Comprehensive Transportation Review

University of the District of Columbia Lamond-Riggs Campus Master Plan 2023 – 2033

Washington, DC

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Executive Summary

This report is a Comprehensive Transportation Review (CTR) reviewing the transportation aspects of the University of the District of Columbia's (UDC) 2023-2033 Lamond-Riggs Campus Master Plan (CMP). The purpose of this CTR is to evaluate the Campus Plan and present recommendations to improve multimodal connectivity and access to and from the Lamond-Riggs campus.

The transportation goals of the Campus Plan are based on the District's transportation goals and are as follows:

- Enhance pedestrian safety;
- Promote transit use;
- Reduce automobile dependency;
- Reinforce sustainability; and
- Improve campus circulation.

Based on these goals, the strategy of the transportation component of the Campus Plan is to accommodate current and future population levels on the Lamond-Riggs campus without adding more parking supply or roadway capacity. UDC will take advantage of its location within a high-quality transportation network served by multiple modes to grow without investment in vehicular-based infrastructure.

Over its course, the Campus Plan is not expected to generate significant changes to roadway traffic volumes, operations, or geometries. Thus, traffic impacts from the Campus Plan will be manageable. However, the Campus Plan is expected to lead to increased growth in walking, bicycling, and transit usage. The Campus Plan includes the following transportation recommendations:

- Endorse the implementation of the recommendations contained within District of Columbia and local area planning studies.

  To improve the way the campus takes advantage of its urban, multimodal setting, UDC will cooperate with District of Columbia agencies and local stakeholders to advance multimodal facilities surrounding the campus.

- Develop and implement a thorough set of Transportation Demand Management (TDM) programs and policies.

  No prior TDM plan has been developed for the Lamond-Riggs Campus, however UDC proposes a TDM plan in line with the plan approved as part of the 2021 UDC Van Ness Campus Master Plan.

- Improve campus circulation and enhance pedestrian connectivity.

  The Campus Plan proposes several improvements to pedestrian circulation and connectivity, both externally at the campus's getaways from public streets, and internally on campus.

Subsequent chapters of this report will review these recommendations in detail.

Introduction

UDC's Lamond-Riggs campus is located in the Queens Chapel neighborhood of northeast Washington, DC.. The surrounding area is comprised predominately by residential uses, consisting of both high-rise apartments and single-family homes. The campus is located at 5171 South Dakota Avenue NE located approximately 0.3 miles from the Fort Totten Metro station and is bordered by Hamilton Street NE to the northwest, South Dakota Avenue NE to the southwest, Galloway Street NE to the southeast, and a public alley to the northeast. Figure 1 shows the campus location within the region and relative to major transportation facilities. Figure 2 shows the campus location within the Queen's Chapel neighborhood.

This report presents the transportation elements of the Campus Plan, relevant background projects, impacts of the Campus plan on transportation facilities, and a proposed Transportation Demand Management (TDM) plan. This information is organized into the following seven (7) chapters:

- Campus Plan Overview

  This chapter outlines the development plan and transportation components of the Campus Plan.

- Strategic Planning Documents and Projects

  This chapter outlines the background strategic planning documents and projects relating to the Campus Plan and discusses the Campus Plan's implications for each.

- Existing Conditions and Campus Plan Impact by Mode

  This chapter reviews existing conditions and impacts of the Campus Plan, including site access and circulation, parking, loading, transit facilities, bicycle facilities, and pedestrian facilities.

- Travel Demand Assumptions

  This chapter outlines the travel demand of the proposed project and summarizes the proposed trip generation of the project.

- Traffic Impact Analysis

  This chapter summarizes the existing roadway facilities, analyzes the existing and future roadway capacity in the study area, and highlights the vehicular impacts of the project, including presenting mitigation measures for minimizing impacts as needed.

- Transportation Demand Management (TDM) Plan

  This chapter reviews the Campus Plan's proposed Transportation Demand Management (TDM) plan, which aims to reduce the demand of single-occupancy, private vehicles during peak period travel times or to shift single-occupancy vehicular demand to off-peak periods.

- Performance Monitoring Plan (PMP)

  This chapter reviews the Campus Plan's proposed Performance Monitoring Plan, which aims to provide the framework for the University to track progress towards its (TDM) goals.

- Safety Analysis

  This chapter summarizes the potential safety impacts of the project, including a qualitative review of existing and proposed safety feature surrounding the site.

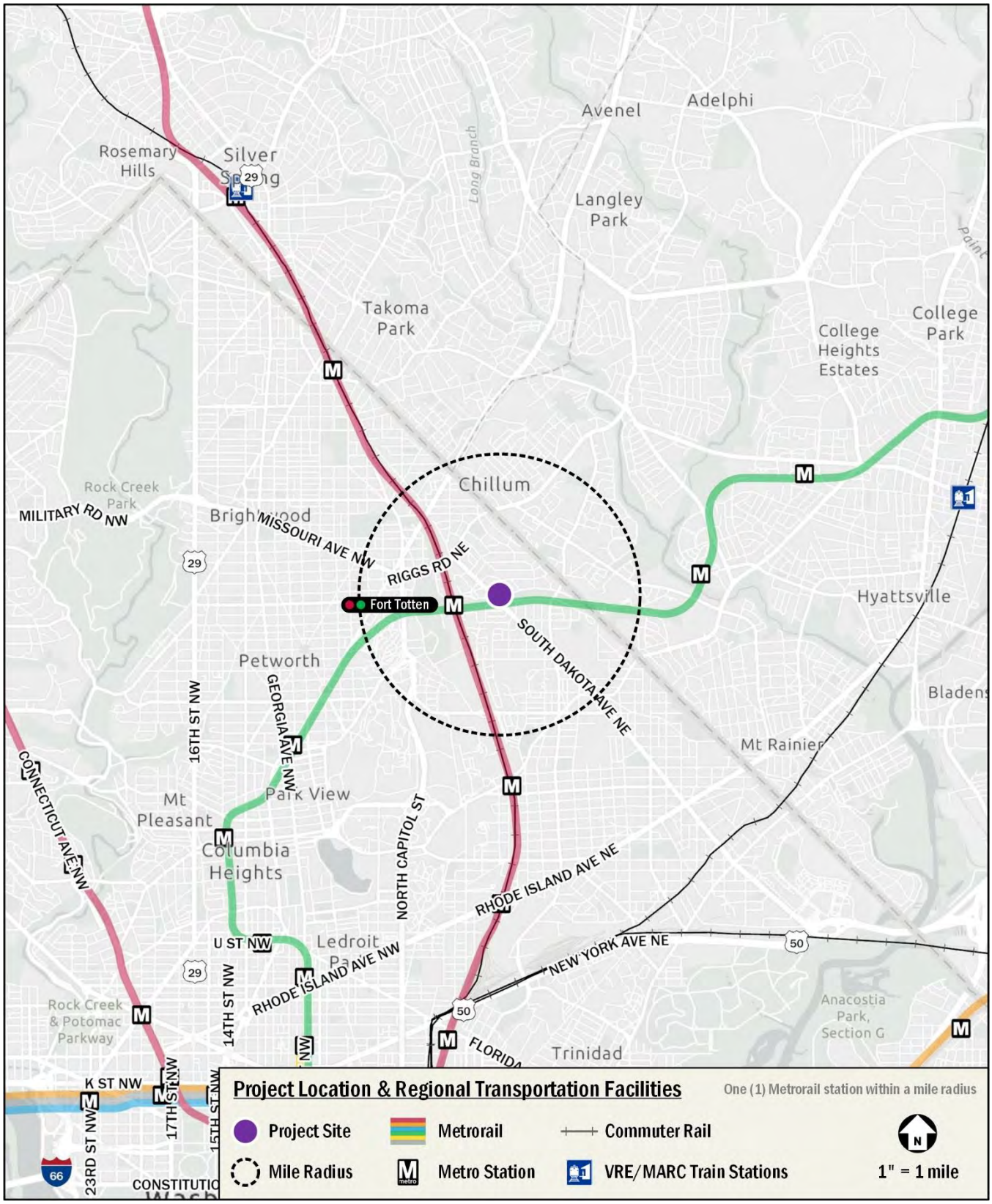

Figure 1: Project Location and Major Transportation Facilities

Figure 2: Site Aerial

Campus Plan Overview

This chapter presents an overview of the Campus Plan as it relates to transportation.

Campus Development

The Campus Plan includes the various campus developments identified in UDC's 2021 – 2026 Capital Improvement Plan (CIP), which was adopted by the UDC Board in 2020. These developments include existing facilities to be modernized, renovated, and/or reprogrammed, as well as newly acquired existing facilities and potential new facilities.

The construction of modernized and new facilities is proposed to take a two-phased approach.

Phase I will provide upgrades to the existing facility and amenity space, including the following:

- Partial modernization upgrades to the existing wings, including internal space reconfiguration, programming utility upgrades, and HVAC system replacement;
    - Façade improvements will be made along the main entrance of Wing A and new signage will be provided along the South Dakota Avenue NE and Hamilton Street NW frontages;
    - A student-oriented amenity space such as a coffee and food service station will be provided in Wing B;
    - Additional lab space and storage areas, demonstration kitchen, adjacent community garden, and the greenhouses will be provided in Wing C; and
    - A new green space will be developed between the three (3) wings adjacent to the southern parking lot.
- Reconfiguration of the northern and southern parking lots with new green space located in the southern parking lot. This will lead to a reduction of vehicle parking spaces from 23 to 19 spaces in northern parking lot and from 165 to 160 spaces in southern parking lot;
- Enhancement of loading area to the northern parking lot; and
- New bicycle parking areas which can be accessed from South Dakota Avenue NE and Hamilton Street NE.

Phase II will include the following:

- A building addition (Wing D), approximately 55,000 sf, to be constructed over part of the existing southern parking lot. This new wing will provide additional academic and administrative space, along with a student center, green roof, and other needed facilities. A new, student-oriented entrance will be installed, located at the new plaza at the southwestern corner of the campus. This new entrance will connect to a student forum, offering space for relaxation and collaboration. The open courtyard will feature landscaping which promotes congregation amongst students and faculty, along with walkways and rest areas;
- Continuing upgrades to the remaining wings, including:
    - Façade improvements including additional decorative paneling and screens on the public-facing building walls of Wing A, along with a newly installed green wall on Wing A' s façade facing the interior courtyard;
    - Enhancements to the food service area in Wing B; and
    - Enhanced rooftop mechanical penthouses, additional bicycle parking, and a second-floor accessible green roof on a portion of Wing C with visual connection to the courtyard.
- Reconfiguration of the south parking lot with a reduction of vehicle parking spaces from 160 to 100 spaces.

An overview of the campus development after the completion of Phase I and Phase II is provided in Figure 3 and Figure 4, respectively.

Enrollment

The current head count at UDC is 1,499 students and 100 staff/faculty. UDC estimates that the Lamond-Riggs Campus population will increase from current levels to a total population of approximately 3,000 students and 118 staff/faculty through the end of this Campus Plan by 2033. Any population growth is expected to be gradual.

Transportation Recommendations

This section presents details about the transportation recommendations of the Campus Plan, which align closely with DDOT's *2010 Action Agenda* and 2021 *moveDC Action Plan*. The transportation recommendations include the following:

- Endorse the implementation of the recommendations contained within District of Columbia and local area planning studies;
- Develop and implement a thorough set of Transportation Demand Management (TDM) programs and policies; and

- Improve campus circulation and enhance pedestrian connectivity.

Endorse the implementation of the recommendations contained within DC-wide and local area planning studies.

The UDC Lamond-Riggs campus benefits from its proximity to a Metro station and other multimodal transportation facilities. The Campus Plan seeks to increase and enhance the ways the campus takes advantage of its urban, multimodal setting. Both District of Columbia-wide and local planning studies include recommendations to increase the safety and quality of non-driving modes of transportation in the area surrounding the UDC Lamond-Riggs campus.

When able, UDC will encourage the implementation of these recommendations. Although it does not have the purview or resources to implement the recommendations directly, it will cooperate with District of Columbia agencies and local stakeholders to support these recommendations and assist with their implementation.

Develop and implement a thorough set of Transportation Demand Management (TDM) programs and policies.

A TDM plan is proposed as part of the Campus Plan. The goal of the TDM plan is not only to reduce the vehicular demand to the campus, but to provide a framework for organizing, marketing, and monitoring the TDM plan itself. No prior TDM plan has been developed for the Lamond-Riggs Campus; however, the Campus Plan proposes a TDM plan similar to the plan approved as part of the 2021 UDC Van Ness Campus Master Plan. The proposed TDM plan is presented in the TDM chapter of this report.

Improve campus circulation and enhance pedestrian connectivity.

The Campus Plan proposes several improvements to pedestrian circulation and connectivity, both externally at the campus's getaways from public streets, and internally on campus. These proposed improvements are outlined and discussed in greater detail later in this report.

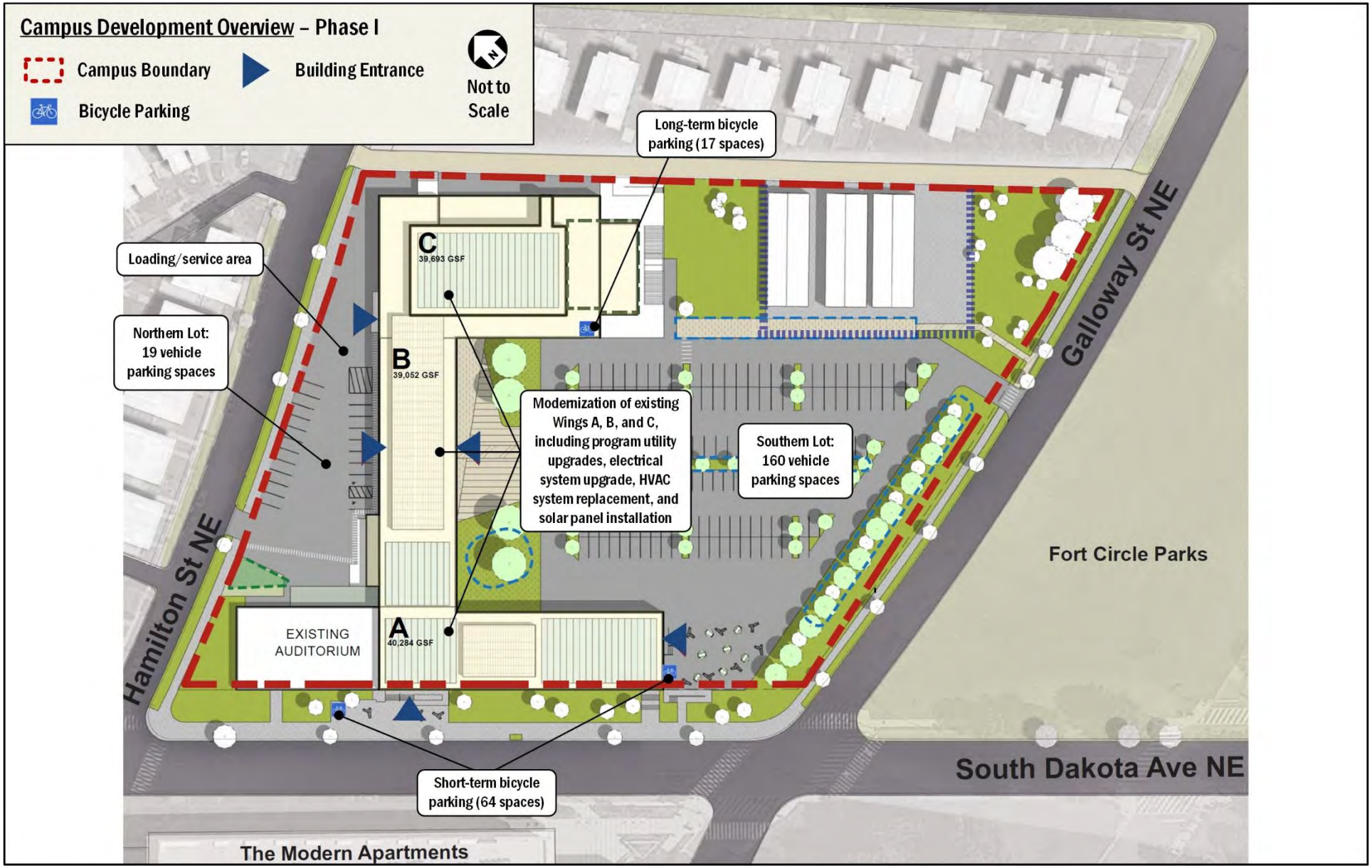

Figure 3: Campus Development Overview – Phase I

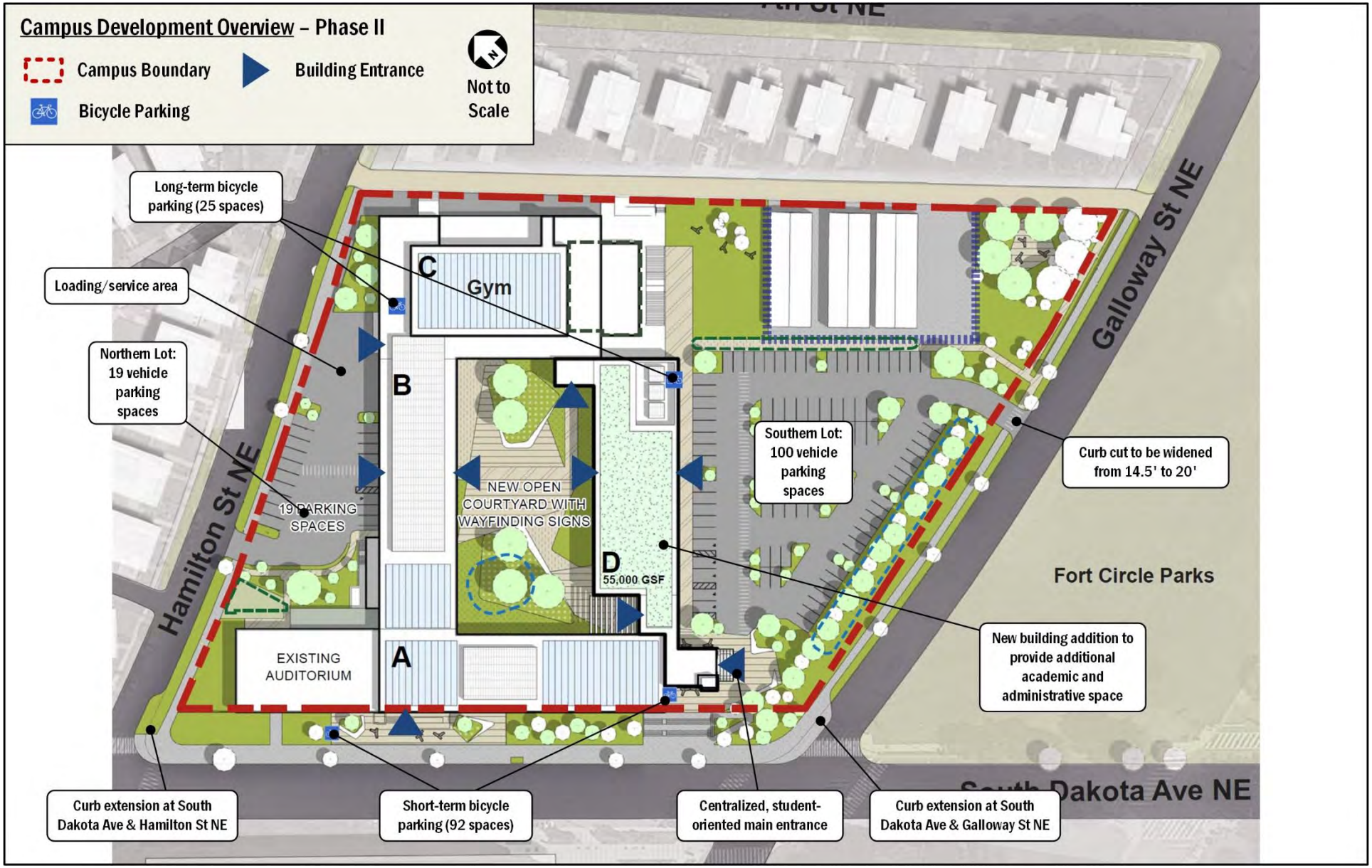

Figure 4: Campus Development Overview – Phase II

Strategic Planning Documents and Projects

There are several District of Columbia-wide and local planning documents and projects located in the vicinity of the UDC Lamond-Riggs campus. These items are summarized below, along with their implications for or relations to the UDC Lamond-Riggs Campus Plan.

moveDC

moveDC is the long-range transportation plan for DC. This plan provides an overarching framework of goals and policies that will guide transportation decisions in DC over a 25-year period.

The *MoveDC* report outlines strategies by mode, with a goal of full implementation by 2045. The plan hopes to achieve a transportation system that achieves the District's goals of safety, equity, mobility, project delivery, management and operations, sustainability, and enjoyable spaces.

In direct relation to the proposed Campus Plan, the *moveDC* plan outlines recommended transit and bicycle improvements including the following:

- Future planned on-street bicycle facilities without committed funding along South Dakota Avenue NE, Galloway Street NE, and Sargent Road NE; and
- Future planned trails without committed funding along Gallatin Street NE connecting between South Dakota Avenue NE and Eastern Avenue NE.

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.

The Lamond-Riggs Campus Plan development supports DC's overall Vision Zero goals by providing improved bicycle and pedestrian facilities along the site's boundary, including enhancing the pedestrian network to comply with DDOT and ADA standards, and installing publicly accessible bicycle racks.

Riggs Road and South Dakota Avenue Area Final Development Plan

The Riggs Road and South Dakota Avenue Area Development Plan was initiated by the Lamond-Riggs Citizen Association (LRCA) partnered with the DC Office of Planning (OP). The plan targeted underutilized or vacant properties around the intersection of Riggs Road and South Dakota Avenue NE and its surrounding area for revitalization. Developers and foundations have since recognized the potential in the area.

The plan includes the following four (4) project visions:

- Establish a dynamic neighborhood center at Riggs Road and South Dakota Avenue that enhances community character and reactivates the street;
- Attract development that serves all generations;
- Connect, activate, and create new open spaces;
- Promote safe access and circulation throughout the neighborhood.

The Lamond-Riggs Campus Plan supports these goals by renovating the existing campus that will provide attractive amenities for staff and students on the campus as well as residents, workers, and patrons of the surrounding area. The upgraded pedestrian network and installation of publicly accessible bicycle racks enhance pedestrian and bicycle accessibility and safety.

South Dakota Avenue Transportation and Streetscape Study

Conducted in 2007, the South Dakota Avenue Transportation and Streetscape Study examined the transportation and streetscape conditions along South Dakota Avenue NE, spanning from Hamilton Street near Fort Totten to New York Avenue/Route 50. The study concluded the following:

- Existing off-road bicycle facilities on the east side of South Dakota Avenue were found to have issues including steep grades and overhanging vegetation.

