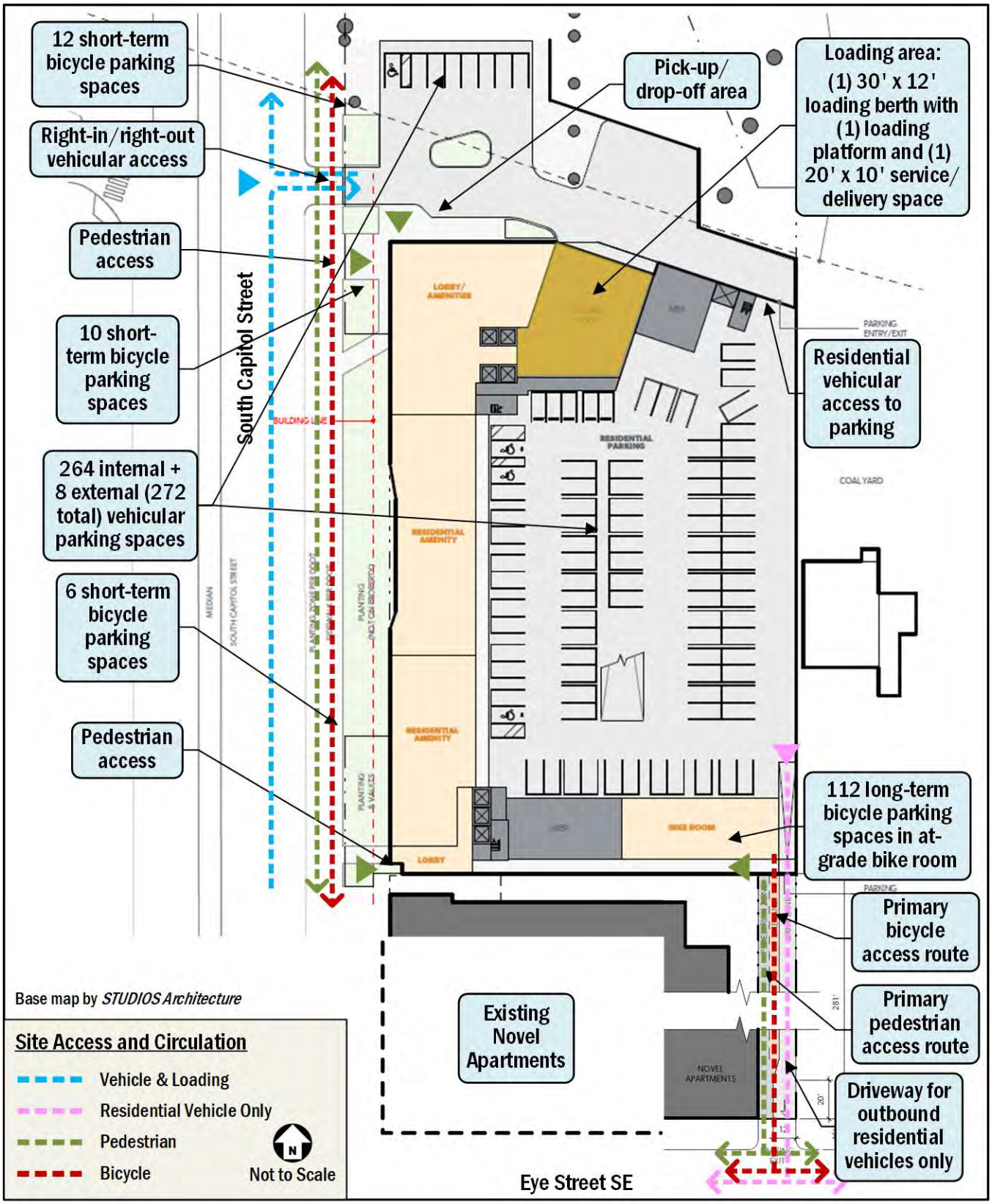

Figure 7: Proposed Site Access and Circulation Plan

Travel Demand Assumptions

This section outlines the transportation demand for the 850 South Capitol development. It summarizes the projected trip generation of the proposed project by mode, which forms the basis for the sections that follow. These assumptions were detailed in the proposed study scope submitted to DDOT.

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 (ITE *Trip Generation* provides data for non-urban, low transit use sites) and to generate trips for multiple modes, as mentioned in the proposed study scoping document submitted to DDOT.

Proposed Site Trip Generation

The project's proposed trip generation was calculated based on ITE land use 220, *High-Rise Multifamily Housing*. Trips were split into different modes using assumptions derived from census data for the residents that currently live near the site, WMATA ridership survey data, and the proposed parking supply. A summary of the mode split assumptions is provided in Table 1.

Table 1: Mode Split Assumptions for Proposed Site

Land Use	Mode			
	Drive	Transit	Bike	Walk
Residential	35%	40%	5%	20%

A summary of the multimodal trip generation for the project is provided in Table 2 for the AM and PM peak hours. The project is expected to generate 55 vehicular trips (14 in, 41 out) during the AM peak hour, and 64 vehicular trips (40 in, 24 out) during the PM peak hour. Detailed calculations are included in the Technical Attachments.

Table 2: Multimodal Trip Generation

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto (veh/hr)	14	41	55	40	24	64
Transit (ppl/hr)	18	56	74	53	34	87
Bike (ppl/hr)	2	7	9	7	4	11
Walk (ppl/hr)	9	29	38	26	18	44

The total number of persons expected to depart the site as pedestrians is estimated as a combination of the transit and walking trips which results in approximately 112 pedestrians during the AM peak hour and 131 pedestrians during the PM peak hour. These pedestrians are expected to utilize the proposed separated pedestrian pathway along the Eye Street driveway to travel to/from the site en route to transit or other walking destinations. The reconfiguration of the Eye Street driveway to accommodate separated pedestrian and bicycle pathways is critical to providing safe and efficient pedestrian and bicycle access for the proposed development.

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 850 South Capitol project.

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
- Determine whether the overall impact of the project meets DDOT criteria for requiring improvements/mitigation to accommodate the additional vehicular trips.

This analysis was performed by determining the traffic volumes and roadway capacity for Existing Conditions, Background (no-build) Conditions, and Total Future (build) Conditions. The scope of the capacity analysis is consistent with DDOT guidelines as proposed in the study scope submitted to DDOT staff.

The capacity analysis focuses on the weekday AM and PM commuter peak hours.

This chapter concludes:

- Under Existing Conditions, one (1) study intersection operates at an unacceptable level of service, and one (1) study intersection experiences queues that exceed available storage.
- Under Background Conditions, four (4) study intersections are expected to operate at an unacceptable level of service and three (3) study intersections are expected to experience queues that exceed available storage.
- The addition of site-generated traffic does not significantly affect the delays or queuing at any intersections.
- The impacts to delay and queuing resulting from traffic added by the proposed development will not meet DDOT's thresholds for requiring mitigation measures.
- While the proposed development does not trigger mitigation requirements, this analysis concludes that DDOT should consider further adjusting the preliminary signal timings provided by DDOT for the South Capitol Street and Eye Street intersection as this could accomplish reduced delays at some locations.
- With the implementation of all recommended site design elements and Transportation Demand Management (TDM) measures, the findings of this report conclude that the proposed project will not have a detrimental impact to the surrounding vehicular network.

Study Area, Scope, & Methodology

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

The scope of the analysis contained within this report is consistent with what was proposed in the scope submitted to DDOT. The general methodology of the analysis follows national and DDOT guidelines on the preparation of transportation impact evaluations of site development. The proposed scope is included in the technical attachments.

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 other modes is outlined later in this report. This is accomplished by comparing two (2) future scenarios:

- Without the project (referred to as the Background Conditions); and
- With the project approved and constructed (referred to as the Total Future conditions).

Specifically, the roadway capacity analysis examines the following scenarios:

- Existing Conditions (2021 Existing Conditions);
- Future Conditions without the Project (2026 Background Conditions); and
- Future Conditions with the Project (2026 Total Future Conditions).

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 selected:

1. Site Driveway and northbound South Capitol Street SE
2. Eye Street and Half Street SW
3. Eye Street and South Capitol Street
4. Eye Street and Site Driveway SE
5. Eye Street and Half Street SE
6. Eye Street and First Street SE
7. Eye Street and New Jersey Avenue SE
8. Relocated I-395 Ramps and South Capitol Street (Future)

Figure 8 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.

2021 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 9.

2026 Background Geometry and Operations Assumptions

The configurations and traffic controls for the 2026 Background Conditions were based on those for the 2021 Existing Conditions with the addition of background improvements.

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:

- The protected bike lanes on Eye Street SW/SE between 7th Street SW and New Jersey Avenue SE feature a reconfiguration of the travel lanes and parking lanes, but not a reduction in travel lanes.
- The First Street/Potomac Avenue SE Safety Improvements project features a reduction in travel lanes along First Street SE to accommodate a parking lane and curbside bicycle lane within the project study area.
- The South Capitol Street project will reconfigure the intersection of South Capitol Street and Eye Street SW/SE, as well as relocate the I-395 ramps away from the intersection. Geometry, lane use, and preliminary signal timings for the South Capitol Street project were obtained from DDOT.
- The intersection of Eye Street and New Jersey Avenue SE will be converted from an unsignalized to a signalized intersection. Preliminary signal timings for this intersection were obtained from DDOT.

The lane configurations and traffic controls for the Background Conditions are shown on Figure 10.

2026 Total Future Geometry and Operations Assumptions

The configurations and traffic controls for the 2026 Total Future Conditions were based on those for the 2026 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 a right-in/right-out site driveway from South Capitol Street; and
- The conversion of the existing site driveway from Eye Street SE to one-way southbound (egress only) operations.

The lane configurations and traffic controls for the Total Future Conditions are shown on Figure 11.

Traffic Volume Assumptions

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

2021 Existing Traffic Volumes

Data collection was not possible during fall 2021 as traffic volumes were not representative of typical conditions due to the ongoing COVID-19 emergency. To establish baseline conditions, the study analyzed 2021 traffic volumes comprised of turning movement count data collected in 2015 and 2018, with applied growth rates based on the data collection year. This traffic volume data is summarized below.

2 Eye Street SE TIS (2015)

Turning movement counts collected for this project's TIS prepared by Gorove Slade were available for the following intersections:

- Eye Street and Half Street SW;
- Eye Street and Site Driveway (formerly Car Wash Driveway) SE; and
- Eye Street and Half St SE.

The unadjusted peak hour traffic volumes from this source are shown in Figure 12.

CSX East Parcel CTR (2018)

Turning movement counts collected for this project's CTR prepared by Gorove Slade were available for the following intersections:

- Eye Street and South Capitol Street;
- Eye Street and First Street SE; and
- Eye Street and New Jersey Avenue SE.

The unadjusted peak hour traffic volumes from this source are shown in Figure 12.

Volumes Generated by Regional Traffic Growth through 2021

Traffic growth was applied to these 2015 and 2018 volumes based on their respective data collection year to establish 2021 existing volumes. These background growth volumes are shown in Figure 13.

The applied growth rates for 2015/2018 through 2021 are based on historic AADT data and are shown on Table 4. Detailed growth rate assumptions are provided in the Technical Attachments.

The 2021 Existing peak hour traffic volumes are shown in Figure 14.

2026 Background Traffic Volumes (without the Project)

The traffic projections for the 2026 Background Conditions consist of the 2021 Existing volumes with the following additions:

- The addition of traffic generated by developments expected to be completed prior to the project (known as background developments);
- The addition of inherent growth on the roadway (representing regional traffic growth); and
- The addition and/or subtraction of rerouted volumes expected to result from the South Capitol Street Corridor Project where new turning movements will be introduced at area intersections.

Volumes Generated by 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 2026.

Based on these criteria, and as discussed with and agreed upon by DDOT, 28 developments were considered and determined to meet the above criteria. These developments include the following:

1. Kelvin Apartments/Envy Condos (1250 Half St SE & 70 N St SE)
2. West Half Street (1201 Half St SE)
3. Square 769 (1100 2nd Pl SE)
4. The Yards Parcel L1
5. The Yards Parcel L2
6. The Yards Parcel O

7. DC Water Headquarters
8. The Riverfront (Florida Rock - 71-79 Potomac Ave SE)
9. Novel Capitol View
10. 950 South Capitol Street
11. Former Congressional Square Project
12. The Garrett at the Collective
13. Capper Residential
14. 1000 4th Street SW
15. Randall School Redevelopment
16. CSX East Redevelopment
17. 375 & 425 M Street SW
18. The Bard
19. Wharf Phase 2
20. DDOT Headquarters
21. The Yards Parcel G
22. The Yards Parcel I
23. The Yards Parcel F1
24. The Yards Parcel A1
25. The Yards Parcel F
26. 5 M Street SW
27. 1000 South Capitol Street SE
28. 1319 South Capitol Street SW

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:

- Kelvin Apartments/Envy Condos (1250 Half St SE & 70 N St SE)
- Square 769 (1100 2nd Pl SE)
- The Yards Parcel O
- 950 South Capitol Street
- Former Congressional Square Project
- The Garrett at the Collective
- Capper Residential
- DDOT Headquarters
- The Yards Parcel I
- The Yards Parcel F1
- The Yards Parcel A1
- 1000 South Capitol Street SE

It is noted that some background developments have already been completed as of 2021; however, since this study uses 2015 and 2018 traffic count data as a baseline, developments not completed as of the traffic count data collection are still included as background developments.

The mode splits and trip distribution assumptions for these developments were primarily based on those used in similar developments throughout the Capitol Riverfront, Southwest, and Navy Yard neighborhoods and the proposed 850 South Capitol development.

A summary of the trip generation for the background developments is shown in Table 3 and the combined background projects peak hour volumes are shown in Figure 15.

Volumes Generated by Regional Traffic Growth

While background developments represent local traffic changes, regional traffic growth is typically accounted for using growth rates. The growth rates used in this analysis are based on MWCOG's currently adopted regional transportation model, comparing the difference between the year 2021 and 2026 model scenarios. The growth rates observed in this model served as a basis for analysis assumptions, and a conservative 0.10 percent annual growth rate was applied to roadways where a decline in volumes were observed. The applied growth rates are shown in Table 4. The traffic volumes generated by the inherent growth along the network between 2021 and 2026 are shown on Figure 16.

Volumes Rerouted by South Capitol Street Corridor Project

The South Capitol Street Corridor Project's proposed redesign of the South Capitol Street and Eye Street intersection accommodates northbound left and southbound left turns where they were previously not accommodated. Therefore, vehicle trips previously taking more circuitous routes from northbound South Capitol Street to westbound Eye Street SW and from southbound South Capitol Street to eastbound Eye Street SE

were rerouted through the South Capitol Street and Eye Street intersection. These rerouted volumes were determined using volumes taken from the approved CTR prepared by Gorove Slade for the 5 M Street SW (Square 649) project, which included turning movement counts at the intersections along M Street SW/SE that would have carried these trips previously. The rerouted volumes are shown on Figure 17. The original volume data from the 5 M Street SW (Square 649) CTR is included in the Technical Attachments.

The existing peak hour volumes presented in Figure 14 were combined with the background projects' peak hour volumes shown in Figure 15, the background growth peak hour volumes shown in Figure 16, and the rerouted South Capitol Street Corridor Project trips in Figure 17 to establish the 2026 Background traffic volumes. The traffic volumes for the 2026 Background Conditions are shown in Figure 18.

2026 Total Future Traffic Volumes (with the Project)

The 2026 Total Future traffic volumes consist of the following:

- Existing volumes, shown on Figure 14;
- Traffic generated by background developments, shown on Figure 15;
- Inherent growth on study area roadways, shown on Figure 16;
- Rerouted South Capitol Street Corridor project volumes, shown on Figure 17;
- Volumes removed from the existing car wash site, shown on Figure 19
- Site-generated volumes, shown on Figure 23.

Volumes Removed from the Existing Car Wash Site

Volumes removed from the existing car wash site were determined using the 2 Eye Street SE TIS previously referenced in this report, which included turning movement counts from the intersection of Eye Street SE and the site driveway, which was the only inbound or outbound vehicular access point to the car wash site. These turning movement counts are shown on Figure 12.

Site-Generated Volumes

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 routings were analyzed for inbound and outbound trips. Inbound and outbound distribution assumptions for the project are provided in Figure 20 and Figure 21, respectively. Detailed distributions at each study intersection are shown in Figure 22.

Site-generated peak hour volumes are shown in Figure 23.

The traffic volumes for the 2026 Total Future Conditions are shown on Figure 24.

Table 3: Summary of Background Developments Trip Generation

Background Development	Trip Generation Source	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)		
		In	Out	Total	In	Out	Total
Kelvin Apartments/Envy Condos	ITE Trip Gen. 10th Ed.	33	56	89	97	84	181
W Half St	Gorove Slade Study	35	85	120	119	91	210
Square 769	ITE Trip Gen. 10th Ed.	8	19	27	22	16	38
Yards Parcel L1	Gorove Slade Study	36	25	61	42	42	84
Yards Parcel L2	Gorove Slade Study	10	40	50	39	21	60
Yards Parcel O	ITE Trip Gen. 10th Ed.	16	35	51	45	31	76
DC Water HQ	Gorove Slade Study	112	13	125	19	102	121
Riverfront	Gorove Slade Study	297	131	428	163	285	448
Novel Capitol View [1]	Gorove Slade Study	0	0	0	0	0	0
950 South Capitol Street	ITE Trip Gen. 10th Ed.	15	61	76	59	33	92
Former Congressional Square Project	ITE Trip Gen. 10th Ed.	43	91	134	122	95	217
The Garrett at the Collective	ITE Trip Gen. 10th Ed.	18	42	60	53	39	92
Capper	ITE Trip Gen. 10th Ed.	15	36	51	43	30	73
1000/1001 4th St	Gorove Slade Study	58	115	173	33	82	115
Randall School Redevelopment	Gorove Slade Study	32	106	138	110	67	177
CSX East Redevelopment	Gorove Slade Study	132	232	364	176	144	320
375 & 425 M Street SW	Gorove Slade Study	60	119	179	136	104	240
The Bard	Gorove Slade Study	35	19	54	44	19	63
Wharf Phase 2	Gorove Slade Study	383	122	505	195	399	594
DDOT HQ	ITE Trip Gen. 10th Ed.	72	13	85	19	78	97
Yards Parcel G	Gorove Slade Study	109	18	127	27	116	143
Yards Parcel I	ITE Trip Gen. 10th Ed.	15	36	51	44	32	76
Yards Parcel F1	ITE Trip Gen. 10th Ed.	1	0	1	9	6	15
Yards Parcel A1	ITE Trip Gen. 10th Ed.	108	19	127	28	111	139
Yards Parcel F	Gorove Slade Study	102	18	120	29	113	142
5 M Street SW	Gorove Slade Study	31	39	70	50	36	86
1000 South Capitol Street	ITE Trip Gen. 10th Ed.	11	24	35	31	25	56
1319 South Capitol Street	Gorove Slade Study	11	33	44	33	21	54
Total		**1,798**	**1,547**	**3,345**	**1,787**	**2,222**	**4,009**

[1] The forecasted reduction in vehicle trips as a result of this development was not applied to the analysis.

Table 4: Applied Annual and Total Growth Rates

Roadway	Dir.	Proposed Annual Growth Rate Between 2015/2018 & 2021 [1]		Proposed Annual Growth Rate Between 2021 and 2026 [2]		Proposed Total Growth Between 2021 and 2026	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
Eye St SW/SE	EB	0.10%	0.10%	1.00%	0.10%	5.10%	0.50%
	WB	0.10%	0.10%	0.30%	2.00%	1.51%	10.41%
South Capitol St	NB	1.20%	1.20%	0.10%	0.40%	0.50%	2.02%
	SB	1.20%	1.20%	1.00%	0.10%	5.10%	0.50%
Half St SW [3]	NB	0.10%	0.10%	0.10%	0.10%	0.50%	0.50%
	SB	0.10%	0.10%	0.10%	0.10%	0.50%	0.50%
Half St SE [3]	NB	0.10%	0.10%	0.10%	0.10%	0.50%	0.50%
	SB	0.10%	0.10%	0.10%	0.10%	0.50%	0.50%
First St SE [3]	NB	0.10%	0.10%	0.10%	0.10%	0.50%	0.50%
	SB	0.10%	0.10%	0.10%	0.10%	0.50%	0.50%
New Jersey Ave SE	NB	0.10%	0.10%	0.10%	2.00%	0.50%	10.41%
	SB	0.10%	0.10%	2.00%	0.10%	10.41%	0.50%

[1] These rates were applied to volumes recorded in 2015 and 2018 that were used to establish 2021 existing conditions. Rates are based on historical AADT data.
[2] These rates were applied to volumes grown from 2021 existing conditions. Rates are based on MWCOG's currently adopted regional transportation model.
[3] Neither AADT nor MWCOG data is available for these streets; therefore a conservative 0.1% growth rate per year was used.

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 AM and PM peak hours. *Synchro* version 10 was used to analyze the study intersections based on the Highway Capacity Manual (HCM) 2000 methodology.

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

The LOS capacity analyses were based on: (1) the 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 all intersections in addition to the overall average delay and intersection LOS grade. Detailed LOS descriptions and the analysis worksheets are contained in the Technical Attachments.

Table 5 shows the results of the capacity analyses, including LOS and average delay per vehicle (in seconds) for the 2021 Existing, 2026 Background, and 2026 Total Future scenarios. Table 6 shows a comparison of the volume to capacity (v/c) ratios. Table 7 shows a comparison of queuing results.

Intersection Capacity Under Existing Conditions

As shown in Table 5, one (1) of the study intersections operates with unacceptable conditions or has one or more approaches operating at unacceptable levels under Existing Conditions:

- Eye Street and South Capitol Street
  - Eastbound (AM, PM)
  - Southbound (PM)

Intersection Capacity Under Background Conditions

As shown in Table 5, four (4) of the study intersections are expected to operate with unacceptable conditions or have one or more approaches operating at unacceptable levels during Background Conditions:

- Eye Street and Half Street SW
  - Northbound (AM)
- Eye Street and South Capitol Street
  - Overall (AM, PM)
  - Eastbound (AM, PM)
  - Westbound (AM)
  - Northbound (AM)
- Eye Street and Half Street SE
  - Northbound (AM)
- Eye Street and First Street SE
  - Westbound (AM, PM)
- I-395 Ramps and South Capitol Street
  - Overall (AM)
  - Eastbound (AM, PM)
  - Northbound (AM)

Intersection Capacity Under Future Conditions

Consistent with background future conditions, four (4) of the study intersections are expected to continue to operate at unacceptable conditions or have one or more approaches operating at unacceptable levels during Future Conditions (See Table 5):

- Eye Street and Half Street SW
  - Northbound (AM)
- Eye Street and South Capitol Street
  - Overall (AM, PM)
  - Eastbound (AM, PM)
  - Westbound (AM)
  - Northbound (AM)
- Eye Street and Half Street SE
  - Northbound (AM)
- Eye Street and First Street SE
  - Westbound (AM, PM)
- I-395 Ramps and South Capitol Street
  - Overall (AM)
  - Eastbound (AM, PM)
  - Northbound (AM)

Each of these approaches operates at unacceptable conditions during Background Conditions, and the proposed development does not result in any new approaches exceeding acceptable thresholds.

