

Cedar Tree Academy Public Charter School

Comprehensive Transportation Review

Original: January 27, 2025

Revised: February 13, 2025

Prepared for:

Cedar Tree Academy Public Charter School

701 Howard Road SE

Washington, DC 20020

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Symmetra Design

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PREFACE

This updated Comprehensive Transportation Review (CTR) Study incorporates key revisions to the January 27, 2025 study, based on feedback and coordination with the District Department of Transportation (DDOT). The primary updates include:

1. **Queuing Plan:** Revised to reflect a longer queue length, accommodating increased space per vehicle for stacking. The plan also illustrates the use of the parking aisle to provide additional on-site vehicle storage.
2. **Regional Growth Rates:** Adjusted to incorporate Metropolitan Washington Council of Governments' traffic forecasts for 2025–2030.
3. **Additional Background Development:** The planned Cedar Hill Regional Medical Center (opening 2025) was included in future background traffic conditions.
4. **Traffic Analysis:** Updated based on an available Synchro model provided by DDOT.
5. **Transportation Demand Management Plan:** Expanded to address traffic mitigation requirements and timelines.

INTRODUCTION

Project Overview

The following Comprehensive Transportation Review Study (CTR) has been prepared for the expansion of Cedar Tree Academy located at 701 Howard Road, SE in Washington, DC. The Property is in the NHR zone and is within the jurisdiction of Advisory Neighborhood Commission 8A. The site location is illustrated **Figure 1**.

As of School Year 2024-2025, Cedar Tree has an enrollment of 399 students. The school is authorized to serve up to 600 students by the Public Charter School Board. The existing building is outdated and lacks space to achieve Cedar Tree’s future expansion goals. Hence, the school plans to expand to a fully developed elementary school serving PK-3 through 5th Grade and a total student population of 680 students. The expected build year of the school is 2027.

The project requires design review and approval by the Zoning Commission for all proposed buildings in the North Howard Road (NHR) Zone under Subtitle K § 1005.1. This Comprehensive Transportation Review Study is to be submitted as part of the Zoning Commission process.

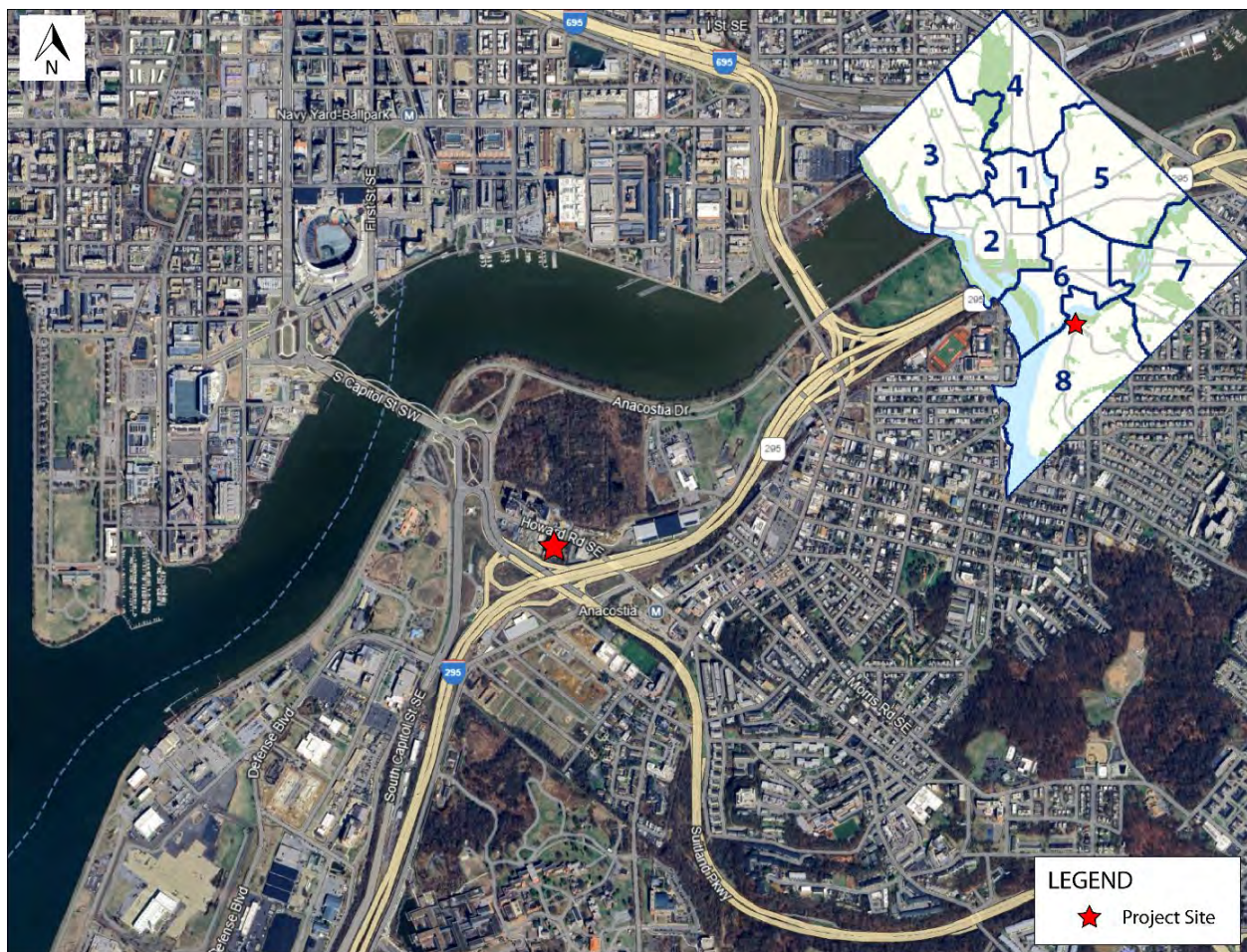


Figure 1: Site Location

Scope of Study

The study area and analysis assumptions have been coordinated as part of District Department of Transportation's (DDOT's) Comprehensive Transportation Review scoping process. This CTR Study includes an assessment of the transportation mode split, trip generation, transit services and facilities, pedestrian and bicycle facilities, sustainable transportation elements, transportation demand management plan, and curbside management. An approved scoping form is included in the Appendix of this report.

Analysis Scenarios

The TIS includes analysis scenarios to understand the impacts of the Cedar Tree Academy project. Accordingly, the following analysis scenarios have been analyzed:

- Existing Conditions (2024) - existing traffic counts and roadway network; student population of 399 for school driveway traffic.
- Future Background Conditions (2027) - future traffic volumes from background development projects and regional growth of existing traffic on the existing roadway network; student population of 600 for school driveway traffic.
- Total Future Conditions (2027) - future background traffic volumes; maintains the existing roadway network but with the proposed new school driveway; student population of 680, site-generated traffic from the increase of 600 to 680 students distributed throughout the roadway network.

Roadway Network

Regional access to the site is provided by I-695, I-295, and Suitland Parkway. Local access is provided via Howard Road.

The surrounding roadway network is illustrated in **Figure 2** and described below:

- Howard Road is a two-lane major collector connecting Suitland Parkway and Martin Luther King Jr. Avenue. The 2023 annual average daily traffic (AADT) through the study area is 12,519 vehicles per day (vpd). The speed limit is 25 miles per hour (MPH) with a 15 MPH speed limit during school hours (8:30 AM – 4 PM) adjacent to the school.
- South Capitol Street is a three-lane principal arterial that connects various neighborhoods and provides access to major highways, including I-695 and the Suitland Parkway. The 2023 AADT is 42,655 vpd.
- Suitland Parkway is a three-lane principal arterial that runs generally in the east-west direction. It begins in the west at an interchange with I-295 and South Capitol Street and extends east to Prince George's County. The 2023 AADT is 54,608 vpd.
- Firth Sterling Avenue is a two-lane major collector that connects South Capitol Street and Howard Road. No parking is allowed on either side of the roadway. The 2023 AADT is 7,312 vpd. The posted speed limit is 25 MPH.