- Bicycle level of service along the route was generally assessed as fair to poor, with varying ratings ranging from C to E.
- Community suggestions for bike lane additions and connections to the Anacostia Riverwalk Trail were noted but not prominently addressed.

Planned Developments

There are two (2) planned development projects in the vicinity of the proposed project. For the purpose of this analysis and consistent with DDOT and industry standards, only approved development projects with an origin/destination within the study area are included. All projects were ultimately included given the proximity of the developments from the proposed project and site generated volumes of the planned developments impacting the study area intersections.

Figure 5 shows the location of the background development projects considered in relation to the proposed project. The development projects are described below.

Art Place at Fort Totten (Phase II Only – Buildings B, C, and D)

Phase II of the Art Place at Fort Totten project was analyzed using the approved *Art Place at Fort Totten PUD* Technical Memorandum prepared by Wells + Associates (ZC 06-10E). The memo analyzed a development program consisting of:

- 294 residential units;
- 24,957 sf of children's museum;
- 30,583 sf of interactive experience;
- 50,593 sf of performance space;
- 36,178 sf of cultural uses;
- 24,945 sf of grocery store; and
- 64,398 sf of retail.

The memorandum found that the project will generate 199 peak hour trips in the morning and 361 peak hour trips in the afternoon.

5543-5575 South Dakota Avenue NE

5543-5574 South Dakota Avenue NE consists of approximately 160-185 townhome units and 20,000-30,000 sf of retail. The project was analyzed using the ITE's Trip Generation Manual, 11th Edition and is expected to generate 127 peak hour trips in the morning and 253 peak hour trips in the afternoon.

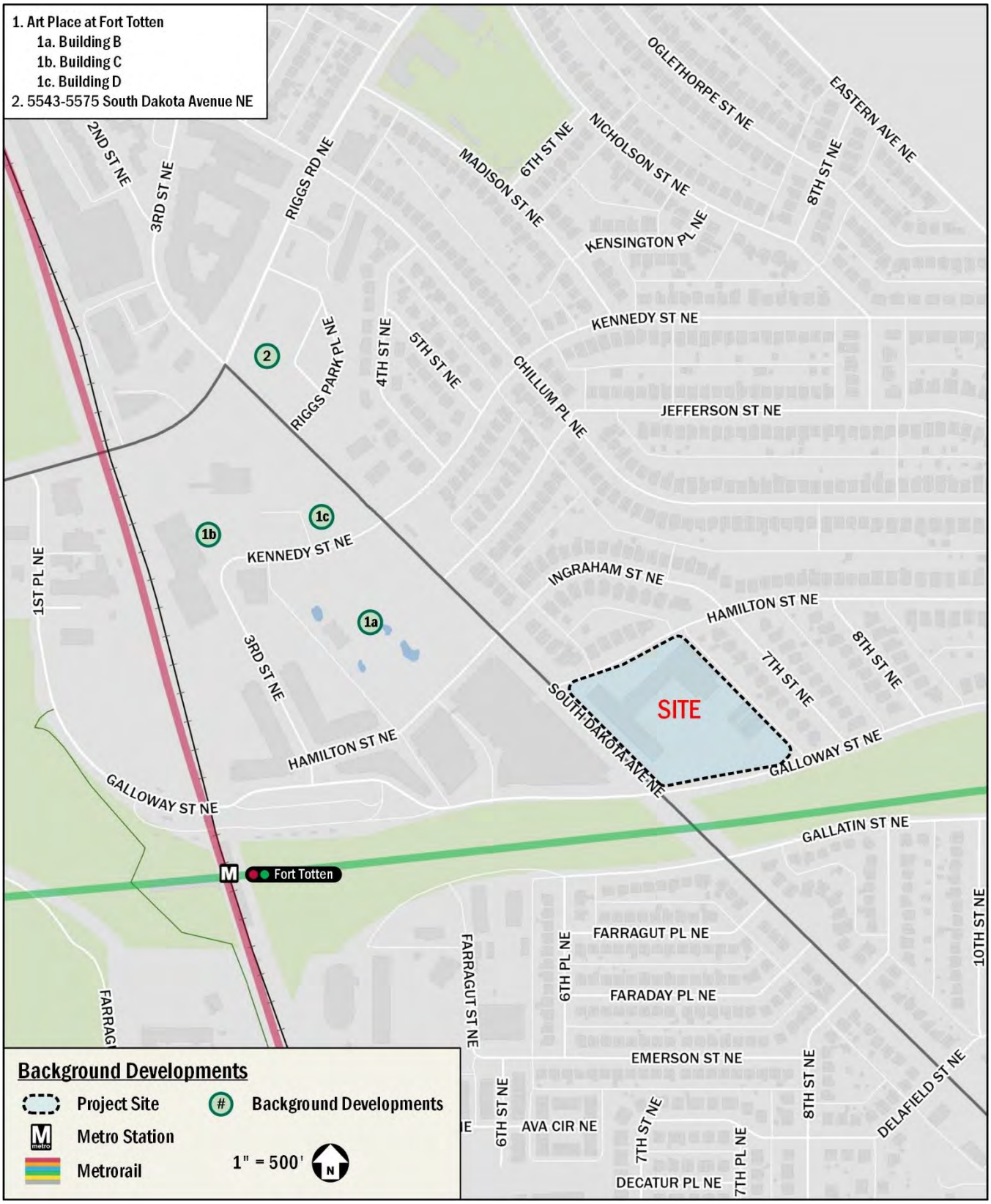

Figure 5: Background Developments

Existing Conditions and Campus Plan Impacts by Mode

This chapter reviews existing conditions and impacts of the Campus Plan, including site access and circulation, parking, loading, transit facilities, bicycle facilities, and pedestrian facilities.

An overview of existing conditions of the project site is illustrated in Figure 6

Site Access and Circulation

Existing Conditions

Vehicular access to the UDC Lamond-Riggs campus is accessible from Hamilton Street NE and Galloway Street NE which are connected to South Dakota Avenue NE. Existing vehicular parking is provided in the two (2) existing parking lots: the “Northern Lot”, which can be accessed from Hamilton Street NE, and the “Southern Lot”, which can be accessed from Galloway Street NE.

Existing curbside designations within a two-block radius of the campus are shown on Figure 7.

There are no long-term bicycle spaces provided on-site. There are 20 short-term spaces provided in the southern lot under current conditions.

The campus has limited pedestrian access points with the old middle school entrance along South Dakota Avenue NE functioning as the main entrance under current conditions.

Impacts of Campus Plan

As there is no change in use, the project proposes to retain the two (2) existing curb cuts off Hamilton Street NE and Galloway Street NE. The curb cut on Galloway Street NE will be brought up to DDOT and DEM standards widened from its current width of 14.5’ to 20’ during Phase II, and the curb cut on Hamilton Street NE will be brought up to DDOT and DEM standards during Phase II. No curbside designation changes are proposed as part of the project.

Primary bicycle access to the campus will be provided from Galloway Street NE. Long-term bicycle parking will be provided in Wing C. Short-term bicycle parking will be provided along the site’s frontage on South Dakota Avenue NE.

The pedestrian experience will be significantly improved as part of Phase II of the proposed project by removing surface parking in the campus’s central core, adding pedestrian walkways to both surface parking lots and a new centralized student entrance to the campus, and making the pedestrian network more porous and connected.

Proposed access points and circulation during Phase I and Phase II are shown on Figure 8 and Figure 9, respectively. An analysis of capacity impacts to the surrounding roadway network as part of the Campus Plan is included in a later chapter of this report.

Streetscape and Public Realm

As one of the amenities of the project, the Applicant has proposed to provide several improvements to elevate the streetscape and enrich the public realm surrounding the campus. This section details these different improvements.

Campus Perimeter

To improve the overall aesthetic surrounding the campus, the existing chain link fence will be removed or replaced as part of the proposed project. During Phase I, the existing chain link fence along South Dakota Avenue and Galloway Street NE will be removed and replaced.

During Phase II, the proposed development will install curb extensions at the southeast corner of South Dakota Avenue and Hamilton Street NE, as well as the northeast corner of South Dakota Avenue and Galloway Street NE. The chain link fence along the public alley will be replaced with metal picket fence. In this phase, the Applicant proposes additional improvements to redefine its campus perimeter, forging a stronger connection between the institution and its urban surroundings. With a focus on both functionality and aesthetics, UDC’s proposed campus perimeter improvements are set to reshape the boundaries, which include the following:

- Northern perimeter – Hamilton Street NE
    - Improve pedestrian access; and
    - Provide campus standard signage.
- Southern perimeter – Galloway Street NE
    - New planting and storm water devises parallel to Galloway Street NE;
    - Improve pedestrian and vehicular access to the core of the campus;
    - Provide campus standard signage;

  - Provide permeable campus edge to connect campus plaza and green space and Fort Circle Park; and
  - Improve edge with additional vegetation to screen parking lot.
- Eastern perimeter – Public alley
  - Redesigned perimeter edge fencing; and
  - Eliminate alley access gate.
- Western perimeter – South Dakota Avenue NE
  - Add removable planters and seating at South Dakota Avenue NE frontage;
  - Provide campus standard signage; and
  - Improve façade with decorative metal panels.

South Dakota Avenue NE Streetscape

Under existing conditions, there are some missing tree boxes observed along the site's frontage on South Dakota Avenue. UDC proposes to install any missing tree boxes as part of the Phase II improvements to meet the DDOT standard spacing requirements and will continue to coordinate with DDOT on the South Dakota NE streetscape design.

Building Façade

During Phase I, UDC will provide visual enhancements such as UDC banners, signage, and/or other façade treatments at the existing auditorium. During Phase II, UDC will add an additional UDC logo to the UDC clock tower, which is part of the new building, Wing D.

Urban Forestry Street Tree Inventory

A map published by DDOT's Urban Forestry Division (UFD) of street trees in public areas near the campus is shown on Figure 10. Trees shown on this map are not expected to be significantly impacted as a result of the proposed project.

Parking

Existing Parking Facilities

UDC currently provides parking for students, faculty, and staff in two (2) surface parking lots. The southern lot contains approximately 165 parking spaces, and the northern lot contains approximately 23 spaces, for a total of approximately 188 vehicle parking spaces serving the UDC Lamond-Riggs Campus.

Permitting

Parking permits are available for students, staff, and faculty at the Lamond-Riggs campus. While permits are required, parking in the surface lot is currently unmonitored, has no access controls, and is provided on a "first come, first serve" basis.

UDC will explore to implement strategies to better manage the on-site parking supply, including access controls and parking enforcement provided by UDC Public Safety.

Impacts of Campus Plan

Parking will be reduced by 10 spaces during the Phase I partial modernization to include new green space and plantings in the southern parking lot, and by additional 60 spaces during Phase II due to the reduction of the southern lot to accommodate the addition of Wing D. Proposed parking supply totals during each Phase are shown in Table 1.

Table 1: Proposed Parking Supply

	Northern Lot	Southern Lot	Total
Phase I	19 spaces	160 spaces	179 spaces
Phase II	19 spaces	100 spaces	119 spaces

The Campus Plan's Transportation Demand Management (TDM) plan also includes the following elements which aim to reduce parking demand and encouraging non-auto modes of travel to and from campus:

- Develop a parking rate structure for the Lamond-Riggs campus' surface parking lots;
  - The student, faculty and staff rates will be adjusted periodically to maintain a peak occupancy level within the parking lots of 80-90% on a typical weekday.
- Provide employees who wish to carpool with detailed carpooling information and will refer them to other carpooling matching services;
- Designate a minimum of two (2) preferential carpooling spaces and one (1) preferential vanpooling space in a convenient location within the parking lots;
- Designate at least two (2) parking spaces for electric vehicle charging; and
- Work towards improving long-term employee and student non-SOV mode share over the life of the Campus Plan. As part of the Performance Monitoring Plan ("PMP"), UDC will annually report mode splits and

work with DDOT and goDCgo to improve employee and student non-SOV mode share over the life of the Campus Plan.

Loading

Existing Loading Facilities

Existing loading operations for the campus occur at the southern parking lot which can be accessed via Galloway Street NE.

Impacts of Campus Plan

Starting in Phase I, UDC proposes that waste removal, loading, and delivery service areas be relocated to the northern lot accessible from Hamilton Street NE.

Two (2) 12’ x 30’ loading berths and one (1) 10’ x 20’ service/delivery space will be provided in the northern lot during Phase II, meeting the ZR16 requirements.

DDOT standards stipulate that truck movements for a site should be accommodated without back-in movements through public space. The project has been designed to accommodate all loading activity and associated backing maneuvers within private space in the internal loading area. Inbound and outbound SU-30 truck maneuvering diagrams are shown on Figure 11 and Figure 12, respectively. Inbound and outbound 20’ Cargo Van maneuvering diagrams are shown on Figure 13 and Figure 14, respectively. These diagrams are also provided in the Technical Attachments.