Therefore, the net increase in delay for Future Conditions does not meet DDOT delay-related mitigation thresholds, whether by showing a LOS E or F at an intersection or along an approach in Future Conditions with the project where one does not exist in Background Conditions, or by showing an increase in delay at any approach or overall intersection operating under LOS E or F

of greater than five (5) percent when compared to Background Conditions.

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's 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 7 shows the queuing results for the study intersections, including 50th and 95th percentile queues for the 2021 Existing, 2026 Background, and 2026 Total Future scenarios.

Queuing Under Existing Conditions

As shown in Table 7, one (1) of the study intersections has one or more lane group that exceeds the given storage length during Existing Conditions:

- Eye Street and South Capitol Street
  - Eastbound left/thru (AM, PM)
  - Westbound thru (AM, PM)
  - Westbound right (AM, PM)
  - Northbound thru/right (AM, PM)
  - Southbound thru (AM, PM)

Queuing Under Background Conditions

As shown in Table 7, three (3) of the study intersections are expected to have one or more lane group that exceeds the given storage length during Existing Conditions:

- Eye Street and Half Street SW
  - Northbound left/right (AM)
- Eye Street and South Capitol Street
  - Eastbound left/thru (AM, PM)
  - Westbound thru (AM, PM)
  - Westbound right (AM, PM)
  - Northbound thru/right (AM, PM)
- Eye Street and New Jersey Avenue SE
  - Eastbound left (AM, PM)
  - Eastbound through/right (PM)
  - Southbound left/thru/right (PM)
- I-395 Ramps and South Capitol Street
  - Northbound left (AM, PM)
  - Southbound thru (AM, PM)

It should be noted that the intersection of Eye Street and New Jersey Avenue SE is signalized only in the Background and Future Conditions; therefore, queuing analysis is only included in the Background and Future Conditions.

Queuing Under Future Conditions

Consistent with background conditions, three (3) of the study intersections are expected to continue to have one or more lane group that exceeds the given storage length during Future Conditions (See Table 5):

- Eye Street and Half Street SW
  - Northbound left/right (AM)
- Eye Street and South Capitol Street
  - Eastbound left/thru (AM, PM)
  - Westbound thru (AM, PM)
  - Westbound right (AM, PM)
  - Northbound thru/right (AM, PM)
- Eye Street and New Jersey Avenue SE
  - Eastbound left (AM, PM)
  - Eastbound through/right (PM)
  - Southbound left/thru/right (PM)
- I-395 Ramps and South Capitol Street
  - Northbound left (AM, PM)
  - Southbound thru (AM, PM)

These are the same intersection lane groups that operate with unacceptable queues during Background Conditions, and the proposed development does not result in any new lane groups with queues in excess of available storage areas.

None of the queueing conditions in the Future Conditions meet DDOT queuing-related mitigation thresholds, whether by exceeding storage along an approach in the Future Conditions where it does not in the Background Conditions, or by exceeding the storage length or increasing a queue exceeding storage in the Background Conditions by 150 feet.

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 Future conditions

with the project where one does not exist in Background Conditions;

- There is an increase in delay at any approach or overall intersection operating under LOS E or F of greater than five (5) percent when compared to Background Conditions;
- A 95th percentile queue exceeds storage along an approach in Future Conditions with the project where it does not in Background Conditions; or
- There is an increase in the 95th percentile queue by more than 150 feet along an approach in that exceeds storage in Background Conditions.

Based on these criteria, **no study area intersections are impacted by the proposed project to the extent that mitigation would be required.**

It is noted that these analyses were prepared using preliminary signal timings provided by DDOT and that some of the substantial vehicle delays shown in the Background and Future Conditions at the Eye Street and South Capitol Street intersection could be improved through updated signal timings. A review of the *Synchro* analysis for this project reveals that further adjusting these preliminary signals could result in delays of less than 160 seconds per vehicle for all approaches during the AM peak hour, and less than 90 seconds for all approaches during PM peak hour.

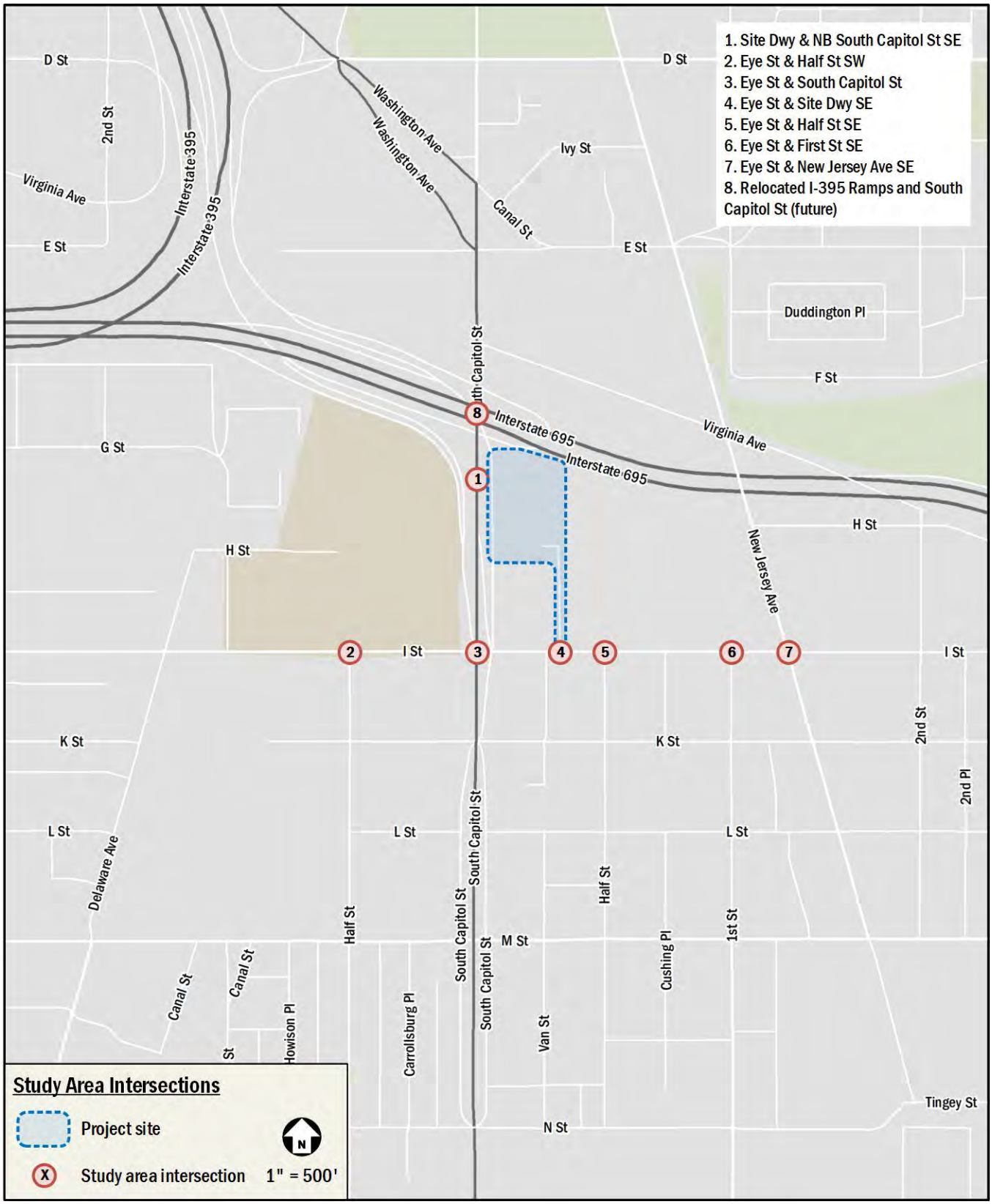

Figure 8: Study Area Intersections

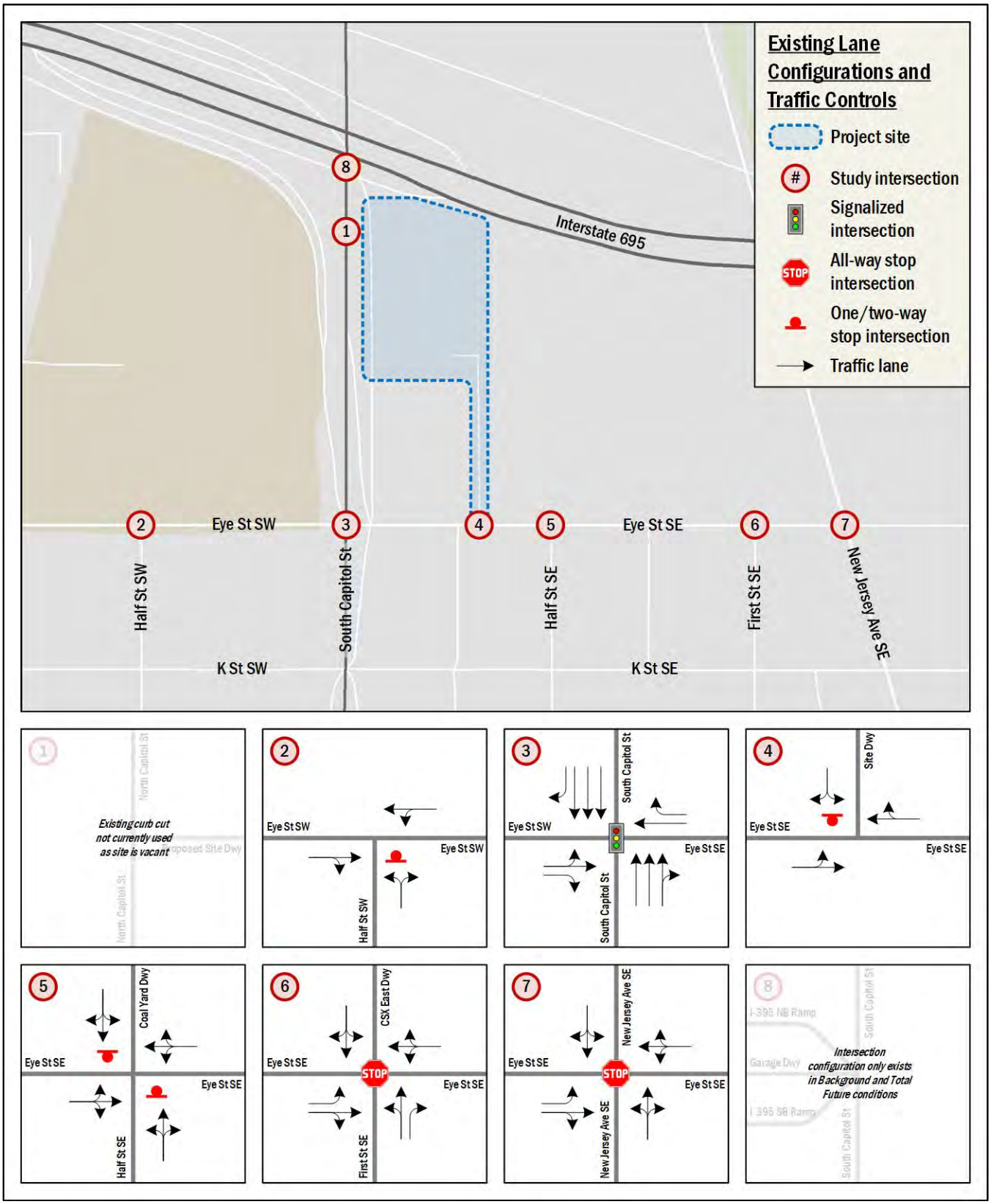

Figure 9: Existing Lane Configurations and Traffic Controls

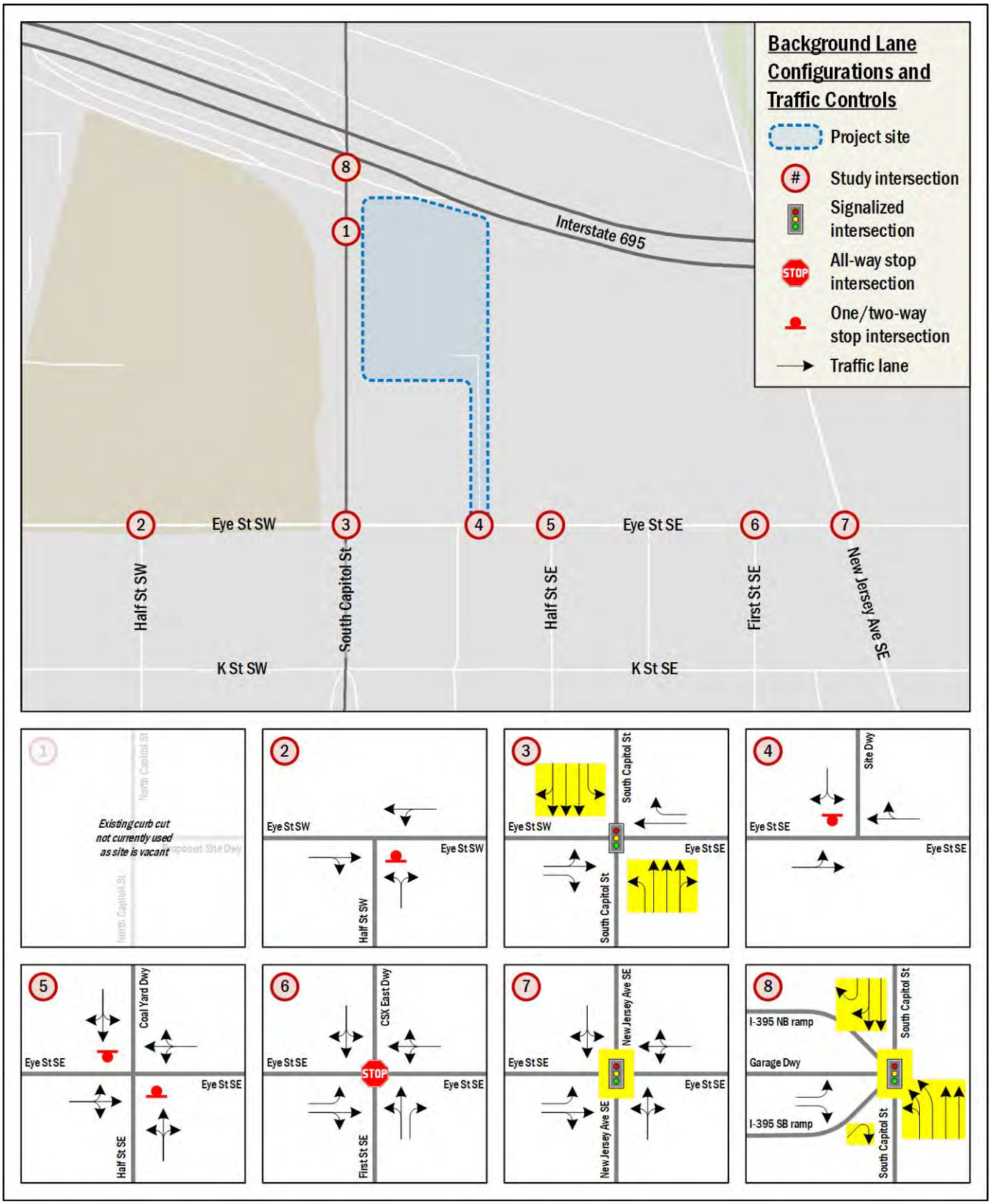

Figure 10: Background Lane Configurations and Traffic Controls

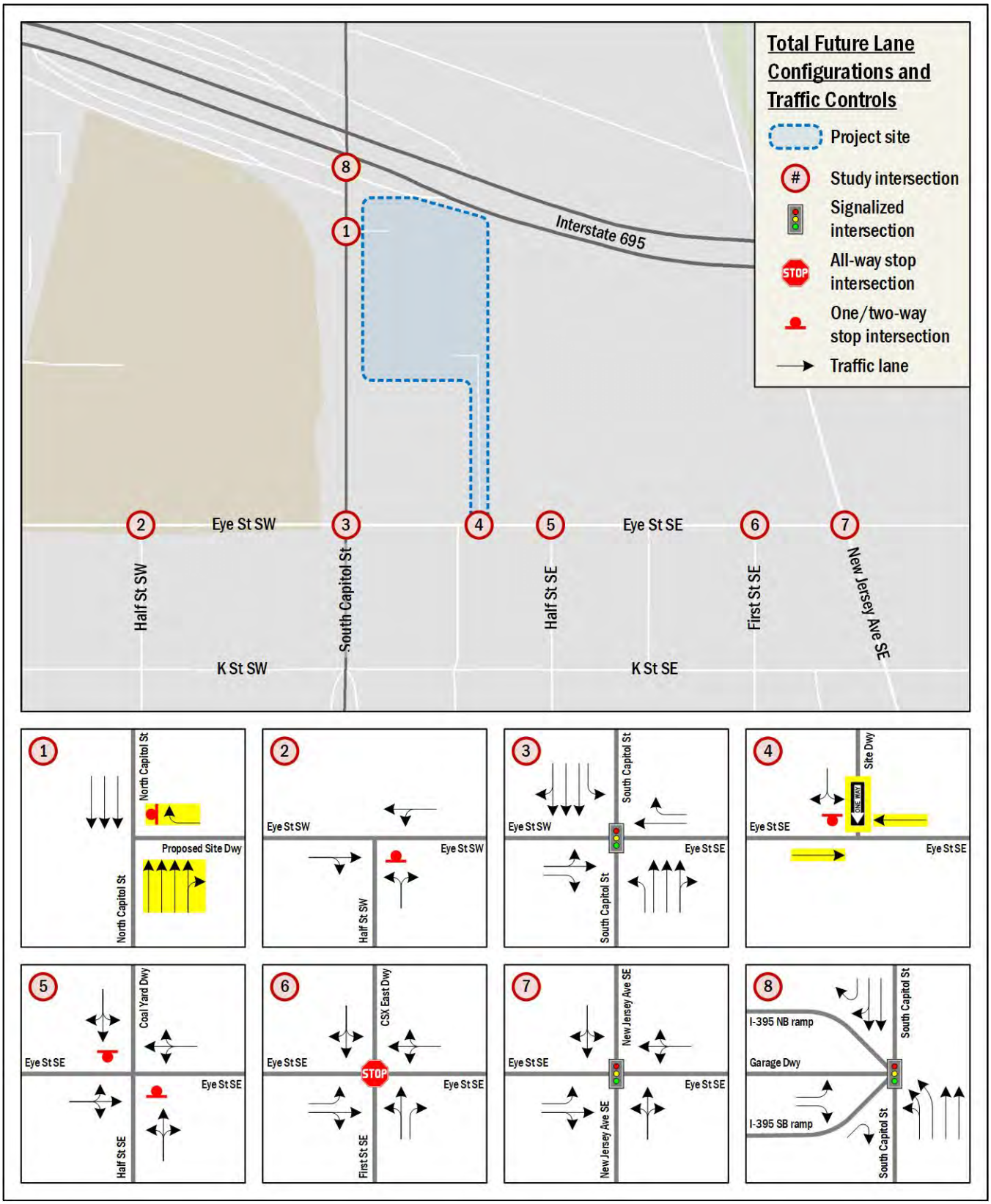

Figure 11: Total Future Lane Configurations and Traffic Controls

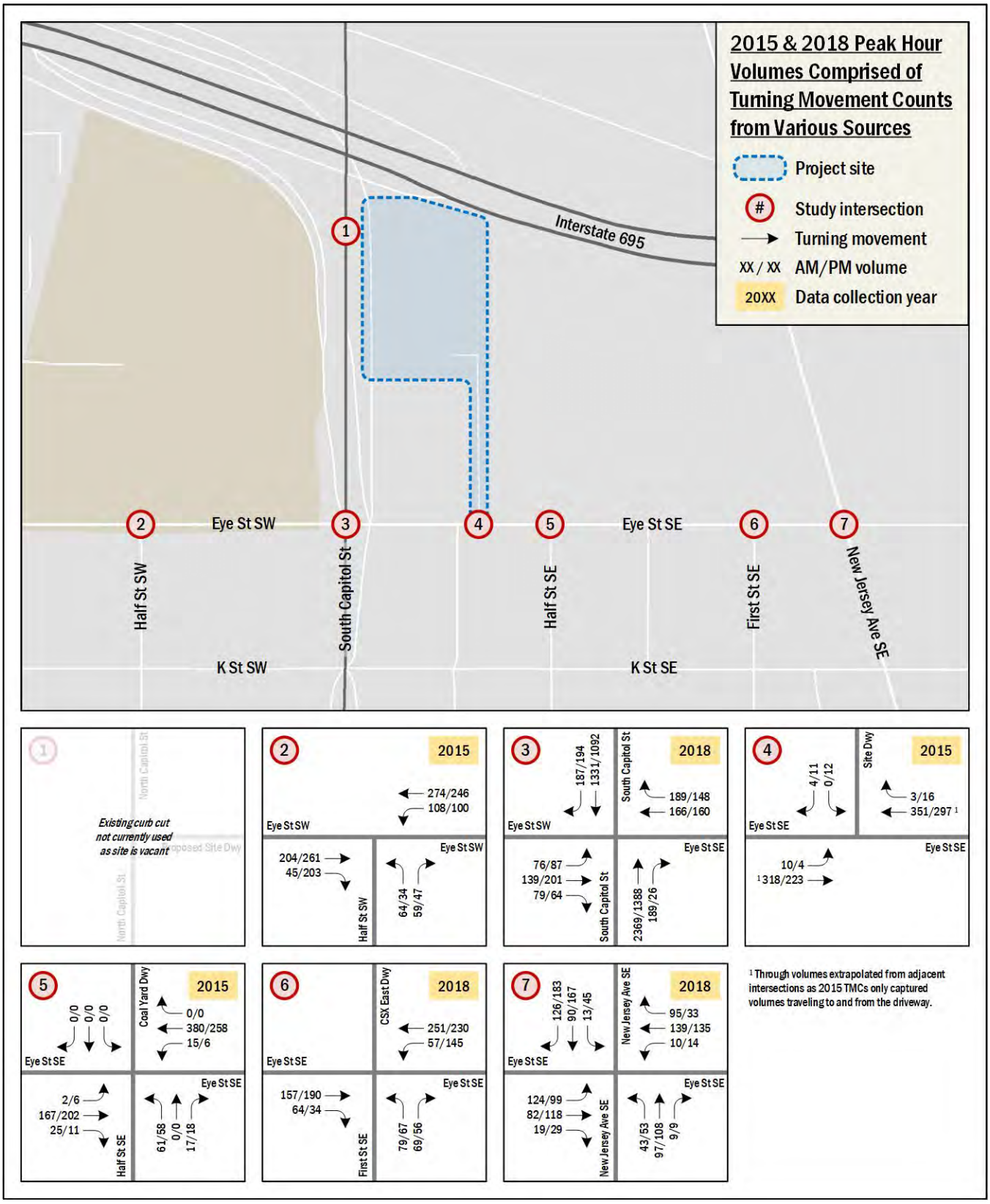

Figure 12: Unadjusted 2015 & 2018 Peak Hour Volumes Comprised of Turning Movement Counts from Various Sources