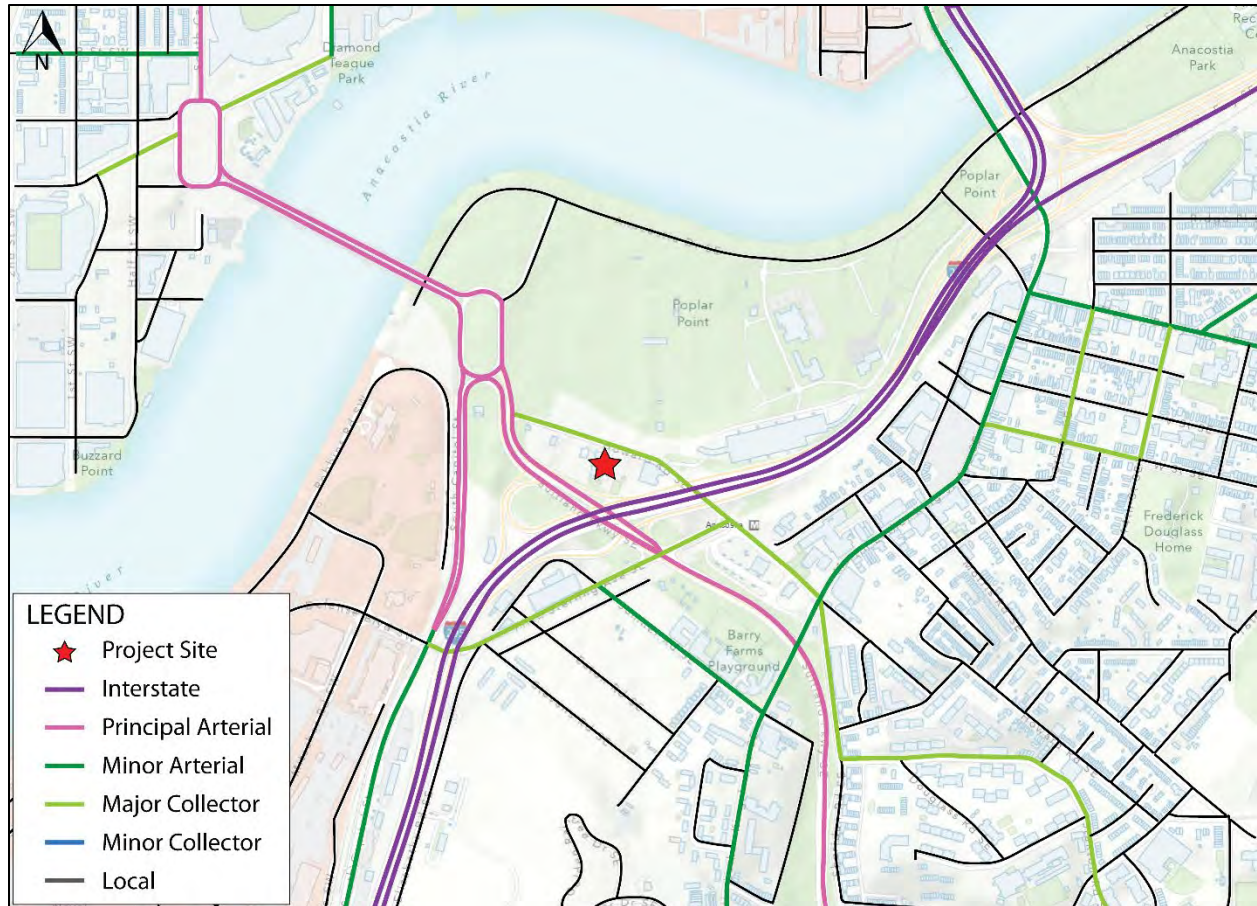


Figure 2: Roadway Classification

SITE DESIGN

Site Access & Circulation

The existing site access is provided via two curb cuts along Howard Road, forming a one-way circulation loop designed to facilitate efficient drop-off and parking access. The site driveways currently allow full access and egress in both directions on Howard Road. The proposed site plan maintains the two curb cuts with a one-way circulation loop, ensuring continued access/egress in both directions on Howard Road. The final entrance design is subject to DDOT Public Space review and approval.

Security Gate

Both driveways are secured by fenced gates that remain open only during school hours. In the future, the security gate will remain open during arrival and dismissal periods only. At all other times, the gate will provide controlled access for staff, parents, deliveries, and visitors. Potential design features include key fob access for staff or remote operation by security personnel. The security gate will be set back approximately 20 feet from the curb, allowing vehicles to queue on-site without impeding traffic on Howard Road. The final details will be coordinated during the public space approval process.

Pedestrian Access

Pedestrian access is provided via a sidewalk along Howard Road, which leads directly to the school entrance.

Site Plan Flexibility

The site plan currently incorporates two curb cuts to avoid impacting an adjacent special tree. However, in response to recent guidance from DDOT, the applicant has submitted a tree removal permit to address this constraint. If the permit is approved, the site plan, including the bioretention pond, will be redesigned to feature a single 24-foot curb cut. Key elements of the site plan, such as the pick-up/drop-off space, will remain consistent with the current design featuring two curb cuts.

The transition from two curb cuts to a single curb cut is not expected to affect the results of the traffic analysis or the review of other site plan elements, such as pick-up/drop-off locations, stacking space, or multimodal connections. If necessary, vehicle maneuvering analysis will be updated during the site plan approval process to reflect any changes to the curb cuts.

The site plan is illustrated in **Figure 3**.

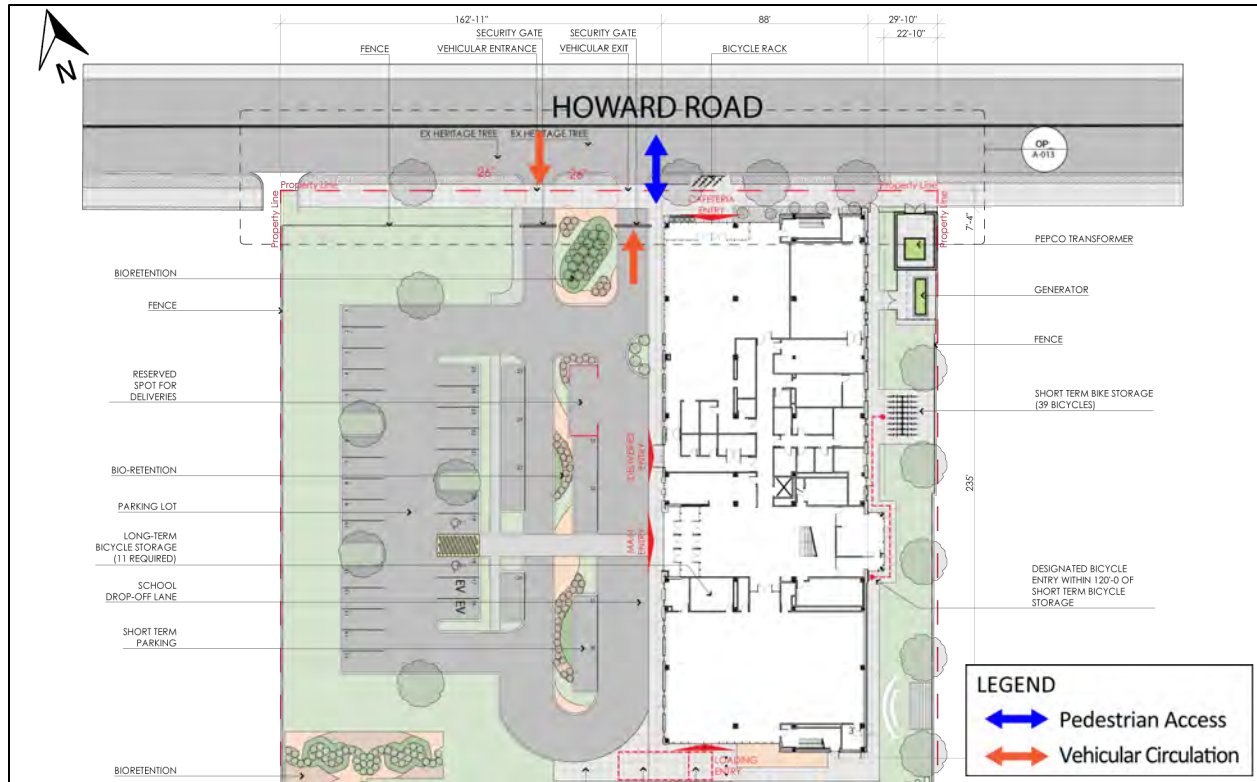


Figure 3: Site Access (conceptual)

Loading Conditions

Trash and loading locations are illustrated in **Figure 4**. Trash will be stored in a designated trash room within the building, located near the delivery entrance. It will be rolled out to the service/delivery area at the front of the school for collection. Trash removal will be scheduled to occur outside of pick-up/drop-off hours to minimize disruptions.

The loading berth will be designated exclusively for major furniture and equipment deliveries and will remain closed during school hours. All other deliveries will utilize the designated delivery space at the front of the building. Most food service deliveries will be made using 24-foot vehicles; however, the maneuvering diagrams conservatively depict the movements of a 30-foot truck, which is anticipated to be used only twice per year. To clearly indicate that the loading berth is not intended for regular use, the site plan will be updated to include removable bollards at the entrance to the loading berth. This measure will ensure the area is primarily reserved for exclusive access to the playground. The site plan will be revised accordingly to reflect these changes.

Vehicle maneuvering diagrams for the current site plan are included in **Appendix E**. These diagrams will be further refined during the public space approval process to ensure adequate turning radii for delivery vehicles. Updates will be made to reflect either the existing design with two curb cuts or an alternative access plan under consideration, which features a single 24-foot curb cut.

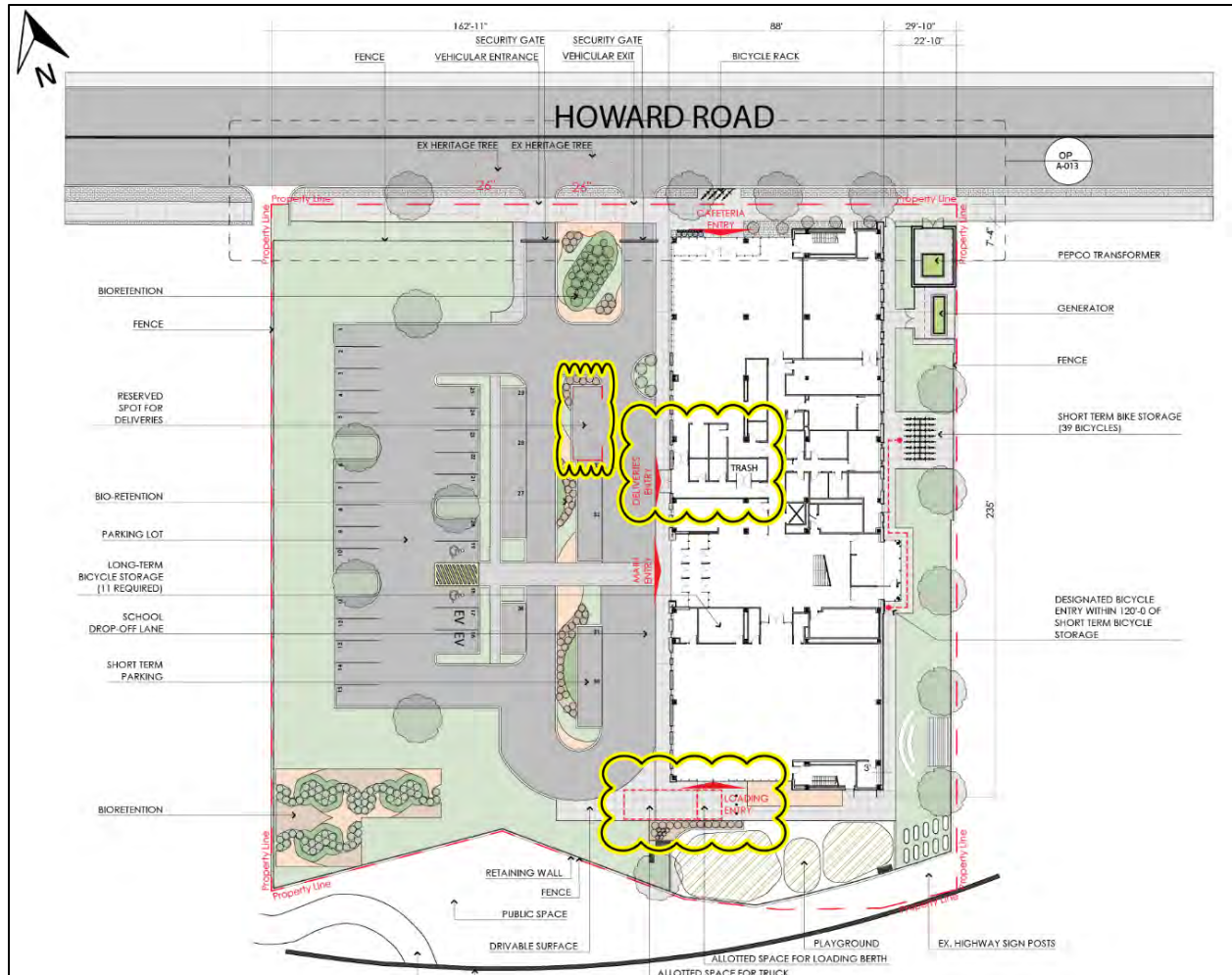


Figure 4: Site Plan – Trash and Loading

Vehicle Parking

The redeveloped school plans to provide 33 parking spaces, as shown on the site plan in **Figure 5**. There will be two electric vehicle charging stations on site. **Table 1** below compares the parking requirements per Zoning Regulations of 2016 (ZR-16) and DDOT's preferred parking rates. Based on the calculations, the off-street parking spaces proposed are sufficient in meeting the vehicle parking required by ZR-16 and DDOT.