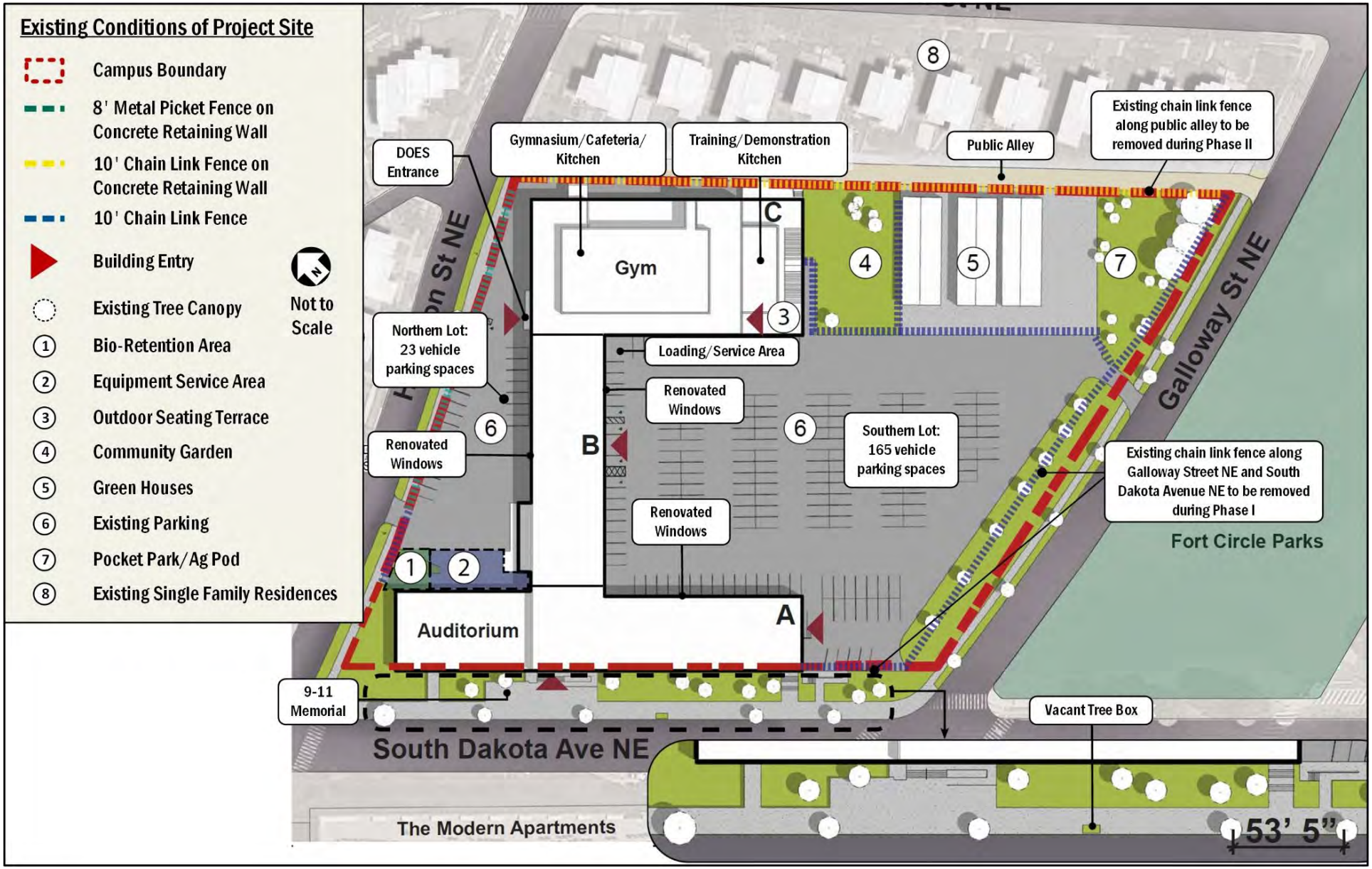

Figure 6: Existing Conditions of Project Site

Figure 7: Existing Curbside Designations

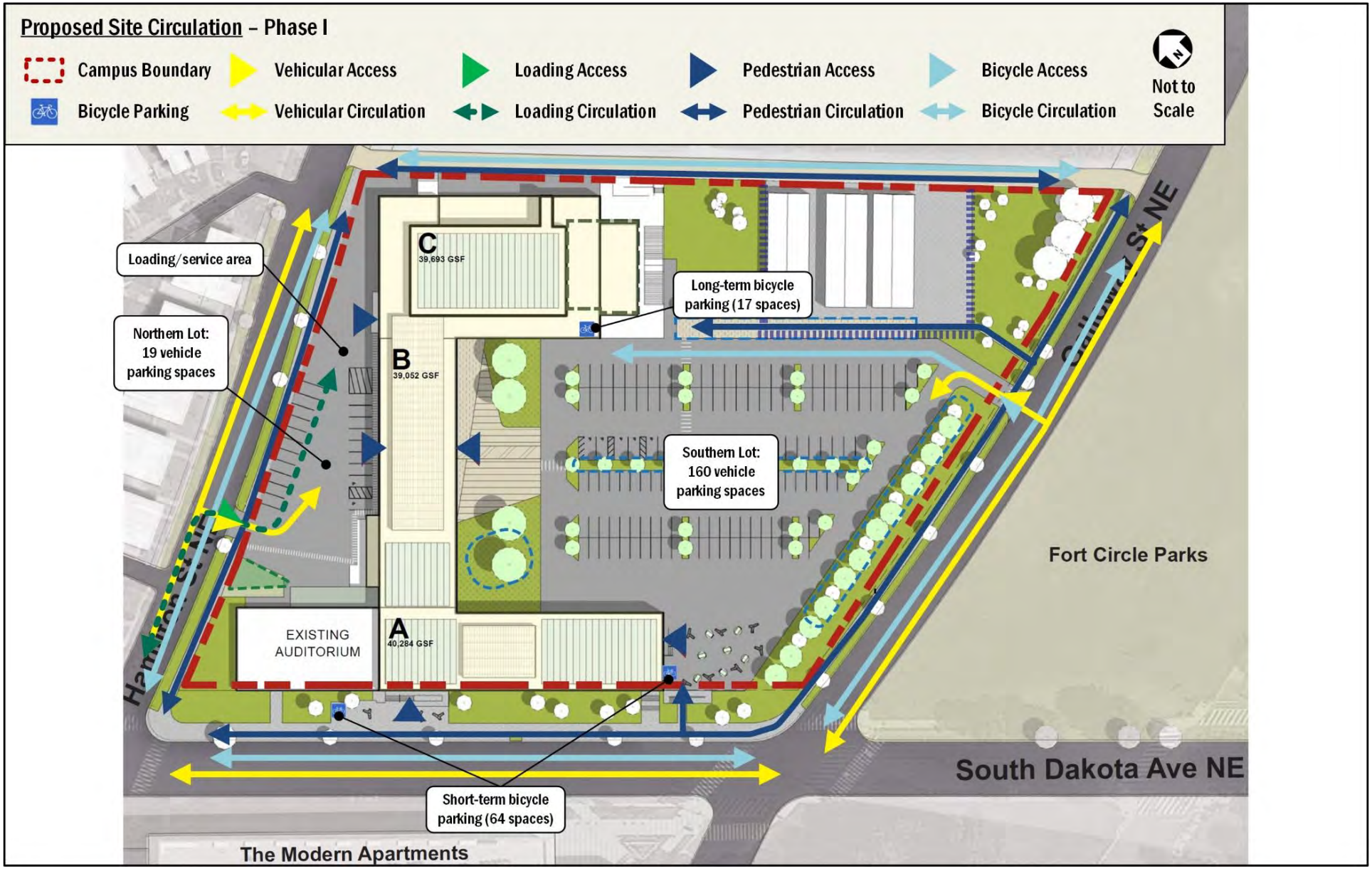

Figure 8: Proposed Site Circulation – Phase I

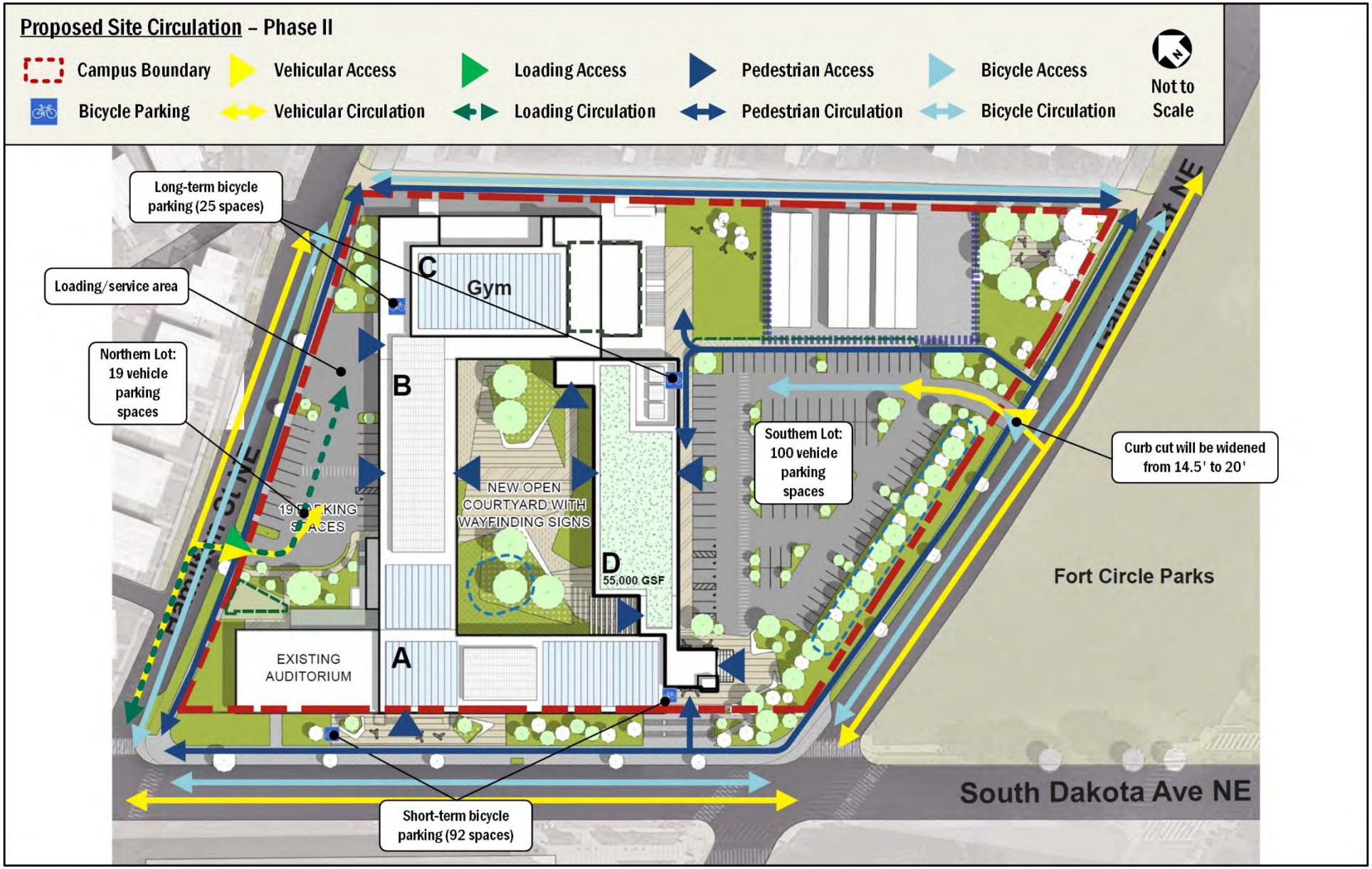

Figure 9: Proposed Site Circulation – Phase II

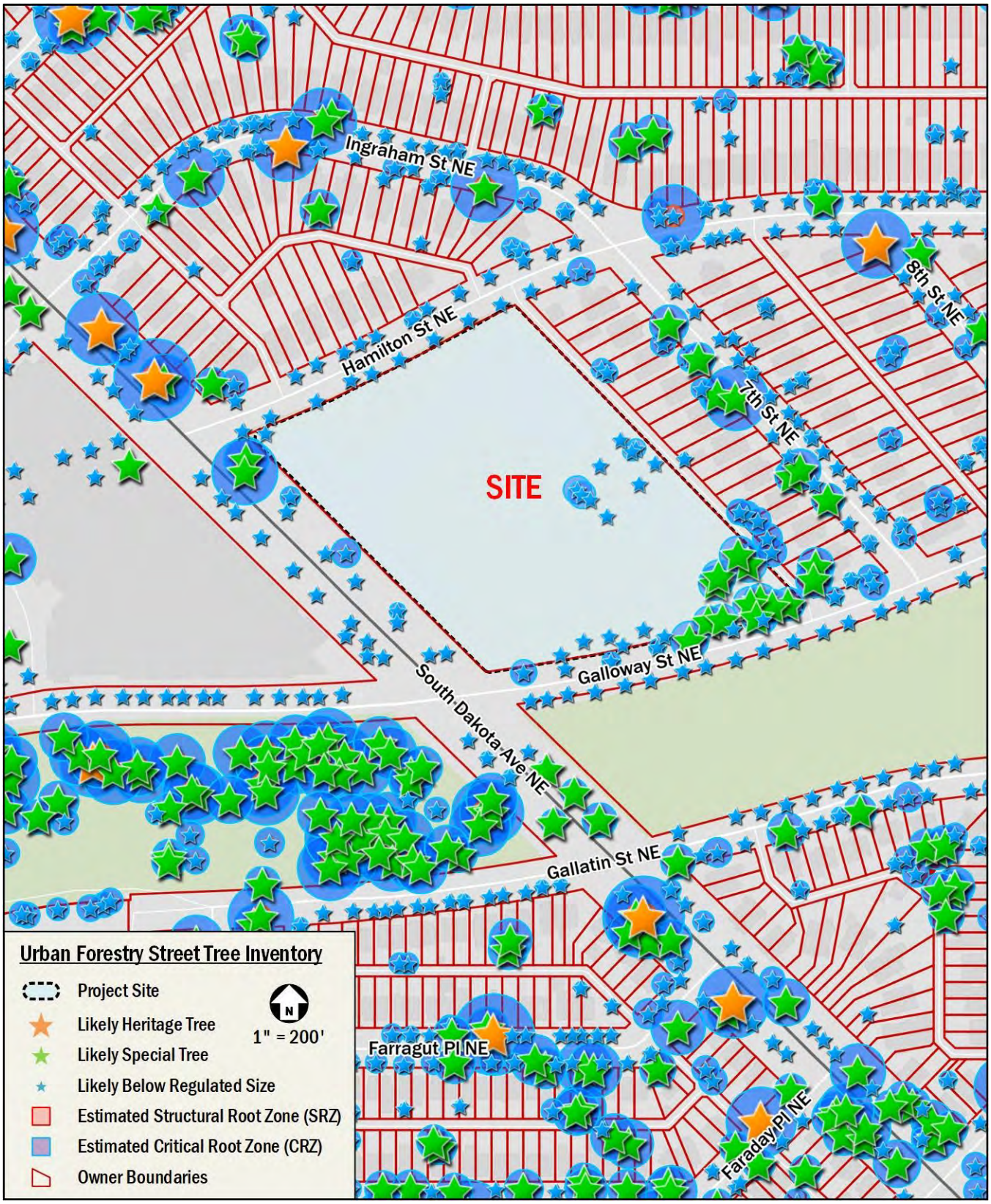

Figure 10: Urban Forestry Street Tree Inventory

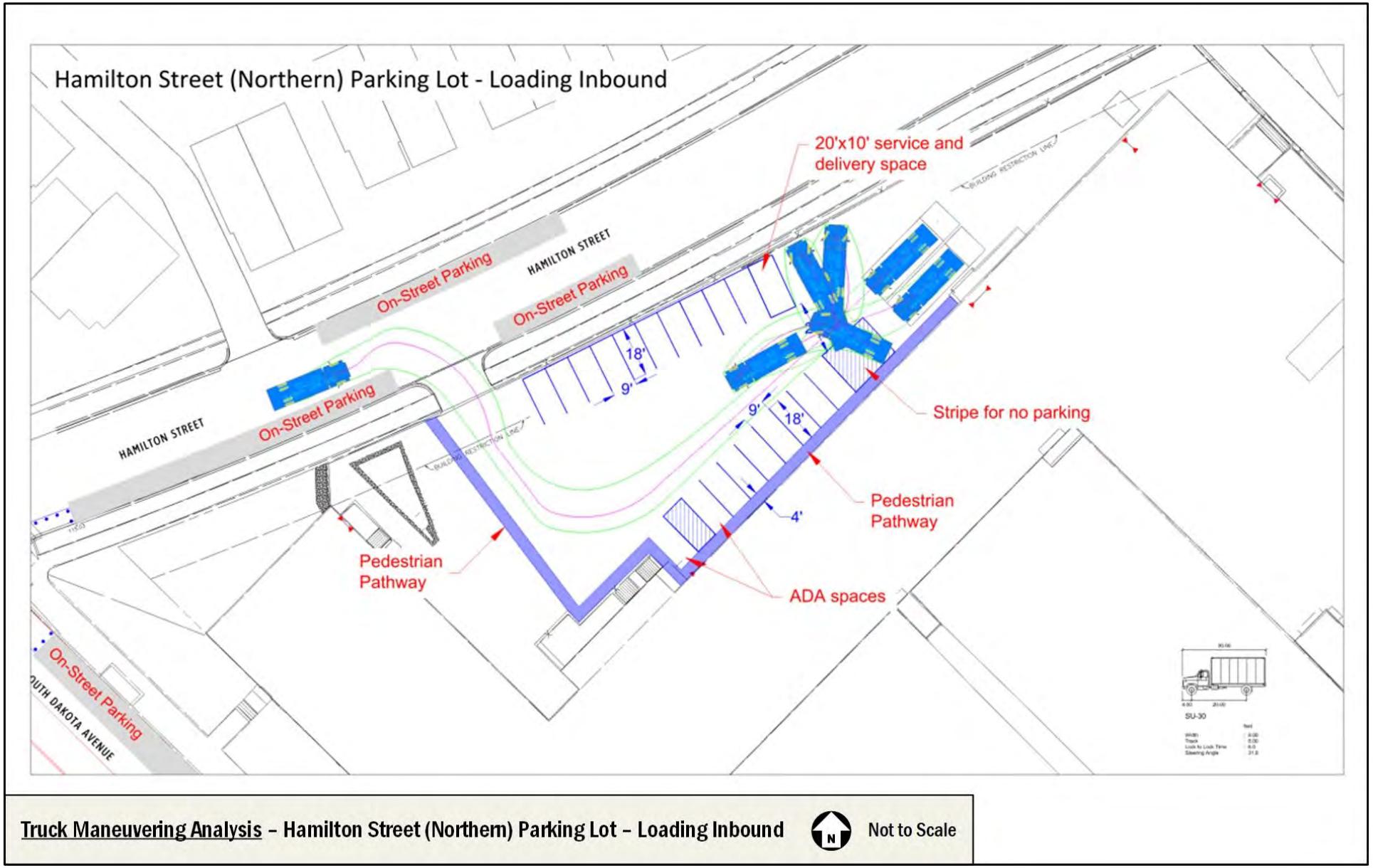

Figure 11: Hamilton Street (Northern) Parking Lot – Loading Inbound

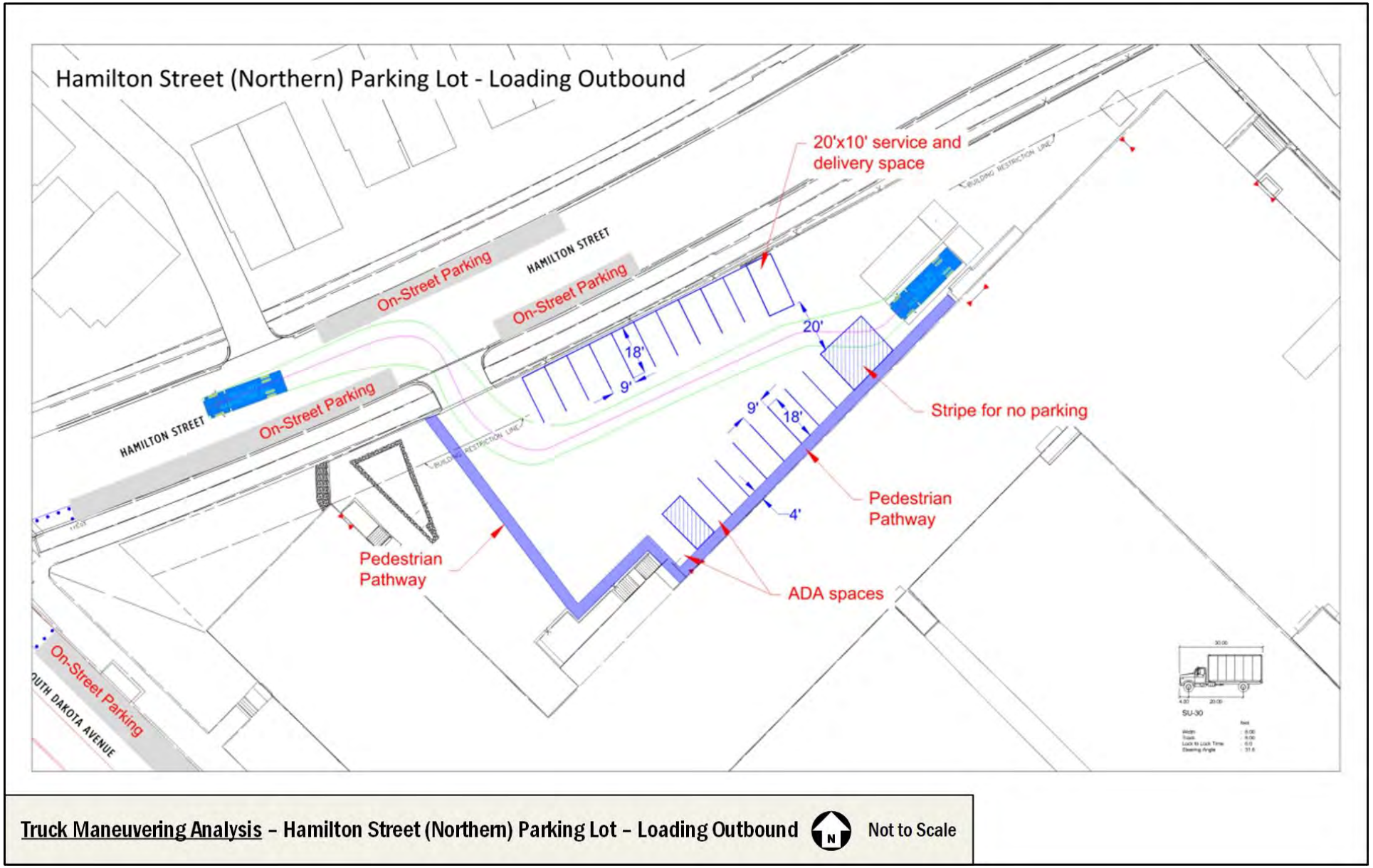

Figure 12: Hamilton Street (Northern) Parking Lot – Loading Outbound

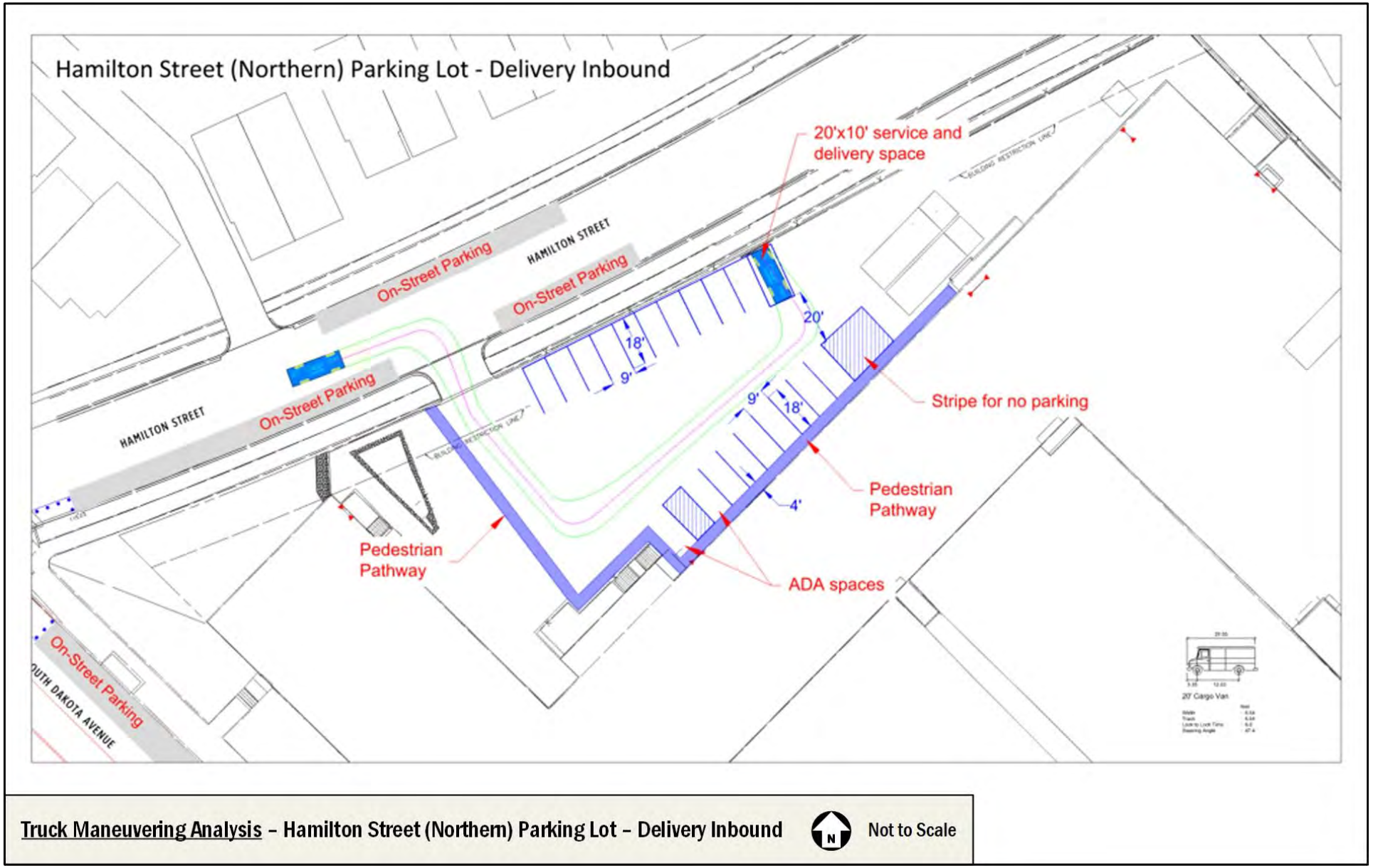

Figure 13: Hamilton Street (Northern) Parking Lot – Delivery Inbound

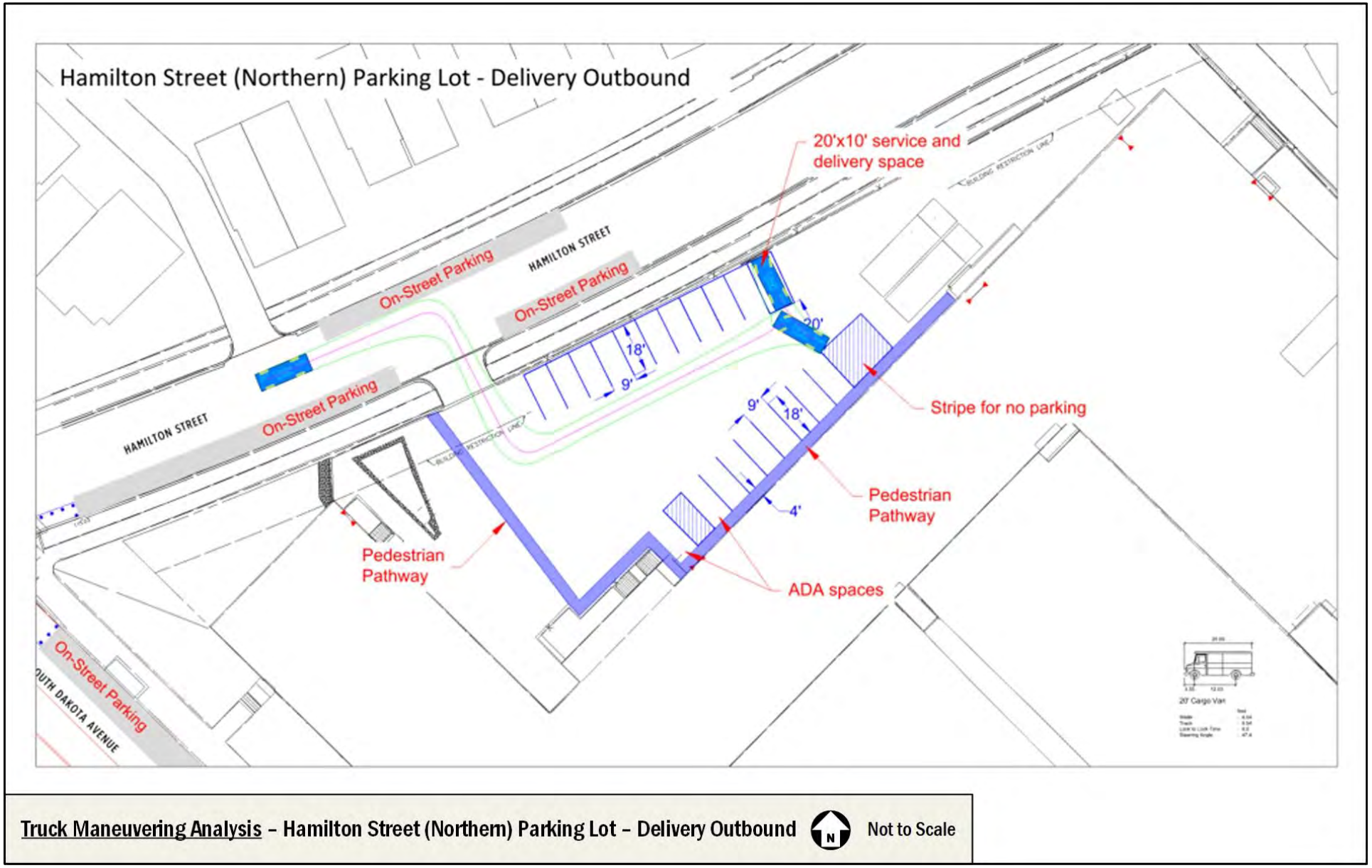

Figure 14: Hamilton Street (Northern) Parking Lot - Delivery Outbound

Transit Facilities

Existing Transit Facilities

UDC's Lamond-Riggs campus is located 0.3 miles from the Fort Totten Metro station, which is served by the Green and Red Lines. The Green Line provides service between Branch Avene and Greenbelt but is closed beyond the Fort Totten Metro station until September 4th, 2023. It runs every eight (8) minutes every day of the week. The Red Line provides service between Shady Grove and Glenmont and runs every five (5) to 15 minutes on weekdays and every 12 to 15 minutes on weekends. According to 2023 Metrorail data, approximately 5,400 riders enter and exit the Fort Totten station on a typical weekday.

In addition to Metrorail, UDC's Lamond-Riggs campus is served by seven (7) local bus routes along South Dakota Avenue and Galloway Street NE with multiple bus stops located along the campus boundary. These bus routes connect the campus to many areas of Washington, DC, as well as Metro stations where transfers can be made to reach further areas in the District of Columbia, Virginia, and Maryland.

Table 2 provides information for all bus routes stopping within a half-mile of the campus, including frequency, headway, and distance to the stop nearest to the UDC Lamond-Riggs campus. Table 3 shows WMATA's recommended amenities for each type of bus stop, and Table 4 shows which of these recommended amenities are present at each of the 14 bus stops serving the campus area.

Figure 15 shows existing transit service stopping within a half-mile of the campus, as well as a depiction of the amenity information in Table 4.

Figure 16 shows the approximate 10-, 20-, and 30-minute transit travel sheds to the project site on a typical weekday morning. As shown in the transit travel shed, much of Downtown, Northeast Washington and portions of Maryland are accessible via transit within 30 minutes from the project site, including neighborhoods such as Union Market, Fort Totten, Columbia Heights, Shaw, and Silver Spring.

Proposed Transit Service

As part of its recent 2021 update to the District's multimodal long-term transportation plan, *moveDC*, DDOT has designated both funded and future planned improvements to the District's Bicycle Priority Network. Funded improvements are locations that currently have funding identified for construction within six (6) years, including the following facilities near the site:

- North Capitol Street between Massachusetts Avenue NW and Riggs Road

Impacts of Campus Plan

No impacts to existing transit service or facilities are recommended in the Campus Plan. However, the Campus Plan's Transportation Demand Management (TDM) plan proposes that UDC will explore opportunities to enroll in WMATA's U-Pass program, which offers unlimited Metrorail and Metrobus rides to students at the Lamond-Riggs campus a substantial discount, and which students are automatically enrolled in. The TDM plan also proposes to offer and promote the SmartBenefits transit commuting benefits programs for Lamond-Riggs campus' faculty and staff.