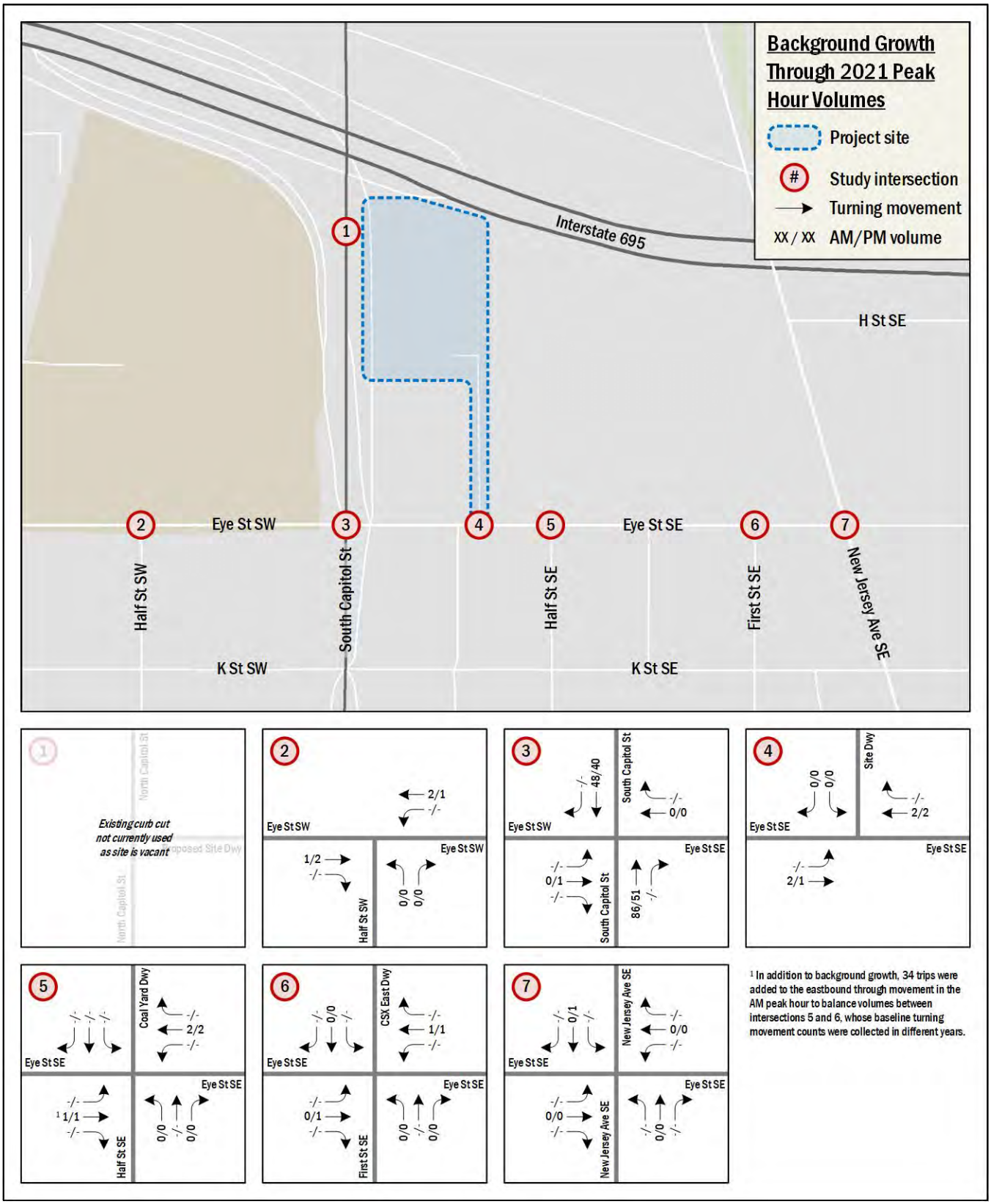

Figure 13: Background Growth Applied to 2015 & 2018 Peak Hour Volumes to Establish Existing 2021 Peak Hour Volumes