Table 1: Vehicle Parking Requirements

Land Use/Units	Vehicle Parking Ratio per ZR-16	Vehicle Parking Required by ZR-16	DDOT Preferred Parking Rates: (Figure 10): Less than ¼ Mile from Metrorail	Parking Proposed
Education, Public (77,329 SF)	0.25 per 1,000 sq. ft.	10 ¹	Minimum: 50% of ZR-16 = 10 Maximum: 75% of ZR-16 = 17	33 spaces

¹ The requirement is reduced by 50% from 20 to 10 due to proximity to a metro station.

Since the site offers more parking than DDOT's preferred maximum parking, an enhanced Transportation Demand Management (TDM) plan is proposed in a later section of this report to offset the additional trips induced by excess parking.

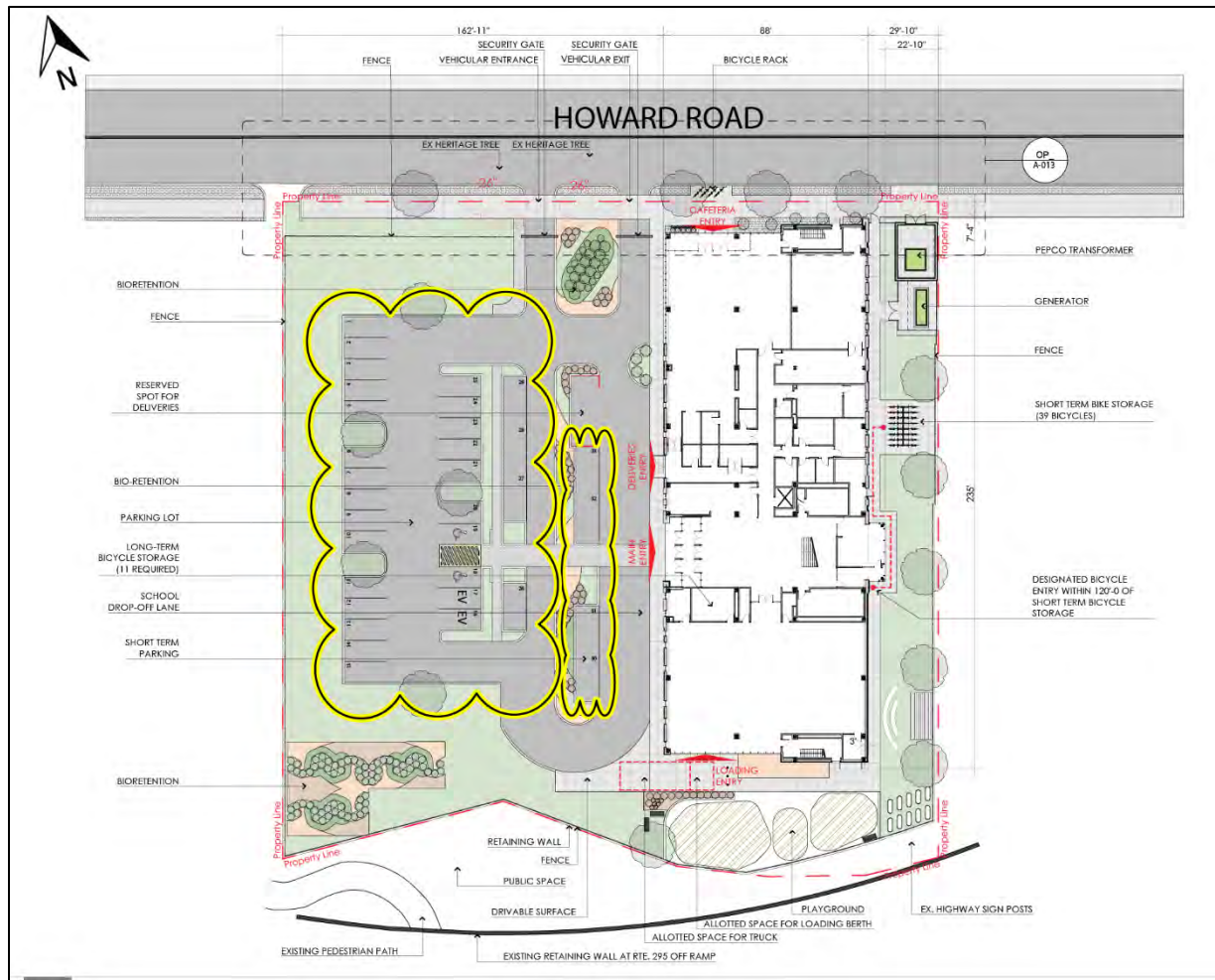


Figure 5: Site Plan – Off-Street Parking

Bicycle Parking

The project will provide the number of bicycle parking spaces required per Zoning Regulations of 2016 (ZR-16), shown in **Table 2**. Ten long-term indoor bicycle spaces will be provided. There will be no fee for the employees for usage of the bicycle storage room. The proposed short-term bicycle parking locations are on Howard Road by the school entrance and to east of the school building, as shown in **Figure 6**. All bicycle parking will be compliant with the design guidelines stipulated in the DDOT Bike Parking Guide.

The short-term bicycle parking area is designed to be separate from vehicular access and circulation, ensuring safety and convenience for cyclists. It will be accessible through a dedicated gated entrance, which staff will be able to open. Additionally, a nearby pedestrian entry to the building allows cyclists to enter without needing to walk around the building.

Table 2: Bicycle Parking Requirements

Land Use/Units	Bike Parking Ratio per ZR-16	Bike Parking Required by ZR-16	Parking Proposed
Education, Public Short-term	1 per 2,000 sq. ft.	39	40
Education, Public Long-term	1 per 7,500 sq. ft.	10	11

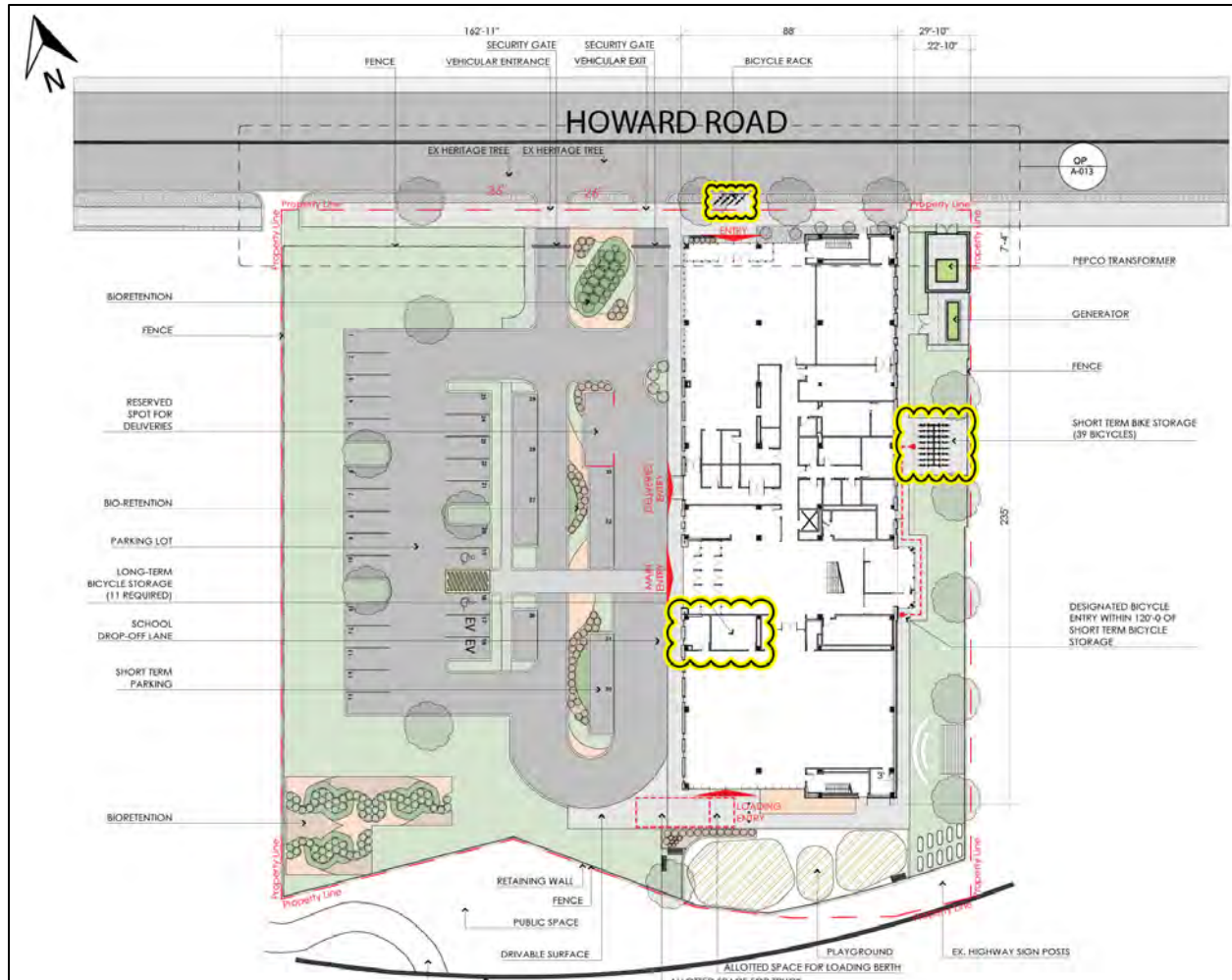
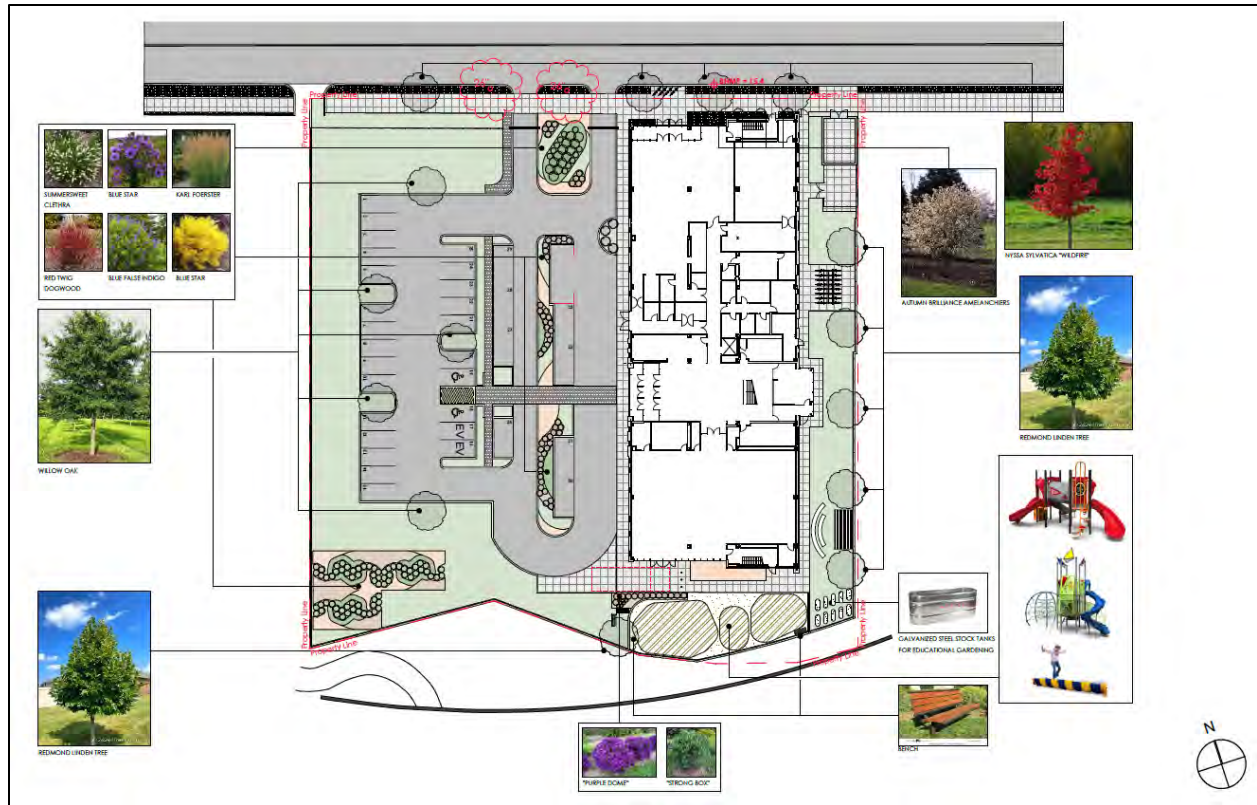