Table 2: Existing Bus Route Information

Route Number	Route Name	Service Hours at Stop Closest to Site			Headway (minutes)	Walking Distance to Nearest Stop
		Weekdays	Saturdays	Sundays		
80	North Capitol Street Line	4:00am-2:21am	4:31am-2:23am	4:43am-2:20am	7 - 31	Adjacent to campus
E2	Ivy City-Fort Totten Line	5:54am-11:47pm	6:05am-11:50pm	6:05am-11:50pm	20 - 60	Adjacent to campus
F6	New Carrollton-Fort Totten Line	5:42am-10:10pm	No Service	No Service	25 - 64	Adjacent to campus
E4	Military Road-Crosstown Line	5:00am-12:28am	5:00am-12:28am	5:00am-12:24am	18 - 30	0.2 miles (4 min walk)
K6	New Hampshire Ave-Maryland Line	5:00am-2:10am	5:46am-2:16am	5:47am-2:10am	12 - 30	0.4 miles (9 min walk)
60	Fort Totten-Petworth Line	5:36am-7:59pm	No Service	No Service	24 - 48	0.4 miles (9 min walk)
64	Fort Totten-Federal Triangle Line	5:00am-12:24am	5:00am-12:24am	5:00am-12:23am	14 - 30	0.4 miles (9 min walk)

Table 3: 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)	Required 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 4: Existing Bus Stop Information

Location	Stop ID	Routes Served	Amenities								
			Bus stop flag	Route map & sched.	Land-ing pad	Side-walk	Bench	Shel-ter	Dy-namic info sign	Light-ing	Trash recp.
Gallatin St & 8th St NE (WB)	1002548	E2, F6	●			●				●	
Gallatin ST & South Dakota Ave NE (EB)	1002544	E2, F6	●			●				●	
Gallatin St & South Dakota Ave NE (WB)	1002543	E2, F6	●			●				●	
South Dakota Ave & Farragut Pl NE (SB)	1002537	80	●	●		●					●
South Dakota Ave & Farragut Pl NE (NB)	1002530	80	●	●		●				●	●
Galloway St & South Dakota Ave NE (WB)	1002556	80, E2, F6	●	●		●				●	●
Galloway St & South Dakota Ave NE (EB)	1002558	80, E2, F6	●	●		●					●
Galloway St & 4th St NE (EB)	1002552	80, E2, E4, F6	●	●		●				●	
Fort Totten Station & Bus Bay J (EB)	1003437	E4	●	●	●	●	●	●		●	●
Fort Totten Station & Bus Bay H (EB)	1003438	F6, K2	●	●	●	●	●	●		●	●
Fort Totten Station & Bus Bay F (EB)	1003232	80	●	●	●	●	●	●		●	●
Fort Totten Station & Bus Bay E (EB)	1003233	E2, E4	●	●	●	●	●	●		●	●
Fort Totten Station & Bus Bay D (EB)	1003237	R1, R2	●	●	●	●	●	●		●	●
Fort Totten Station & Bus Bay C (EB)	1003236	60	●	●	●	●	●	●		●	●

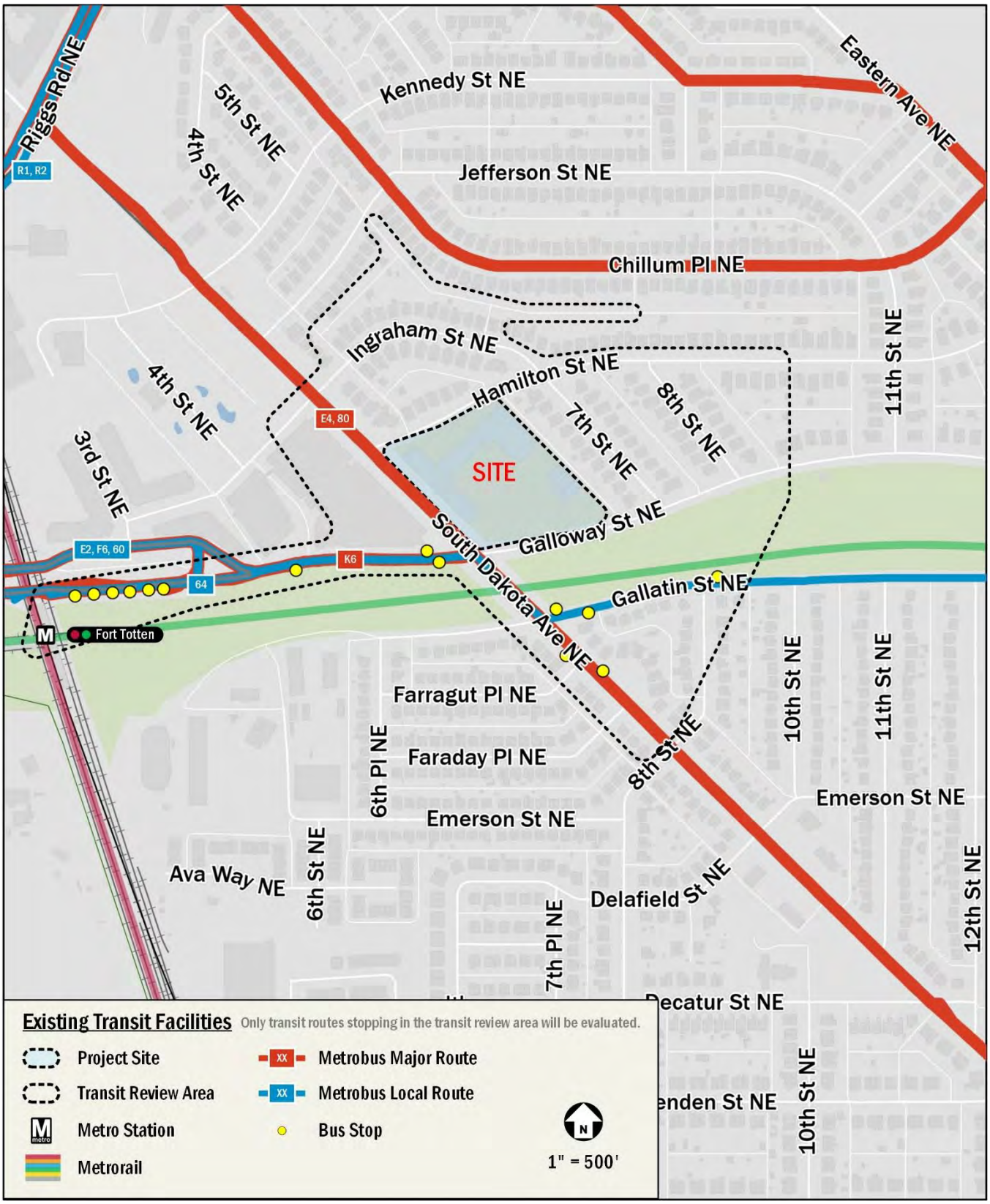

Figure 15: Existing Transit Facilities

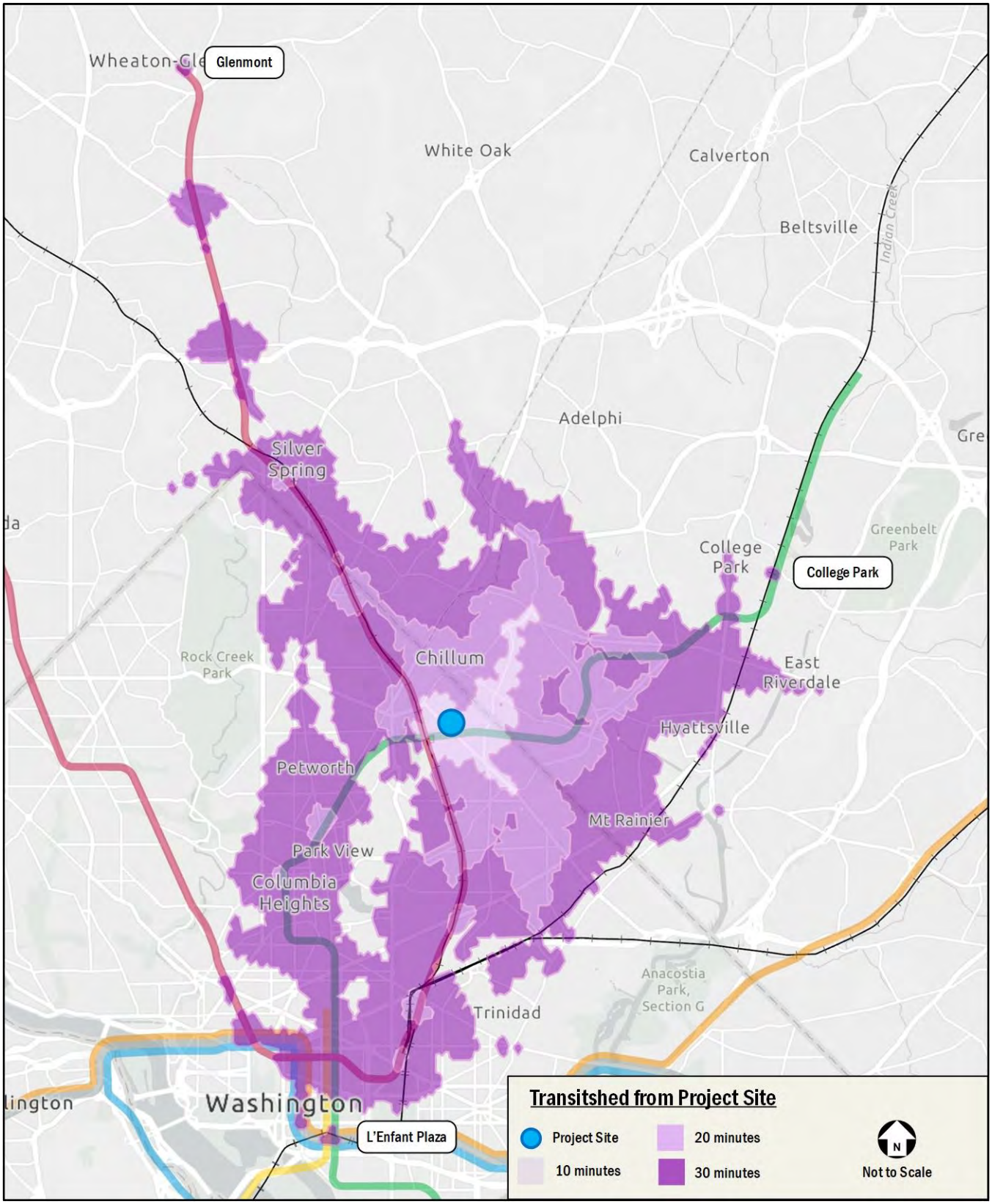

Figure 16: Transitshed from Project Site

Bicycle Facilities

Existing Bicycle Facilities

UDC's Lamond-Riggs campus has access to existing on- and off-street bicycle facilities.

Bicycle lanes are located just outside the study area, along Hamilton Street and Gallatin Street NE west of Fort Totten Drive NE. Within the study area, shared lanes are provided on Fort Totten Drive NE between Bates Road and Hamilton Street NE. Additionally, the Metropolitan Branch Trail is located approximately 0.5 miles from the site with an access point available at the Fort Totten Metro Station along 1st Place NE.

Existing bicycle facilities near the campus are shown on Figure 17.

Under current conditions, the UDC Lamond-Riggs campus does not have long-term bicycle parking spaces. There are 20 short-term bicycle parking spaces within the campus boundary, located in two (2) bicycle racks in the southern parking lot.

Figure 19 shows the approximate 10-, 20-, and 30-minute bicycle travel sheds to and from the project site. As shown in the bicycle travel shed, much of the District and portions of Maryland are accessible via bicycle within 30 minutes from the project site, including most of Northeast and Southeast DC as well as Chillum, Mt Rainier, Silver Spring, and Hyattsville in Maryland.

Capital Bikeshare

The Capital Bikeshare program provides an additional bicycling option for UDC students, staff, faculty, and visitors. The program has placed over 500 bikeshare stations across the Washington, DC metropolitan area with over 4,500 bicycles in the fleet. There is one 19-dock Capital Bikeshare station 0.4 miles away from the campus at the Fort Totten Metro station entrance. Another 15-dock station is located within a half-mile of the campus at 3rd Street & Riggs Road NE. Existing Capital Bikeshare station locations are shown on Figure 17.

Shared Mobility Devices

As of September 2023, micromobility service in the District is provided by four (4) private dockless companies operating e-bikes and e-scooters, including Lime, Lyft, Spin, and Veo. These dockless vehicles are provided by private companies that give registered users access to a variety of e-bike and e-scooter options. These devices are used through each company-specific mobile phone application. Many dockless vehicles do not have designated stations where pick-up/drop-off activities occur like with Capital Bikeshare; rather, they are parked in public space, most commonly in the "furniture zone" or the portion of sidewalk between where people walk and the curb, often where other street signs, street furniture, trees, and parking meters are found. In addition to DDOT's program, dockless pilots and demonstration programs are underway in Arlington County, Fairfax County, the City of Fairfax, the City of Alexandria, and Montgomery County.

Planned Bicycle Facilities

Planned bicycle facilities will improve bicycle safety and connectivity near the campus. Several bicycle improvements are planned near the site.

moveDC Bicycle Priority Network

As part of its recent 2021 update to the District's multimodal long-term transportation plan, *moveDC*, DDOT has designated both funded and future planned improvements to the District's Bicycle Priority Network. Funded improvements are locations that currently have funding identified for construction within six (6) years, including the following facility near the site:

- Metropolitan Branch trail improvements between Bates Road and Riggs Road NE;

Additionally, DDOT has designated future planned improvements to the network that may be added in the future but currently do not have committed funding. Planned improvements of on-street facilities adjacent to the campus along South Dakota Avenue between Bladensburg Road and Riggs Road will include fully protected facilities based on the roadway's functional classification as an arterial. Bicycle trails at Fort Circle Park along Gallatin Street NE between South Dakota Avenue and the District limits are also future improvements that are not currently funded.

Planned bicycle facilities near the campus are shown on Figure 20.

Impacts of Campus Plan

The project will provide on-site bicycle facilities in two phases, meeting the ZR16 requirements:

- Phase I will provide 64 short-term and 17 long-term bicycle parking spaces; and
- Phase II will provide 92 short-term and 25 long-term bicycle parking spaces.

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 those long-term spaces be located indoors in a bicycle storage room which is accessible via Galloway Street NE, and that at least 50 percent of required long-term spaces be

placed horizontally on the floor or ground, without bicycles being suspended. The short-term bicycle spaces will conform to Subtitle C § 804.3 and § 804.4 of DC's zoning requirements, ensuring that racks are surfaced and maintained with an all-weather surface and that racks do not have anchors along a single axis.

The Campus Plan's proposed Transportation Demand Management (TDM) plan includes several actions that will enhance the ease and comfort of bicycling to and from the Lamond-Riggs campus. These include:

- Providing information about bicycle routes between the campus and major destinations in the District of Columbia;
- Providing long-term and short-term bicycle parking spaces across the campus;
- Providing shower and changing facilities available to bicycle commuters;
- Market and encourage use of the Capital Bikeshare station near the campus; and
- Offer Capital Bikeshare's University Membership program to students.

In addition to the bicycle-related TDM items, UDC will coordinate with DDOT and other District of Columbia agencies on any District of Columbia-funded bicycle improvements within or near the Lamond-Riggs campus.

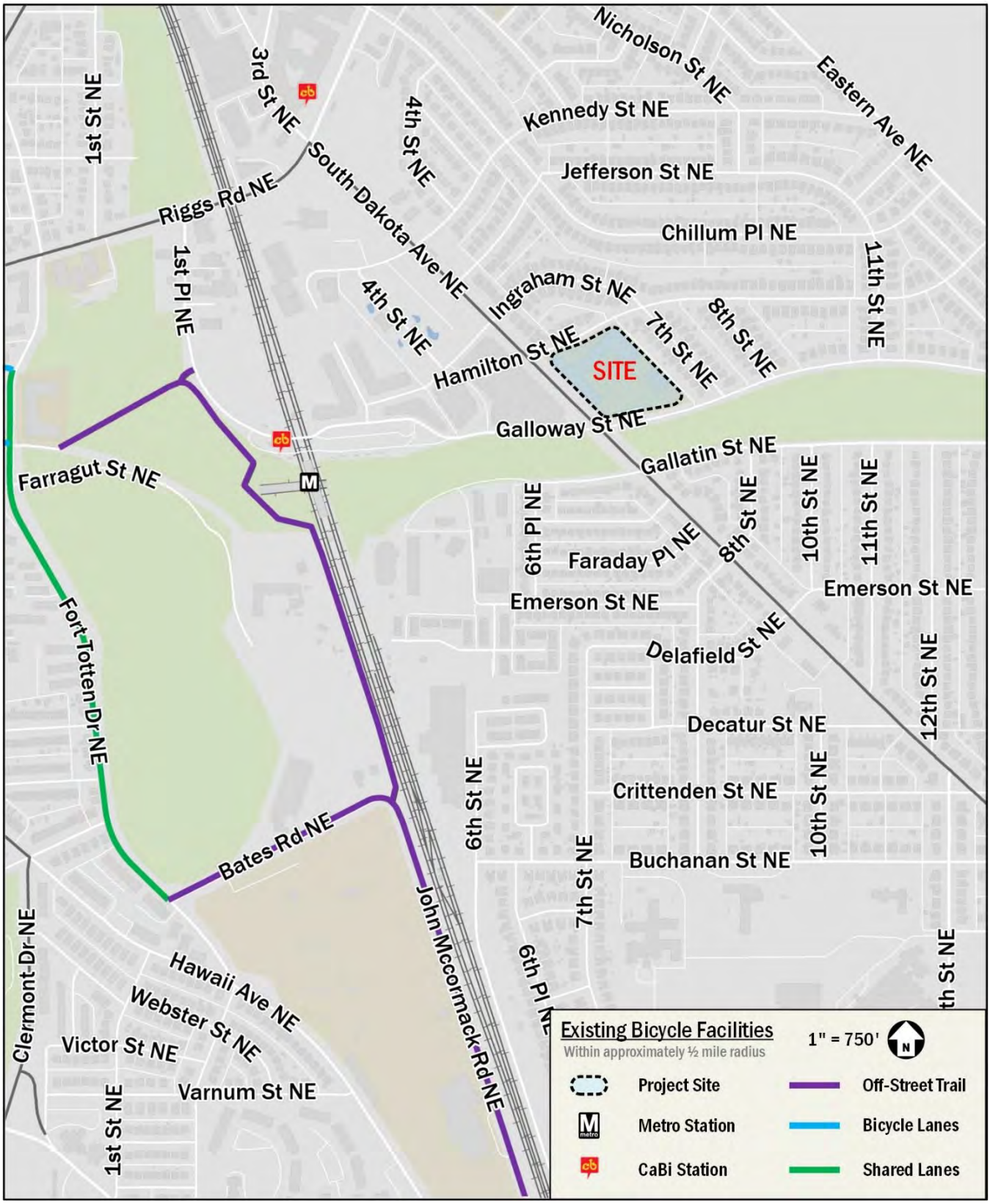

Figure 17: Existing Bicycle Facilities

Figure 18: Expected Bicycle Routes between Metropolitan Branch Trail and Project Site

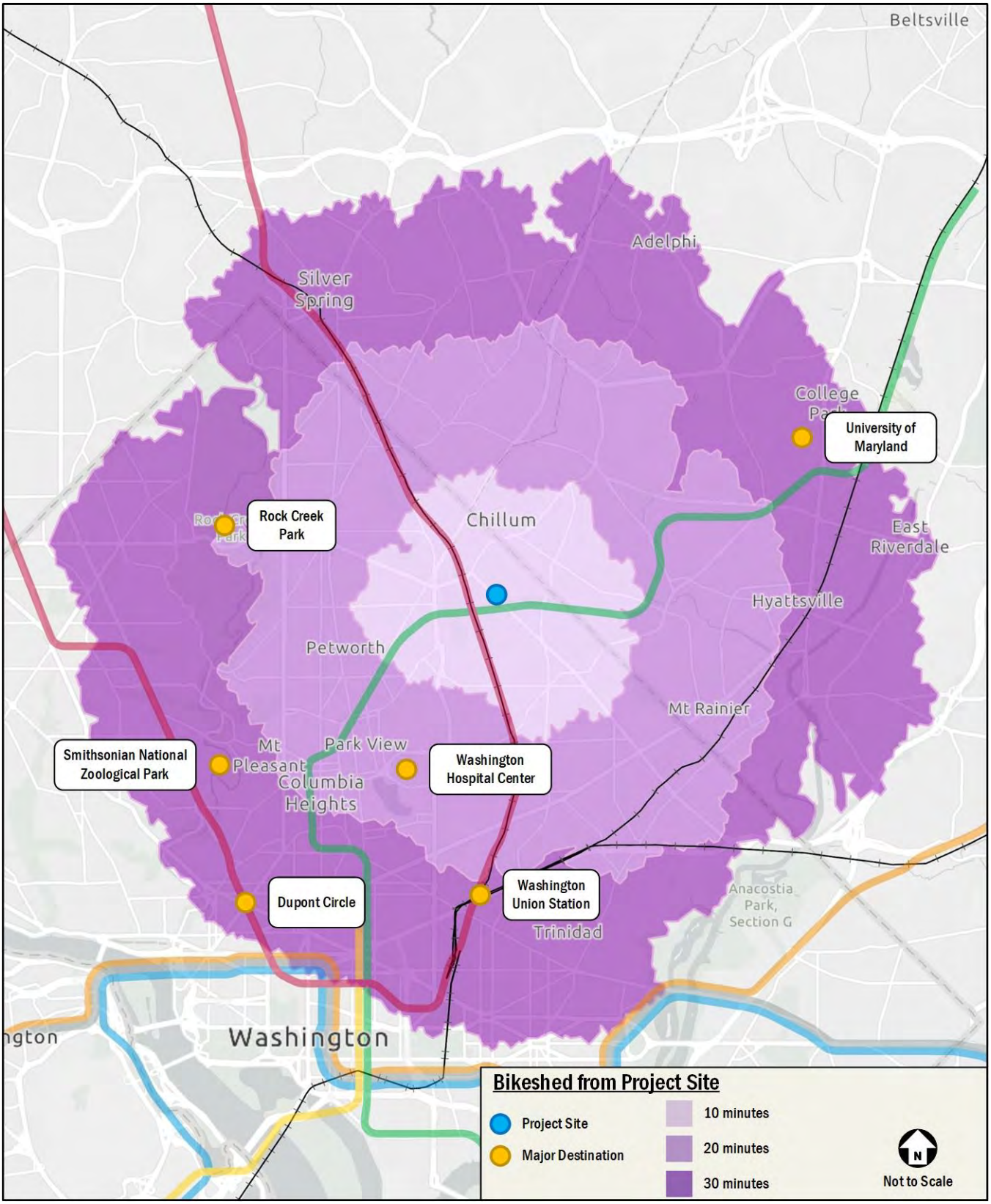

Figure 19: Bikeshed from Project Site

Figure 20: Future Bicycle Facilities

Pedestrian Facilities

Existing Off-campus Pedestrian Facilities

Pedestrian facilities within approximately a quarter mile walk from the UDC Lamond-Riggs campus were evaluated, as well as along the path to the Fort-Totten Metro Station. This review is based on the guidelines set forth by DDOT's *Design and Engineering Manual (2019),* shown in Table 5, 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 requirement apply. The walkshed from the campus is shown on Figure 21 and review of pedestrian facilities is shown on Figure 22.