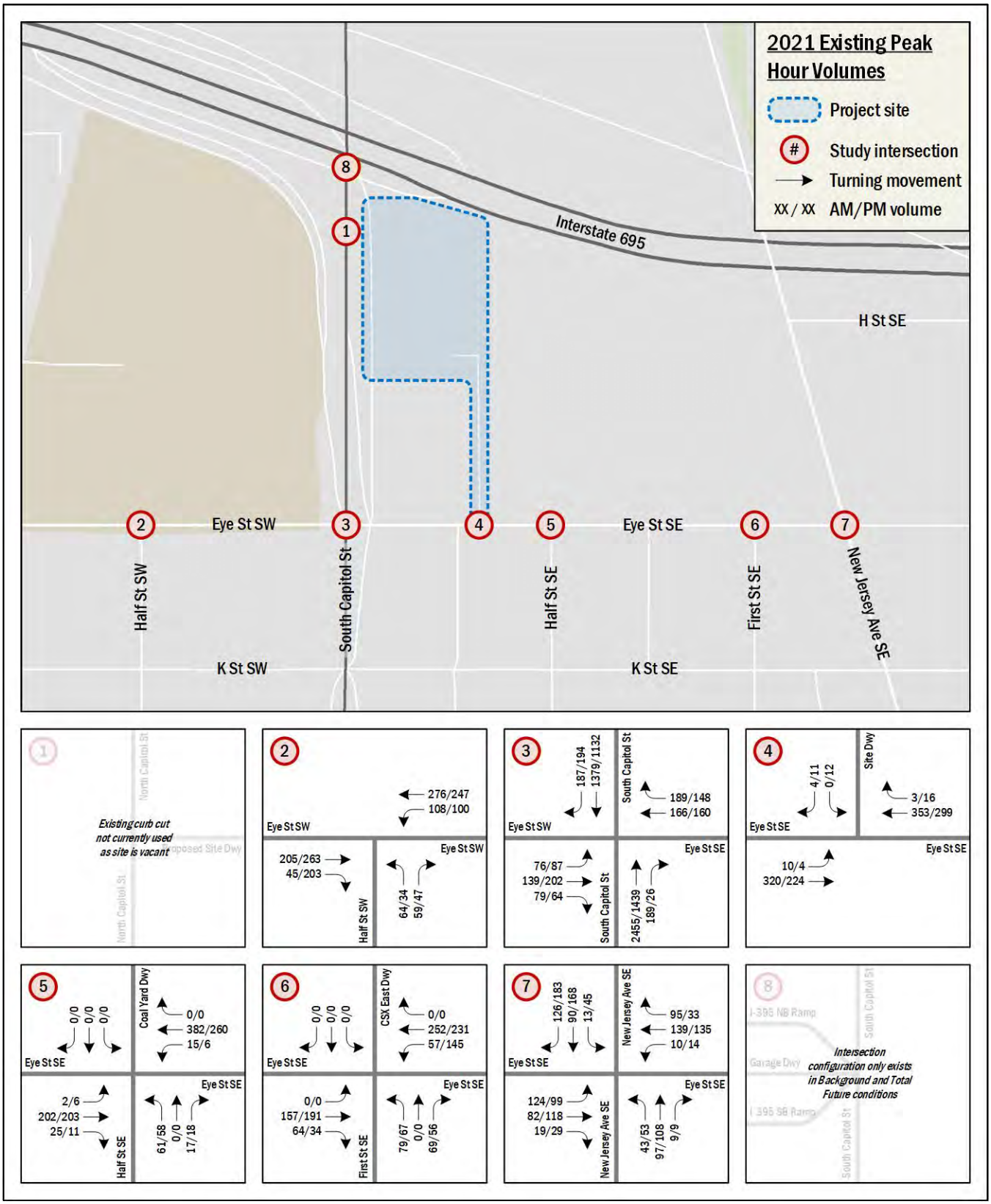

Figure 14: 2021 Existing Peak Hour Volumes

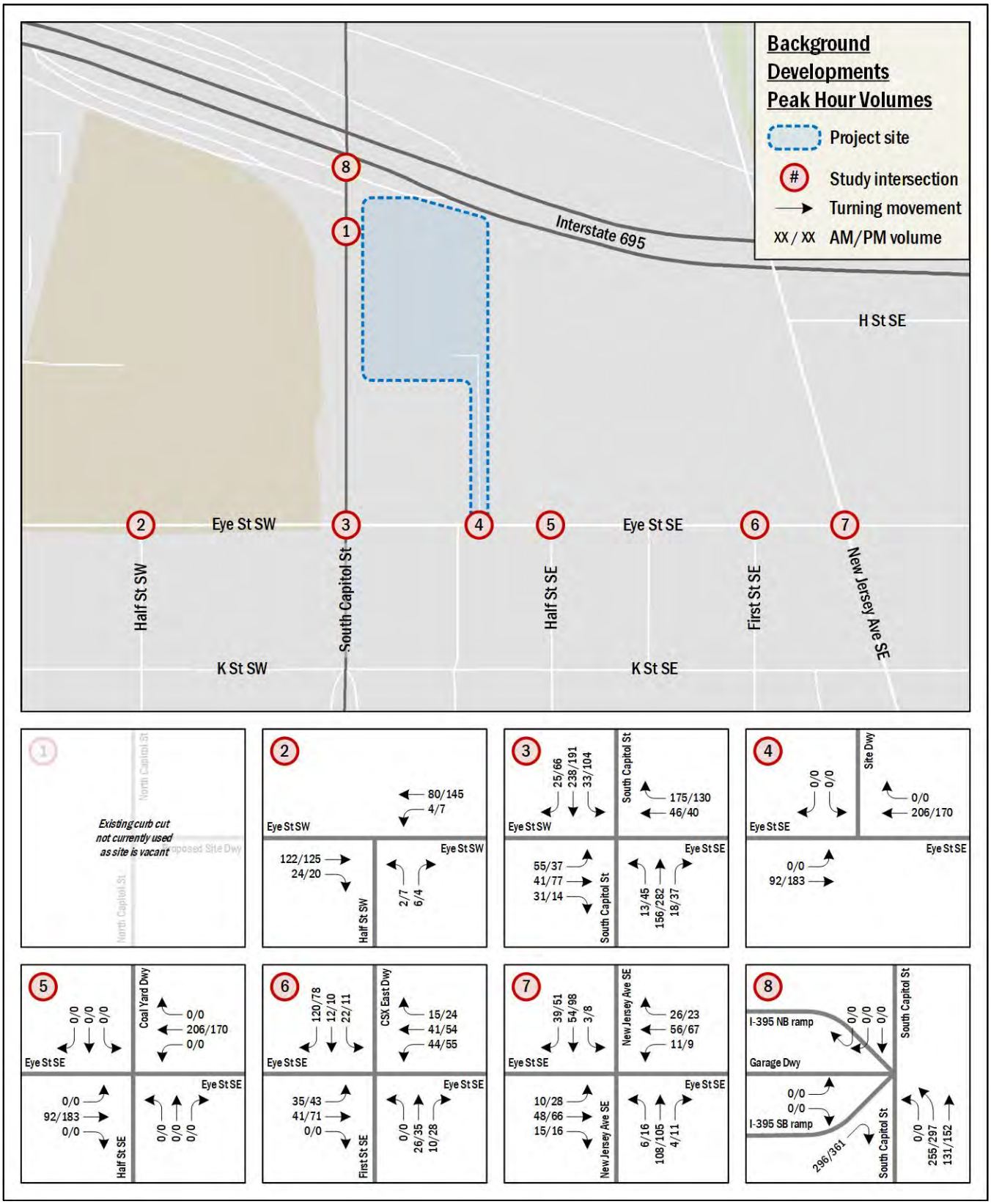

Figure 15: Background Developments Peak Hour Volumes

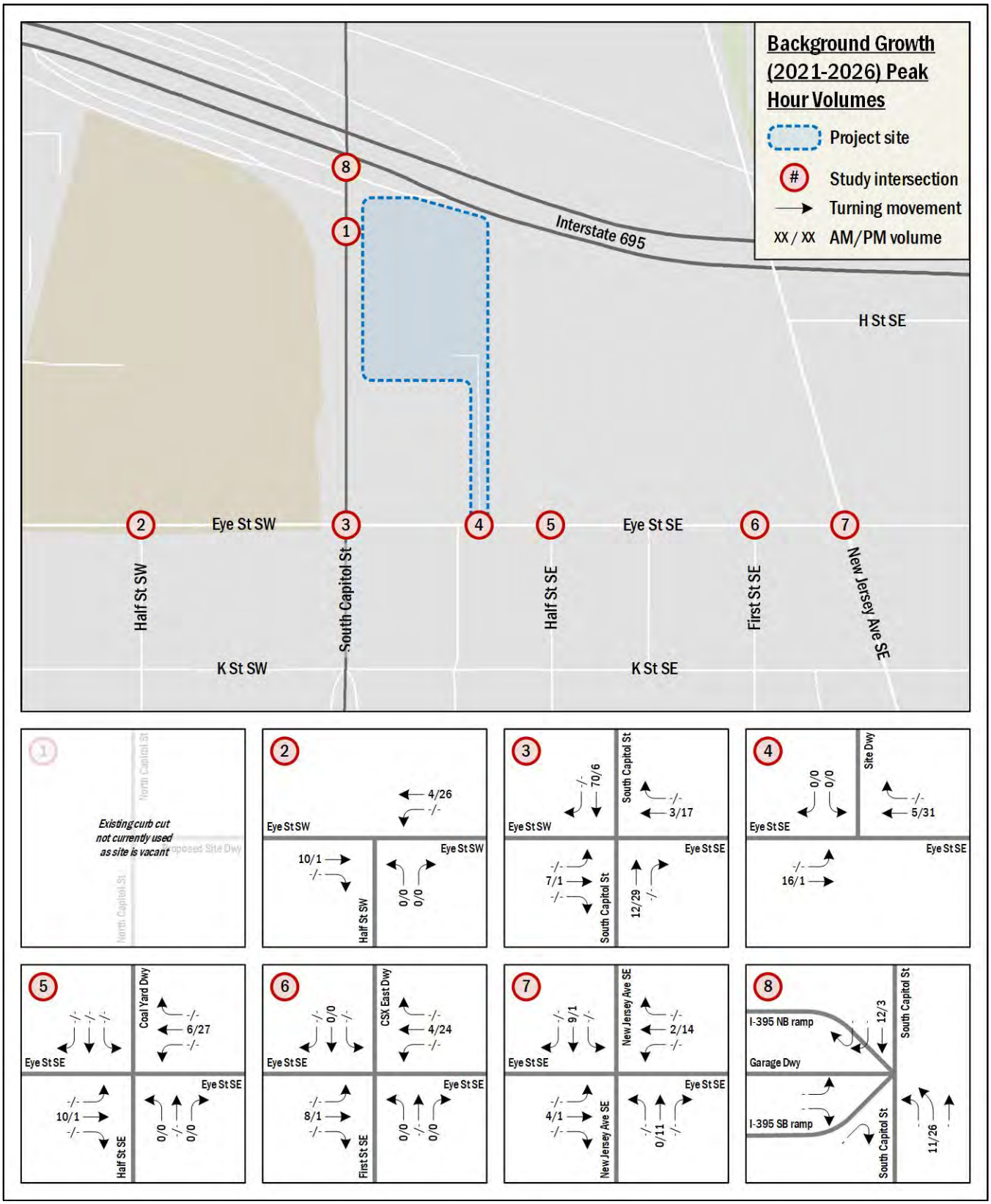

Figure 16: Background Growth Peak Hour Volumes

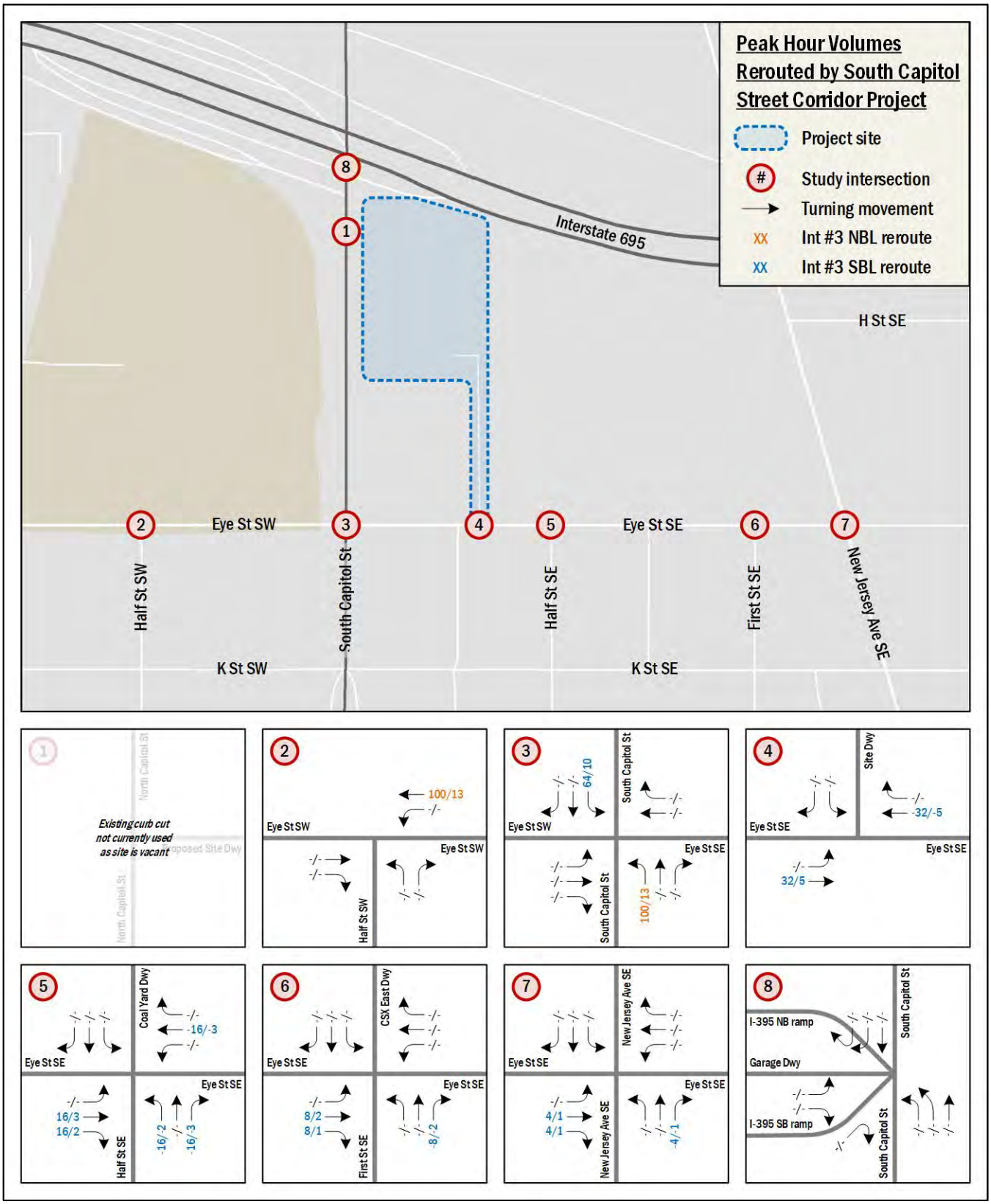

Figure 17: Peak Hour Volumes Rerouted by South Capitol Street Corridor Project

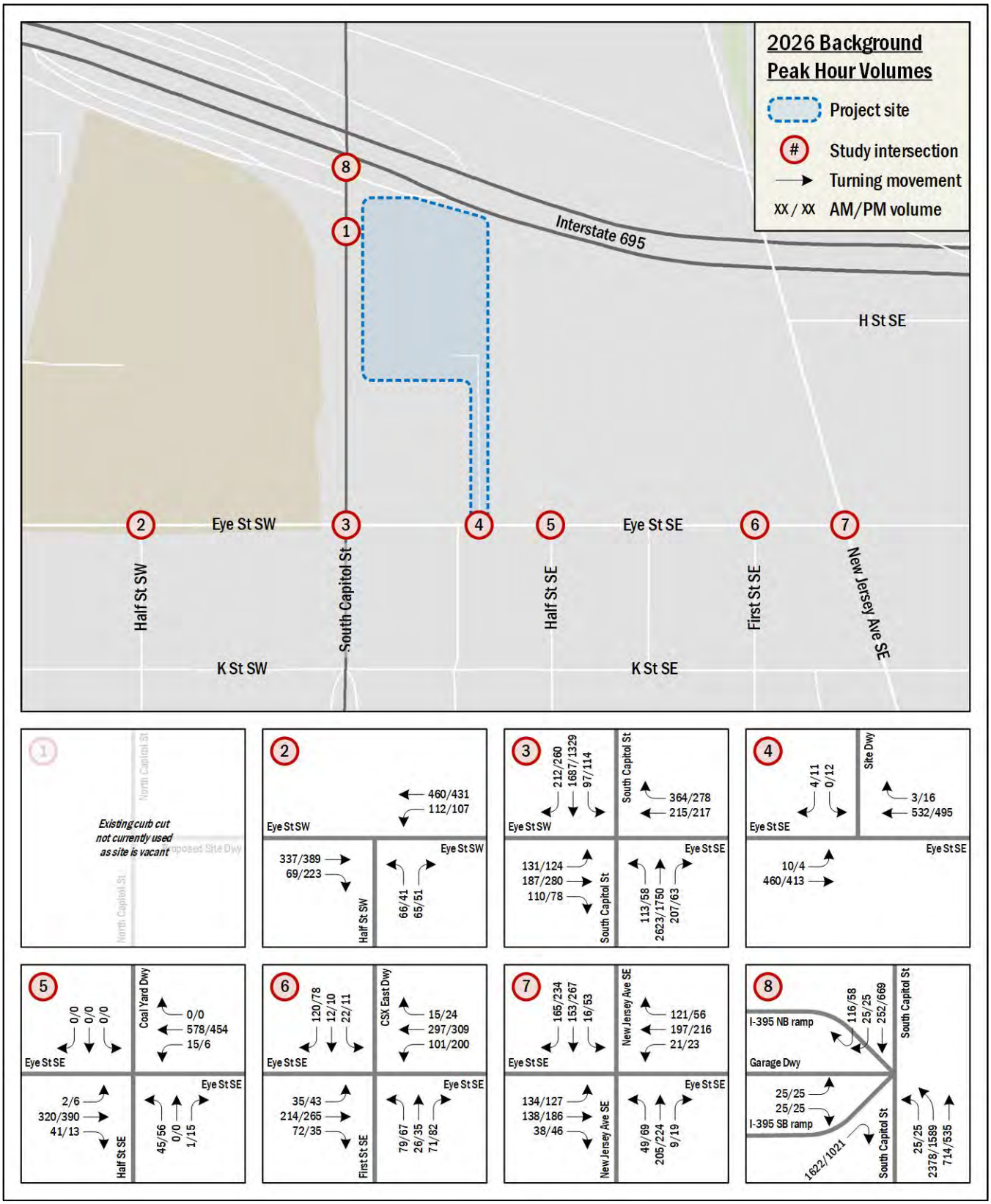

Figure 18: 2026 Background Peak Hour Volumes

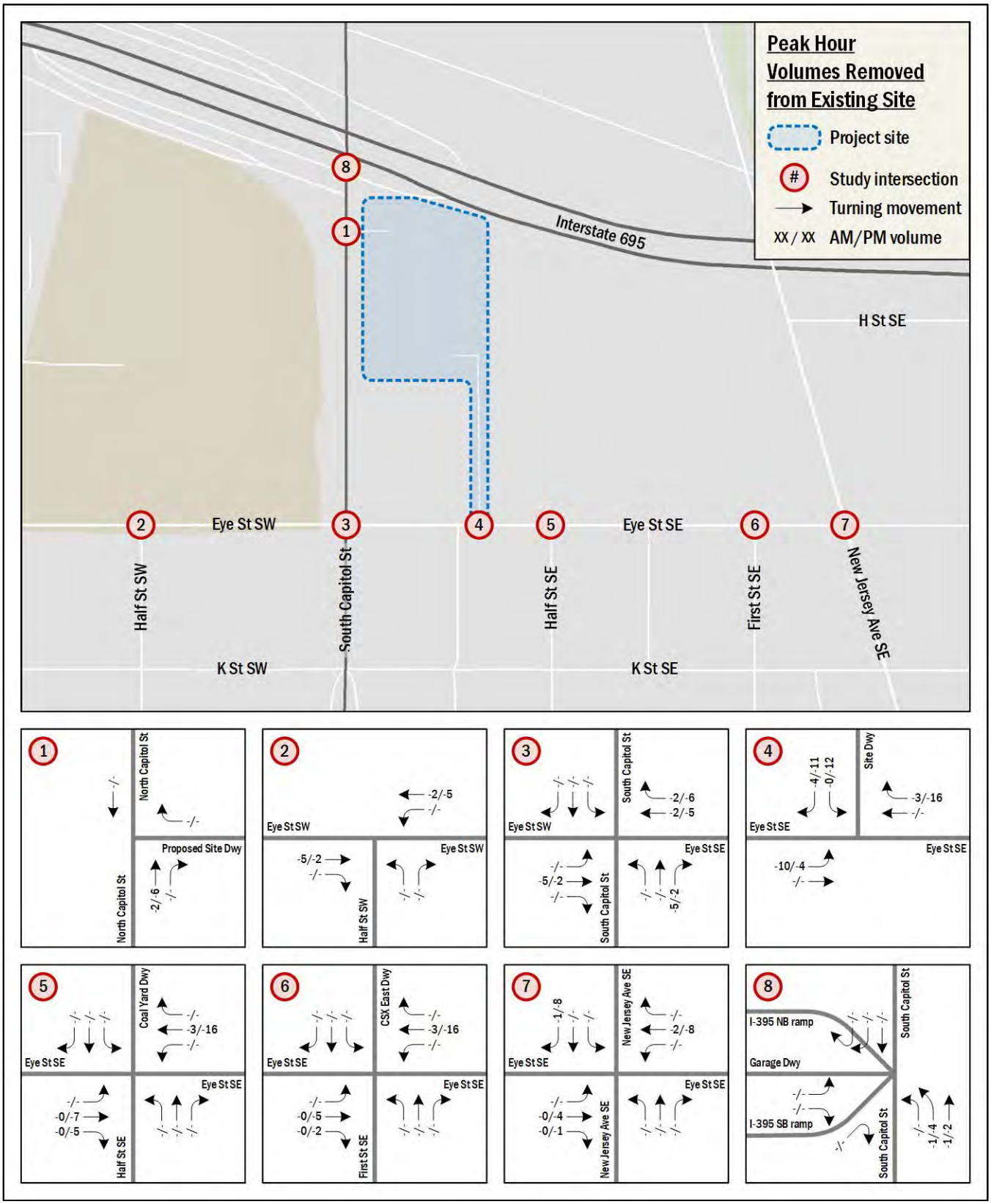

Figure 19: Peak Hour Volumes Removed from Existing Site

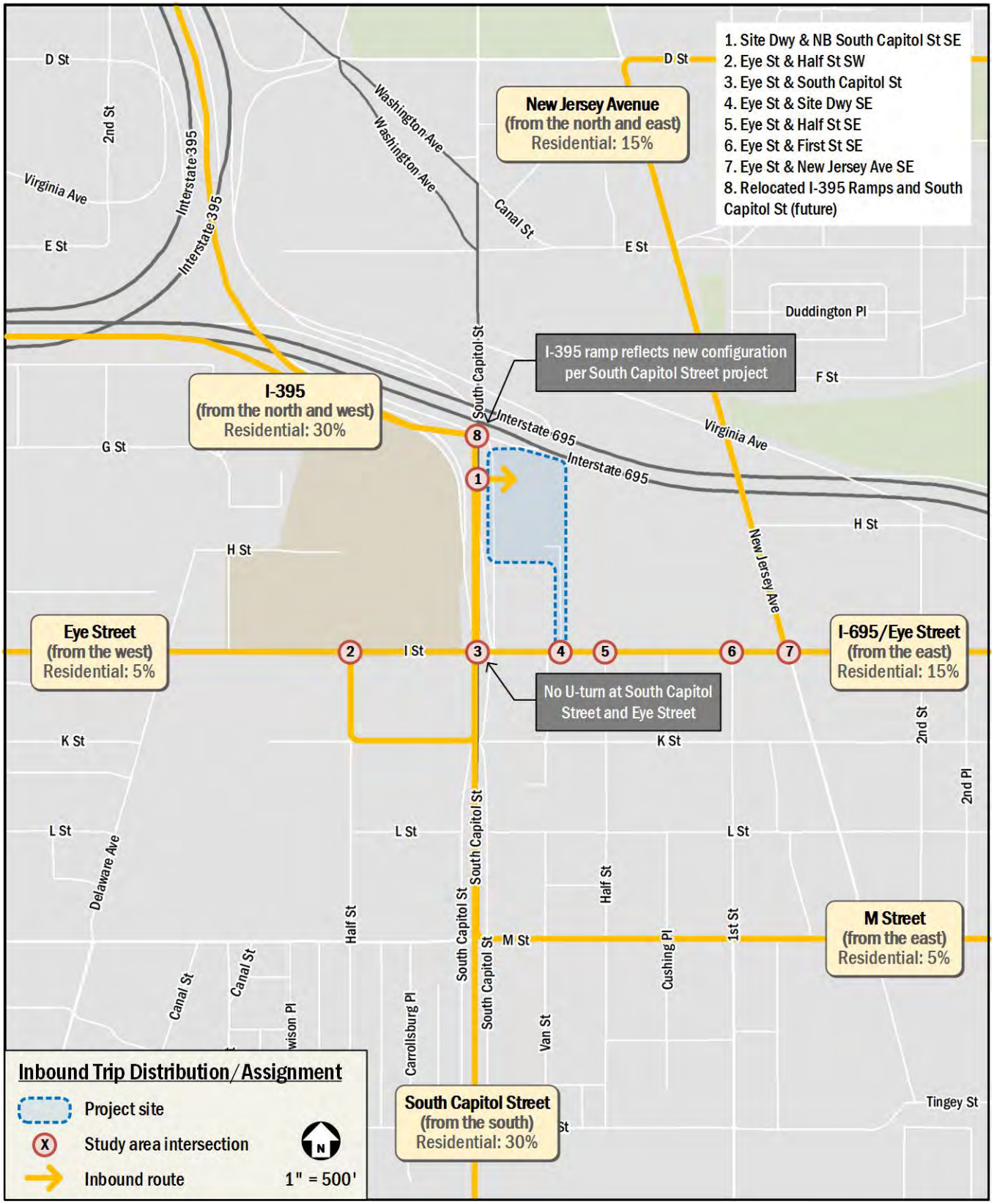

Figure 20: Inbound Trip Distribution

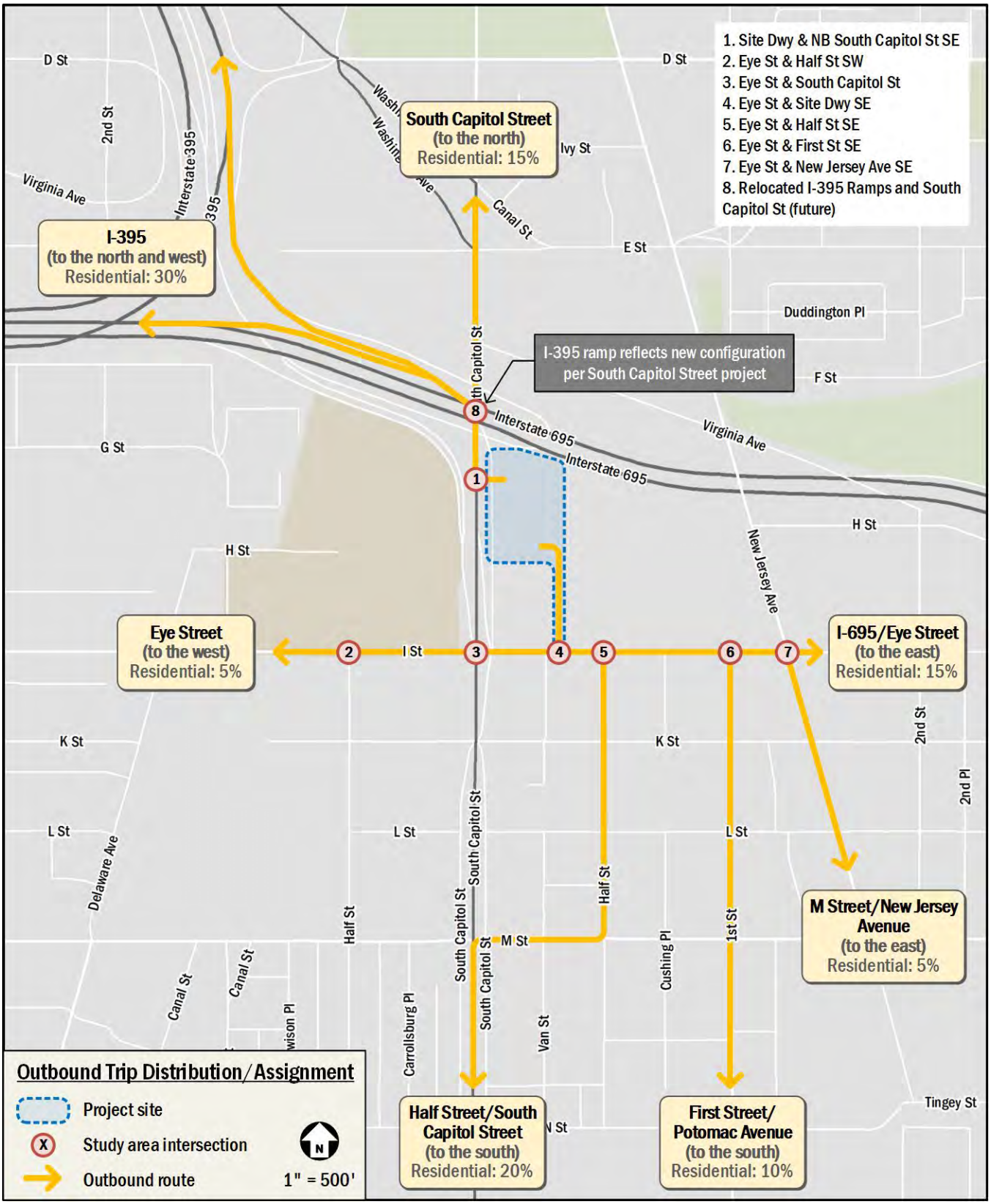

Figure 21: Outbound Trip Distribution

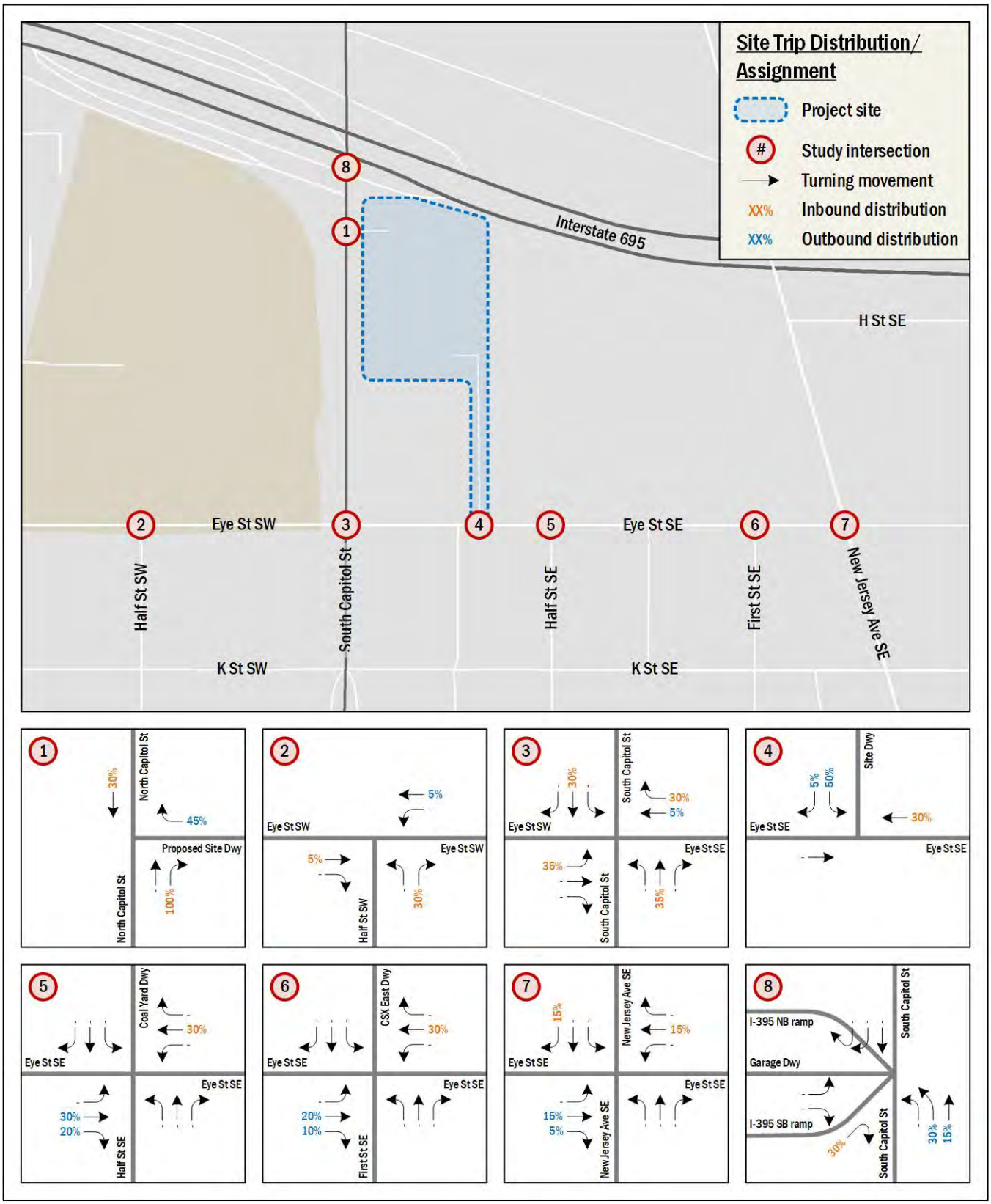

Figure 22: Trip Distribution at Study Intersections

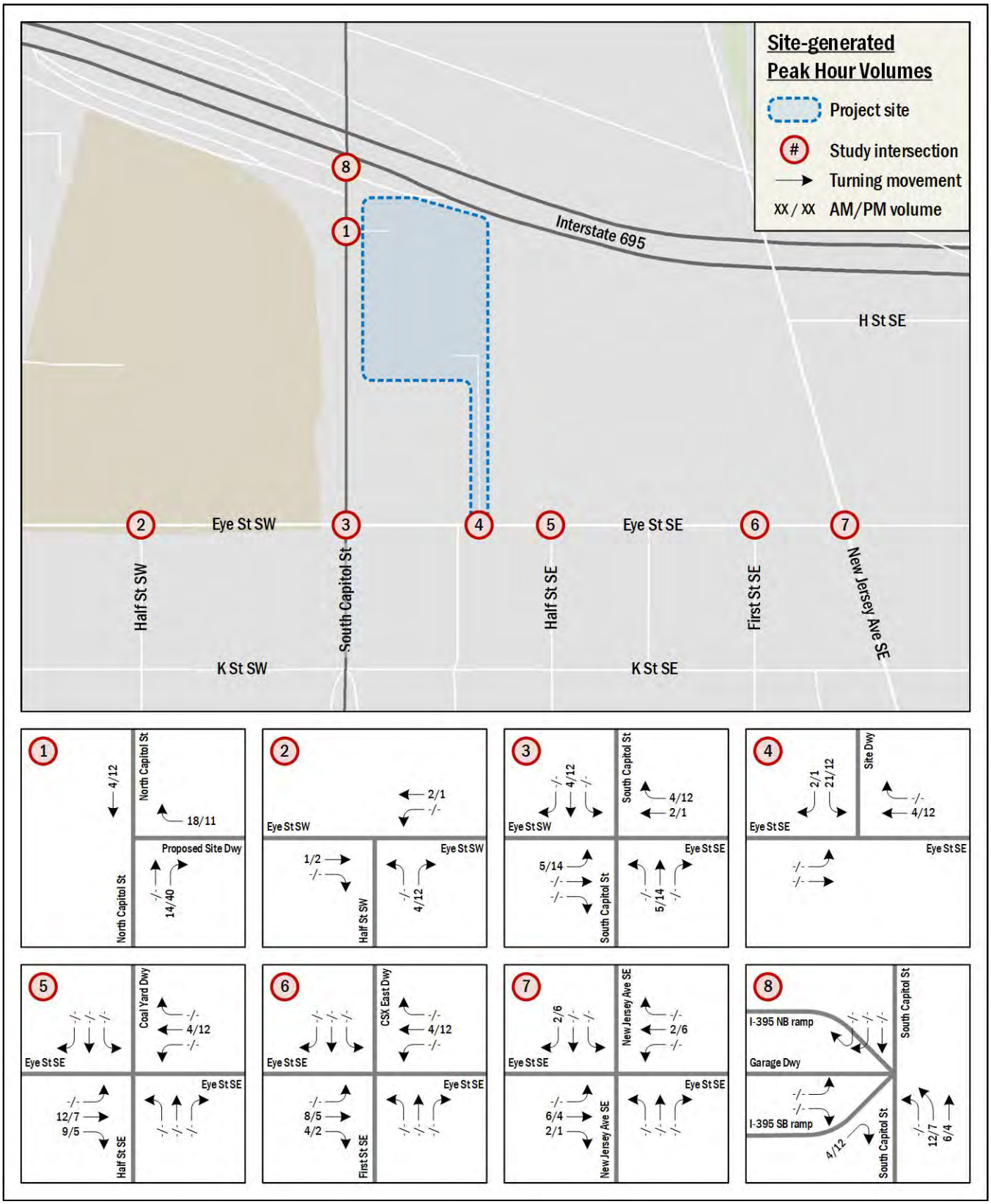

Figure 23: Site-generated Peak Hour Volumes

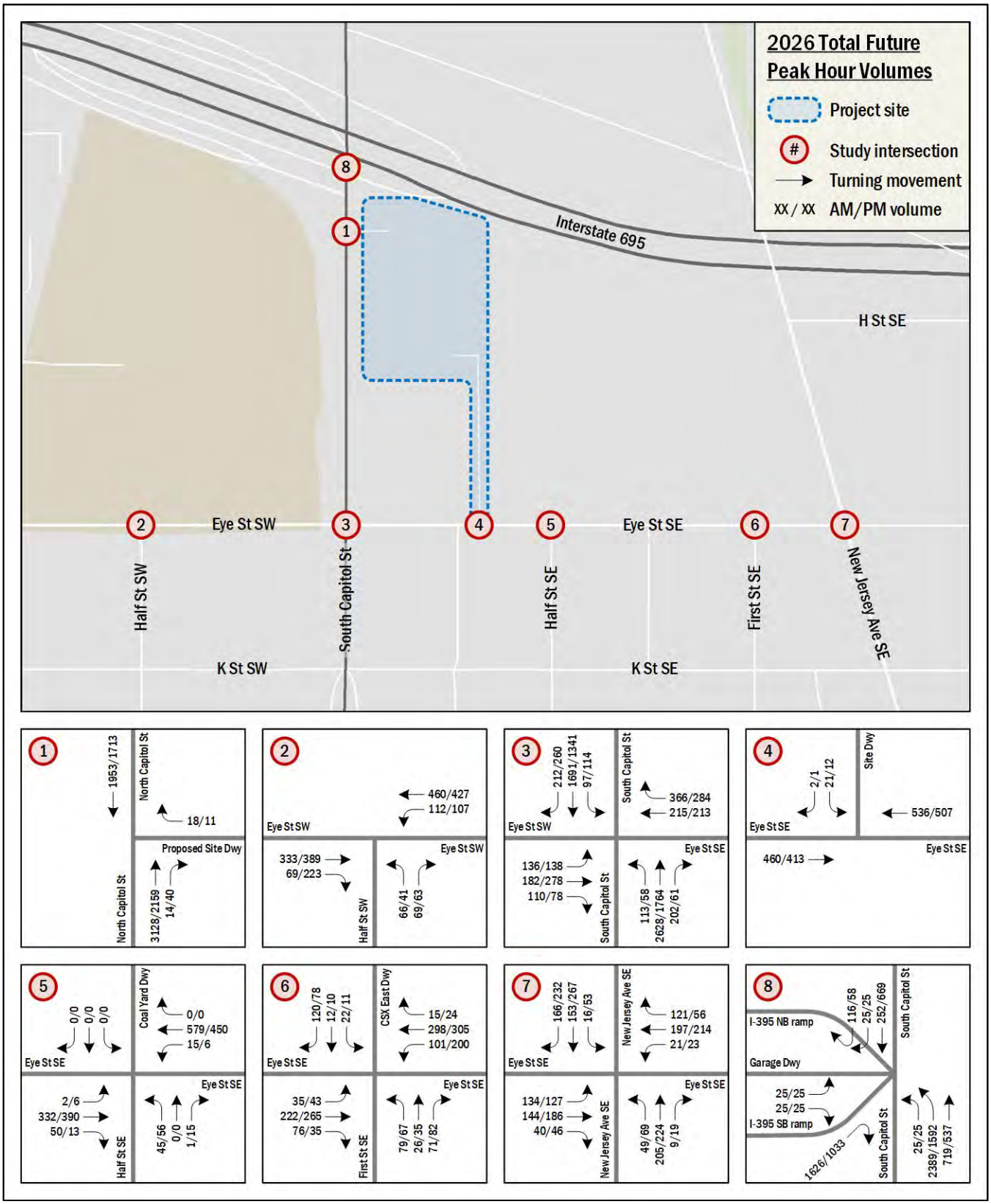

Figure 24: 2026 Total Future Peak Hour Volumes

Table 5: LOS Comparison

	Intersection and Approach	Existing (2021)				Background (2026)				Future (2026)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1.	**Site Dwy & South Capitol St SE**	Existing curb cut not currently used as site is vacant				Existing curb cut not currently used as site is vacant							
	Westbound									12.9	B	9.5	A
	Northbound									0.0		0.0	
2.	**Eye St & Half St SW (west of S Cap)**												
	Eastbound	0.0		0.0		0.0		0.0		0.0		0.0	
	Westbound	3.0		3.3		2.9		3.2		2.9		3.2	
	Northbound	17.6	C	15.9	C	36.5	E	27.6	D	35.9	E	26.9	D
3.	**Eye St & South Capitol St**												
	Overall	**37.9**	**D**	**40.3**	**D**	**112.4**	**F**	**73.8**	**E**	**113.0**	**F**	**76.9**	**E**
	Eastbound	76.9	E	72.8	E	675.9	F	453.7	F	683.7	F	474.0	F
	Westbound	50.5	D	42.0	D	91.4	F	49.7	D	94.1	F	51.0	D
	Northbound	25.2	C	16.0	B	87.2	F	23.8	C	86.9	F	24.0	C
	Southbound	49.1	D	58.0	E	34.8	C	28.1	C	34.9	C	28.2	C
4.	**Eye St & Site Dwy SE**												
	Eastbound	0.3		0.2		0.3		0.1		0.0		0.0	
	Westbound	0.0		0.0		0.0		0.0		0.0		0.0	
	Southbound	10.5	B	11.5	B	12.1	B	16.5	C	20.9	C	19.3	C
5.	**Eye St & Half St SE (east of S Cap)**												
	Eastbound	0.1		0.3		0.1		0.2		0.1		0.2	
	Westbound	0.4		0.2		0.4		0.2		0.4		0.2	
	Northbound	19.4	C	14.3	B	36.2	E	27.2	D	37.8	E	26.6	D
	Southbound	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A	0.0	A
6.	**Eye St & CSX East Dwy/First St SE**												
	Eastbound	10.0	B	10.1	B	16.5	C	16.2	C	17.4	C	16.2	C
	Westbound	14.2	B	16.7	C	36.2	E	74.0	F	37.2	E	71.3	F
	Northbound	8.9	A	9.0	A	11.5	B	11.3	B	11.6	B	11.3	B
	Southbound	0.0	A	0.0	A	14.0	B	12.5	B	14.1	B	12.5	B
7.	**Eye St & New Jersey Ave SE**												
	Overall	**-**	**-**	**-**	**-**	**17.4**	**B**	**20.0**	**C**	**17.4**	**B**	**20.0**	**B**
	Eastbound	10.3	B	10.6	B	24.2	C	25.6	C	24.0	C	25.8	C
	Westbound	12.7	B	12.0	B	25.9	C	26.8	C	25.9	C	26.8	C
	Northbound	11.3	B	11.5	B	8.5	A	10.2	B	8.5	A	10.1	B
	Southbound	12.0	B	16.2	C	9.4	A	18.3	B	9.4	A	18.1	B
8.	**Relocated I-395 Ramps & South Capitol St**												
	Overall					**61.9**	**E**	**27.6**	**C**	**63.2**	**E**	**27.8**	**C**
	Eastbound					72.0	E	56.3	E	72.0	E	56.3	E
	Northbound					82.5	F	26.4	C	84.7	F	26.7	C
	Southbound					46.9	D	37.2	D	46.8	D	37.2	D
	Northeastbound					25.4	C	21.8	C	25.6	C	21.9	C

Table 6: v/c Comparison

	Intersection and Movement	Existing (2021)		Background (2026)		Future (2026)	
		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.	**Site Dwy & South Capitol St SE**	Existing curb cut not currently used as site is vacant		Existing curb cut not currently used as site is vacant			
	Westbound R					0.04	0.01
	Northbound TR					0.55	0.38
2.	**Eye St & Half St SW (west of S Cap)**						
	Eastbound TR	0.17	0.29	0.27	0.38	0.27	0.38
	Westbound LT	0.09	0.10	0.11	0.12	0.11	0.12
	Northbound LR	0.34	0.21	0.59	0.39	0.59	0.41
3.	**Eye St & South Capitol St**						
	Eastbound LT	0.90	0.91	2.80	2.05	2.83	2.10
	Eastbound R	0.22	0.16	0.10	0.15	0.34	0.24
	Westbound T	0.44	0.36	0.60	0.59	0.60	0.58
	Westbound R	0.48	0.34	1.00	0.75	1.01	0.84
	Northbound L	-	-	0.41	0.51	0.41	0.45
	Northbound TR	0.92	0.56	1.12	0.78	1.12	0.78
	Southbound L	-	-	0.76	1.21	0.76	1.21
	Southbound TR	-	-	0.90	0.69	0.90	0.70
	Southbound T	0.48	0.43	-	-	-	-
	Southbound R	0.20	0.23	-	-	-	-
4.	**Eye St & Site Dwy SE (east of S Cap)**						
	Eastbound LT	0.01	0.00	0.01	0.00	0.29	0.26
	Westbound TR	0.23	0.20	0.34	0.33	0.34	0.32
	Southbound LR	0.01	0.04	0.01	0.07	0.10	0.05
5.	**Eye St & Half St SE**						
	Eastbound LTR	0.00	0.01	0.00	0.01	0.00	0.01
	Westbound LTR	0.01	0.01	0.02	0.01	0.02	0.01
	Northbound LTR	0.27	0.19	0.32	0.35	0.33	0.34
	Southbound LTR	0.00	0.00	0.00	0.00	0.00	0.00
6.	**Eye St & CSX East Dwy/First St SE**						
	Eastbound L	-	-	-	-	-	-
	Eastbound TR	-	-	-	-	-	-
	Westbound LTR	-	-	-	-	-	-
	Northbound LT	-	-	-	-	-	-
	Northbound R	-	-	-	-	-	-
	Southbound LTR	-	-	-	-	-	-
7.	**Eye St & New Jersey Ave SE**						
	Eastbound L	-	-	0.80	0.67	0.80	0.68
	Eastbound TR	-	-	0.39	0.49	0.40	0.49
	Westbound LTR	-	-	0.80	0.67	0.80	0.67
	Northbound LTR	-	-	0.40	0.43	0.40	0.43
	Southbound LTR	-	-	0.46	0.75	0.46	0.75
8.	**Relocated I-395 Ramps & South Capitol St**						
	Eastbound L			0.32	0.27	0.32	0.27
	Eastbound R			0.36	0.31	0.36	0.31
	Northbound L	Intersection configuration only exists in Background and Total Future conditions		1.21	1.00	1.22	1.00
	Northbound T			0.25	0.20	0.26	0.20
	Southbound T			0.48	0.70	0.48	0.70
	Southbound R			0.07	0.05	0.07	0.05
	Northeastbound R			0.77	0.51	0.78	0.52

Table 7: 50th & 95th Percentile Queuing Comparison (in feet)

Intersection and Lane Group	Storage Length (ft)	Existing (2021)				Background (2026)				Future (2026)			
		AM Peak		PM Peak		AM Peak		PM Peak		AM Peak		PM Peak	
		50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
1. Site Dwy & South Capitol St SE													
Westbound R	20	Existing curb cut not currently used as site is vacant				Existing curb cut not currently used as site is vacant				-	3	-	1
Northbound TR	550									-	0	-	0
2. Eye St & Half St SW (west of S Cap)													
Eastbound TR	230	-	0	-	0	-	0	-	0	-	0	-	0
Westbound LT	340	-	8	-	8	-	10	-	11	-	10	-	11
Northbound LR	80	-	36	-	20	-	85	-	44	-	86	-	48
3. Eye St & South Capitol St													
Eastbound LT	340	220	#383	308	#487	~574	#777	~553	#748	~575	#778	~574	#770
Eastbound R	180	0	32	0	16	0	56	20	63	0	56	20	63
Westbound T	80	148	226	139	208	205	301	167	252	205	301	163	246
Westbound R	80	83	167	46	110	~275	#488	141	#283	~282	#498	148	#296
Northbound L		-	-	-	-	106	172	48	94	106	172	48	94
Northbound TR	250	795	881	314	348	~1251	#1324	421	475	~1251	#1323	426	482
Southbound L	700	-	-	-	-	101	m135	~122	m#240	102	m134	~123	m#240
Southbound TR	700	-	-	-	-	565	660	388	432	567	666	390	438
Southbound T	230	560	m493	471	515	-	-	-	-	-	-	-	-
Southbound R	230	151	m115	137	m222	-	-	-	-	-	-	-	-
4. Eye St & Site Dwy SE													
Eastbound LT	200	-	1	-	0	-	1	-	0	-	0	-	0