Figure 6: Site Plan – Bicycle Parking

Streetscape and Public Realm

The layout of the streetscape and public realm is shown in **Figure 7**. There are two special trees near the site entrance. Per DDOT Urban Forestry Division (UFD), the trees are in poor condition and should be removed.



MULTIMODAL NETWORK EVALUATION

Pedestrian Assessment

The following section is an assessment of pedestrian facilities within a quarter mile of the site were evaluated, as well as walking routes to major destinations.

Existing Pedestrian Facilities

Existing sidewalk facilities within a quarter mile of the site are identified in **Figure 8**. All streets within the study area are high density residential/light commercial. In compliance with DDOT's *Design and Engineering Manual (2023)*, sidewalks must have an unobstructed clear width of 8 feet with a tree/furnishing zone of 4-8 feet. Howard Road immediately fronting the site and to the east of the site, up to the I-295 overpass, currently do not meet DDOT standards.

Americans with Disabilities Act (ADA) standards require that all curb ramps be provided wherever an accessible route crosses a curb and must have a detectable warning. Additionally, curb ramps shared between two crosswalks are not desired but where they are present, a 48" clear space is required outside active vehicle traffic lanes and within marked crossings. As shown in **Figure 8**, all existing curb ramps and crosswalks near the site meet ADA standards.

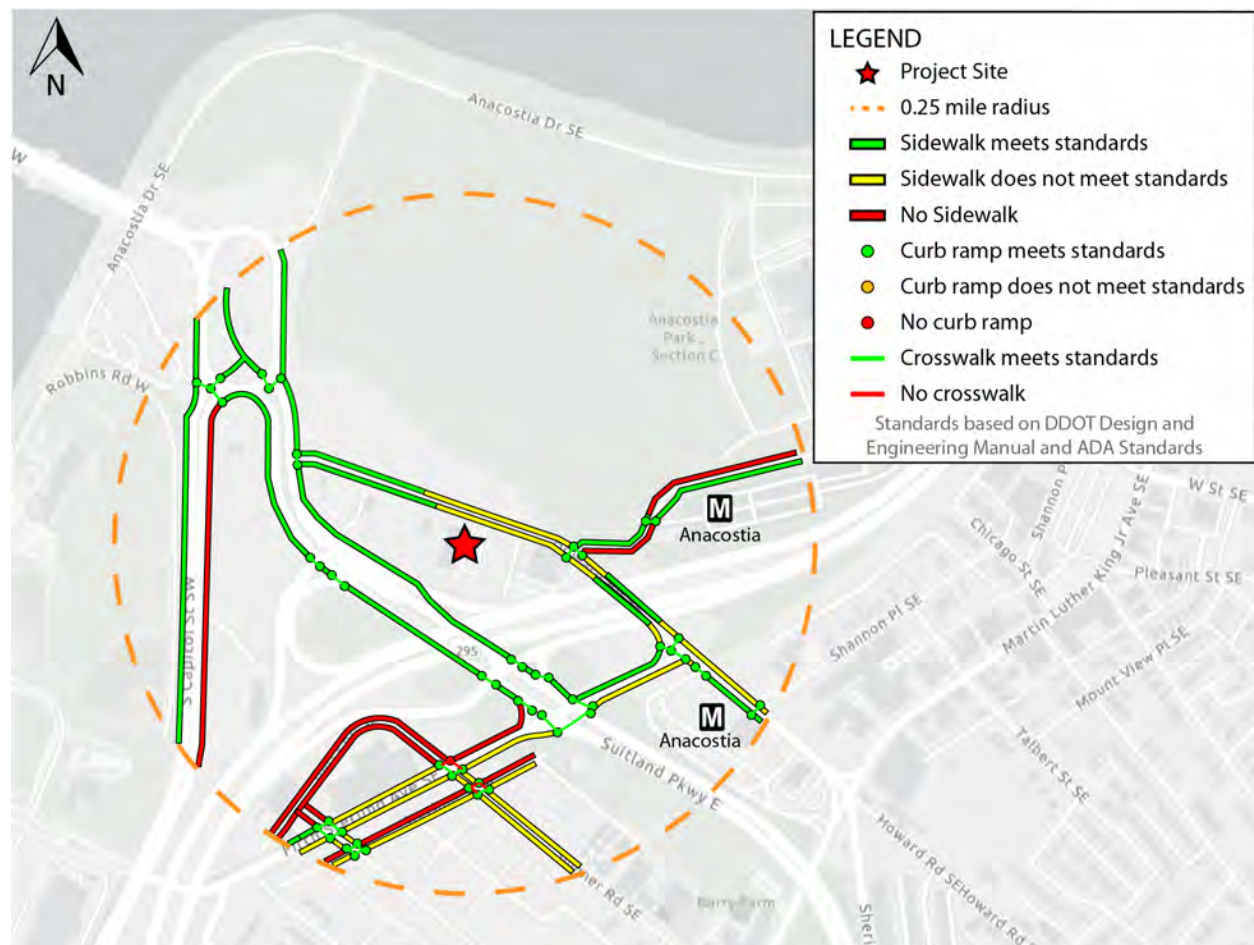


Figure 8: Existing Pedestrian Facilities – ¼ Mile Radius

Most of the sidewalks surrounding the site do not comply with DDOT standards, which regulate the quality and attractiveness of walking, although most of the curb ramps and crosswalks do comply. **Figure 9** shows pedestrian pathways to major destinations, distance, and walking times. The site's proximity to the Anacostia River, Anacostia Park, and the I-295/Suitland Parkway interchange result in few destinations within walking distance. Sidewalks on both sides of Howard Road connect the site to the Anacostia Metrorail station and commercial destinations along Martin Luther King, Jr. Avenue, and most streets connecting to destinations within the study area have a sidewalk on at least one side.