The existing pedestrian network surrounding the campus, zoned as a "Low to Moderate Density Residential" area, is mostly well-connected and of decent quality. The large volume of high-speed commuter traffic along South Dakota Avenue NE does create an uncomfortable pedestrian environment, along with many sidewalks south of the campus not meeting standard requirements. Additionally, pedestrian facilities along Galloway Street NE either do not meet DDOT's minimum width or buffer requirements and lack sidewalks on either side of South Dakota Avenue NE. Other sidewalks along 8th Street NE, Hamilton Street NE, and Ingraham Street NE also do not meet standards. Nearly every intersection near the campus has ADA-compliant curb ramps and crosswalks.

Table 5: DDOT Sidewalk Minimum Requirements

Street Type	Tree/Furnishing Zone	Unobstructed Clear Width	Total Minimum Sidewalk Width
Low to Moderate Density Residential	4-6 feet	6 feet	10 feet
High Density Residential	4-8 feet	8 feet	13 feet
Central DC and Commercial Areas	4-10 feet	10 feet	16 feet

Existing On-campus Pedestrian Circulation

The pedestrian network surrounding the UDC Lamond-Riggs campus connects with the campus' internal walkways along South Dakota Avenue NE, Galloway Street NE, and Hamilton Street NE. These walkways provide pedestrian access to each wing of the building.

Sidewalks along Galloway Street NE and 7th Street NE do not meet DDOT's sidewalk minimum requirements, with a tree/furnishing zone less than the required minimum of 4 feet and a sidewalk width of less than 6 feet, respectively.

Impacts of Campus Plan

The Campus Plan proposes several improvements to pedestrian circulation and connectivity, both externally at the campus's getaways from public streets and internally on campus. Proposed pedestrian improvements are outlined below.

Pedestrian Walkway

The project proposes to introduce pedestrian walkways that prioritize the safety and convenience of pedestrians in each of the two (2) surface parking lots. These walkways will clearly indicate a pedestrian-first approach. Additionally, the project includes pedestrian leadwalks that connect the sidewalks of Hamilton Street and Galloway Street NE to the campus ground. These improvements not only enhance accessibility but invite students, faculty, and visitors to engage with the campus in a more connected and meaningful manner.

Centralized Pedestrian Entrance

During Phase II, the project will introduce a centralized pedestrian entrance, redefining the way individuals access the campus. This new entrance will serve as a focal point, streaming the flow of pedestrians and enhancing accessibility. By consolidating entry points, the campus will provide a more cohesive and engaging arrival experience for students, faculty, and visitors.

Wayfinding

The Campus Plan recommends the design and implementation of a signage plan to improve wayfinding on the campus and its surroundings. This is intended not only to improve wayfinding but enhance the campus's visual identity in the Lamond-Riggs neighborhood. The Campus Plan proposes including street signage, exterior building signage, directional signs, campus maps, and campus wayfinding paths in the signage plan.

Curb Extensions

During Phase II, the project will install curb extensions at the southeast corner of South Dakota Avenue and Hamilton Street NE, as well as the northeast corner of South Dakota Avenue and Galloway Street NE. These curb extensions will significantly improve pedestrian crossings by reducing the pedestrian crossing distance, improving the ability of pedestrians and motorists to see each other, and reducing the time that pedestrians are in the street.

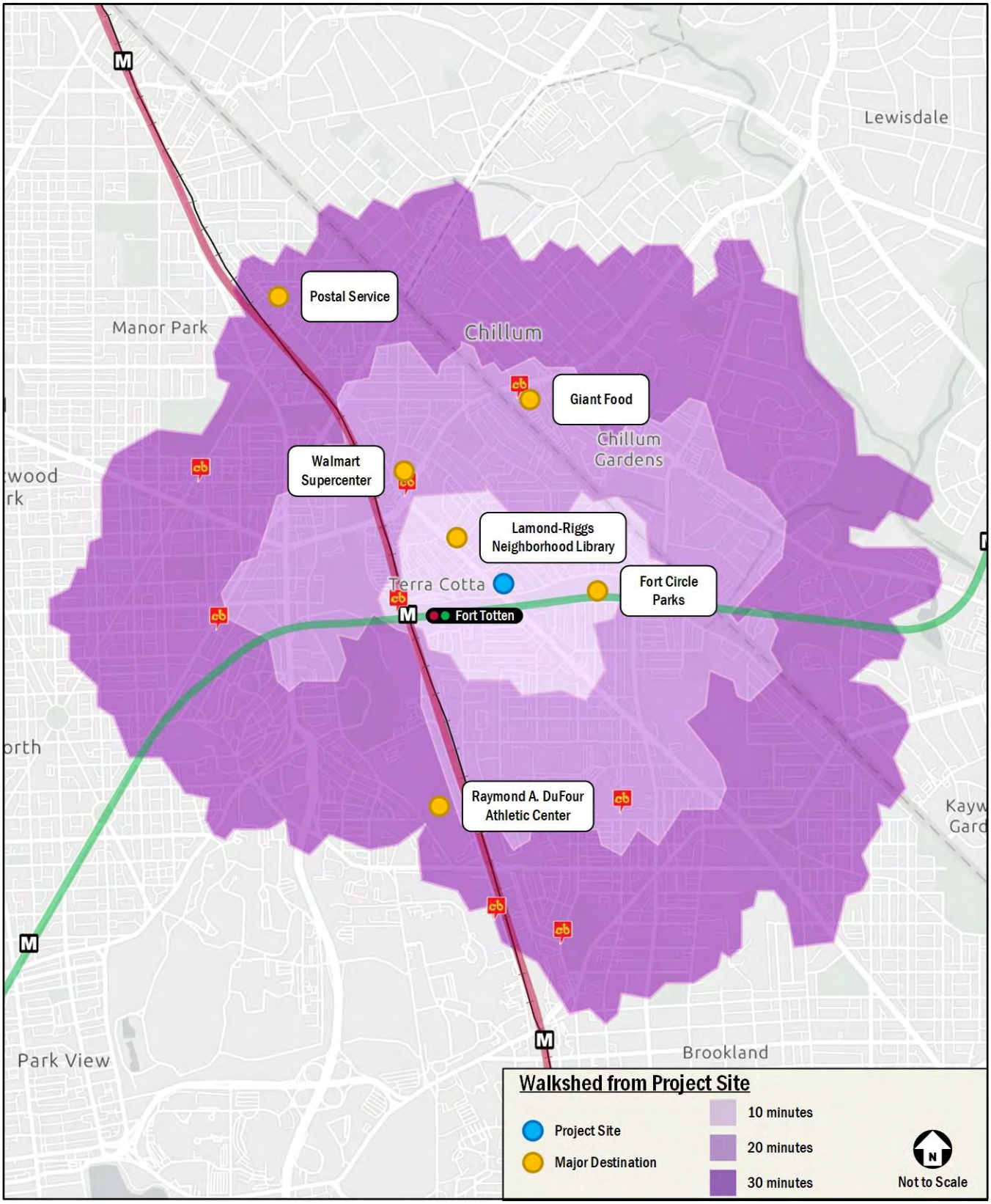

Figure 21: Walkshed from Project Site

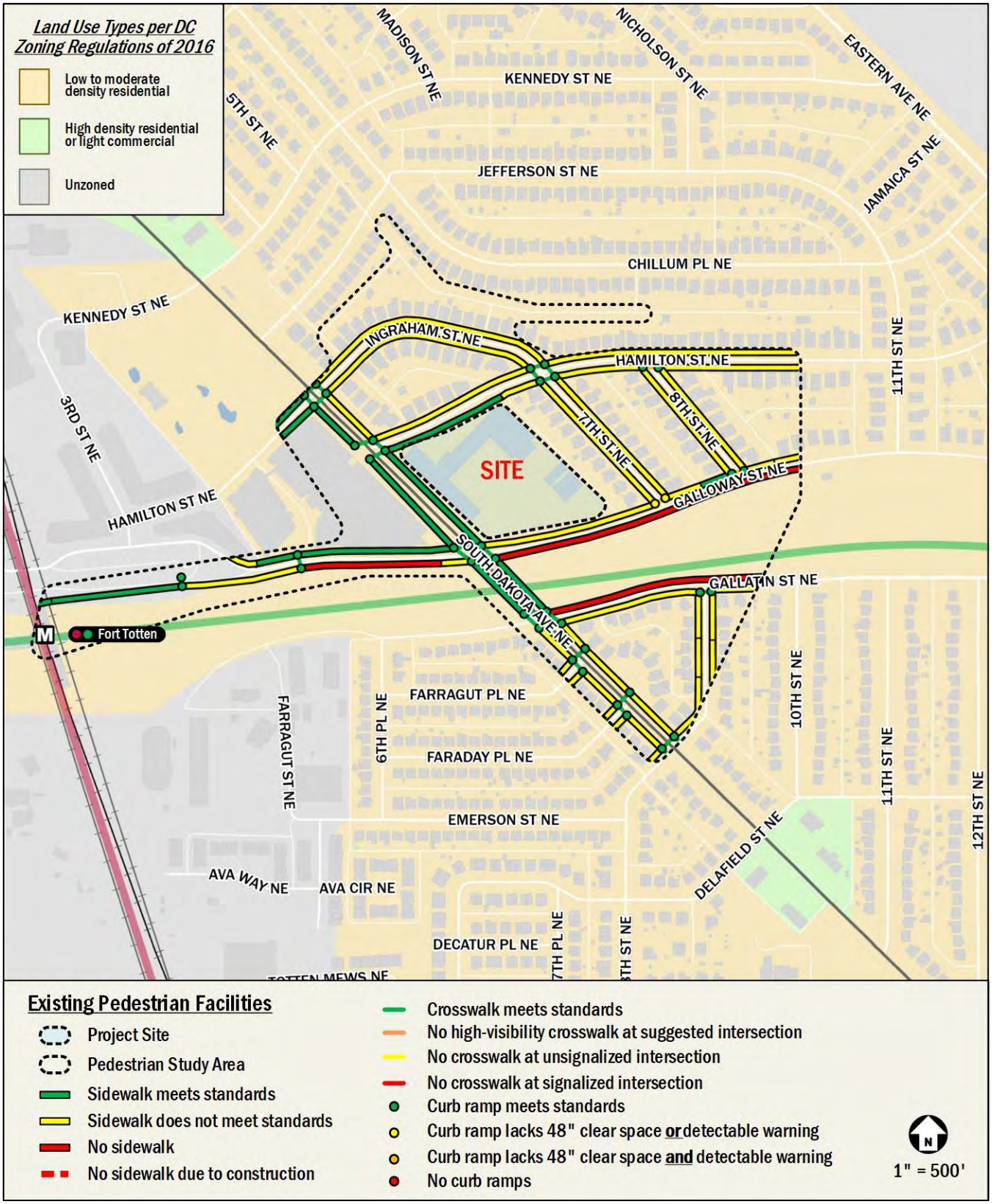

Figure 22: Existing Pedestrian Facilities

Figure 23: Future Pedestrian Facilities

Travel Demand Assumptions

Mode Split Methodology

2011 UDC Student Center Market Research

In 2011, a travel mode to campus survey was conducted for market research for the proposed UDC Student Center. The results of that survey are shown in Table 6.

Table 6: 2011 Travel Modes to Campus

Mode	Staff	Students
Auto	61.6%	27.8%
Transit	31.5%	64.5%
Bike	4.1%	2.0%
Walk	1.4%	5.7%

2016 UDC Van Ness TDM Survey

In 2016, a Transportation Demand Management report was prepared for UDC that included a survey of staff and students' existing transportation modes. Existing travel modes at the time from this report are summarized in Table 7. As can be seen, the auto mode split among staff decreased between 2011 and 2016, while it increased among students.

Table 7: 2016 Travel Modes to Campus

Mode	Staff	Students
Auto	53.7%	33.6%
Transit	39.9%	59.4%
Bike	1.3%	0.9%
Walk	2.5%	3.9%
Other	2.6%	2.2%

2022 UDC Lamond-Riggs Campus Survey

In 2022, a campus survey was conducted for students of the Lamond-Riggs campus which included a question about travel to and from campus. The survey found that approximately 17.2% of survey participants drive to campus.

Mode Split Assumptions

To provide trip generation calculations that incorporate the auto splits of both students and staff, the 2016 Van Ness campus survey and 2022/2023 Lamond-Riggs campus survey were utilized to establish an "overall" auto split that represents the combined student and staff populations, as shown in Table 8. The "overall" mode split was weighted by the anticipated student and staff population by 2030, which resulted in 1% increase as the student population is much larger than the staff. To be conversative, the overall auto mode split was assumed to be 20%.

Table 8: Summary of Mode Split Assumptions

Mode	Students and Staff
Auto	20%
Transit	72%
Bike	2%
Walk	6%

Trip Generation Methodology

Traditionally, weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation Manual*, 11th Edition. This methodology was supplemented to account for the urban nature of the project (the *Trip Generation Manual* provides data for non-urban, low transit use sites) and to generate trips for multiple modes, as vetted and approved by DDOT.

Trip generation was calculated based on the using ITE Trip Generation Manual 11th Edition rates for Land Use 540 *Junior/Community College* with the independent variable "Students".

The calculated trips were then split into different modes using assumptions outlined in the Mode Split Methodology section of this report.

As shown in Table 9, the proposed development is expected to generate trips on the surrounding network across all modes. The AM peak hour trip generation is projected to include 66 vehicle trips per hour, 280 transit trips per hour, 8 bicycle trips per hour, and 23 pedestrian trips per hour. The PM peak hour trip generation is projected to include 66 vehicle trips per hour, 280 transit trips per hour, 8 bicycle trips per hour, and 23 pedestrian trips per hour.

Night-Class Schedules

As of August 2023, during the summer term, the campus sees an average of 120 students on campus after 7 PM. Additionally, there is a desire to increase this number to approximately 300 students during the academic year and eventually up to 750 students once the campus facility is fully expanded with additional classrooms.

However, as the proposed project is a CMP, detailed information regarding class schedules and individual course enrollments have yet to be defined. As such, it is was agreed upon with DDOT that ITE rates be used for trip generation calculations as part of the Campus Plan. More detailed trip generation calculations (e.g.,

modeling trips according to anticipated class schedules) will be provided during Further Processing.

Existing Trip Generation

The existing head count of the campus includes 1,499 students. Table 9 shows the ITE multi-modal trip generation by the existing head count.

For purposes of the capacity analysis (discussed in the next chapter of this report), existing vehicle trips associated with the existing enrollment are removed from the network using the in and out turning movement counts that were collected at the two (2) existing site driveways and the trip distribution assumed for the proposed project. Table 10 shows the in and out traffic movement counts at the driveways during the weekday morning and afternoon peak hours.

As shown in Table **11**, as compared to the existing uses of the site, the proposed development program will result in an increase of 24 vehicular trips in the AM hour and an increase of 58 vehicular trips in the PM peak hour.

Table 9: ITE Multi-Modal Trip Generation by Use

Mode	AM Peak Hour			PM Peak Hour			Daily Total
	In	*Out*	*Total*	*In*	*Out*	*Total*	
Proposed (3,000 students)							
Auto	53 veh/hr	13 veh/hr	66 veh/hr	37 veh/hr	29 veh/hr	66 veh/hr	690 veh
Transit	227 ppl/hr	53 ppl/hr	280 ppl/hr	157 ppl/hr	123 ppl/hr	280 ppl/hr	2931 ppl
Bike	6 ppl/hr	2 ppl/hr	8 ppl/hr	4 ppl/hr	4 ppl/hr	8 ppl/hr	81 ppl
Walk	19 ppl/hr	4 ppl/hr	23 ppl/hr	13 ppl/hr	10 ppl/hr	23 ppl/hr	245 ppl
Existing (1,499 students)							
Auto	27 veh/hr	6 veh/hr	33 veh/hr	19 veh/hr	14 veh/hr	33 veh/hr	345 veh
Transit	114 ppl/hr	26 ppl/hr	140 ppl/hr	78 ppl/hr	62 ppl/hr	140 ppl/hr	1464 ppl
Bike	3 ppl/hr	1 ppl/hr	4 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr	41 ppl
Walk	9 ppl/hr	3 ppl/hr	12 ppl/hr	7 ppl/hr	5 ppl/hr	12 ppl/hr	122 ppl

Table 10: Existing Driveway Counts

Mode	AM Peak Hour			PM Peak Hour			Daily Total
	In	*Out*	*Total*	*In*	*Out*	*Total*	
Existing Driveway Counts							
Auto	36 veh/hr	6 veh/hr	42 veh/hr	2 veh/hr	6 veh/hr	8 veh/hr	---

Table 11: Net New Trip Generation

Mode	AM Peak Hour			PM Peak Hour			Daily Total
	In	*Out*	*Total*	*In*	*Out*	*Total*	
Net New Trips							
Auto*	17 veh/hr	7 veh/hr	24 veh/hr	35 veh/hr	23 veh/hr	58 veh/hr	---
Transit**	113 ppl/hr	27 ppl/hr	140 ppl/hr	79 ppl/hr	61 ppl/hr	140 ppl/hr	1467 ppl
Bike**	3 ppl/hr	1 ppl/hr	4 ppl/hr	2 ppl/hr	2 ppl/hr	4 ppl/hr	40 ppl
Walk**	10 ppl/hr	1 ppl/hr	11 ppl/hr	6 ppl/hr	5 ppl/hr	11 ppl/hr	123 ppl

*Net new vehicle trips based on peak hour driveway counts
** Net new non-auto trips based on ITE rates

Traffic Impact Analysis

This chapter summarizes an analysis of the existing and future roadway capacity surrounding the site, including an analysis of potential vehicular impacts of the Brookland Lanes Redevelopment and a discussion of potential improvements.

The purpose of the capacity analysis is to:

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

This analysis was accomplished by determining the traffic volumes and roadway capacity for Existing Conditions, Background Conditions, and Total Future Conditions. The scope of the capacity analysis was developed based on DDOT guidelines and agreed to by DDOT staff.

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

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

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

This chapter concludes:

- Under Existing Conditions, two (2) study intersections operate at unacceptable levels of service, indicating areas of concern along Kennedy Street NE and Galloway Street NE.
- The addition of background developments and growth under Background Conditions results in three (3) study intersections operating at unacceptable levels of service, indicating areas of concern along Kennedy Street NE, Hamilton Street NE, South Dakota Avenue NE, and Galloway Street NE.
- The addition of site-generated trips results in three (3) study intersections operating at unacceptable levels of service, indicating areas of concern along Kennedy Street NE, Hamilton Street NE, South Dakota Avenue NE, and Galloway Street NE.
- Under Total Future Conditions, two (2) intersections meet DDOT's threshold for mitigation measures as a result of impacts to delay created by the project.
- Mitigations in the form of signal timing adjustments are recommended at the identified intersections.
- The project will not have a detrimental impact on the surrounding vehicular network, with implementation of all site design and mitigation measures.

Study Area, Scope, and Methodology

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

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

Capacity Analysis Scenarios

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

Specifically, the roadway capacity analysis examined the following scenarios:

- 2023 Existing Conditions
- 2033 Future Conditions without the development (2033 Background Conditions)
- 2033 Future Conditions with the development (2033 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 chosen and agreed upon by DDOT for analysis:

1. South Dakota Avenue & Kennedy Street NE
2. South Dakota Avenue & Jefferson Street NE
3. South Dakota Avenue & Ingraham Street NE
4. South Dakota Avenue & Hamilton Street NE
5. South Dakota Avenue & Galloway Street NE
6. South Dakota Avenue & Gallatin Street NE
7. Hamilton Street NE & North Site Entrance
8. Hamilton Street & Ingraham Street/7th Street NE
9. Galloway Street NE & South Site Entrance
10. Galloway Street & 7th Street NE

Figure 24 shows a map of the study area intersections.

Geometric and Operations Assumptions

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

Existing Geometry and Operations Assumptions

The geometry and operations assumed in the existing conditions scenario are those present when the main data collection occurred. Gorove Slade made observations and confirmed the existing lane configurations and traffic controls at the intersections within the study area. Existing signal timings and offsets were obtained from DDOT and confirmed during field reconnaissance.

The lane configurations and traffic controls for the Existing Conditions are shown on Figure 25.

Background Geometry and Operations Assumptions

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

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

Based on these criteria, there were no improvements identified for this analysis.

The lane configurations and traffic controls for the Background Conditions, which are the same as those of the Existing Conditions, are shown on Figure 25.

Total Future Geometry and Operations Assumptions

The configurations and traffic controls for the 2025 Total Future Conditions were based on those for the 2025 Background Conditions with Project improvements.

As no improvements are proposed as part of the Project, the lane configurations and traffic controls for the Total Future Conditions are the same as those of the Existing Conditions, which are shown on Figure 25.

Traffic Volume Assumptions

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

Existing Traffic Volumes

The existing traffic volumes are comprised of the following weekday Turning Movement Count (TMC) data:

- Volumes collected on Tuesday, September 20, 2022, from 6:30 to 9:30 AM and 4:00 to 7:00 PM

TMC volumes were used at the following intersections:

- South Dakota Avenue & Kennedy Street NE
- South Dakota Avenue & Jefferson Street NE
- South Dakota Avenue & Ingraham Street NE
- South Dakota Avenue & Hamilton Street NE
- South Dakota Avenue & Galloway Street NE
- South Dakota Avenue & Gallatin Street NE
- Hamilton Street NE & North Site Entrance
- Hamilton Street & Ingraham Street/7th Street NE
- Galloway Street NE & South Site Entrance
- Galloway Street & 7th Street NE

For all intersections, the weekday morning and weekday afternoon system peak hours were used. Existing volumes were balanced, as appropriate. The 2023 Existing peak hour traffic volumes, with balancing adjustments, are shown in Figure 26.

Background Traffic Volumes (without the Project)

The traffic projections for the 2033 Background Conditions consist of the existing volumes with three (3) possible additions:

- Volume reroutes as a result of transportation network roadway projects or background developments;
- Inherent growth on the roadway (representing regional traffic growth); and
- The impacts of background developments, if any.