Westbound TR	100	-	0	-	0	-	0	-	0	-	0	-	0
Southbound LR	300	-	0	-	3	-	1	-	6	-	8	-	4
5. Eye St & Half St SE (east of S Cap)													
Eastbound LTR	320	-	0	-	0	-	0	-	0	-	0	-	0
Westbound LTR	370	-	1	-	0	-	1	-	0	-	1	-	0
Northbound LTR	240	-	27	-	17	-	32	-	37	-	34	-	36
Southbound LTR	0	-	0	-	0	-	0	-	0	-	0	-	0
6. Eye St & CSX East Dwy/First St SE													
Eastbound L	260	-	-	-	-	-	-	-	-	-	-	-	-
Eastbound TR	370	-	-	-	-	-	-	-	-	-	-	-	-
Westbound LTR	90	-	-	-	-	-	-	-	-	-	-	-	-
Northbound LT	210	-	-	-	-	-	-	-	-	-	-	-	-
Northbound R	210	-	-	-	-	-	-	-	-	-	-	-	-
Southbound LTR	150	-	-	-	-	-	-	-	-	-	-	-	-
7. Eye St & New Jersey Ave SE													
Eastbound L	90	-	-	-	-	39	#119	53	98	39	#119	53	98
Eastbound TR	90	-	-	-	-	38	79	82	122	40	84	82	122
Westbound LTR	380	-	-	-	-	84	#203	115	165	84	#203	115	164
Northbound LTR	240	-	-	-	-	47	89	72	171	47	89	71	170
Southbound LTR	380	-	-	-	-	41	93	160	#433	41	93	158	#431
8. Relocated I-395 Ramps & South Capitol St													
Eastbound L	400					25	57	20	49	25	57	20	49
Eastbound R	400					25	58	20	49	25	58	20	49
Northbound L	100	Intersection configuration only exists in Background and Total Future conditions				~1549	m#1239	~742	m#865	~1561	m#1249	~745	m#863
Northbound T	100					8	m7	44	m62	8	m7	43	m60
Southbound T	150					175	237	272	344	175	237	272	344
Southbound R	150					18	41	14	33	40	40	33	33
Northeastbound R	1000					313	434	94	177	440	440	184	184

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

Transit Facilities

This chapter discusses the existing and proposed transit facilities near the site and evaluates the overall transit impacts of the site.

This chapter concludes that:

- The project site is well-served by existing transit;
- The project site is approximately 0.4 miles from the Navy Yard-Ballpark Metro station and 0.6 miles from the Capitol South Metro station;
- The project site is served by three (3) Metrobus routes and one (1) DC Circulator route;
- Proposed transit projects will improve transit access to the site; and
- The project is expected to generate a manageable amount of transit trips that existing transit service is capable of handling.

Existing Transit Service

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

The site is located 0.4 miles from the Navy Yard-Ballpark Metro station on the Green Line, and 0.6 miles from the Capitol South Metro station on the Blue, Orange, and Silver Lines. The Green Line travels between the Greenbelt and Branch Avenue stations. The Blue Line travels between the Franconia-Springfield and Largo Town Center stations. The Orange Line travels between the Vienna/Fairfax-GMU and New Carrollton stations. The Silver Line travels between the Wiehle-Reston East and Largo Town Center stations.

The site is also served by three (3) Metrobus lines and one (1) DC Circulator route along M Street SE. These bus routes connect the site to many areas of the region, as well as several Metro stations serving all six (6) Metrorail lines. Table 8 shows a summary of the bus route information for the routes that serve the site, including service hours, headway, and distance to the nearest bus stop.

Table 9 shows WMATA's recommended amenities for each type of bus stop. Table 10 shows a detailed inventory of the amenities appearing at each bus stop within the transit study area.

Bus service near the site uses the car free lanes on M Street SE between Half Street SE and 10th Street SE, which are intended to improve bus speed and reliability. The M Street SE car free lane project is one of several similar projects being implemented along corridors DDOT has already identified for permanent transit improvements.

The M Street SE car free lanes are accessible only by buses and bikes during the morning (7:00am – 9:30am) and evening (4:00pm – 6:30pm) peak periods.

Proposed Transit Service

MoveDC Transit Element

The transit element of *MoveDC*, the District's multimodal long-range transportation plan, 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 or planned.

Site-Generated Transit Impacts

The proposed development is projected to generate 74 transit trips (18 inbound, 56 outbound) during the AM peak hour and 87 transit trips (53 inbound, 34 outbound) during the PM peak hour.

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

Table 8: Local Bus Route Information

Route Number	Route Name	Service Hours at Stop Closest to Site [1]			Headway (minutes)	Walking Distance to Nearest Stop
		Weekdays	Saturdays	Sundays		
74	Convention Center-Southwest Waterfront Line	6:48am-10:35pm	6:47am-10:38pm	6:48am-10:33pm	30 - 33	0.5 mi (12 min)
P6	Anacostia-Eckington Line	4:22am-1:58am	4:16am-2:00am	4:26am-1:58am	10 - 35	0.3 mi (7 min)
V4	Capitol Heights-Minnesota Avenue Line	4:43am-11:35pm	4:51am-10:29pm	4:51am-10:21pm	14 - 35	0.2 mi (5 min)
EM-LP	DC Circulator Eastern Market-L'Enfant Plaza Line	6:00am-9:00pm	7:00am-7:00pm	7:00am-7:00pm	10	0.3 mi (7 min)

Table 9: 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 10: Bus Stop Inventory

Location	Stop ID	Routes Served	Amenities								
			Bus stop flag	Route map & sched-ule	Land-ing pad	Side-walk	Bench	Shelter	Dy-namic info sign	Light-ing	Trash Recp.
M St & Delaware Ave SW (EB)	1000495	EM-LP, P6	●	●	●	●	●	●	□	●	●
M St & Howlison Pl SW (EB)	1000497	P6	●		●	●				●	●
M St & New Jersey Ave SE (EB)	1000505	EM-LP, P6, V4	●	□	●	●	●	●	□	●	●
M St & South Capitol St SE (WB)	1000509	EM-LP, P6	●		●	●				●	●
M St & 1st St SW (WB)	1000516	P6	●	●	●	●			□	●	●
M St & Delaware Ave SW (WB)	1000517	P6	●	●	●	●	●	●		●	●
M St & Half St SW (WB)	1003001	P6	●	●	●	●			□	□	●
M St & Half St SE (EB)	1003032	EM-LP, P6	●	●	●	●				●	●
M St & New Jersey Ave SE (WB)	1003148	EM-LP, P6, V4	●	●	●	●	●	●	□	●	●
M St & Delaware Ave SW (EB)	1003704	74			●	●				●	●
1st St & K St SE (NB)	1003793	V4	●	□	●	●			□	●	□
New Jersey Ave & M St SE (SB)	1003950	V4	□	□	●	●	□	□	□	●	●

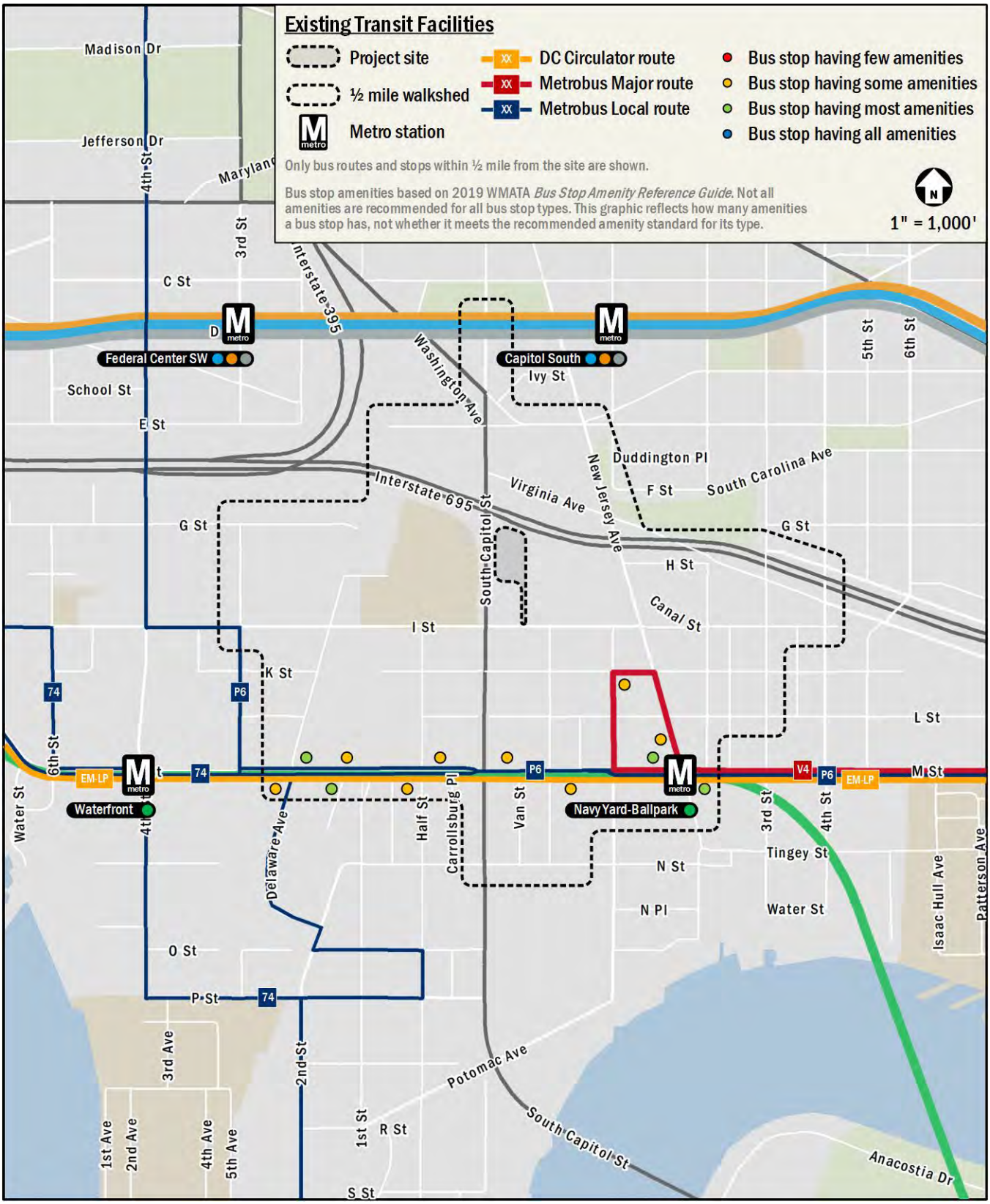

Figure 25: Existing Transit Facilities

Pedestrian Facilities

This chapter summarizes existing pedestrian access to the site and reviews the impacts of the site on the pedestrian network.

The following conclusions are reached within this chapter:

- Despite some incidences of missing crosswalks or sidewalks that do not meet width standards, there is generally an adequate, well-connected pedestrian network surrounding the site;
- The area surrounding the site is mostly free of major barriers to pedestrian connectivity, with a few exceptions; and
- The project is expected to generate pedestrian trips to and from nearby destinations, and 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 Metro station. There are several sidewalks within the study area that do not meet minimum width requirements, as well as missing or non-compliant crosswalks and curb ramps at minor intersections. Despite these shortcomings, there is generally an adequate, well-connected pedestrian network surrounding the site.