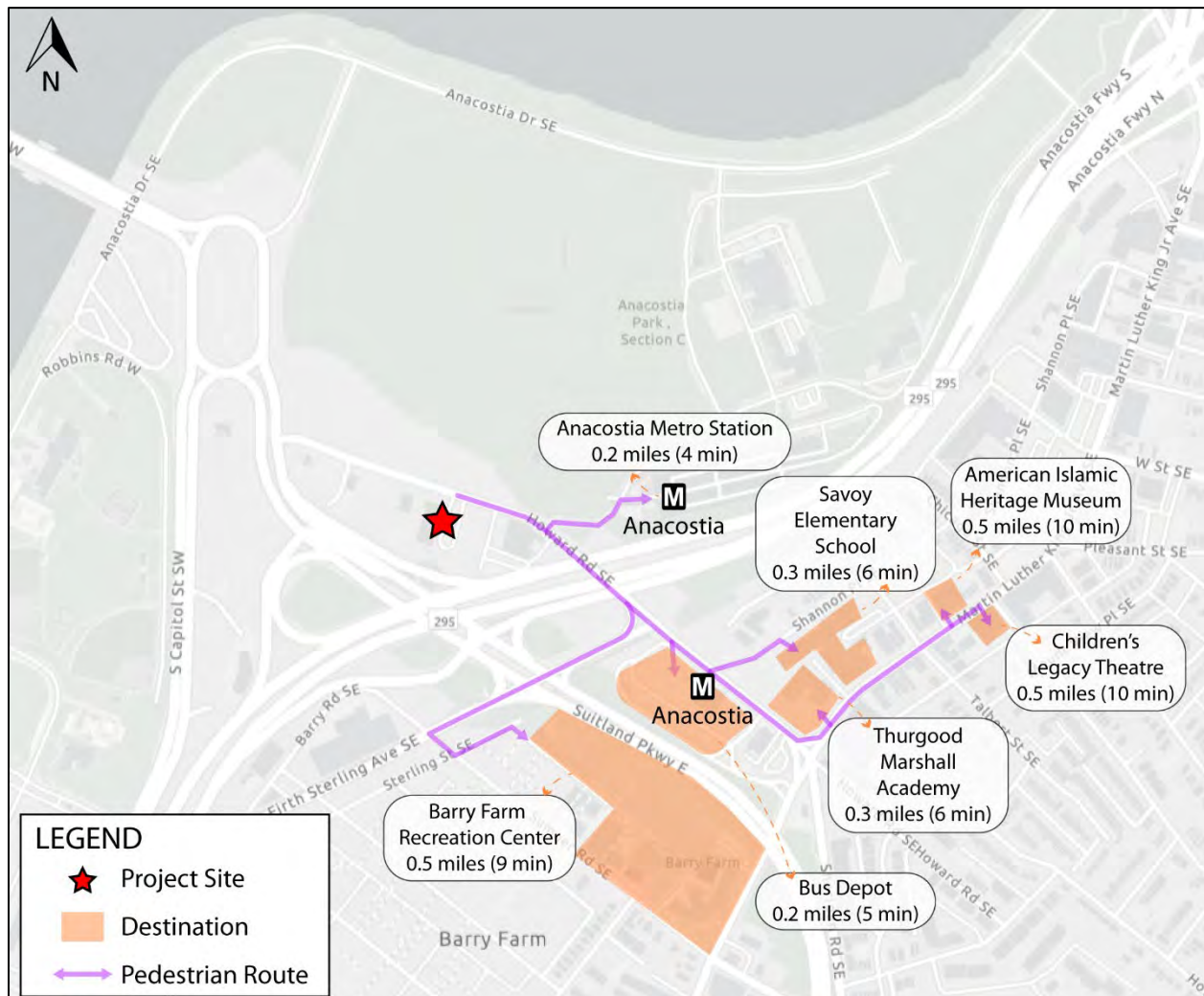


Figure 9: Pedestrian Pathways

Pedestrian Infrastructure Improvements

The project will upgrade the sidewalk on Howard Road along the site frontage to eight feet wide with a planting strip as buffer against street traffic.

DDOT is designing and planning to construct a bicycle and pedestrian bridge connecting the South Metro Entrance site at the Anacostia Metrorail Station with the Barry Farm development. This project aims to provide a safe crossing over Suitland Parkway for pedestrians and bicyclists, addressing

current and future connectivity needs while integrating community and Metro functionality. The anticipated design completion date is Winter 2025.

Direct access from the planned mixed-use path to the site was considered; however, it is not feasible due to grading constraints. Additionally, security concerns for the school further limit the feasibility of direct access from the path. Students and staff may still use the path for improved connectivity and access the school via the main entrance on Howard Road.

Bicycle Assessment

The following section is an assessment of existing and proposed bicycle facilities including trails, bike lanes and bikeshare within a half-mile radius of the site.

Existing Bicycle Facilities

As illustrated in **Figure 10**, there are two Capital Bikeshare locations within a half mile radius of the site. The closest station is on Shannon Place east of Howard Road, which is a six minute walk from the site. Howard Road is a signed on-street bike route. There are multiple off-street trails within the study area.

Planned Bicycle Improvements

Several bicycle improvements are planned near the project site, as shown in **Figure 10**.

South Capitol Street Trail

As part of the Anacostia Waterfront Transportation Master Plan, the existing Anacostia Riverwalk Trail will be extended from the South Capitol Street/Firth Sterling Avenue intersection south along South Capitol Street terminating at the Oxon Hill Farm Trail along DC Village Lane. With design nearing completion, the project will consist of a 10-foot-wide bicycle and pedestrian trail stretching 3.8 miles.

Shepherd Branch Trail

This trail is a proposed 3-mile-long, shared-use path that will connect the South Capitol Street Trail to the Greenway neighborhood in Anacostia. The trail will be built on the inactive Shepherd Branch rail corridor that extends from the CSX Benning Yard to Blue Plains. DDOT completed the preliminary design and feasibility study for the Shepherd Branch Trail in 2019. In 2020, DDOT placed the project on hold to acquire the property needed for the project.

Suitland Parkway Trail

The Suitland Parkway Trail is a 1.7-mile pedestrian and bicycle paved trail that runs along the Suitland Parkway from Pomeroy Road south to Southern Avenue. DDOT is currently conducting a feasibility study and conceptual engineering.

MoveDC Bicycle Priority Network

MoveDC, the District's multimodal long-range transportation Plan, includes planned on-street bike facilities along Firth Sterling Avenue SE from S. Capitol Street to Howard Road SE.

Barry Farm Redevelopment

As part of the Barry Farm Redevelopment, a future cycle track will be constructed along Firth Sterling Avenue between Sumner Road and Stevens Road.

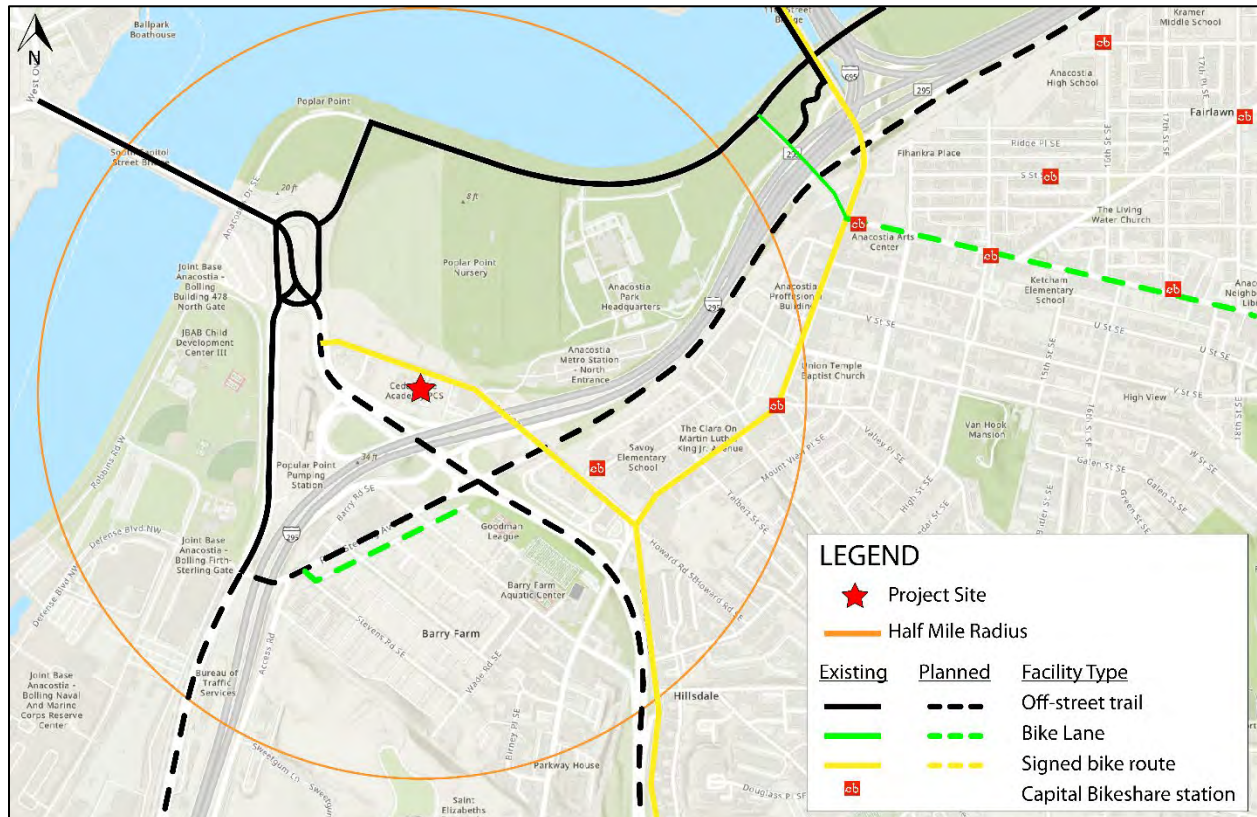


Figure 10: Existing and Future Bicycle Network Improvements

Transit Assessment

The following section will identify existing and proposed public transit facilities and services including routes and bus stops within proximity to the Site.

Metrorail

The project site is within the quarter-mile buffer of the Anacostia Metro Station and the one-mile buffer of the Navy Yard-Ballpark Metro Station, as shown on **Figure 11**. Both stations service the green line, which runs in Prince George's County MD, as well as northeast and southeast sections of DC.