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 to or close to the proposed development.

Based on these criteria, and as discussed with and agreed upon by DDOT, two (2) developments were considered and determined to meet the above criteria. These developments include the following:

1. Art Place at Fort Totten (Phase II Only – Buildings B, C, and D)
2. 5543-5575 South Dakota Avenue

Existing studies were available for all developments, with mode splits, trip generation, and trip distributions used from the studies wherever available.

A summary of the trip generation for the background developments is shown in Table 12.

While the background developments represent local traffic changes, regional traffic growth is typically accounted for using growth rates. The growth rates used in this analysis are derived using the Metropolitan Washington Council of Government's (MWCOG) currently adopted regional transportation model, comparing the difference between the year 2023 and 2028 model scenarios as vetted and agreed to by DDOT. The growth rates observed in this model served as a basis for analysis assumptions. The applied growth rates are shown in Table 13.

The background growth volumes are shown in Figure 27 and background development volumes are shown in Figure 28.

The traffic volumes generated by the inherent growth along the network were added to the existing traffic volumes to establish the 2033 Background traffic volumes. The traffic volumes for the 2033 Background Conditions are shown in Figure 29.

Total Future Traffic Volumes (with the Project)

The 2033 Total Future traffic volumes consist of the 2033 Background volumes with the addition of the traffic volumes generated by the residential and retail uses of the project. Thus, the 2033 Total Future traffic volumes include traffic generated by: the existing volumes, background developments, the inherent growth on the study area roadways, and the project.

Trip distribution for the site-generated trips was determined based on the 2016 UDC TDM Campus Survey in which student and employee home ZIP codes were collected. In the survey, students were distinguished between Flagship students (Van Ness campus) and Community College students (satellite campuses). Based on the review, the home ZIP codes for Community College students were used to establish distribution for site-generated trips through the study area intersections. Additionally, the expected trip distribution at each driveway on-site is based on the parking spaces provided at each of the two (2) surface parking lots. Trip distributions were vetted and agreed to by DDOT.

A summary of trip distribution assumptions is provided in Figure 30 for inbound and outbound trips. The project-generated traffic volumes are shown in Figure 31. The 2033 Total Future traffic volumes are shown in Figure 32.

Peak Hour Factors

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

For the Existing Conditions analysis, the PHF was calculated from the turning movement data that was collected in the field, using a

minimum PHF of 0.85 for each intersection. Per DDOT guidelines, the intersection PHF remained the same through all study scenarios.

Table 12: Trip Generation for Background Developments

Background Development	Trip Generation Source	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Art Place at Fort Totten Phase II	Technical Memorandum prepared by Wells + Associates (ZC 06-10E)	80	119	199	230	131	361
5543-5575 South Dakota Avenue NE	ITE's Trip Generation Manual, 11th Edition	52	75	127	138	115	253

Table 13: Applied Annual and Total Growth Rates

Roadway	Direction	Proposed Annual Growth Rate Between 2023 and 2033 [1]		Proposed Total Growth Between 2023 and 2033	
		AM Peak Hour	PM Peak Hour	AM Peak Hour	PM Peak Hour
South Dakota Avenue NE	NB	0.10%	0.30%	0.70%	2.12%
	SB	0.48%	0.50%	3.41%	3.55%
Hamilton Street NE	EB	0.98%	0.33%	7.07%	2.33%
	WB	0.50%	0.50%	3.55%	3.55%
Galloway Street NE	EB	0.50%	1.09%	3.55%	7.88%
	WB	1.05%	0.50%	7.59%	3.55%
Gallatin Street NE	EB	0.10%	0.12%	0.70%	0.84%
	WB	0.23%	0.10%	1.62%	0.70%
All Other Roadways		0.10%	0.12%	0.70%	0.84%

[1] These rates were applied to volumes grown from 2023 existing conditions. Rates are based on MWCOG's currently adopted regional transportation model and/or AADT data.

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 11 was used to analyze the study intersections based on the HCM 2000 methodology.

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

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

Table 14 shows the results of the capacity analyses, including LOS and average delay per vehicle (in seconds) for the 2023 Existing, 2033 Background, and 2033 Total Future scenarios.

Table 15 shows a comparison of the volume to capacity (v/c) ratios for each scenario.

Queuing Analysis

In addition to the capacity analyses presented above, a queuing analysis was performed at each of the study intersections. The queuing analysis was performed using *Synchro* software. The 50th percentile and 95th percentile maximum queue lengths are shown for each lane group at the study area signalized intersections. The 50th percentile maximum queue is the maximum back of queue on a typical cycle. The 95th percentile queue is the maximum back of queue with 95th percentile traffic volumes. For unsignalized intersections, the 95th percentile queue is reported for each lane group (including free-flowing left turns and stop-controlled movements) based on the HCM calculations. Table 16 shows the queuing results for the study area intersections.

Four (4) of the study intersections exhibit one or more lane group that exceeds the given storage length under Existing Conditions:

- South Dakota Avenue & Kennedy Street NE
  - Westbound Left/Thru/Right (AM)
- South Dakota Avenue & Hamilton Street NE
  - Northbound Left/Thru/Right (AM/PM)
- South Dakota Avenue & Galloway Street NE
  - Northbound Left/Thru/Right (AM)
- South Dakota Avenue & Gallatin Street NE
  - Northbound Left/Thru/Right (AM/PM)

The introduction of trips from background developments results in six (6) study intersections that exhibit one or more lane group that exceeds the given storage length:

- South Dakota Avenue & Kennedy Street NE
  - Westbound Left/Thru/Right (AM)
- South Dakota Avenue & Ingraham Street NE
  - Northbound Left/Thru/Right (PM)
- South Dakota Avenue & Hamilton Street NE
  - Northbound Left/Thru/Right (AM/PM)
  - Southbound Left/Thru/Right (AM/PM)
- South Dakota Avenue & Galloway Street NE
  - Northbound Left/Thru/Right (PM)
- South Dakota Avenue & Gallatin Street NE
  - Northbound Left/Thru/Right (AM/PM)

The introduction of site-generated trips does not result in any additional study intersections exhibiting a queue which exceeds the storage length.

Mitigation Measures

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

- The capacity analyses show a LOS E or F at an intersection or along an approach in the Total Future Conditions with the project where one does not exist in the Background Conditions;
- There is an increase in delay at any approach or overall intersection operating under LOS E or F of greater than 5 percent when compared to the Background Conditions; or

- There is an increase in the 95th percentile queues by more than 150 feet at an intersection or along an approach in the Future Conditions with the project where one does not exist in the Background Conditions.

Based on these criteria, the following intersection is impacted by the project:

- South Dakota Avenue & Galloway Street NE

Project Impact and Recommendations

This section summarizes the results of the capacity analyses for the intersections with movements or approaches that operate at unacceptable conditions and lists the scenarios for which this occurs. Impact associated with the proposed project is noted where delays for failing approaches or intersections increase by five (5) percent or more or where an intersection or approach go from an acceptable LOS to an unacceptable one as compared between Background and Total Future Conditions. Finally, recommendations for improvements at each intersection are discussed.

South Dakota Avenue & Galloway Street NE

During the PM peak hour, the eastbound approach of Galloway Street NE at this intersection experiences unacceptable delay in the Total Future Conditions. This approach's delay increased 14 percent in the PM peak hour between Background and Total Future Conditions. A total of seven (7) inbound site trips are routed through this approach during the PM peak hour, with the majority of vehicles making an eastbound thru movement.

Delays at this intersection can be reduced to levels comparable to or better than those seen in the Background Conditions through signal timing adjustments. The recommended mitigation at this intersection is consistent with signal phasing along South Dakota Avenue NE.