Figure 26 shows suggested pedestrian pathways to nearby destinations, including walking time and distances, and any areas of concern or barriers to pedestrian connectivity.

Existing Pedestrian Infrastructure

A review of pedestrian facilities surrounding the project site shows that nearly every roadway in the study area has a sidewalk on both sides, although not all sidewalks meet DDOT's minimum width requirements. A detailed inventory of the existing pedestrian facilities within the study area is shown on Figure 27. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by DDOT's *Design and Engineering Manual (2019)* in addition to Americans with Disabilities Act (ADA) standards. 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. These sidewalk width requirements are shown in Table 11.

Table 11: DDOT Sidewalk Width Requirements

Street Type	Curb Walk	Tree/Fur-nishing 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*

Sidewalks

As shown on Figure 27, the pedestrian study area includes streets within all three categories of sidewalk width requirements. The sidewalks south and east of the site generally comply with the requirements of their respective land use categories. However, there are some sidewalks that do not meet DDOT's minimum width requirements, particularly west and north of the site. In some of these cases, the sidewalk meets the width requirement of a lower intensity land use, but not its applicable land use.

The South Capitol Street Corridor project will include reconstruction of the sidewalk along South Capitol Street adjacent to the project site. Current plans show that the reconstructed sidewalk with comply with DDOT width requirements.

It is noted that the driveway connection between Lot 31 and Eye Street is 20' wide and 281' in length and would not provide sufficient width to accommodate two-way vehicular traffic concurrently with pedestrian and/or bicycle traffic. Therefore, the Applicant proposes to reduce this driveway to one-way outbound for vehicular traffic in order to provide separated pedestrian and bicycle pathways along the west side of the driveway to connect the residential building with the pedestrian and bicycle facilities along Eye Street.

Curb ramps

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 on Figure 27, all present curb ramps near the site meet ADA standards. However, there are some intersections that are missing a curb ramp and/or crosswalk on one or more leg.

Crosswalks

DDOT's *Design and Engineering Manual (2019)* requires crosswalks at all intersections or mid-block locations controlled by vehicular and/or pedestrian traffic signals or all-way stop signs. Additionally, high-visibility crosswalks are required at all uncontrolled crosswalks and all crosswalks (including signalized or stop-controlled crosswalks) leading to a block with a school, within a designated school zone area, along a designated school walking route, on blocks adjacent to a Metro station, in areas with moderate to high pedestrian volumes, and in locations with high frequencies of conflicts with pedestrians and turning vehicles.

As shown on Figure 27, most intersections near the site have crosswalks meeting DDOT standards on all sides. However, there are several exceptions, including instances where a crosswalk is present but not a high-visibility type at a location where it is required. Many of the present crosswalk deficiencies will be remedied with the South Capitol Street Corridor project, which will feature improved pedestrian facilities along South Capitol Street, including crosswalks at the future signalized intersection just north of the project site.

Connectivity Barriers

As shown in Figure 26, there are some barriers to pedestrian connectivity in the project area. There are limited crossings of I-395/I-695 and the CSX railroad tracks to the north. Additionally, the segment of South Capitol Street that is barrier-separated and/or trenched limits east-west connectivity along K Street SW/SE and L Street SW/SE to the south.

Proposed Pedestrian Infrastructure

As previously discussed, the Applicant proposes to modify the Eye Street driveway connection to provide safe and efficient pedestrian and bicycle connectivity for future residents by reducing the driveway to one vehicular travel lane (resident egress only from the garage), one separate bicycle pathway and one separate pedestrian pathway.

This will provide safe and efficient pedestrian access for residents as nearly all primary walking destinations are located to the south and/or east of the site.

Site-Generated Pedestrian Impacts

The proposed development is projected to generate 38 pedestrian trips (9 inbound, 29 outbound) during the AM peak hour and 44 pedestrian trips (26 inbound, 18 outbound) during the PM peak hour.

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

- Retail and restaurant locations; and
- Neighborhood destinations such as libraries and parks.

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 Metro stations. It is expected that existing pedestrian facilities can accommodate these new site-generated trips. However, as previously noted, the proposed separated pedestrian pathway to be located along the Eye Street driveway will provide a critical link for residents walking to and from the site.

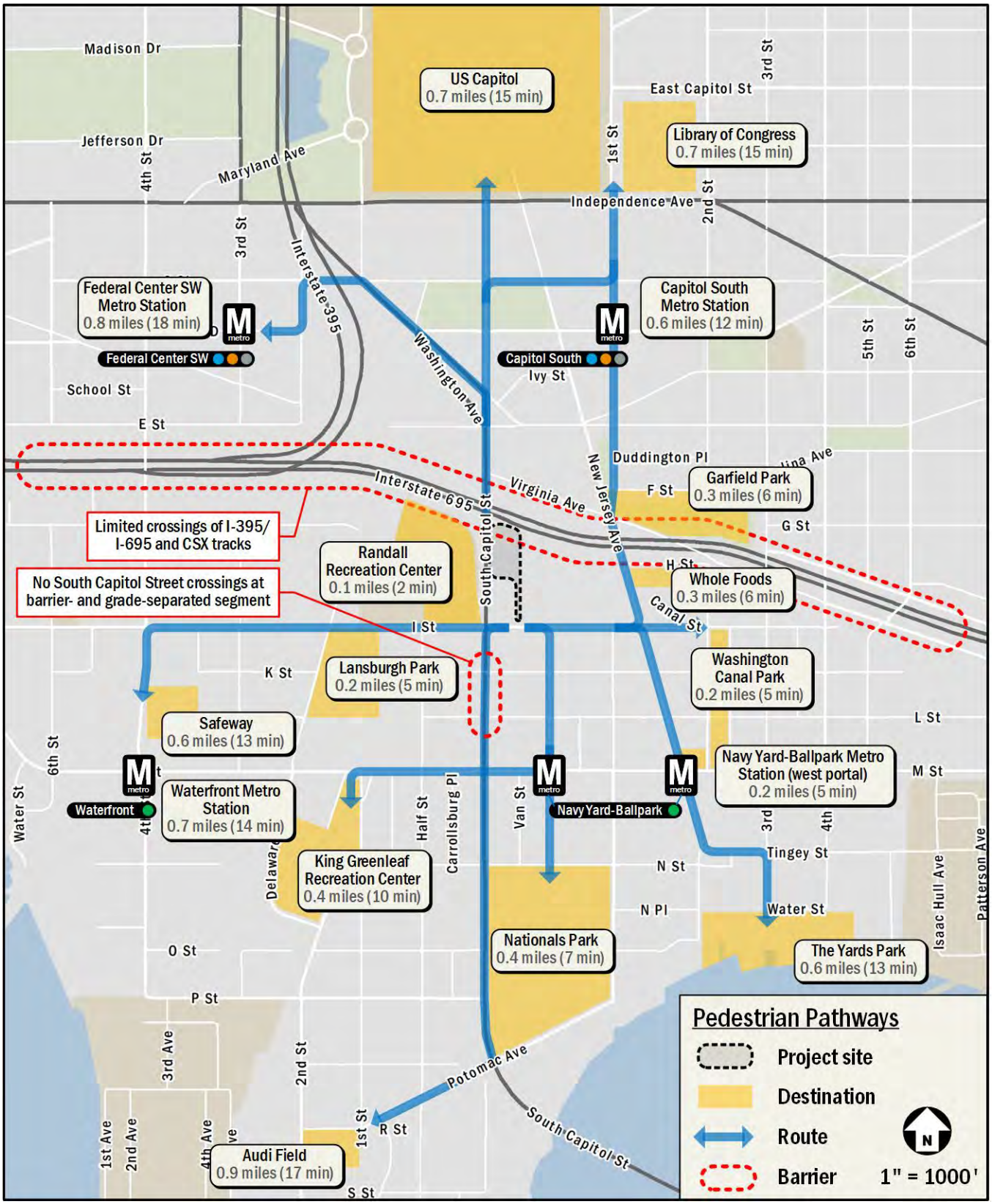

Figure 26: Pedestrian Pathways

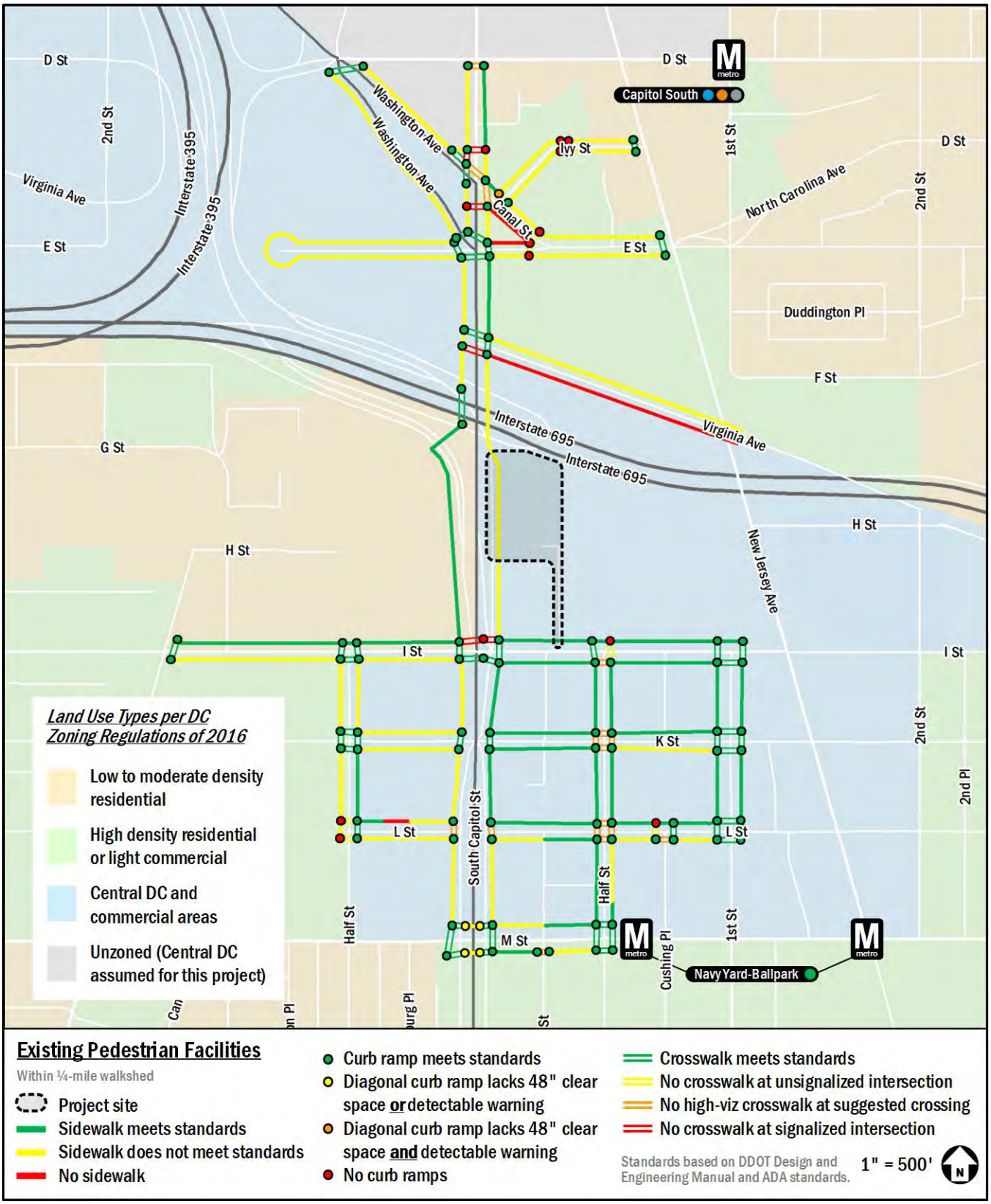

Figure 27: Existing Pedestrian Facilities

Bicycle Facilities

This chapter summarizes existing bicycle access to the site and reviews the impacts of the site on the bicycle network.

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 bicycle trips can be accommodated on existing infrastructure;
- The development site will include long-term bicycle parking that meets zoning requirements; and
- The development will include short-term bicycle parking along the perimeter of the site that meets zoning requirements.

Existing Bicycle Facilities

The site has access to existing on- and off-street bicycle facilities. On-street bike facilities include bike lanes on Eye Street SE adjacent to the site, bike lanes on First Street SE 0.2 miles east of the site, protected bike lanes on New Jersey Avenue SE 0.2 miles east of the site, and the car-free lanes on M Street SE 0.2 miles south of the site which allow buses and bikes. Using these facilities, bicyclists have access to several off-street bike facilities, such as the bikeway along Virginia Avenue SE 0.3 miles east of the site, and the Anacostia Riverwalk Trail 0.6 miles south of the site.

Existing bicycle facilities are shown on Figure 28.

Capital Bikeshare

In addition to personal bicycles, the Capital Bikeshare program provides an additional cycling 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. The following Capital Bikeshare stations are within a quarter-mile of the site:

- A 13-dock station at First Street and K Street SE, 0.1 miles southeast of the site.

  Further, the Applicant will provide one new 19-stall Capital Bikeshare station (location to be determined) as part of the TDM plan for the proposed development.

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

Shared Mobility

Shared mobility service in the District is provided by eight (8) electric-assist scooter (e-scooter) and electric-assist bicycle (e-bike) companies including Bird, Lime, Lyft, Razor, Skip, Spin, Helbiz, and Jump. These Personal Mobility Devices (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, many PMDs 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 located). Currently, PMD pilot/demonstration programs are underway in Arlington County, the District, Fairfax County, the City of Alexandria, and Montgomery County.

Planned Bicycle Facilities

There are several bicycle improvements near the site that are planned and scheduled to open in the near future. These are shown on Figure 29.

DDOT Bikeways Expansion

DDOT's "20 by 22" initiative is a plan to build 20 miles of new protected bike lanes by 2022. The plan identifies the following street segments in the project site area to receive protected bike lanes:

- Eye Street SW/SE from 7th Street SW to New Jersey Avenue SE;
- First Street and Potomac Avenue SE from Eye Street SE to South Capitol Street;
- New Jersey Avenue SE from Eye Street SE to N Street SE; and
- M Street SW/SE from 6th Street SW to 11th Street SE.

Anacostia Riverwalk Trail

As part of the District's multi-agency Anacostia Riverfront Initiative, the existing Anacostia Riverwalk Trail will be extended southward from its current terminus near South Capitol Street around Buzzard Point, connecting to the existing protected bike lane on 2nd Street SW.

Proposed Bicycle Facilities

Several bicycle improvements are proposed near the site but are 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:

- An off-street trail connecting the Capitol with the Anacostia Riverwalk Trail; and
- Protected bike lanes along South Capitol Street, 4th Street NE/SE, 6th Street NE/SE, Pennsylvania Avenue SE, and P Street SW.

Capital Bikeshare Development Plan

DDOT's Capital Bikeshare Development Plan was originally released in 2016 to guide the continued growth of Capital Bikeshare in the District of Columbia. The most recent update of the Development Plan was released in 2020 and includes a planned Capital Bikeshare station at New Jersey Avenue and L Street SE, 0.3 miles southeast of the project site.

Site-Generated Bicycle Impacts

This section summarizes the impacts of the project on bicycling conditions surrounding the project site.

On-site Bicycle Infrastructure

The project will meet zoning requirements by providing at least 112 long-term bicycle parking spaces inside the building and 28 short-term bicycle parking spaces.

The project will also provide a dedicated bike lane along the site's access drive connection to Eye Street SE that will lead to a bike storage room in Level 1 of the garage. This connection will provide safe and efficient access to the bike lanes along Eye Street which are planned to be improved (by others) in the future to protected bike lanes.

Bicycle Trip Generation

The proposed project is projected to generate 9 bicycle trips (2 inbound, 7 outbound) during the AM peak hour and 11 bicycle trip (7 inbound, 4 outbound) during the PM peak hour.

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

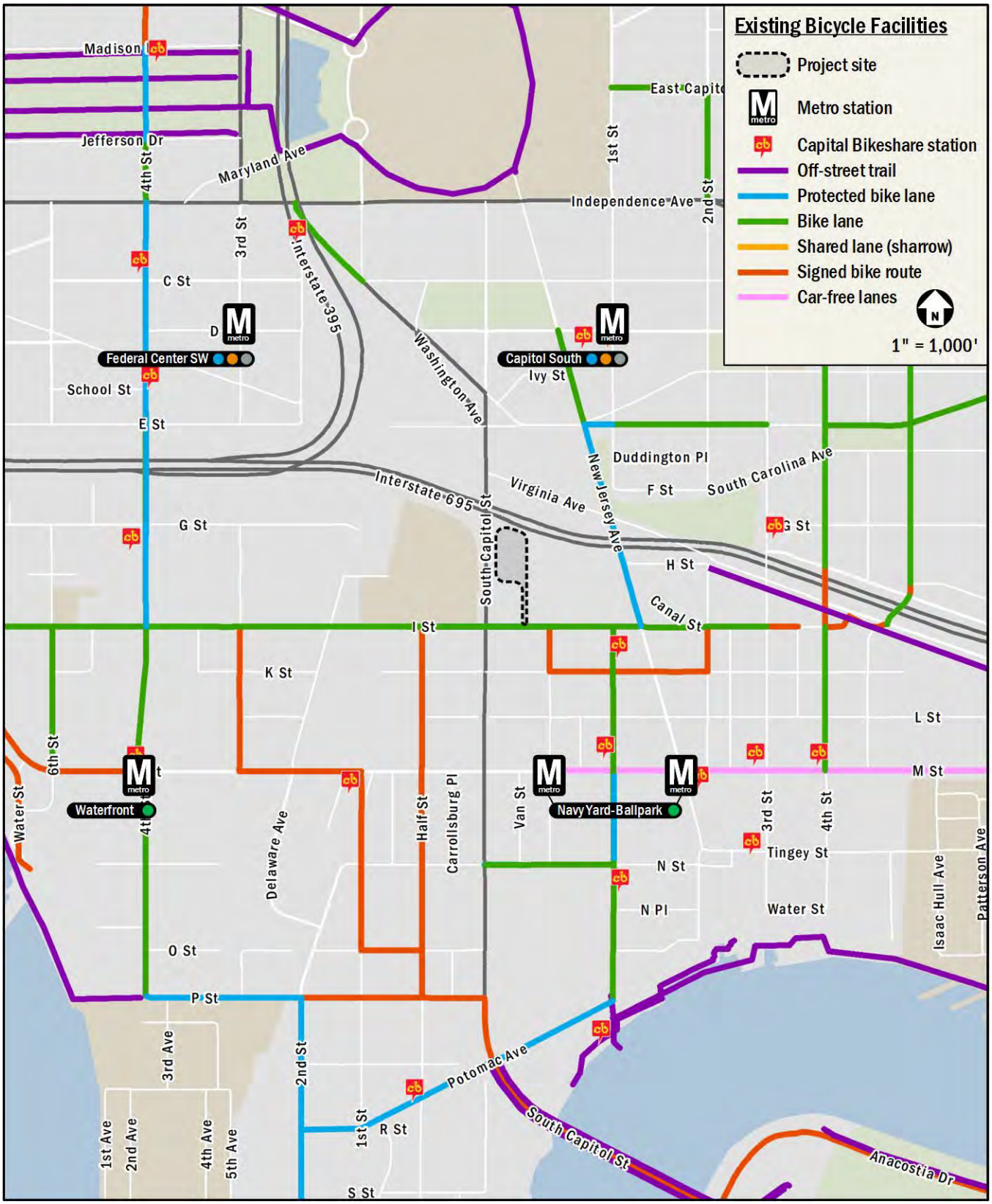

Figure 28: Existing Bicycle Facilities

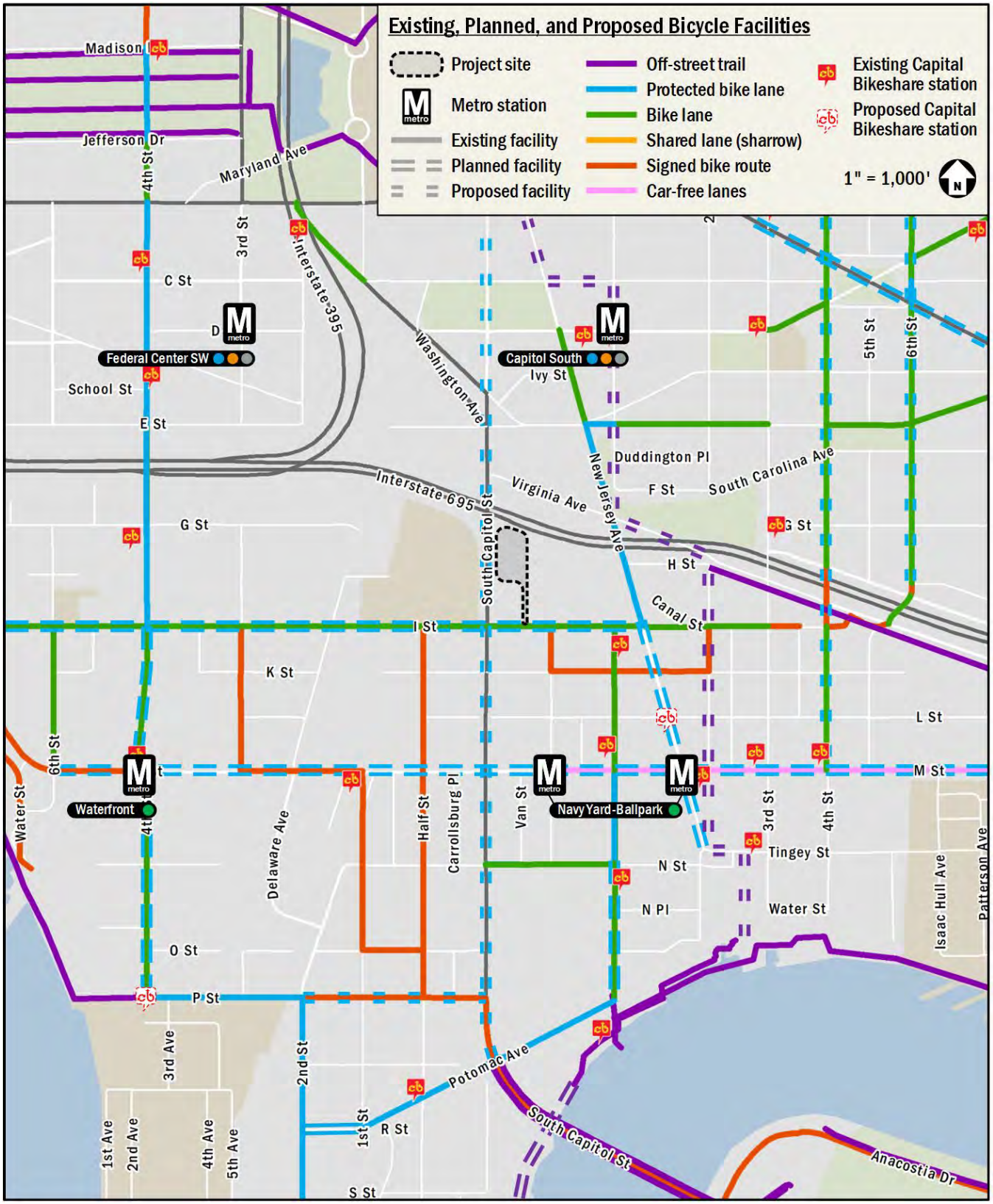

Figure 29: Existing, Planned, and Proposed Bicycle Facilities

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 notes any intersections within the study area that have been identified by DDOT as high crash locations and makes recommendations to improve safety conditions. These recommendations are presented for DDOT's consideration, not for the Applicant to complete as part of the proposed project.