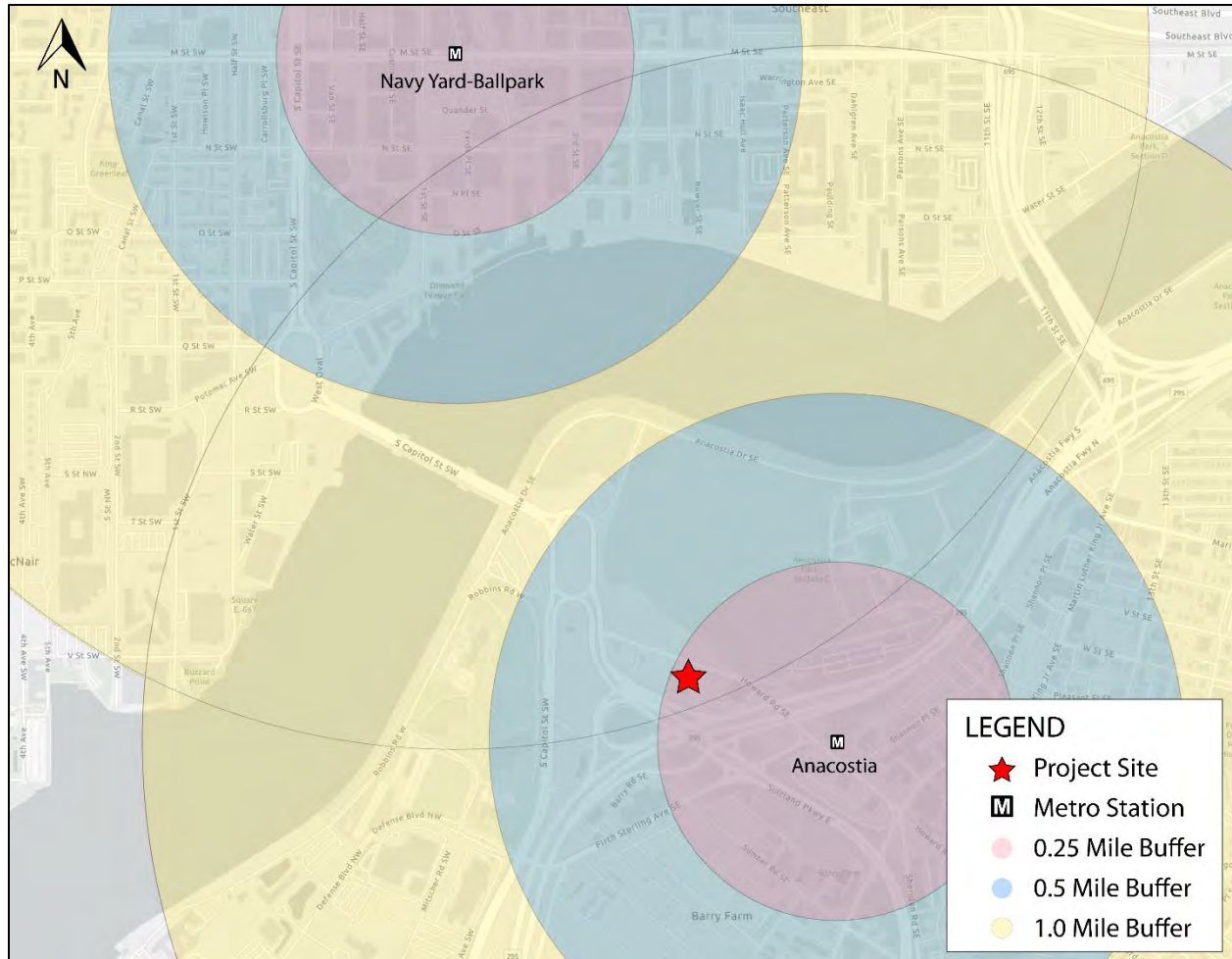


Figure 11: Proximity to Metrorail Stations

Metrobus

The project site falls within the quarter-mile buffer of metrobus routes, as illustrated in **Figure 12**. The closest metro bus stops are at the Anacostia Metro Station, which services the 90, A2, A4, A6, A7, A8, B2, P6, V2, W2, W3, W4, W5, W6, and W8 routes. The bus stops have shelters, seating, wayfinding, and lighting, all in good condition. **Table 3** lists the bus routes and frequency.



Figure 12: Proximity to Priority Transit Routes

Table 3: Bus Route Frequency

Route	Route Name	Key Destinations	Frequency
90	U Street–Garfield Line	<ul style="list-style-type: none"> Anacostia Station Martin Luther King Jr. Ave SE U Street NW Adams Morgan 	15-20 min
A2	Anacostia–Washington Highlands Line	<ul style="list-style-type: none"> Anacostia Station Martin Luther King Jr. Ave SE Washington Highlands 	12-20 min
A4	Anacostia–Fort Drum Line	<ul style="list-style-type: none"> Anacostia Station Martin Luther King Jr. Avenue SE Fort Drum 	20 min
A6, A7, A8	Anacostia–Congress Heights Line	<ul style="list-style-type: none"> Anacostia Station Congress Heights Livingston 	10-20 min

Route	Route Name	Key Destinations	Frequency
B2	Bladensburg Road– Anacostia Line	<ul style="list-style-type: none"> Anacostia Station Minnesota Avenue SE Bladensburg Road Mount Rainier Terminal 	5-20 min
P6	Anacostia–Eckington Line	<ul style="list-style-type: none"> Anacostia Station Navy Yard–Ballpark Station Eckington Rhode Island Avenue– Brentwood Station 	15-24 min
V2	Capitol Heights– Minnesota Avenue Line	<ul style="list-style-type: none"> Anacostia Station Capitol Heights Station Minnesota Avenue 	20 min
W2, W3	United Medical Center–Anacostia Line	<ul style="list-style-type: none"> Anacostia Station Congress Heights Station Southern Avenue Station (W2) United Medical Center Washington Overlook (W3) 	20 min
W4	Deanwood–Anacostia Line	<ul style="list-style-type: none"> Anacostia Station Deanwood Station 	12-20 min
W5	Anacostia–Blue Plains Line	<ul style="list-style-type: none"> Anacostia Station South Capitol Street SE Overlook Avenue SW Blue Plains Treatment Plant DC Village 	20 min
W6, W8	Garfield–Anacostia Loop Line	<ul style="list-style-type: none"> Anacostia Station Downtown Anacostia 	12-30 min

Safety

The following locations have been identified as DDOT high crash locations:

- **Firth Sterling Avenue and Howard Road SE**
 - Issues:
 - This intersection has been recognized as one of the most dangerous in the city, with a significant number of crashes reported over recent years.
 - The intersection is located near the Anacostia Metro Station, making it a high-traffic area for both vehicles and pedestrians. Traffic congestion and conflicts between turning vehicles and pedestrians contributed to frequent crashes.
 - The Frederick Douglass Memorial Bridge replacement and other related projects in the vicinity led to temporary disruptions that may have contributed to safety challenges.

- Improvements:
 - Adjustments to lane alignments and turning movements implemented as part of the South Capitol Street Corridor Project in 2021.
 - Marked crosswalks and ADA-compliant curb ramps were installed by late 2021.
 - Signal retiming and pedestrian crossing time adjustments made in early 2022.
 - Brighter streetlights were installed in mid-2022 to improve visibility for pedestrians and vehicles.
 - Reduced turning radius and new signage added during lane reconfigurations in 2022.
- **Firth Sterling Avenue and Suitland Parkway SE:**
 - Issues:
 - The intersection serves as a critical connection for commuters accessing I-295, Suitland Parkway, and local roads, leading to congestion and frequent rear-end and left-turn crashes.
 - Limited pedestrian and cycling infrastructure posed safety risks in an area with significant foot and bike traffic.
 - Vehicles exiting or entering Suitland Parkway often travel at high speeds, increasing the severity of crashes.
 - Improvements:
 - Geometric reconfiguration was completed in August 2022 as part of the South Capitol Street Corridor Project.
 - Modernized traffic signals installed with countdown pedestrian timers and audible signals in mid-2022.
 - Sidewalks, bike lanes, and multi-use trails along Suitland Parkway west of the intersection completed in early 2023.
 - Speed limit reductions and speed camera installations finalized in late 2022.
 - Completion of the I-295/Suitland Parkway interchange redesign in August 2022, which improved connectivity.
 - High-lumen LED streetlights and improved warning signage installed in 2023.
 - DDOT deployed a red-light camera in October 2024 to address safety issues related to speeding and red-light running.

These intersections are part of DDOT's High Injury Network (HIN), which focuses on areas with high rates of traffic-related injuries and fatalities. DDOT uses this data to prioritize safety improvements and deploy automated traffic enforcement measures. Firth Sterling Avenue is categorized as Tier 1 – High Priority Locations.

Illustrated in **Figure 13** are traffic crashes by injury type that occurred on or after 1/1/2020 in proximity to the project site. The data are for persons injured, not the number of crashes. Most of the injuries were minor. One fatality occurred on 4/9/2024 on South Capitol Street south of the South Capitol East Oval. A few of the crashes were major but did not result in fatality.

Beginning January 1, 2025, motorists in D.C. will be prohibited from making right turns at red lights.

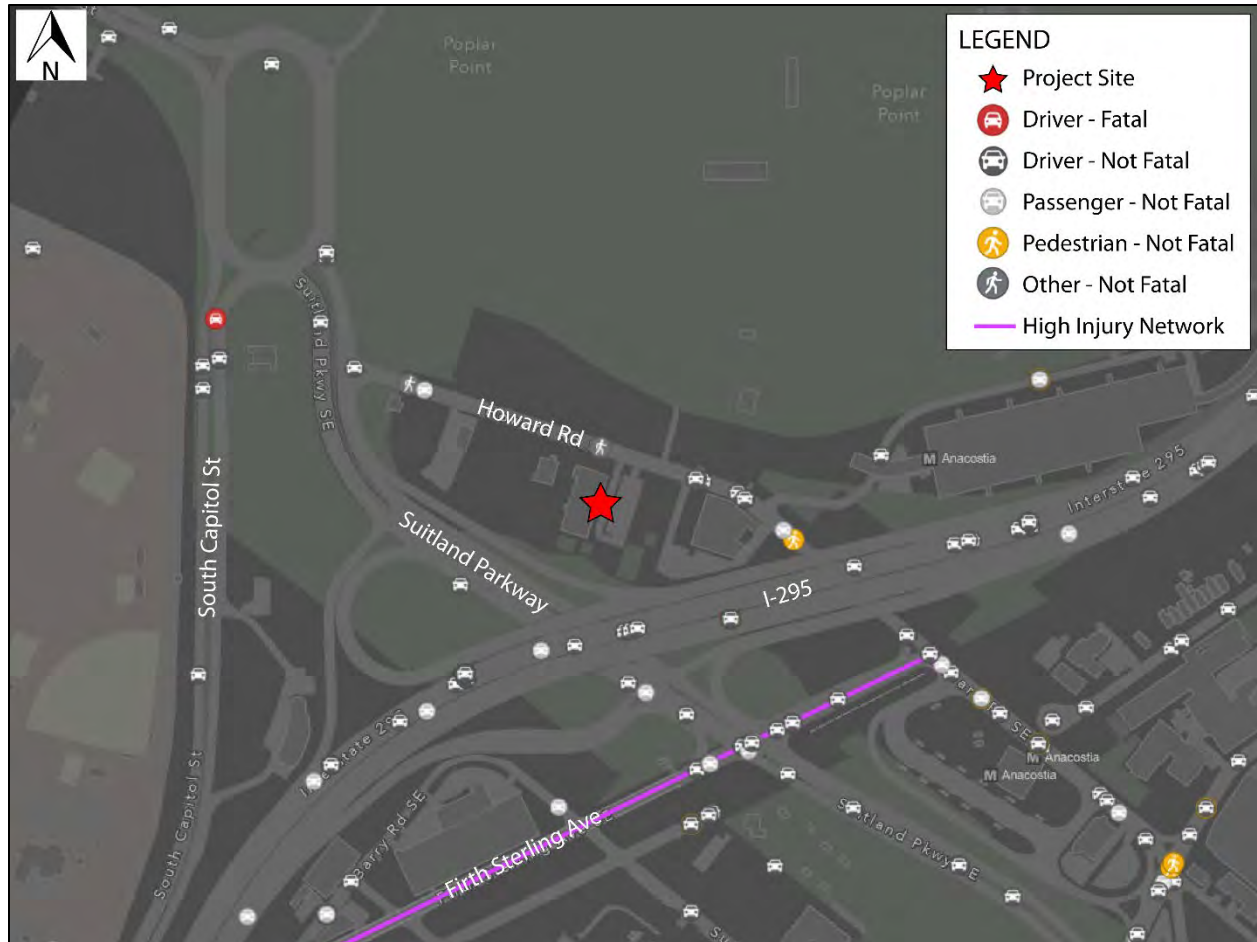


Figure 13: Traffic Crash Data (Source: Metropolitan Police Department)

Curbside Management

The following section provides a description of the curbside restrictions immediately fronting the project site, as well as the proposed changes to the curbside restrictions.