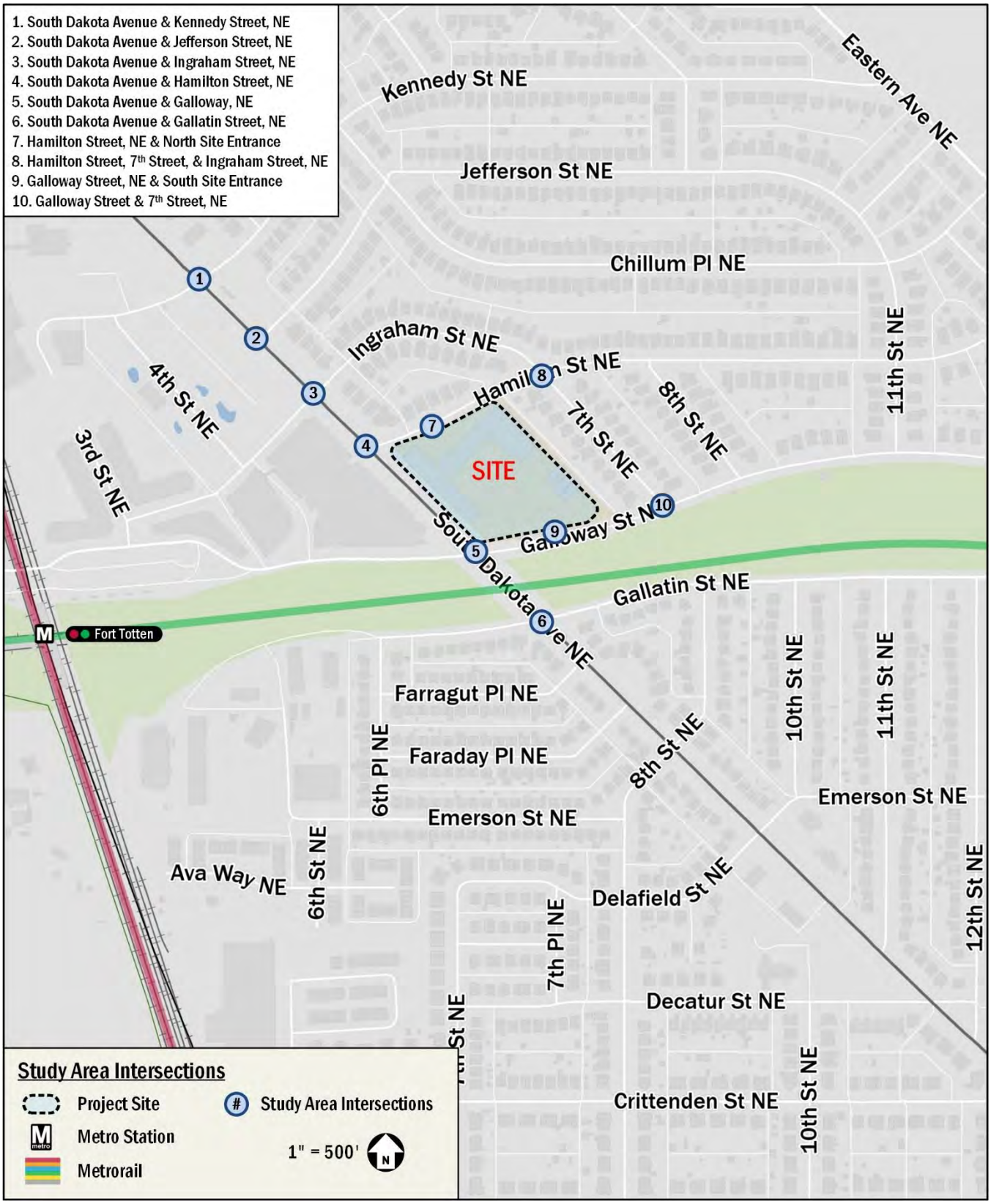

Figure 24: Study Area Intersections

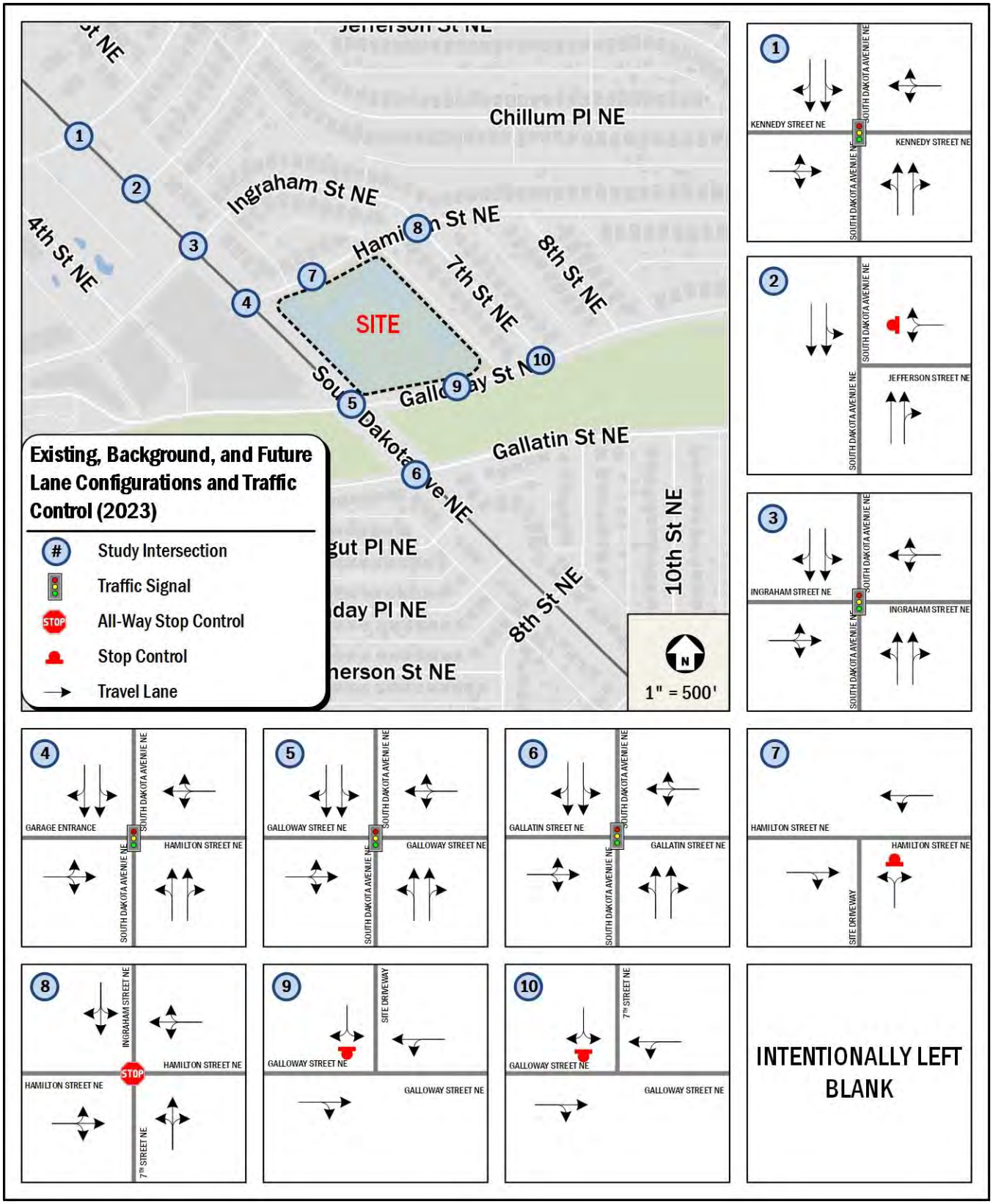

Figure 25: Existing, Background, and Future Lane Configurations

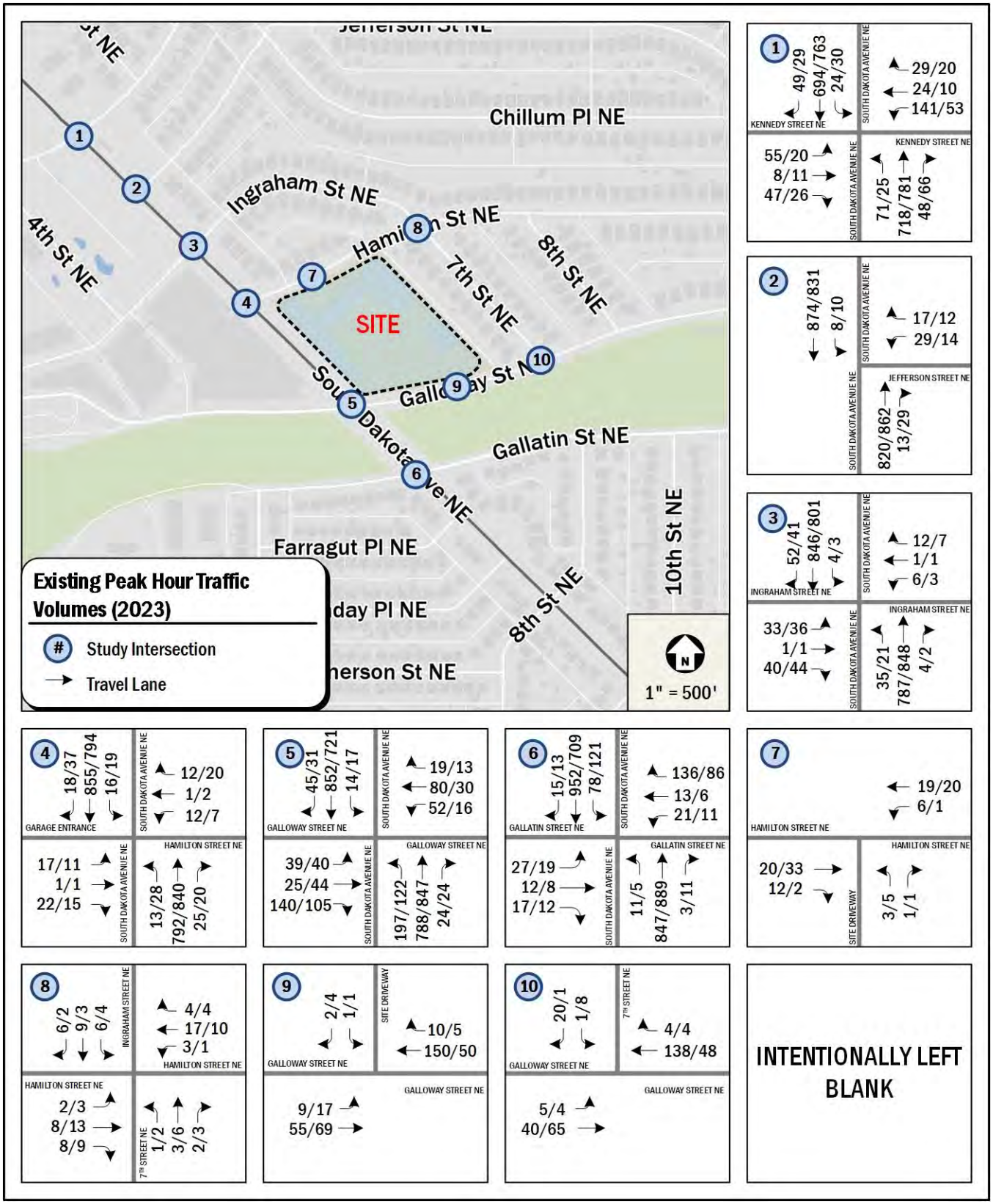

Figure 26: Existing Peak Hour Traffic Volumes

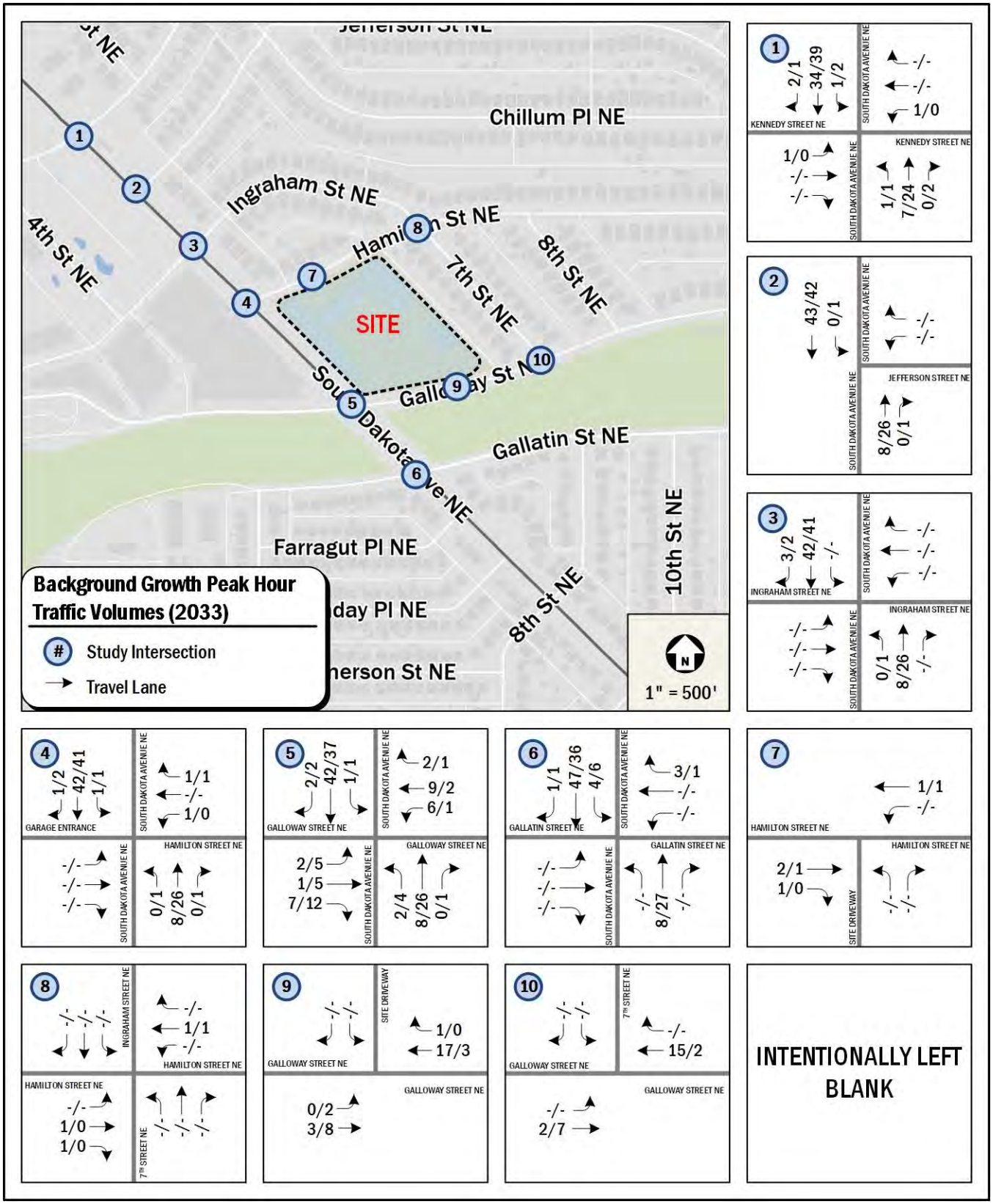

Figure 27: Background Growth Peak Hour Traffic Volumes

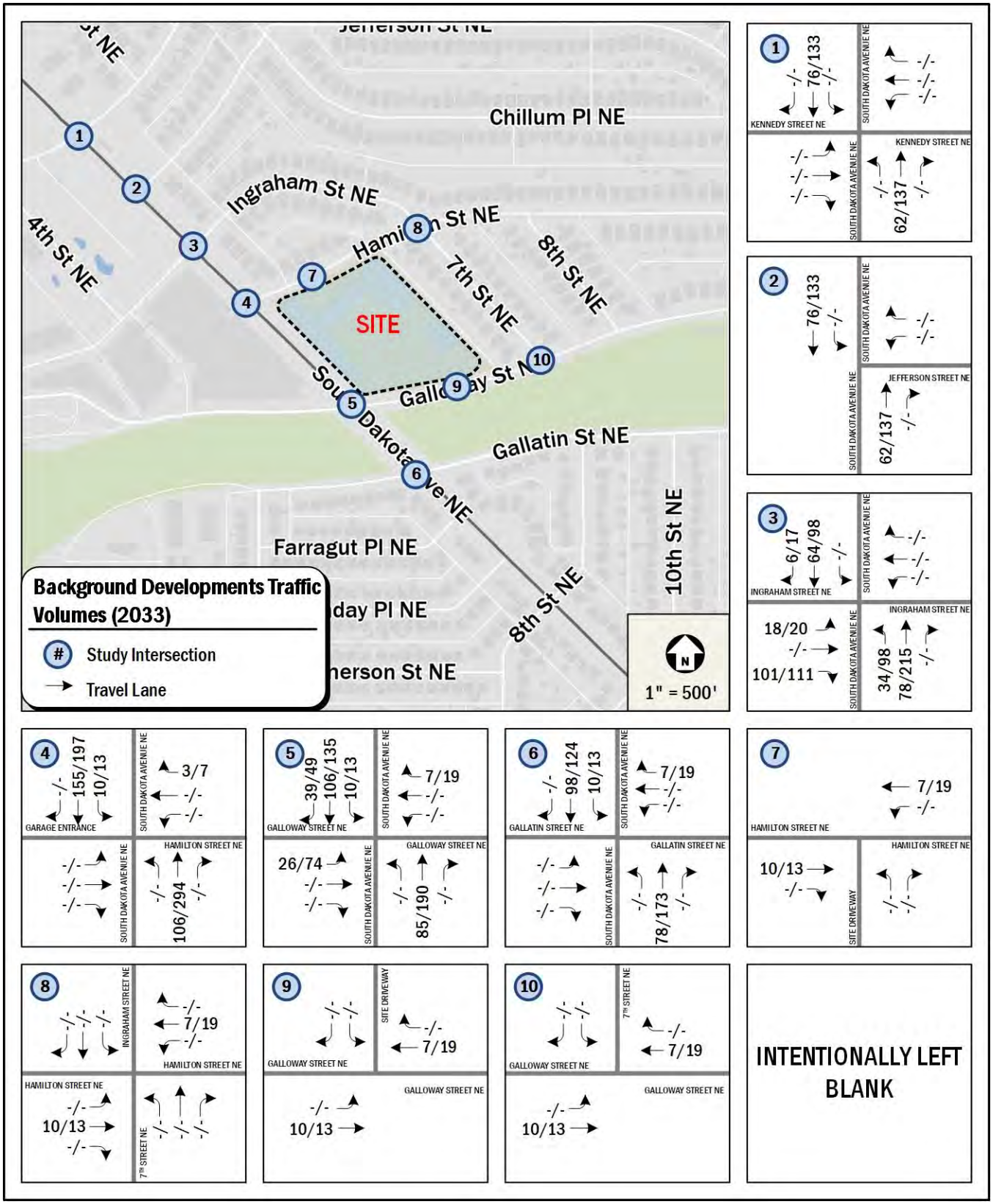

Figure 28: Background Development Peak Hour Traffic Volumes

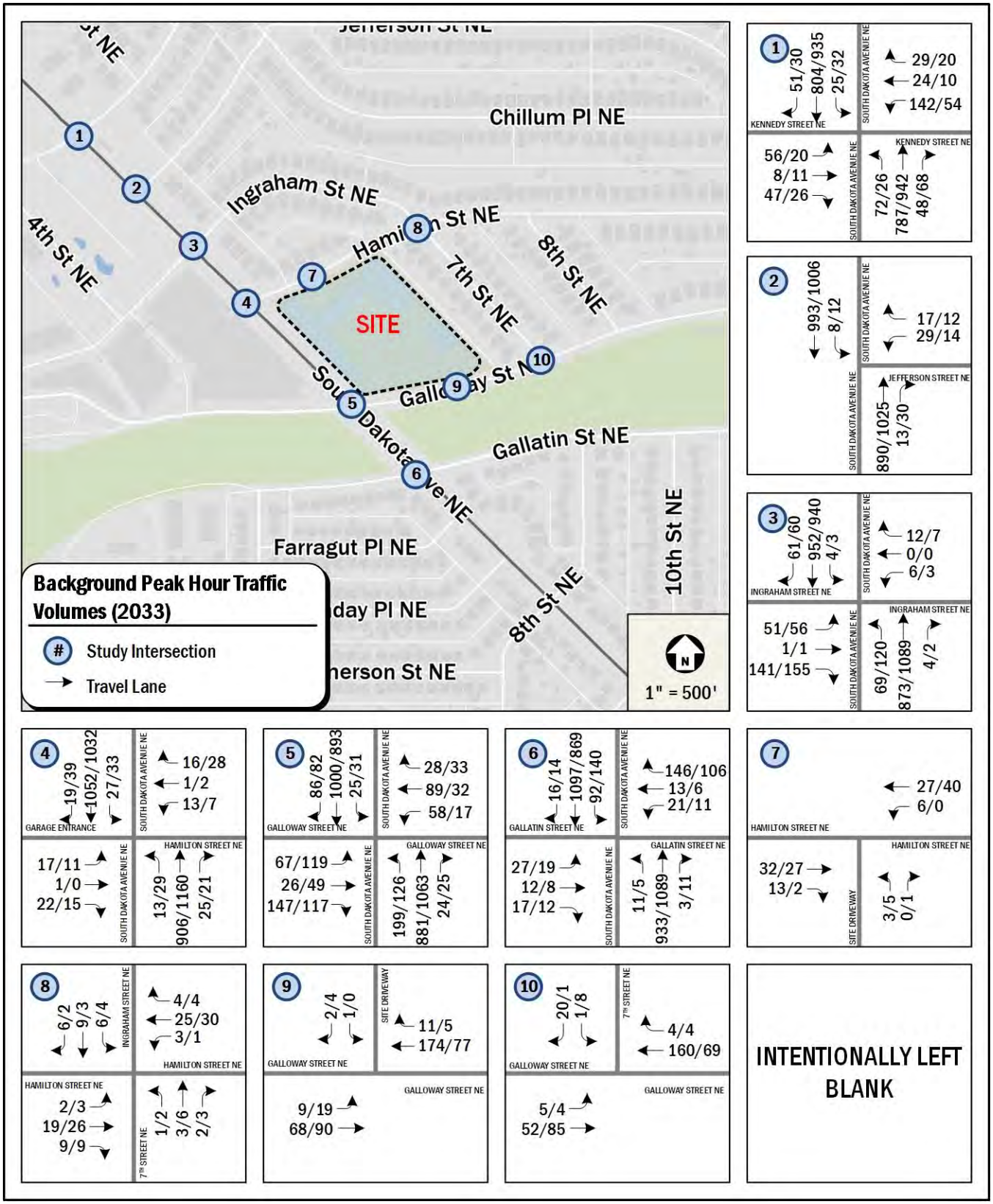

Figure 29: Background Peak Hour Traffic Volumes

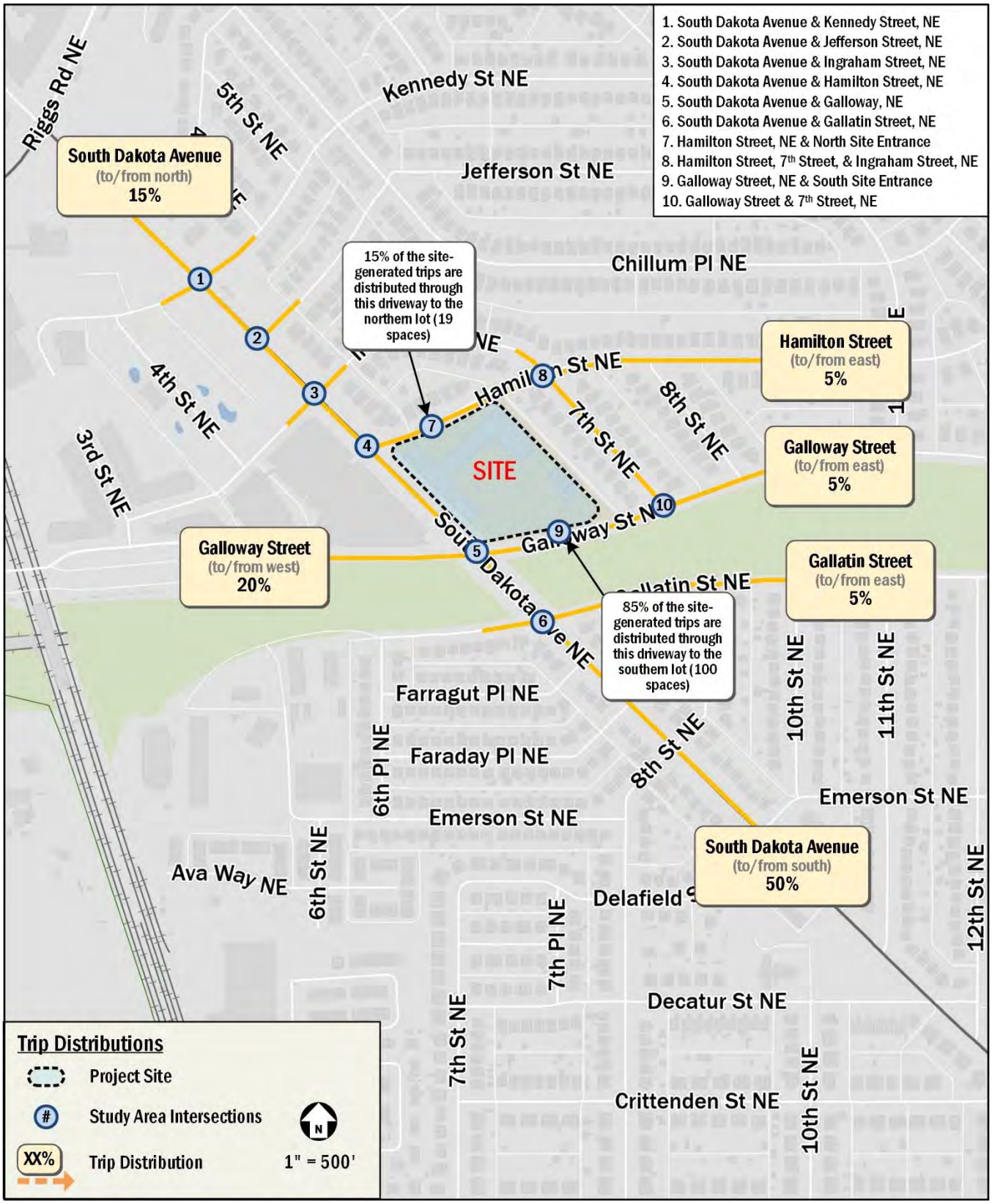

Figure 30: Trip Distribution

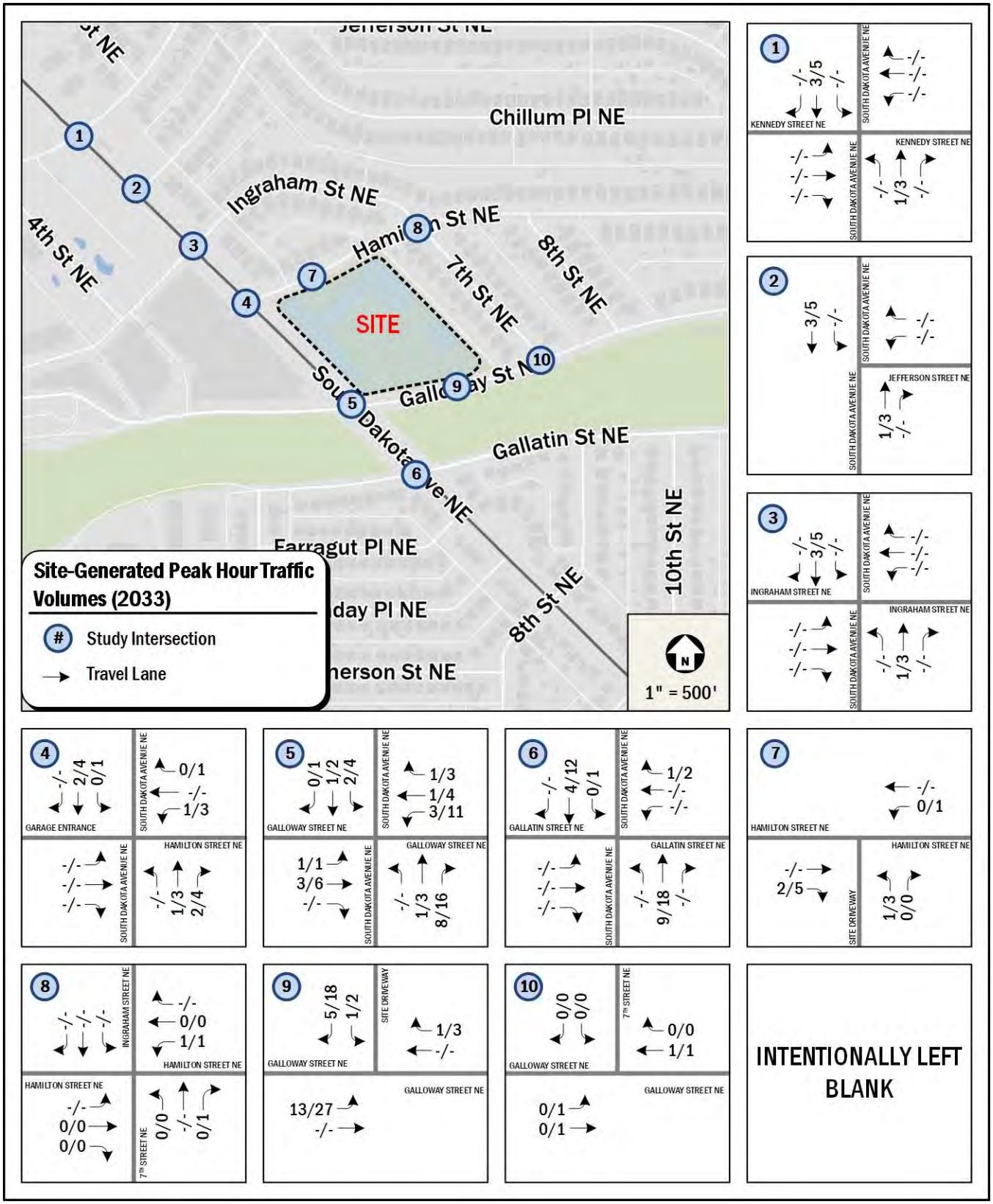

Figure 31: Site-Generated Peak Hour Traffic Volumes

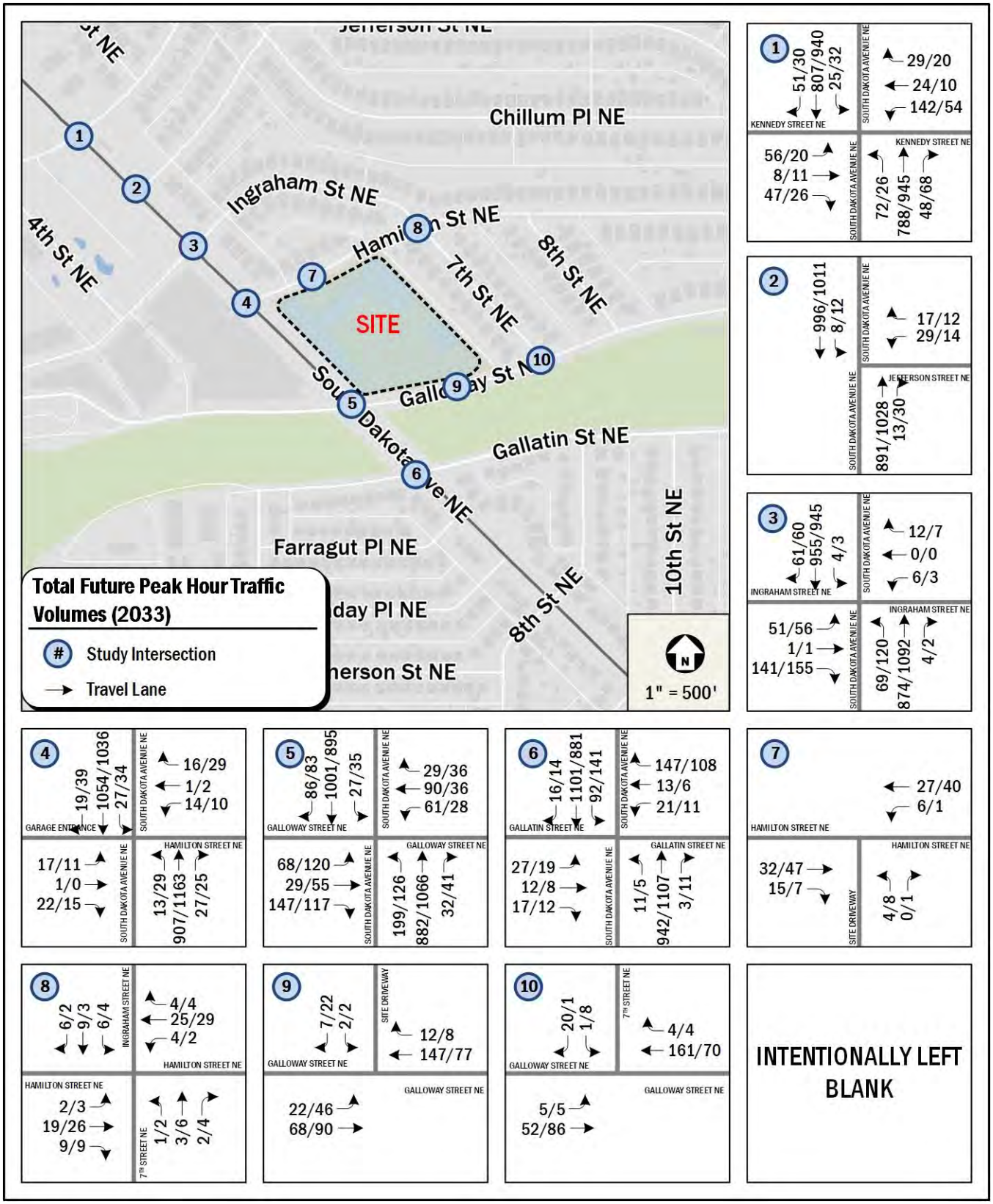

Figure 32: Total Future Peak Hour Traffic Volumes

Table 14: LOS Results

	Intersection and Approach	Existing (2023)				Background (2033)				Future (2033)				Future (2033) with Mitigations			
		AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
1.	**South Dakota Avenue & Kennedy Street NE**	**27.2**	**C**	**8.5**	**A**	**26.9**	**C**	**8.6**	**A**	**26.9**	**C**	**8.7**	**A**	**--**	**--**	**8.7**	**A**
	Eastbound	40.2	D	35.4	D	40.7	D	35.4	D	40.7	D	35.4	D	--	--	35.4	D
	Westbound	157.3	F	42.0	D	164.4	F	42.1	D	164.4	F	42.1	D	--	--	42.1	D
	Northbound	12.6	B	3.4	A	12.8	B	3.2	A	12.9	B	3.2	A	--	--	3.2	A
	Southbound	8.4	A	8.7	A	9.1	A	10.0	A	9.1	A	10.0	B	--	--	10.0	B
2.	**South Dakota Avenue & Jefferson Street NE**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	Westbound	16.8	C	15.7	C	16.0	C	14.4	B	16.0	C	14.4	B	--	--	14.4	B
	Northbound	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	--	--	0.0	--
	Southbound	0.1	--	0.2	--	0.1	--	0.2	--	0.1	--	0.2	--	--	--	0.2	--
3.	**South Dakota Avenue & Ingraham Street NE**	**4.9**	**A**	**7.0**	**A**	**9.6**	**A**	**17.8**	**B**	**9.6**	**A**	**17.8**	**B**	**--**	**--**	**17.8**	**B**
	Eastbound	34.5	C	35.1	D	41.9	D	43.4	D	41.9	D	43.4	D	--	--	43.4	D
	Westbound	32.9	C	32.6	C	29.7	C	28.9	C	29.7	C	28.9	C	--	--	28.9	C
	Northbound	2.9	A	6.6	A	7.3	A	22.6	C	7.4	A	22.8	C	--	--	22.8	C
	Southbound	3.7	A	4.3	A	5.3	A	6.4	A	5.3	A	6.4	A	--	--	6.4	A
4.	**South Dakota Avenue & Hamilton Street NE**	**20.3**	**C**	**30.2**	**C**	**39.8**	**D**	**135.8**	**F**	**40.2**	**D**	**141.6**	**F**	**--**	**--**	**141.4**	**F**
	Eastbound	40.7	D	40.1	0	40.7	D	40.1	0	40.7	D	40.1	0	--	--	40.1	0
	Westbound	39.3	D	39.5	0	39.5	D	39.8	0	39.6	D	40.1	0	--	--	40.1	0
	Northbound	15.5	B	37.3	0	18.2	B	130.9	0	18.3	B	135.4	0	--	--	134.9	0
	Southbound	23.3	C	22.3	0	58.3	E	146.7	0	59.1	E	154.9	0	--	--	154.9	0
5.	**South Dakota Avenue & Galloway Street NE**	**30.5**	**C**	**22.8**	**C**	**53.9**	**D**	**39.3**	**D**	**54.3**	**D**	**42.7**	**D**	**--**	**--**	**42.5**	**D**
	Eastbound	58.8	E	46.3	D	114.4	F	112.0	F	112.8	F	127.7	F	--	--	109.1	F
	Westbound	73.1	E	35.0	C	108.6	F	37.5	D	110.5	F	41.2	D	--	--	39.3	D
	Northbound	29.8	C	13.3	B	60.8	E	31.0	C	61.5	E	33.8	C	--	--	37.1	D
	Southbound	17.9	B	28.3	C	25.4	C	28.9	C	5.2	C	29.3	C	--	--	30.3	C
6.	**South Dakota Avenue & Gallatin Street NE**	**19.3**	**B**	**16.3**	**B**	**20.1**	**C**	**22.3**	**C**	**20.1**	**C**	**22.7**	**C**	**--**	**--**	**22.8**	**C**
	Eastbound	33.5	C	32.2	C	33.5	C	32.2	C	33.6	C	32.2	C	--	--	32.2	C
	Westbound	39.2	D	34.7	C	40.1	D	35.8	D	40.2	D	35.9	D	--	--	35.9	D
	Northbound	19.1	B	19.0	B	20.7	C	22.8	C	20.9	C	23.2	C	--	--	23.2	C
	Southbound	15.5	B	10.4	B	16.0	B	19.9	B	15.9	B	20.1	C	--	--	20.5	C
7.	**Hamilton Street NE & North Site Entrance**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	Eastbound	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	--	--	0.0	--
	Westbound	1.8	--	0.3	--	1.3	--	0.2	--	1.3	--	0.2	--	--	--	0.2	--
	Southbound	8.9	A	8.9	A	9.0	A	9.1	A	9.0	A	9.2	A	--	--	9.2	A
8.	**Hamilton Street & Ingraham Street/7th Street NE**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	Eastbound	6.9	A	6.9	A	7.0	A	7.1	A	7.0	A	7.1	A	--	--	7.1	A
	Westbound	7.1	A	6.9	A	7.1	A	7.1	A	7.2	A	7.2	A	--	--	7.2	A