Summary of Safety Analysis

A safety analysis was performed to determine if there are any intersections that pose obvious conflicts with vehicles, pedestrians, or bicyclists. This was determined based on data included in DDOT's most recent *Traffic Safety Statistics Report* (2016-2018), *Vision Zero Action Plan*, and Open Data DC Vision Zero Safety data.

Based on available data, the intersection of Eye Street and South Capitol Street ranked 81st in the District for crash frequency, 70th for crash severity cost, and 76th for crash composite index for the three-year period of 2016-2018. No other intersections in the study area were identified by DDOT has hazardous/high crash intersections. However, a qualitive 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 intersections identified to pose potential conflicts to vehicles, pedestrians, or bicyclists.

Eye Street and Half Street SW

While this intersection was not identified in DDOT's *Traffic Safety Statistics Report* (2016-2018) as having comparatively high rates of crash frequency, the DDOT-maintained "Crashes in DC" database shows a moderate number of crashes at this intersection since 2016, as shown on Figure 30, including one (1) pedestrian-involved crash and one (1) bicycle-involved crash, as shown on Figure 31.

This intersection operates as a three-legged, unsignalized intersection. Crosswalks are currently provided on every leg of the intersection. Curb ramps that include detectable warnings per ADA standards are provided on every corner.

As shown in Figure 29, protected bike lanes are proposed along Eye Street SW/SE that would improve conditions for bicyclists at this intersection. Protected bike lanes would likely also improve conditions for pedestrians, as they would reduce the distance across vehicle lanes pedestrians would need to cross.

This report recommends that DDOT perform a safety audit at this intersection as part of its Traffic Safety Assessment program, so as to further evaluate the extent of safety issues and determine if any action is needed.

Eye Street and South Capitol Street

This intersection ranked 81st in the District for crash frequency, 70th for crash severity cost, and 76th for crash composite index for the three-year period of 2016-2018. Additionally, the DDOT-maintained "Crashes in DC" database shows a moderate number of crashes at this intersection since 2016, as shown on Figure 30, including two (2) pedestrian-involved crashes and six (6) bicycle-involved crashes, as shown on Figure 31.

This intersection operates as a four-legged, signalized intersection. Crosswalks are currently provided on every leg of the intersection except the northern leg. Curb ramps that include detectable warnings per ADA standards are provided on every corner.

As shown in Figure 29, protected bike lanes are proposed along Eye Street SW/SE that would improve conditions for bicyclists at this intersection. Protected bike lanes would likely also improve conditions for pedestrians, as they would reduce the distance across vehicle lanes pedestrians would need to cross.

The planned South Capitol Street Corridor project will also improve pedestrian conditions at this intersection by adding curb ramps and a crosswalk to the northern leg, as well as simplifying the intersection's geometry by relocating the I-395 ramps to another location, thus reducing the number of conflict points within the intersection.

This report recommends that DDOT perform a safety audit at this intersection as part of its Traffic Safety Assessment program, so as to further evaluate the extent of safety issues and determine if any action is needed.

Eye Street and New Jersey Avenue SE

While this intersection was not identified in DDOT's *Traffic Safety Statistics Report* (2016-2018) as having comparatively high rates of crash frequency, the DDOT-maintained "Crashes in DC" database shows a moderate number of crashes at this intersection since 2016, as shown on Figure 30, including one (1) bicycle-involved crash, as shown on Figure 31.

This intersection operates as a four-legged, unsignalized intersection. Crosswalks are currently provided on every leg of the intersection. Curb ramps that include detectable warnings per ADA standards are provided on every corner.

As shown in Figure 29, there are protected bike lanes currently in place north of the intersection along New Jersey Avenue SE, as well as proposed protected bike lanes along Eye Street SE west of the intersection and along New Jersey Avenue SE south of the intersection that would improve conditions for bicyclists at this intersection. Protected bike lanes would likely also improve conditions for pedestrians, as they would reduce the distance across vehicle lanes pedestrians would need to cross.

Additionally, this intersection is planned for signalization with a leading pedestrian interval (LPI) on the north-south phases, which will likely improve pedestrian safety.

This report recommends that DDOT perform a safety audit at this intersection as part of its Traffic Safety Assessment program, so as to further evaluate the extent of safety issues and determine if any action is needed.

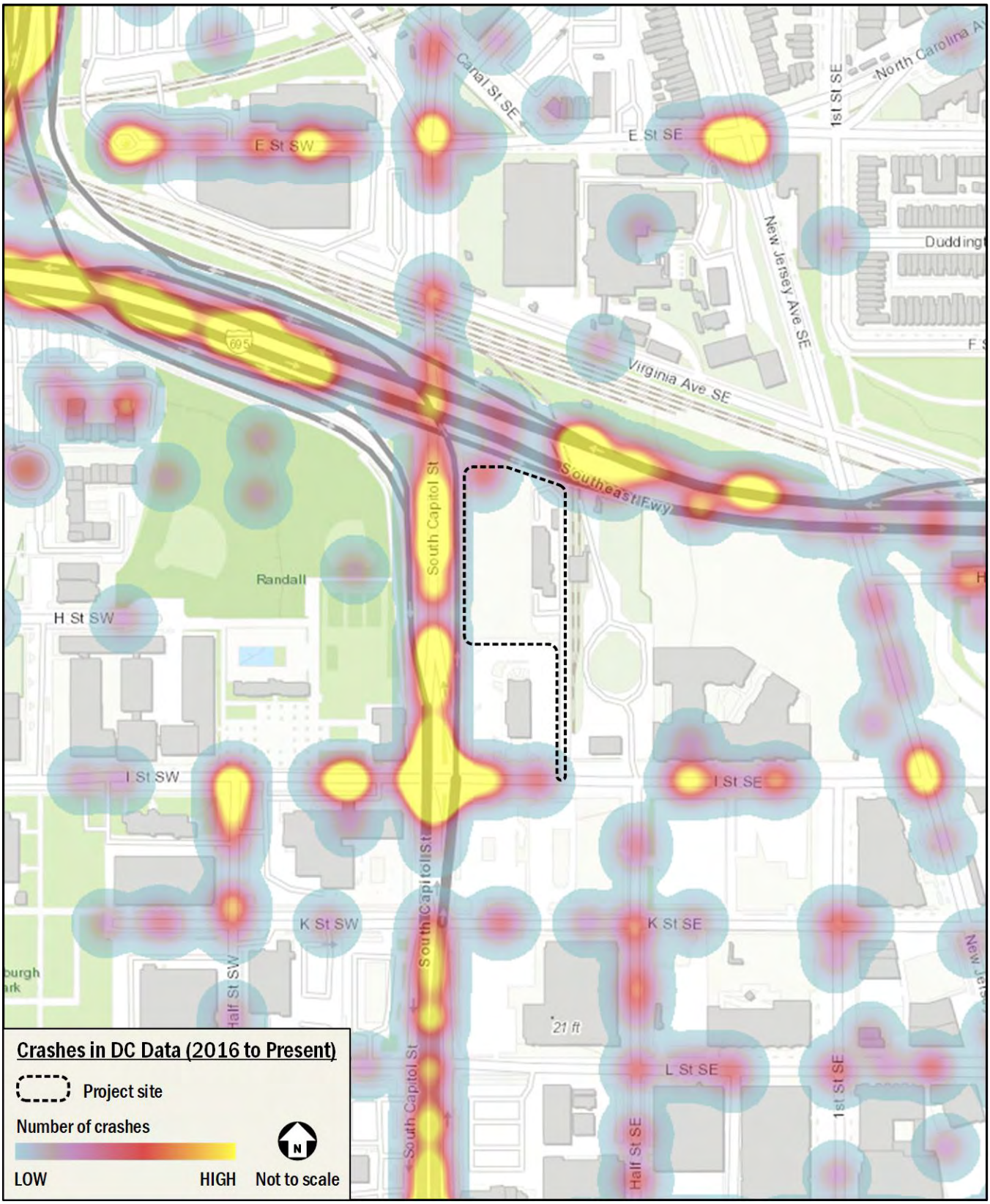

Figure 30: Total Crashes (2016 to present)

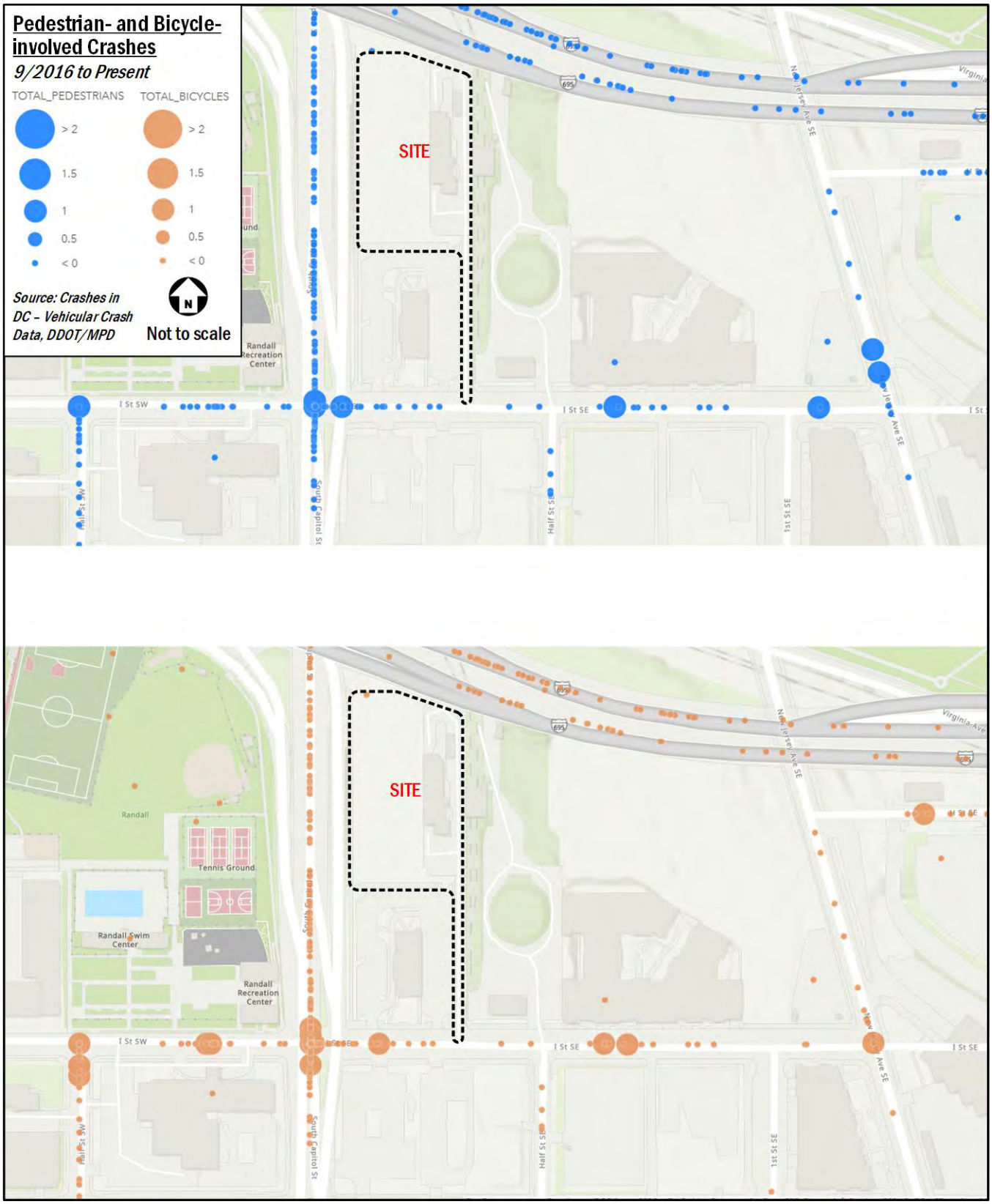

Figure 31: Pedestrian- and Bicycle-involved Crashes (2016 to present)

Site Access and Curb Cut Analysis

This section provides an assessment of the proposed site access concept that includes a right-in/right-out site driveway along northbound South Capitol Street for vehicular, loading, and delivery access and an outbound-only access point on Eye Street to be accessed via the reconfigured driveway connection that will also serve pedestrians and bicycles.

The following conclusions are reached within this section:

- Due to the unique access constraints for the overall development at 850 South Capitol Street SE, both the South Capitol Street and Eye Street access points are necessary to provide safe and efficient access for vehicles, pedestrians and bicycles;
- The Eye Street curb cut would provide primary pedestrian and bicycle access for the site via separated pedestrian and bike pathways along the 281' driveway connection to the site. This will result in safe and efficient access for pedestrians and bicycles to reach the sidewalks and bike lanes along Eye Street. This access point will also provide outbound vehicular access for residents departing the site to the south or east/west;
- The South Capitol Street curb cut will provide inbound vehicular access, access for loading and delivery vehicles, and outbound access for residents departing to the north. It would represent one of very few curb cuts along South Capitol Street in its final condition, and would not meaningfully detract from the planning vision of South Capitol Street as a "grand urban boulevard"; and
- The proposed curb cut on South Capitol Street is not expected to significantly impact the operations of the future signalized intersection to its north.

Project Summary

The project site, shown in Figure 1 and Figure 2, is located at Square 0695 and covers Lots 0031 and 0034 within the Capitol Riverfront neighborhood of Washington, DC. Of the two (2) lots that comprise the project site, Lot 34 is currently vacant and Lot 31 is currently improved with a car wash use accessed from Eye Street. The project will replace the existing vacant site and car wash with a 13-story multifamily residential building containing approximately 520 dwelling units.

Discussion

Two (2) vehicular access points are proposed as part of the redevelopment, including one (1) right-in/right-out driveway along northbound South Capitol Street near the existing curb cut to Lot 34 and one (1) outbound-only vehicular driveway with separated pedestrian and bicycle pathways along the existing connection from Lot 31 to Eye Street SE. This discussion evaluates the proposed access concept.

The site does not have traditional frontage along Eye Street where pedestrian and bicycle access could be accommodated directly from the public space. Additionally, there is no public alley system serving the site. Rather, the site is connected to Eye Street via a 281' long driveway with a fixed width of approximately 20' that cannot be widened due to an existing building to the west and the adjacent coal yard to the east.

If vehicular access to the proposed development was provided solely from Eye Street, the 20' cross section available along the driveway would not allow for both two-way vehicular traffic and a safe pedestrian/bicycle path. Given the site location and surrounding attractions, it is expected that the majority of walking traffic to/from the site will be to/from the south and east, including the Navy Yard-Ballpark Metro station, sporting venues, restaurants, office buildings and retail uses (including nearby grocery stores). While pedestrian access will be provided along the South Capitol Street frontage, the Eye Street driveway provides the most direct and convenient path to the pedestrian and bicycle network located along Eye Street. Therefore, providing pedestrian and bicycle access directly to Eye Street was a critical component of the site planning effort for this development.

As shown in Figure 32, a loading vehicle and trash truck occupying the driveway concurrently would take up the full 20' cross section. While such a configuration may be potentially feasible for a short driveway entrance to a building, it would create a hazardous condition along the 281' long driveway that could result in vehicles being forced to back up long distances and potentially into the public space at Eye Street. Further, vehicles entering the driveway may not be able to make the turn from Eye Street into the driveway with queued outbound vehicles waiting to turn onto Eye Street.

With the proposed additional access point located on South Capitol Street, the Eye Street driveway would be reconfigured as

shown on Figure 32 to accommodate only outbound resident vehicular traffic from the garage with separated pathways for pedestrians and bicycles. The South Capitol Street access would accommodate all inbound site traffic and all loading and delivery vehicles.

Considering the location of the Navy Yard-Ballpark Metro station on Half Street, and the neighborhood-serving amenities along Eye Street and to the east of the site, including CVS and Whole Foods, it is inevitable that resident pedestrians will regularly utilize the Eye Street driveway to access these destinations. Maintaining vehicular egress to Eye Street will provide residents destined for the south and east a more convenient travel route than being required to exit directly onto northbound South Capitol Street and taking a circuitous route to reorient to the south or east.

The proposed curb cut on South Capitol Street will not set an undesired precedent given the site's unique set of circumstances that include inadequate site frontage along a side street to provide safe pedestrian and bicycle access concurrent with vehicular access.

Further, given the constrained nature of the existing driveway from Eye Street, which is nearly 300' long with a narrow right-of-way, an additional access point would provide redundancy and the ability to maintain access in the event that one of the driveways is temporarily unusable.

Finally, although District and NCPC planning documents have a long-established vision of South Capitol Street as a "grand urban boulevard," the 850 South Capitol project's proposed curb cut would be one of a very limited number along the roadway once the South Capitol Street Corridor project is completed and the surrounding area is redeveloped. Due to the unique circumstances of the 850 South Capitol site, the proposed curb cut represents a rare occasion in which the planning vision of South Capitol Street warrants a deviation to adapt to these unique circumstances that would not jeopardize or meaningfully diminish the overall "grand urban boulevard" vision.

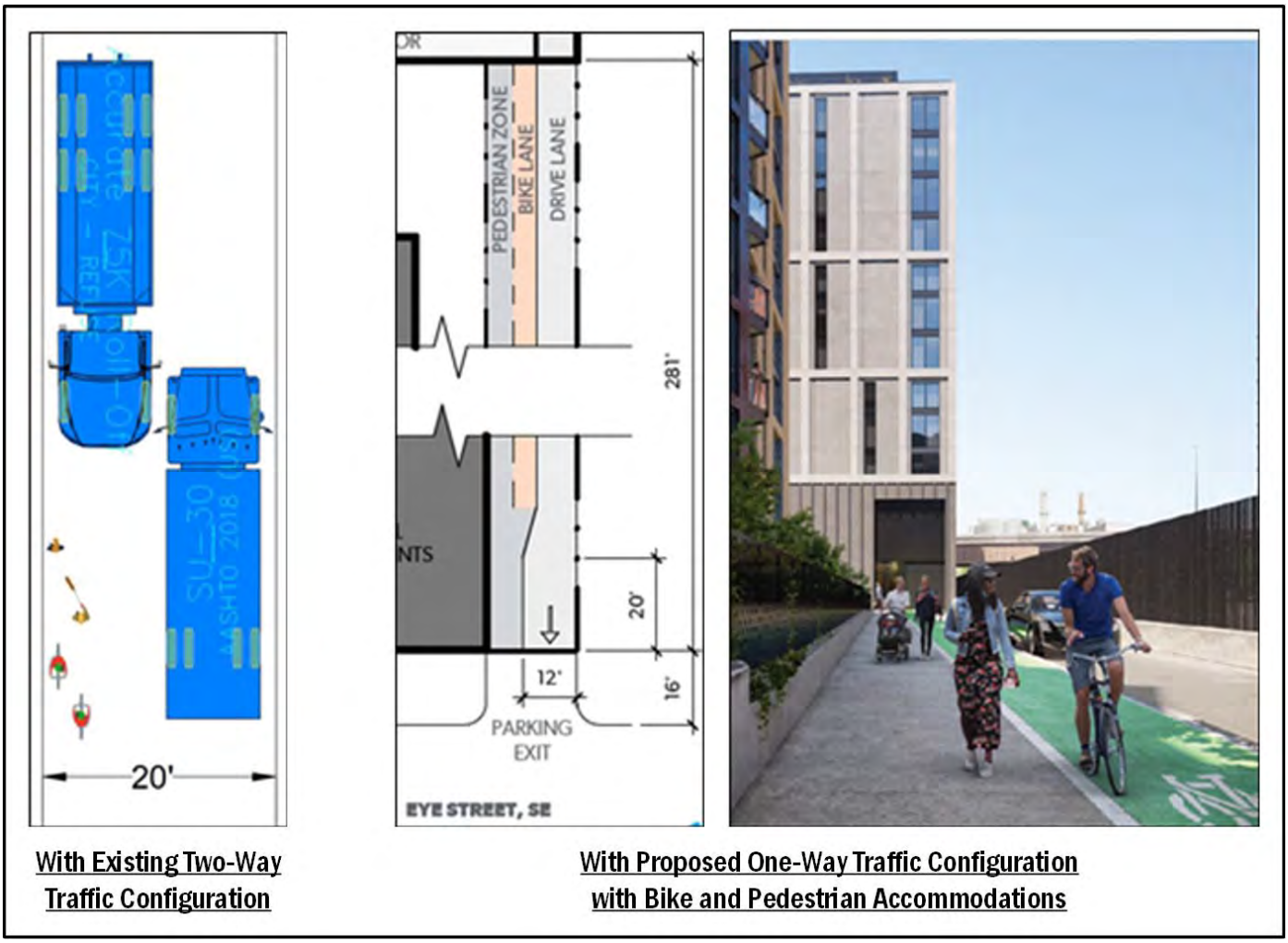

Figure 32: Comparison of Eye Street Driveway

Passenger Loading and Deliveries

Given the site's address on South Capitol Street and the atypical length of the Eye Street driveway, which sets the property back approximately 281' from Eye Street, it is expected that passenger pick-up/drop-off and daily package and meal delivery demand will naturally be targeted to the site frontage on South Capitol Street. The Applicant proposes to provide a generous on-site space for these operations to occur in front of the building that would be accessed from the South Capitol Street curb cut. Without this access point, it is expected that these operations will inevitably occur along the curbside of the northbound South Capitol Street travel lane. The proposed South Capitol Street driveway provides the opportunity for these operations to occur on-site.