Existing Curbside Restrictions

Howard Road has a school parking zone immediately fronting the site for 11 vehicles. Currently, the school parking zone is designated as No Parking due to construction associated with the development at 632 Howard Road. Existing curbside designations within a two-block radius of the site are illustrated in **Figure 14**.



Figure 14: Existing Curbside Restrictions

Proposed Curbside Restrictions

There are no proposed changes to existing curbside restrictions.

Pick-up & Drop-off Plan

All pick-up and drop-off activities occur on-site within the drive loop, which is also used by the school bus for loading and unloading. The school bus currently loads and unloads near the building entrance, and this practice will continue in the future.

The on-site stacking space can accommodate one small bus plus 24 passenger vehicles, including eight vehicles in the parking aisle to the west. Stacking is based on approximately 23 feet per vehicle, which accounts for both the vehicle length and additional space between vehicles.

Spring 2024 driveway observations indicate that the maximum queue occurred during PM pick-up operations, peaking at 14 vehicles at approximately 3:15 PM. With a projected student enrollment increase to 680 students, the maximum future queue is estimated to reach 22 vehicles.

All vehicles are expected to queue on-site during future pick-up and drop-off operations. The pickup drop off plan is shown in **Figure 15**.

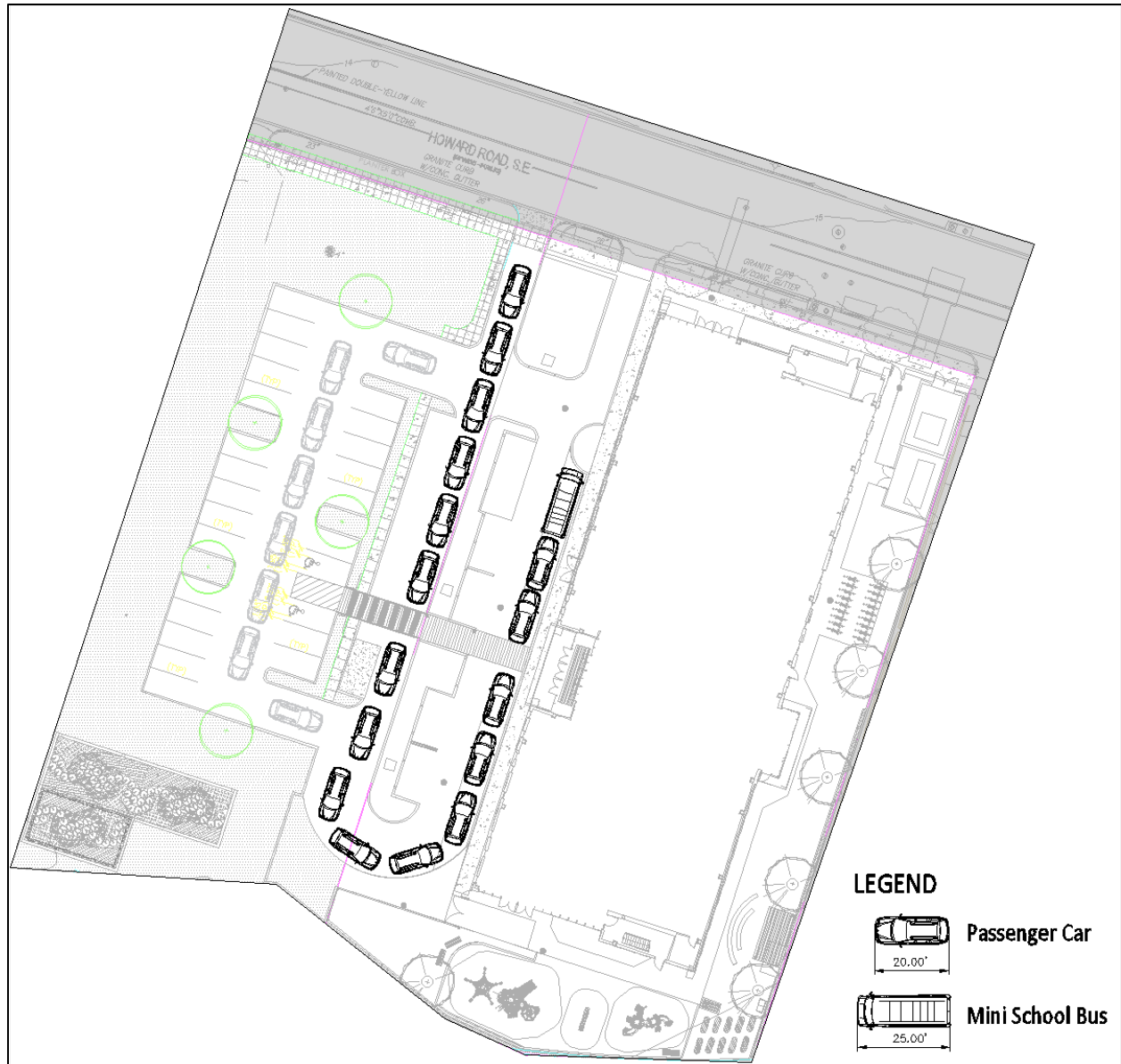


Figure 15: On-Site Queuing During Pick-up/Drop-off Operations

TRAFFIC IMPACT ANALYSIS

This section provides a summary of traffic analysis of the existing and future roadway capacity surrounding the site. The purpose of the capacity analysis is to:

- Assess the current capacity of roadways within the study area;
- Evaluate the overall impact of the project on these roadways; and
- Identify potential improvements and mitigation strategies to manage the additional vehicular trips.

Traffic Study Area

Traffic study area intersections are illustrated in **Figure 16**:

1. Howard Road/Firth Sterling Avenue
2. Howard Road/ Metro Parking Garage
3. South Capitol Street/South Capitol Street Oval (N)
4. South Capitol Street/South Capitol Street Oval (S)
5. Suitland Parkway/South Capitol Street Oval
6. Suitland Parkway/Northbound I-295 Ramps
7. Suitland Parkway/Howard Road
8. Suitland Parkway/Firth Sterling Avenue
9. Howard Road/Site Driveways



Figure 16: Study Area Intersections

Analysis Methodology

Intersection capacity analyses for the eight study intersections and site entrance were conducted using SYNCHRO 11 software based on the Highway Capacity Manual 2000 (HCM 2000) to determine the Level of Service (LOS) under each study scenario. LOS is a measure of the average control (i.e., signal or stop sign) delay experienced by all motorists arriving at an intersection. There are six representatives of LOS defined for intersections and they are designated using letters “A” through “F” with LOS “A” representing the best operating conditions and LOS “F” representing the worst.

Level of Service for unsignalized intersections can be further reduced into three intersection types: all-way stop, two-way stop, and roundabout control. All-way stop and roundabout control intersection LOS is expressed in terms of the weighted average control delay of the overall intersection or by approach. Two-way stop-controlled intersection LOS is defined in terms of the average control delay for each minor-street movement (or shared movement) as well as major-street left-turns. The unsignalized study intersections are two-way stop-controlled.

The thresholds for the intersection levels of service are shown in **Table 4**. Per January 2022 CTR guidelines, the LOS threshold will be defined as LOS “E” or “F” as requested by DDOT.

Table 4: Intersection Level of Service Threshold for Delay

LOS	Unsignalized	Signalized
A	0-10 sec	0-10 sec
B	> 10-15 sec	> 10-20 sec
C	> 15-25 sec	> 20-35 sec
D	> 25-35 sec	> 35-55 sec
E	> 35-50 sec	> 55-80 sec
F	> 50 sec	> 80 sec

Queuing analyses for the eight study intersections and site entrance were conducted using SimTraffic 11 software. At the S. Capitol Street/S. Capitol Street Oval (N) intersection, the lane configuration in the model was adjusted to better reflect real-world traffic conditions observed during calibration. The actual intersection configuration includes:

- Westbound approach: One left-turn lane, one left-through lane, and two through lanes.

However, during the AM peak period, the model was modified to feature one left-turn lane and three through lanes, aligning more closely with the observed traffic operations. This revised lane configuration was also applied to the AM Background and Future condition queuing analyses.

Existing Conditions Analysis

Driveway counts were collected on Wednesday, April 10, 2024 from 7:00-9:15AM and 2:45-5:00PM. The student enrollment at the time was 428 students. The school’s peak hours were determined to be 7:45-8:45AM and 3:00-4:00 PM, which will be used for the entire study area. The school aftercare program ends at 6PM, so the commuter PM peak hour is assumed to be from 5:00-6:00 PM for the entire study area.

Field reconnaissance (i.e., lane configurations and signal timings) was conducted to obtain information needed for traffic analysis. Turning movement vehicle counts, pedestrian counts, and bicycle counts were conducted at study intersections from 6:30-9:30AM and 2:00-7:00PM on Thursday, December 12, 2024. Counts were conducted while schools and Congress were in session. Detailed counts are included in the Appendix of this report.

Lane configurations are illustrated in **Figure 17**. Existing peak hour traffic volumes are shown in **Figure 18**. The traffic volumes were adjusted to balance between adjacent intersections since the same peak hours were used.