	Northbound	6.9	A	6.9	A	7.0	A	7.0	A	7.0	A	7.0	A	--	--	7.0	A
	Southbound	7.0	A	7.1	A	7.1	A	7.2	A	7.1	A	7.2	A	--	--	7.2	A
9.	**Galloway Street NE & South Site Entrance**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	Eastbound	1.2	--	1.6	--	1.0	--	1.4	--	2.1	--	2.8	--	--	--	2.8	--
	Westbound	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	--	--	0.0	--
	Southbound	9.8	A	9.2	A	10.1	B	9.4	A	10.0	B	9.4	A	--	--	9.4	A
10.	**Galloway Street & 7th Street NE**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**	**--**
	Eastbound	0.9	--	0.5	--	0.7	--	0.4	--	0.7	--	0.5	--	--	--	0.5	--
	Westbound	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	0.0	--	--	--	0.0	--
	Southbound	9.5	A	9.5	A	9.7	A	9.8	A	9.7	A	9.9	A	--	--	9.9	A

Table 15: v/c Comparison

Intersection and Movement	Existing (2023)		Background (2033)		Future (2033)		Future (2033) with Mitigations	
	AM Peak	*PM Peak*	*AM Peak*	*PM Peak*	*AM Peak*	*PM Peak*	*AM Peak*	*PM Peak*
	v/c	v/c	v/c	v/c	v/c	v/c	v/c	v/c
1. South Dakota Avenue & Kennedy Street NE								
Eastbound LTR	0.41	0.19	0.43	0.19	0.43	0.19	--	0.19
Westbound LTR	1.16	0.42	1.18	0.42	1.18	0.42	--	0.42
Northbound LT/TR	0.56	0.49	0.61	0.58	0.62	0.58	--	0.58
Southbound LT/TR	0.43	0.46	0.50	0.56	0.50	0.56	--	0.56
2. South Dakota Avenue & Jefferson Street NE								
Westbound LR	0.14	0.08	0.13	0.07	0.13	0.07	--	0.07
Northbound T	0.33	0.36	0.36	0.42	0.36	0.42	--	0.42
Northbound TR	0.17	0.20	0.19	0.23	0.19	0.23	--	0.23
Southbound LT	0.01	0.01	0.01	0.02	0.01	0.02	--	0.02
Southbound T	0.35	0.34	0.40	0.42	0.40	0.42	--	0.42
3. South Dakota Avenue & Ingraham Street NE								
Eastbound LTR	0.30	0.34	0.72	0.75	0.72	0.75	--	0.75
Westbound LTR	0.07	0.04	0.07	0.04	0.07	0.04	--	0.04
Northbound LT/TR	0.45	0.43	0.62	0.89	0.62	0.90	--	0.90
Southbound LT/TR	0.43	0.40	0.53	0.52	0.53	0.52	--	0.52
4. South Dakota Avenue & Hamilton Street NE								
Eastbound LTR	0.23	0.16	0.23	0.16	0.23	0.16	--	0.16
Westbound LTR	0.13	0.15	0.16	0.19	0.16	0.22	--	0.22
Northbound LT/TR	0.74	0.79	0.85	1.20	0.85	1.21	--	1.21
Southbound LT/TR	0.80	0.78	1.04	1.25	1.04	1.27	--	1.27
5. South Dakota Avenue & Galloway Street NE								
Eastbound LTR	0.79	0.64	1.06	1.06	1.07	1.11	--	1.06
Westbound LTR	0.84	0.23	1.01	0.34	1.07	0.46	--	0.43
Northbound LT/TR	0.91	0.71	1.04	0.94	1.05	0.95	--	0.97
Southbound LT/TR	0.68	0.54	0.86	0.75	0.87	0.77	--	0.78
6. South Dakota Avenue & Gallatin Street NE								
Eastbound LTR	0.20	0.13	0.21	0.13	0.21	0.13	--	0.13
Westbound LTR	0.49	0.29	0.52	0.35	0.53	0.36	--	0.36
Northbound LT/TR	0.62	0.62	0.69	0.76	0.70	0.77	--	0.77
Southbound LT/TR	0.68	0.63	0.83	0.83	0.84	0.85	--	0.85
7. Hamilton Street NE & North Site Entrance								
Eastbound TR	0.02	0.02	0.03	0.03	0.03	0.04	--	0.04
Westbound LR	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00
Northbound LR	0.01	0.01	0.01	0.01	0.01	0.01	--	0.01

8.	**Hamilton Street & Ingraham Street/7th Street NE**								
	Eastbound LTR	--	--	--	--	--	--	--	--
	Westbound LTR	--	--	--	--	--	--	--	--
	Northbound LTR	--	--	--	--	--	--	--	--
	Southbound LTR	--	--	--	--	--	--	--	--
9.	**Galloway Street NE & South Site Entrance**								
	Eastbound LT	0.01	0.01	0.01	0.02	0.02	0.04	--	0.04
	Westbound TR	0.11	0.04	0.13	0.06	0.13	0.06	--	0.06
	Southbound LR	0.00	0.01	0.00	0.01	0.01	0.03	--	0.03
10.	**Galloway Street & 7th Street NE**								
	Eastbound LT	0.00	0.00	0.00	0.00	0.00	0.00	--	0.00
	Westbound TR	0.10	0.04	0.11	0.05	0.11	0.05	--	0.05
	Southbound LR	0.03	0.01	0.03	0.01	0.03	0.01	--	0.01

Table 16: Queuing Results (in feet)

	Intersection and Lane Group	Storage Length (ft)	Existing (2023)				Background (2033)				Future (2033)				Future (2033) with Mitigations			
			AM Peak		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*		*AM Peak*		*PM Peak*	
			50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th	50th	95th
1.	**South Dakota Avenue & Kennedy Street NE**																	
	Eastbound LTR	265	61	115	30	66	65	119	30	66	65	119	30	66	--	--	30	66
	Westbound LTR	215	~150	#294	46	95	~154	#295	47	96	~154	#295	47	96	--	--	47	96
	Northbound LT/TR	690	100	164	14	17	154	150	18	m20	153	151	18	m20	--	--	18	m20
	Southbound LT/TR	675	108	145	119	158	134	177	160	212	135	178	161	214	--	--	161	214
2.	**South Dakota Avenue & Jefferson Street NE**																	
	Westbound LR	640	--	12	--	15.7	--	16.0	--	14.4	--	16.0	--	14.4	--	--	--	14.4
	Northbound T/TR	260	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	0
	Southbound LT/T	230	--	1	--	1	--	1	--	1	--	1	--	1	--	--	--	1
3.	**South Dakota Avenue & Ingraham Street NE**																	
	Eastbound LTR	240	30	69	40	82	102	171	115	185	102	171	115	185	--	--	115	185
	Westbound LTR	840	8	26	5	18	8	25	5	17	8	25	5	17	--	--	5	17
	Northbound LT/TR	190	45	50	90	164	50	116	271	m219	50	116	273	m218	--	--	273	m218
	Southbound LT/TR	255	104	m119	97	117	111	m126	117	163	111	m127	118	163	--	--	118	163
4.	**South Dakota Avenue & Hamilton Street NE**																	
	Eastbound LTR	80	22	54	15	41	22	54	15	41	22	54	15	41	--	--	15	41
	Westbound LTR	150	14	38	15	42	16	43	19	49	17	45	23	54	--	--	23	54
	Northbound LT/TR	185	167	m222	330	397	248	m228	~520	m#570	250	m226	~525	m#556	--	--	~524	m#544
	Southbound LT/TR	435	275	355	228	352	387	#533	~490	#626	388	#535	~497	#635	--	--	~497	#635
5.	**South Dakota Avenue & Galloway Street NE**																	
	Eastbound LTR	520	126	#248	107	184	~173	#332	~198	#364	~178	#338	~211	#379	--	--	~203	#370
	Westbound LTR	450	99	#218	31	68	~120	#265	44	90	~136	#277	56	110	--	--	55	108
	Northbound LT/TR	220	124	#222	71	121	~201	#213	165	#276	~210	#216	173	#294	--	--	175	#305
	Southbound LT/TR	420	135	214	284	347	226	m236	373	m315	227	m236	375	m313	--	--	375	m313
6.	**South Dakota Avenue & Gallatin Street NE**																	
	Eastbound LTR	520	30	66	20	49	30	66	20	49	30	66	20	49	--	--	20	49
	Westbound LTR	495	91	161	52	101	98	169	62	117	99	171	63	119	--	--	63	119
	Northbound LT/TR	110	204	269	211	277	235	310	288	376	238	315	296	386	--	--	296	386
	Southbound LT/TR	220	188	192	73	74	183	m210	109	m166	184	m211	115	m172	--	--	122	m180
7.	**Hamilton Street NE & North Site Entrance**																	
	Eastbound TR	150	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	0

	Westbound LR	390	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	0
	Northbound LR	80	--	0	--	1	--	0	--	1	--	0	--	1	--	--	--	1
8.	**Hamilton Street & Ingraham Street/7th Street NE**																	
	Eastbound LTR	390	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Westbound LTR	285	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Northbound LTR	565	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
	Southbound LTR	840	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--	--
9.	**Galloway Street NE & South Site Entrance**																	
	Eastbound LT	255	--	1	--	1	--	1	--	1	--	2	--	3	--	--	--	3
	Westbound TR	330	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	0
	Southbound LR	80	--	0	--	1	--	0	--	1	--	1	--	3	--	--	--	3
10.	**Galloway Street & 7th Street NE**																	
	Eastbound LT	245	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	0
	Westbound TR	330	--	0	--	0	--	0	--	0	--	0	--	0	--	--	--	0
	Southbound LR	565	--	2	--	1	--	2	--	1	--	2	--	1	--	--	--	1

95th percentile volume exceeds capacity, queue may be longer.

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

~ Volume exceeds capacity, queue is theoretically infinite.

Transportation Demand Management

Transportation Demand Management (TDM) is the application of policies and strategies used to reduce travel demand or redistribute demand to other times or spaces. TDM focuses on reducing the demand of single-occupancy, private vehicles during peak period travel times or on shifting single-occupancy vehicular demand to off-peak periods. DC zoning approvals of large-scale developments like the 2023 UDC Lamond-Riggs Campus Master Plan are often conditioned upon a set of TDM strategies and an accompanying plan to monitor progress towards TDM goals. The enclosed TDM plan, contingent upon the availability of necessary funding, is offered as a condition of zoning approval for the 2023 UDC Lamond-Riggs Campus Master Plan.

The University proposes this new TDM plan including the following:

Coordination, Marketing, and Management

- UDC will market the abovementioned and all TDM programs on a detailed website, and in orientation packets for on-campus students and staff when they are hired.
- UDC will continue designating a TDM Coordinator, who will implement, monitor, and market the TDM programs, provide personalized commuter counseling to help members of the UDC population understand their options, and act as a point of contact with DDOT, goDCgo, and Zoning Enforcement. UDC's TDM Coordinator will be Mr. Senai Simon, the University's Director of Auxiliary Enterprises.
- Starting in the Fall 2024 semester, UDC's Transportation Coordinator will develop, distribute, and market various transportation alternatives and options to employees and students, including promoting transportation events (i.e., Bike to Work Day, National Walking Day, Car Free Day) on relevant websites and in any relevant internal newsletters, communications, or displays. These materials will contain sections oriented to different users, including faculty/staff, students, and visitors. New faculty/staff hires will be provided with a similar packet of information.

Vehicle Parking

- UDC will develop a parking rate structure for the Lamond-Riggs campus' surface parking lots. Charging for parking will help deter single-occupant driver parking and raise revenue for TDM programs. The student, faculty and staff rates will be adjusted periodically to maintain a peak occupancy level within the parking lots of 80-90% on a typical weekday. The surface parking lots will be permit-parking only and cannot be accessed after 9 PM, eliminating non-University vehicles from parking on site.
- Starting in the Fall 2024 semester, UDC will provide Lamond-Riggs campus' employees who wish to carpool with detailed carpooling information and will refer them to other carpooling matching services sponsored by the Metropolitan Washington Council of Governments (MWCOG) or another comparable service if MWCOG does not offer this in the future. UDC will also designate a minimum of two (2) preferential carpooling spaces and one (1) preferential vanpooling space in a convenient location within the parking lots, if demand exists.
- Starting in the Fall 2024 semester, UDC will designate at least two (2) parking spaces for electric vehicle charging.
- UDC will work towards improving long-term employee and student non-SOV mode share over the life of the Campus Plan. As part of the agreed-to Performance Monitoring Plan ("PMP"), UDC will annually report mode splits and work with DDOT and goDCgo to improve employee and student non-SOV mode share over the life of the Campus Plan.

Transit Benefits

- UDC will offer enrollment in the SmartBenefits program, which allows for up to $270 a month of pre-tax salary to be used for transit fares, to University employees.
- UDC will explore opportunities to enroll both part-time and full-time students in the WMATA U-Pass program which provides unlimited Metrorail and Metrobus rides for students for a substantially discounted rate.

Bicycle Facilities

- UDC will provide information about bicycle riding in the District, bicycle routes between the Lamond-Riggs Campus and major destinations, and the location of bicycle parking and storage on campus.
- During Phase I, UDC will provide 64 short-term bicycle parking spaces and 17 long-term bicycle parking spaces in available space in Wing C and within the plazas at the southwest corner of the site and fronting Wing A. During Phase II, UDC will provide an additional 28 short-term spaces, an additional eight (8) long-term spaces, and showers and changing facilities for bicycle commuters.
- UDC will market and encourage use of the existing nearby Capital Bikeshare locations at the Fort Totten Station (0.3 miles from campus) and at the intersection of 3rd Street NE and Riggs Road NE (0.4 miles from campus).
- Starting in the Fall 2024 semester, UDC will offer Capital Bikeshare's University Membership program to students.

Performance Monitoring Plan (PMP)

The Performance Monitoring Plan (PMP) is the University's plan to track progress towards its Transportation Demand Management (TDM) goals. The PMP is comprised of mode split surveys of students, internal University data, and manual counts of vehicle and bicycle parking inventory and occupancy which will be compiled into annual monitoring reports submitted to DDOT. The purpose of the monitoring reports is to make data-driven decisions about which TDM measures, if any, need to be adjusted to meet TDM goals. The PMP will begin in the Fall 2024 semester and continue for the life of the Campus Plan. The monitoring reports will include details regarding the following:

- Mode split of the campus population for trips to campus, broken down by students and employees;
- Number of student, staff, and faculty parking permits sold;
- Student, staff, and faculty parking permit rates;
- Daily parking rates;
- Number of registered carpools;
- Number of employees enrolled in WMATA SmartBenefits;
- Number and location of electric vehicle charging stations on campus;
- Number and location of showers and changing facilities available on campus for bicycle commuters;
- Inventory and occupancy of Lamond-Riggs parking lots; and

This information will be collected using mode split surveys of students and employees, internal University data, and manual counts of vehicle and bicycle parking inventory and occupancy. Details regarding these data sources and collection techniques is provided below.

Mode Split Surveys

Every year during the life of the Campus Plan, the University will conduct surveys of its students and employees to determine mode splits of trips to campus, which will be included in the annual monitoring reports. Mode split surveys will be collected on a typical weekday when large, representative population samples can be found.

In order to have concrete, trackable year-to-year mode split data, it is recommended the phrasing of mode split survey questions include whether the respondent is a student or employee, and only ask for the travel mode the respondent used that day (not what they typically use according to memory). For ease of future analysis, it is recommended the University keep the raw survey data, separated by students and employees, on file. It is recommended that the mode split survey questions be phrased as follows:

1. Are you a:
    a. Student
    b. Full-time employee
    c. Part-time employee
    d. Contractor
    e. Visitor
2. What transportation mode did you use for **most** of your trip to campus **today**?
    a. Driving a car alone
    b. Driving a car with passengers
    c. As a passenger in a car
    d. Carshare (Zipcar, Free2Move)
    e. Motorcycle
    f. Metrobus
    g. Metrorail
    h. Taxi
    i. Rideshare (Uber, Lyft)
    j. Bicycle (personal)
    k. Scooter (personal)
    l. Capital Bikeshare
    m. Shared dockless e-scooter/bicycle (Lime, Bird, Jump, etc.)
    n. Walk/jog/run
    o. Other: please specify
3. What transportation mode did you use for the **last part of** your trip to campus **today**?
    a. Driving a car alone
    b. Driving a car with passengers
    c. As a passenger in a car
    d. Carshare (Zipcar, Free2Move)
    e. Motorcycle

f. Metrobus
g. Metrorail
h. Taxi
i. Rideshare (Uber, Lyft)
j. Bicycle (personal)
k. Scooter (personal)
l. Capital Bikeshare
m. Shared dockless e-scooter/bicycle (Lime, Bird, Jump, etc.)
n. Walk/jog/run
o. Other: please specify

Internal University Data

Every year during the life of the Campus Plan, the University will collect the following internal data to be included in the annual monitoring reports:

- Number of student, staff, and faculty parking permits sold;
- Student, staff, and faculty parking permit rates;
- Daily parking rates;
- Number of registered carpools; and
- Number of employees enrolled in WMATA SmartBenefits;
- Number and location of car-sharing spaces, alternative fuel vehicle parking spaces, and electric vehicle charging stations on campus; and
- Number and location of showers and changing facilities available on campus for bicycle commuters.

Safety Analysis

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

These analyses assess existing conditions at the nearby intersections and are not caused by the proposed Project. The results are for informational purposes to be reviewed by DDOT.

Summary of Safety Analysis

A safety analysis was performed to determine if there are any intersections that pose obvious conflicts with vehicles, pedestrians, or people who cycle. This was determined based on data included in DDOT's most recent *Traffic Safety Statistics Report* (2018-2020), *Vision Zero Action Plan*, and Open Data DC Vision Zero Safety data.

Based on available data, no study intersections have been identified by DDOT as a top 20 hazardous/high crash intersection. Additionally, 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 people who cycle can be improved.

Based on a review of facilities in the area, in addition to crash data, two (2) intersections were identified for further evaluation due to a high concentration of vehicular crashes. The following section details the potential conflicts at the identified study area intersection.

Potential Impacts

South Dakota Avenue & Ingraham Street NE

This study intersection was identified based on a high concentration of vehicular crashes in the "Crashes in DC" database over the last three (3) years or since approximately July 2020.

South Dakota Avenue NE, a Principal Arterial, is a heavily trafficked commuter route. As it is currently configured, high visibility crosswalks are provided on every leg of the intersection, as are curb ramps on every corner. Sidewalks connect to this intersection on all approaches and meet DDOT Standards.

14 crashes were recorded within 100 feet of the intersection over the last three (3) years, with none being bicycle-involved, pedestrian-involved, or speeding-involved crashes. Safety concerns at this intersection are primarily due to the existing operations and high traffic volumes. The site-generated traffic at this intersection is minimal and not expected to degrade safety. Furthermore, it is expected that safety improvements to this intersection will be implemented as part of DDOT's planned improvements to South Dakota Avenue.

South Dakota Avenue & Gallatin Street NE

This study intersection was identified based on a high concentration of vehicular crashes in the "Crashes in DC" database over the last three (3) years or since approximately July 2020.

South Dakota Avenue NE, a Principal Arterial, is a heavily trafficked commuter route. As it is currently configured, high visibility crosswalks are provided on every leg of the intersection, as are curb ramps on every corner. Sidewalks are missing on the north side of Gallatin Street NE where it connects to the intersection.

Nine (9) crashes were recorded within 100 feet of the intersection over the last three (3) years, with none being bicycle-involved crashes, one (1) being pedestrian-involved crashes, and one (1) being speeding-involved crashes. Safety concerns at this intersection are primarily due to the existing operations and high traffic volumes, and the absence of sidewalks along the north side of Gallatin Street is also a potential cause for crashes. The site-generated traffic at this intersection is minimal and not expected to degrade safety. Furthermore, it is expected that safety improvements to this intersection will be implemented as part of DDOT's planned improvements to South Dakota Avenue.

Summary and Conclusions

This report has evaluated UDC's 2023-2033 Lamond-Riggs Campus Plan and presented recommendations to improve multimodal connectivity and access to and from the campus.

The Campus Plan's transportation strategy is to accommodate current and future population levels on the Lamond-Riggs campus without adding more parking supply or roadway capacity. UDC will take advantage of its location within a high-quality transportation network served by multiple modes to grow without investment in vehicular-based infrastructure.

Over its course, the Campus Plan is not expected to generate significant changes to roadway traffic volumes, operations, or geometries. Thus, traffic impacts from the Campus Plan will be manageable. However, the Campus Plan is expected to lead to increased growth in walking, bicycling, and transit usage. The Campus Plan includes the following transportation recommendations:

- Endorse the implementation of the recommendations contained within District of Columbia and local area planning studies.
- Develop and implement a thorough set of Transportation Demand Management (TDM) programs and policies.
- Improve campus circulation and enhance pedestrian connectivity.

In its review of these recommendations and proposals for implementing them, this report has concluded the following:

- The proposed transportation-related actions of the 2023-2033 UDC Lamond-Riggs Campus Plan include campus building modifications and additions, endorsing District of Columbia-wide and local planning studies that increase the safety and quality of non-driving modes of transportation, developing a thorough set of Transportation Demand Management (TDM) programs and policies, and improving pedestrian circulation and connectivity.
- The Campus Plan supports the goals of various District of Columbia-wide and local planning documents and projects.
- The Campus Plan's proposed Transportation Demand Management (TDM) plan includes actions aimed at reducing the demand of single-occupancy, private vehicles during peak period travel times and/or shifting single-occupancy vehicular demand to off-peak periods. This plan includes items specifically intended to enhance the ease and comfort of bicycling, promote transit usage, and reduce parking demand. The TDM plan also includes a commitment to monitor UDC's progress towards TDM goals.