Ramp Weaving Analysis

As requested by DDOT staff during the scoping process, a weaving analysis has been prepared for the section of South Capitol Street between the proposed right-in/right-out driveway and the future relocated I-395 on-ramp. The proposed South Capitol Street curb cut is located approximately 75' south of the stop bar for the future signalized intersection of South Capitol Street and the I-395 northbound and southbound ramps. A detail of the proposed curb ramp and the future signalized intersection is shown on Figure 33.

A ramp weaving analysis was performed using the Highway Capacity Manual methodology via the Highway Capacity Software (HCS) package. The analysis consisted of a two-sided weaving section 75' in length. Per the Highway Capacity Manual, 300' shall be used for the segment length for any segment 300' or shorter as the HCM states "in weaving sections of 300 ft (or

shorter), weaving vehicles only make necessary lane changes, i.e., LCW = LCMIN." The results of the two-sided ramp-to-ramp weaving analysis indicate Level-of-service C and B for the AM and PM peak hours, respectively. Detailed analysis results are provided in the Technical Attachments and are summarized in Table 12.

Table 12: Ramp Weaving Analysis Results

Measure	AM Peak Hour	PM Peak Hour
Weaving segment density (pc/mi/ln)*	26.7	32.2
Level of service	C	B
Weaving segment v/c ratio	0.450	0.309

Note: * It should be noted that based on HCS methodology, any weaving segment 300 feet or less in length is entered as 300 feet when using the weaving segment algorithm. Therefore, while the results show a weaving segment length of 300 feet, they represent the actual weave length of approximately 75 feet.

Sight Distance Analysis

Sight distance assessments were prepared for the proposed curb cut on South Capitol Street for total future conditions with the proposed development for scenarios both without and with the I-395 on-ramp relocation.

Figure 34 shows the sight distance assessment with the existing South Capitol Street alignment, including the existing curb line, overhead ramp, and ramp support columns. Under this scenario, approximately 17 feet of clearance is provided between the curb cut and the existing bridge column, which exceeds the 10 feet of clearance required by AASHTO.

Figure 35 shows the sight distance assessment with the proposed realignment of South Capitol Street, including the relocated curb line and removed overhead ramp and support columns.

Conclusions

Given the atypical access constraints at the 850 South Capitol site and lack of street frontage along Eye Street, both the South Capitol Street and Eye Street curb cuts, configured as proposed, will be necessary to provide safe and efficient access for pedestrians, bicycles, and both residential and delivery vehicles accessing the site.

The reconfigured Eye Street driveway will provide critical pedestrian and bicycle connections between the building and Eye Street for residents, and the South Capitol Street curb cut will provide key access for residential vehicle traffic, service and delivery vehicles, and pick-up/drop-off vehicles.

The proposed access concept is a critical component of the proposed site plan, necessary to provide safe and efficient operations for all users of the site and surrounding area.

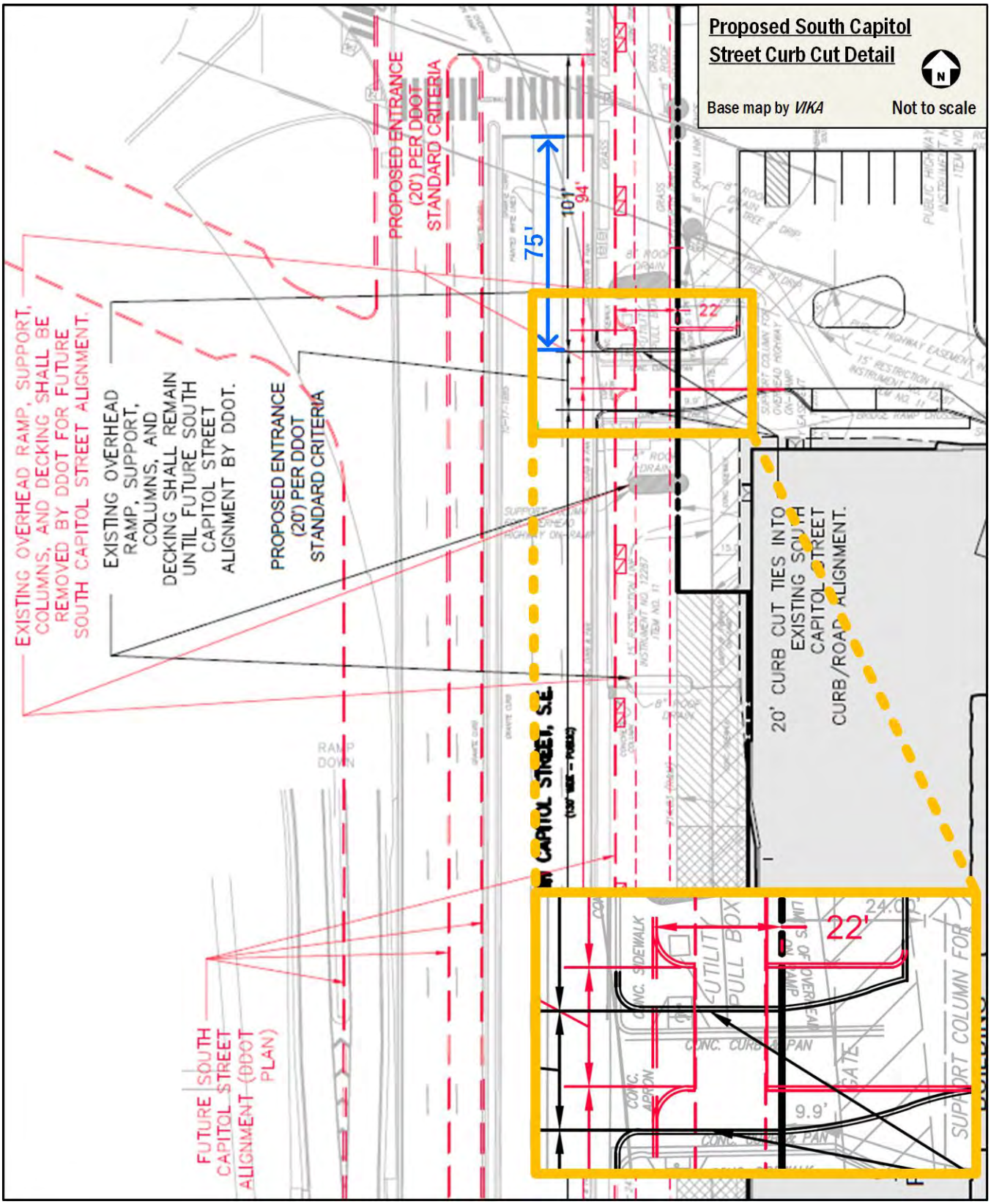

Figure 33: Proposed South Capitol Street Curb Cut Detail

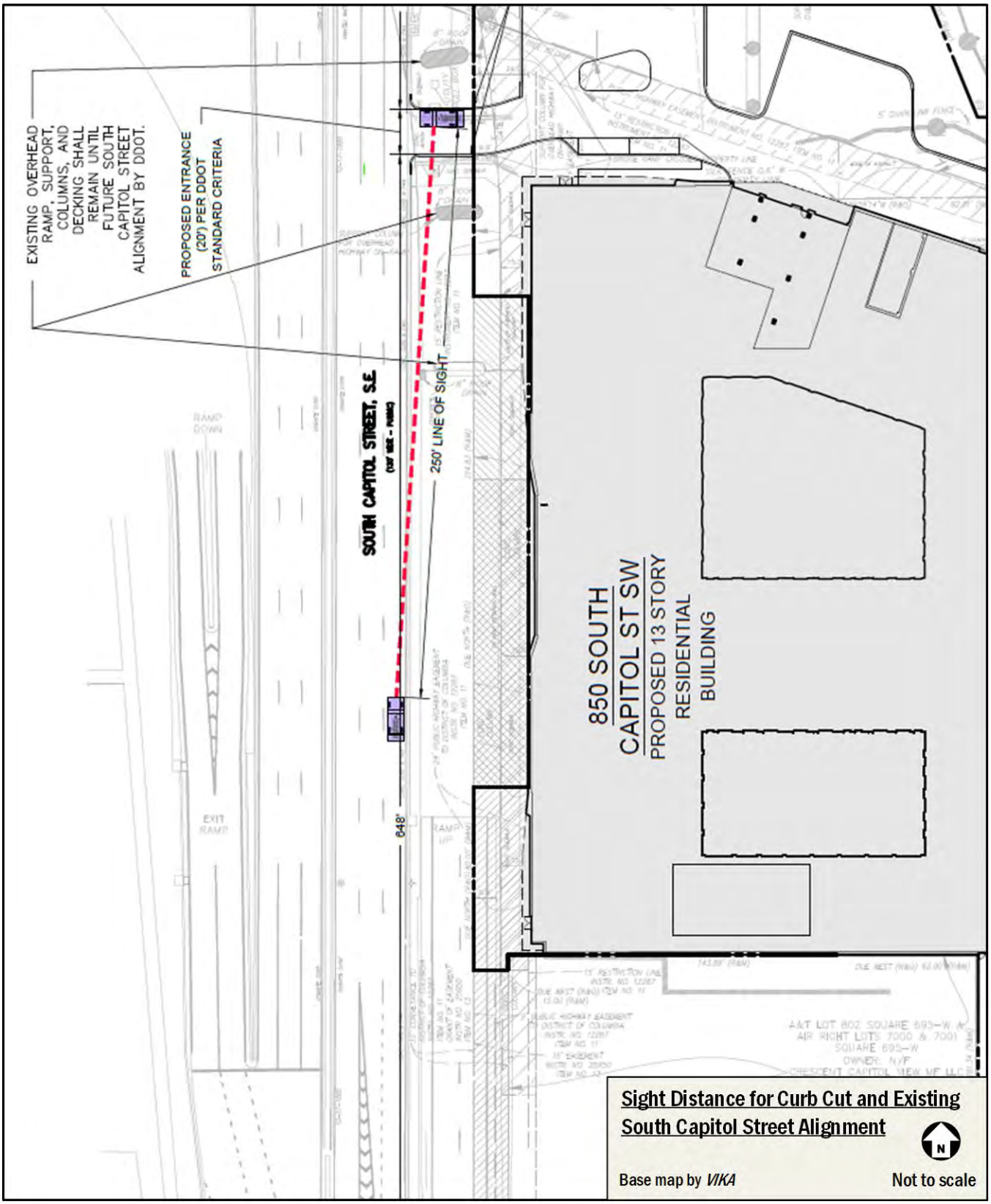

Figure 34: Sight Distance for Curb Cut and Existing South Capitol Street Alignment

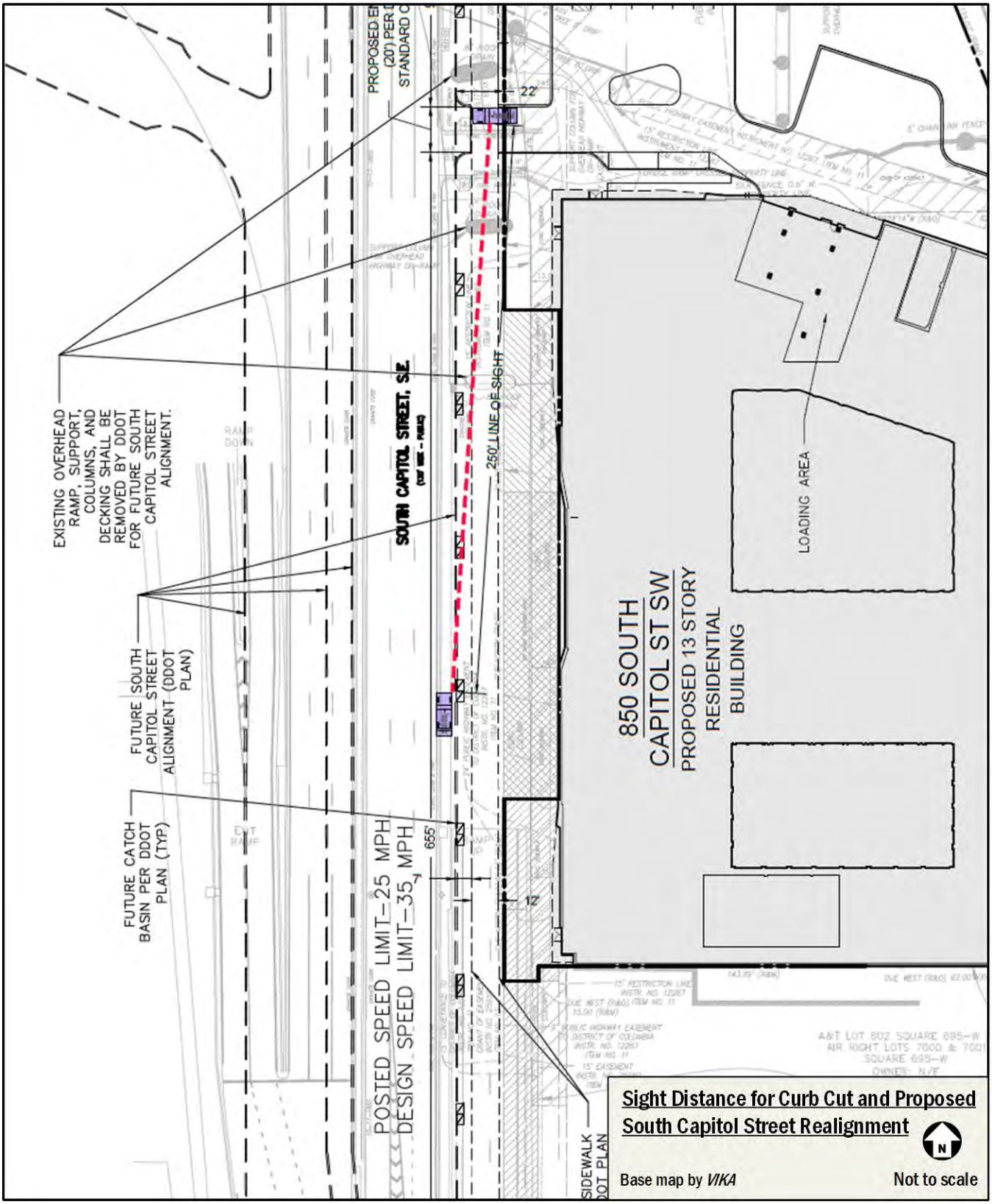

Figure 35: Sight Distance for Curb Cut and Proposed South Capitol Street Realignment

Summary and Conclusions

This report presents an evaluation of the proposed 850 South Capitol (Square 695) project in order to identify whether the site traffic will generate a detrimental impact to the transportation network within the study area. This evaluation is based on a technical comparison of the Existing, Background, and Total Future Conditions. The findings of this report conclude that **the project will not have a detrimental impact** to the surrounding transportation network assuming the proposed site design elements and TDM plan are implemented.

Proposed Project

The site is located within the Capitol Riverfront neighborhood of Washington, DC, bounded by Interstate 695 to the north, a coal yard to the east, the Novel Apartments development and Eye Street SE to the south, and South Capitol Street to the west. A portion of the site is currently vacant, with the other portion currently occupied by a car wash.

The project will replace the existing vacant site and car wash with a 13-story multifamily residential building containing approximately 520 dwelling units.

Multimodal Overview

Trip Generation

The 850 South Capitol project is expected to generate new trips within the surrounding transportation network across all transportation modes during the morning and afternoon peak hours. However, with the implementation of the proposed Transportation Demand Management (TDM) plan, the resulting new trips generated by the project will not have a detrimental impact on the transportation network. The multimodal trip generation for the proposed project is as follows:

- AM Peak Hour: 55 vehicles/hour, 74 transit riders/hour, nine (9) bicycle trips/hour, and 38 walking trips/hour.
- PM Peak Hour: 64 vehicles/hour, 87 transit riders/hour, 11 bicycle trips/hour, and 44 walking trips/hour.

Transit

The site is located approximately 0.4 miles from the Navy Yard-Ballpark Metro station and 0.6 miles from the Capitol South Metro station and is served by local and regional bus routes.

Proposed (by others) transit projects, including high-capacity transit service along M Street SW/SE and streetcar service along M Street SW/SE and First Street SW, will improve transit access to the site and surrounding neighborhood.

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

Pedestrian

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

The project includes a new designated pedestrian pathway along the site's access drive connection the proposed residential building to Eye Street SE where existing pedestrian infrastructure will provide convenient access to nearby destinations.

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-street bicycle facilities, including bike lanes on Eye Street SE adjacent to the site, bike lanes on First Street SE 0.2 miles east of the site, protected bike lanes on New Jersey Avenue SE 0.2 miles east of the site, and the car-free lanes on M Street SE 0.2 miles south of the site which allow buses and bikes. Using these facilities, bicyclists have access to several off-street bike facilities, such as the bikeway along Virginia Avenue SE 0.3 miles east of the site, and the Anacostia Riverwalk Trail 0.6 miles south of the site.

Several planned, proposed (by others) and recently completed bicycle projects will improve overall bicycle access to the site, including upgrading the existing bike lanes on Eye Street SW/SE and First Street SE to protected bike lanes, as well as other new protected bike lanes and an expansion of the Anacostia River Trail.

The project will include long-term bicycle parking inside the building and short-term bicycle parking along the perimeter of the site that meets zoning requirements.

The project will also provide a dedicated bike lane along the site's access drive connection to Eye Street SE that will lead to a bike storage room in Level 1 of the garage.

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

Vehicular

The site is accessible via South Capitol Street, a principal arterial, and Eye Street SE (proposed outbound residential traffic only), a collector. These roadways connect the site to expressways within the District such as the Southwest Freeway (I-395), the Southeast Freeway (I-695), the Anacostia Freeway (I-295/DC-295), and the Suitland Parkway. These expressways connect with the Capital Beltway (I-495) and other regional Interstates.

To determine the project's impact on the transportation network, future conditions were analyzed with and without the project based on the number of trips the site is expected to generate. Intersection analyses were performed to obtain the average delay and queue a vehicle will experience. These average delays and queues were 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 no intersections meet DDOT's delay- or queuing-related thresholds for requiring mitigation.

The proposed access for the site will include replacing one existing curb cut along South Capitol Street to serve as a right-in/right-out access point for residents and to accommodate all loading and delivery vehicles. The existing curb cut and adjacent driveway on Eye Street is proposed to be converted to outbound only for vehicles traffic to serve residents leaving the site from the parking garage only. No loading vehicles or inbound vehicular traffic would use the Eye Street driveway under the proposed plan. The reduction of this driveway to one-way outbound only for vehicles will provide the space needed along the west side of the driveway to accommodate separated pedestrian and bicycle pathways to connect pedestrians and cyclists from the site to their associated facilities along Eye Street.

Safety Recommendations

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 one (1) of the study intersections had comparatively high crash rates based on DDOT's most recent *Traffic Safety Statistics Report* (2016-2018) and was therefore identified for further evaluation to enhance the multimodal network surrounding the site. A qualitative review of the crash data available through the DDOT-maintained and publicly-available "Crashes in DC" database was also 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, two (3) additional intersections were identified for further evaluation. Recommendations for these intersections, presented for DDOT's consideration and not for the Applicant to complete as part of the proposed project, are summarized below:

Eye Street and Half Street SW

Install the planned protected bike lanes along Eye Street SW/SE, which would improve conditions for bicyclists and pedestrians. Perform a safety audit as part of DDOT's Traffic Safety Assessment program.

Eye Street and South Capitol Street

Install the planned protected bike lanes along Eye Street SW/SE, which would improve conditions for bicyclists and pedestrians. Implement the planned South Capitol Street Corridor project which will improve pedestrian conditions by adding curb ramps and a crosswalk to the northern leg, as well as simplifying the intersection's geometry by relocating the I-395 ramps to another location. Perform a safety audit as part of DDOT's Traffic Safety Assessment program.

Eye Street and New Jersey Avenue SE

Install the planned protected bike lanes along Eye Street SW/SE and New Jersey Avenue SE south of the intersection, which would improve conditions for bicyclists and pedestrians. Implement the planned signalization of the intersection including leading pedestrian intervals (LPI) on the north-south phases. Perform a safety audit as part of DDOT's Traffic Safety Assessment program.

Transportation Demand Management (TDM) Plan

Per the DDOT CTR guidelines, the goal of implementing 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 the CTR guidelines, and this project is proposing to implement a TDM plan consistent with these guidelines, as discussed in the Project Design section of this report.

Site Access and Curb Cuts

Given the atypical access constraints at the 850 South Capitol site and lack of street frontage along Eye Street, both the South Capitol Street and Eye Street curb cuts, configured as proposed, will be necessary to provide safe and efficient access for pedestrians, bicycles and both residential and delivery vehicles accessing the site.

The reconfigured Eye Street driveway will provide critical pedestrian and bicycle connections between the building and Eye Street for residents, and the South Capitol Street curb cut will provide key access for residential vehicle traffic, service and delivery vehicles, and pick-up/drop-off.

The proposed access concept is a critical component of the proposed site plan, necessary to provide safe and efficient operations for all users of the site.

Summary

This report concludes that the 850 South Capitol project will not have a detrimental impact on the surrounding transportation network assuming the proposed site design elements are implemented.

The project has several positive design elements that minimize potential transportation impacts, including:

- The site's proximity to transit service and bicycle infrastructure;
- The site's location within in a well-connected pedestrian network;
- The proposed reduction of the Eye Street driveway to one-way outbound only access for vehicles that will allow for the installation of separated pedestrian and bicycle pathways to connect the proposed residential building to Eye Street.
- The site's loading facilities, which maintain loading activity within private property and provide loading circulation that ensures head-in/head-out truck movements are performed from the public roadway network;
- The inclusion of secure long-term bicycle parking spaces that meet zoning requirements;
- The inclusion of short-term bicycle parking spaces along the frontage of the site that meet zoning requirements;
- The inclusion of a new 19-dock Capital Bikeshare Station as part of the proposed TDM plan; and
- A TDM plan that reduces the demand of single-occupancy, private vehicles during peak period travel times and shifts single-occupancy vehicular demand to off-peak periods.