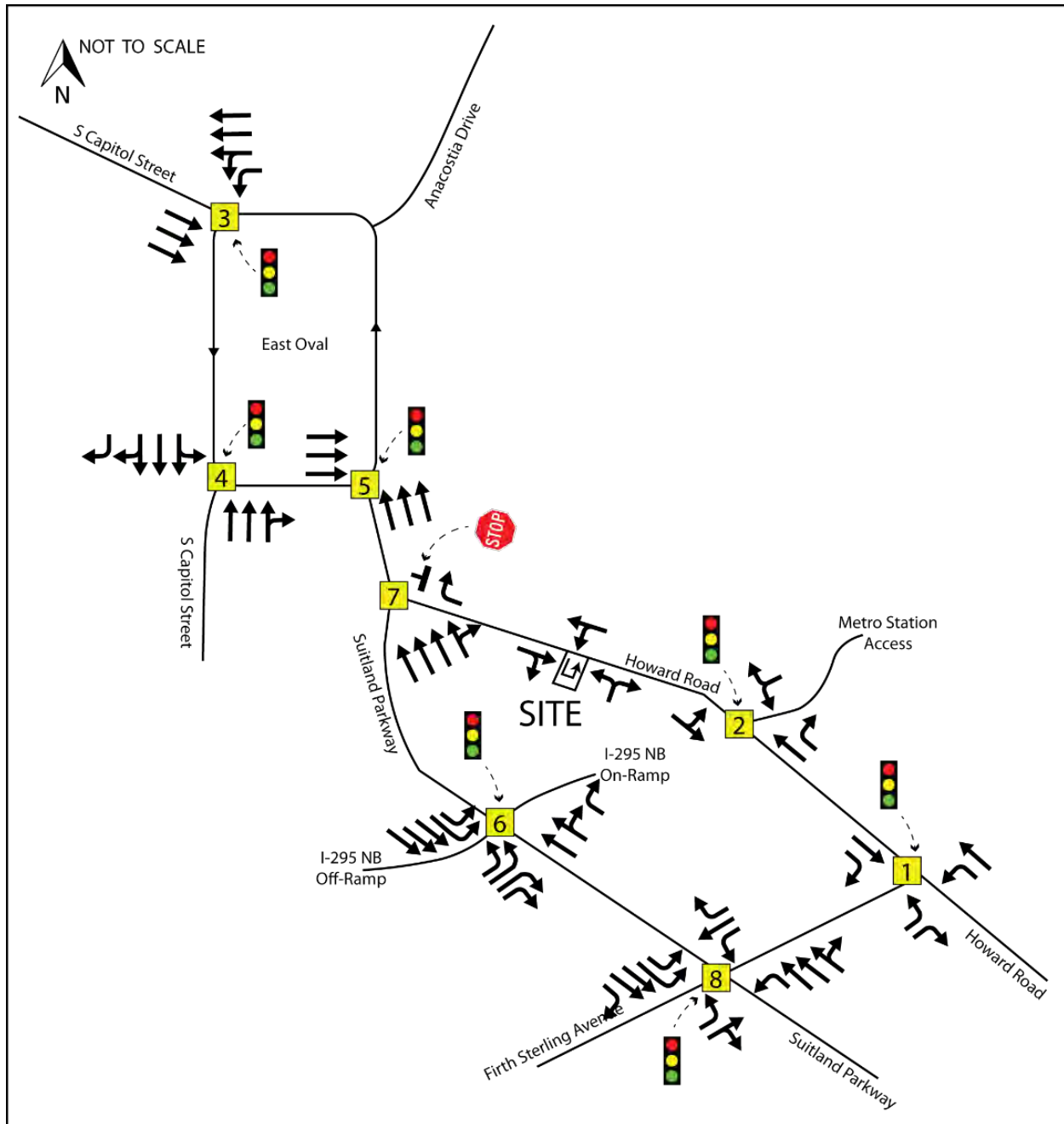


Figure 17: Existing Lane Configurations and Traffic Control

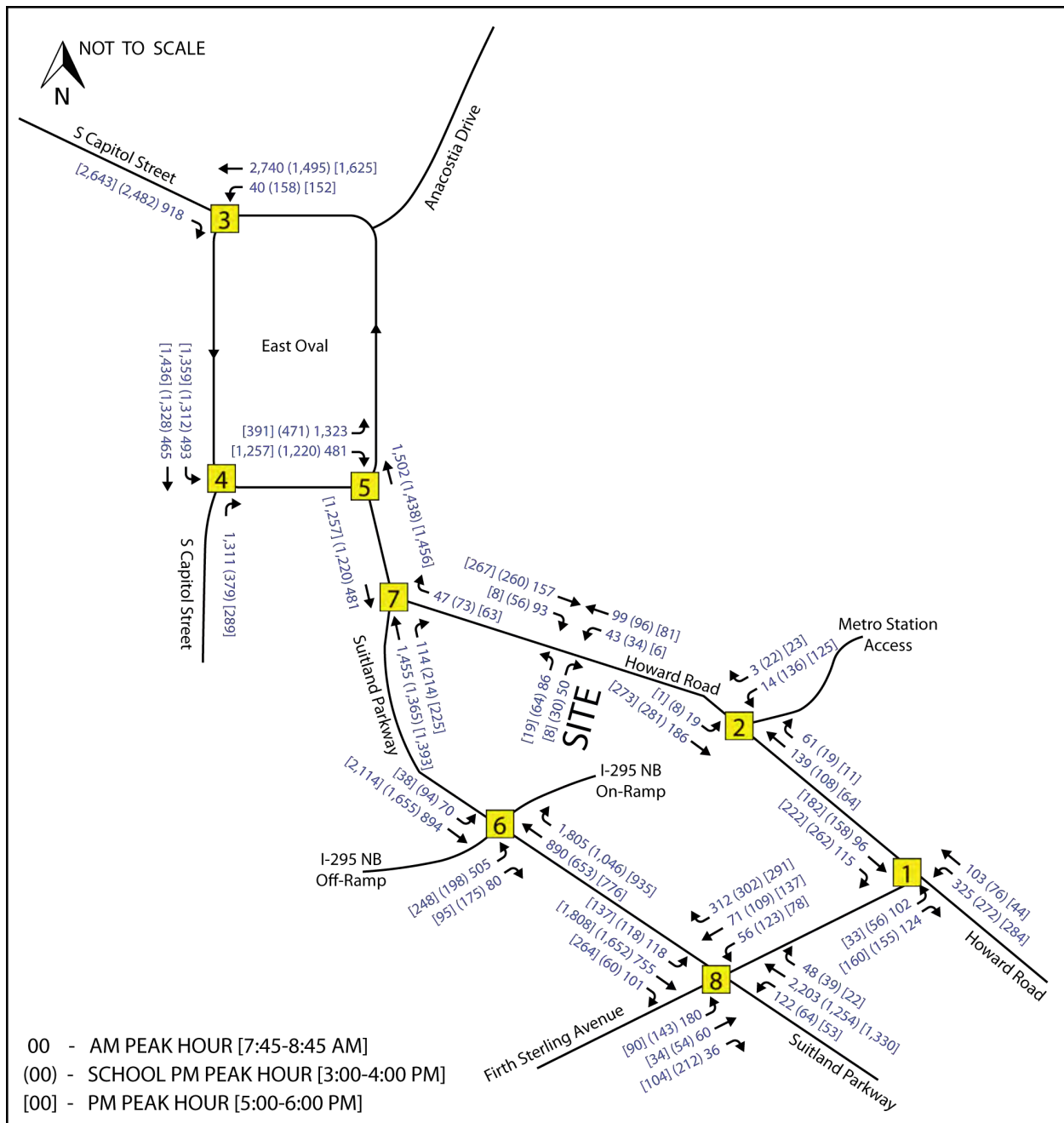


Figure 18: Existing Traffic Volumes (2024)

Background Conditions Analysis

This section evaluates the forecasted 2027 background traffic conditions in the study area. There are no multimodal improvements to the transportation network currently being planned around the project site, except for a bike trail in 2027 on South Capitol Street south of Firth Sterling Avenue. There are four approved development projects in proximity to the study area, listed below and shown in **Figure 19**:

1. Reunion Square
2. MLK Gateway Phase 2
3. Bridge District Parcels 3 & 4 (632 Howard Road)
4. Bridge District Parcels 1 & 2 (633 Howard Road)
5. Cedar Hill Regional Medical Center

A summary of background development trip generation is provided in **Table 5**. Not all trips were assigned to study intersections considering the location of the planned background project.

In addition to local traffic changes from background developments, regional traffic growth was added to existing traffic volumes as part of background conditions. The regional growth rates used in this analysis were derived using the Metropolitan Washington Council of Government's (MWCOC) currently adopted model, comparing the difference between the 2025 and 2030 model scenarios, as requested by DDOT. The model did not have data for Howard Road, so the growth rate was derived from DDOT historical AADT data from 2017-2023. Per CTR guidelines, arterials during the weekday commuter peak periods should use a maximum annual growth rate of 0.50% in the peak direction of traffic and 2.0% in the non-peak direction should be used regardless of methodology (e.g., I-295 NB). The final annual growth rates used for the individual roadways are shown on **Table 6**.

At the time of school driveway vehicle count for existing conditions, the school had an enrollment of 428 students. The student enrollment during the time of traffic counts at study intersections was 399 students. The existing traffic at the school driveway are therefore reduced proportional to student enrollment. Historically, the school maintained an enrollment of approximately 600 students and anticipates returning to this capacity by 2027. As such, a student enrollment of 600 has been adopted as the baseline condition, as agreed by DDOT during the scoping process. The existing school trip generation rates are applied to background and future school enrollment.

The total projected 2027 background traffic volumes are shown in **Figure 20**. Individual background traffic volume figures can be found in the Appendix.

Table 5: Summary of Background Developments Trip Generation

Background Development	AM Peak Hour (veh/hr)			PM Peak Hour (veh/hr)		
	In	Out	Total	In	Out	Total
Reunion Square ²	188	65	253	94	207	301
MLK Gateway Phase 2 ²	75	14	89	32	78	110
Bridge District Parcels 1 & 2 ²	68	98	166	165	142	307
Bridge District Parcels 3 & 4 ³	60	94	154	128	100	228
Total	391	271	662	419	527	946

² Trip generation extracted from Bridge District Parcels 1 & 2 CTR (February 3, 2023)

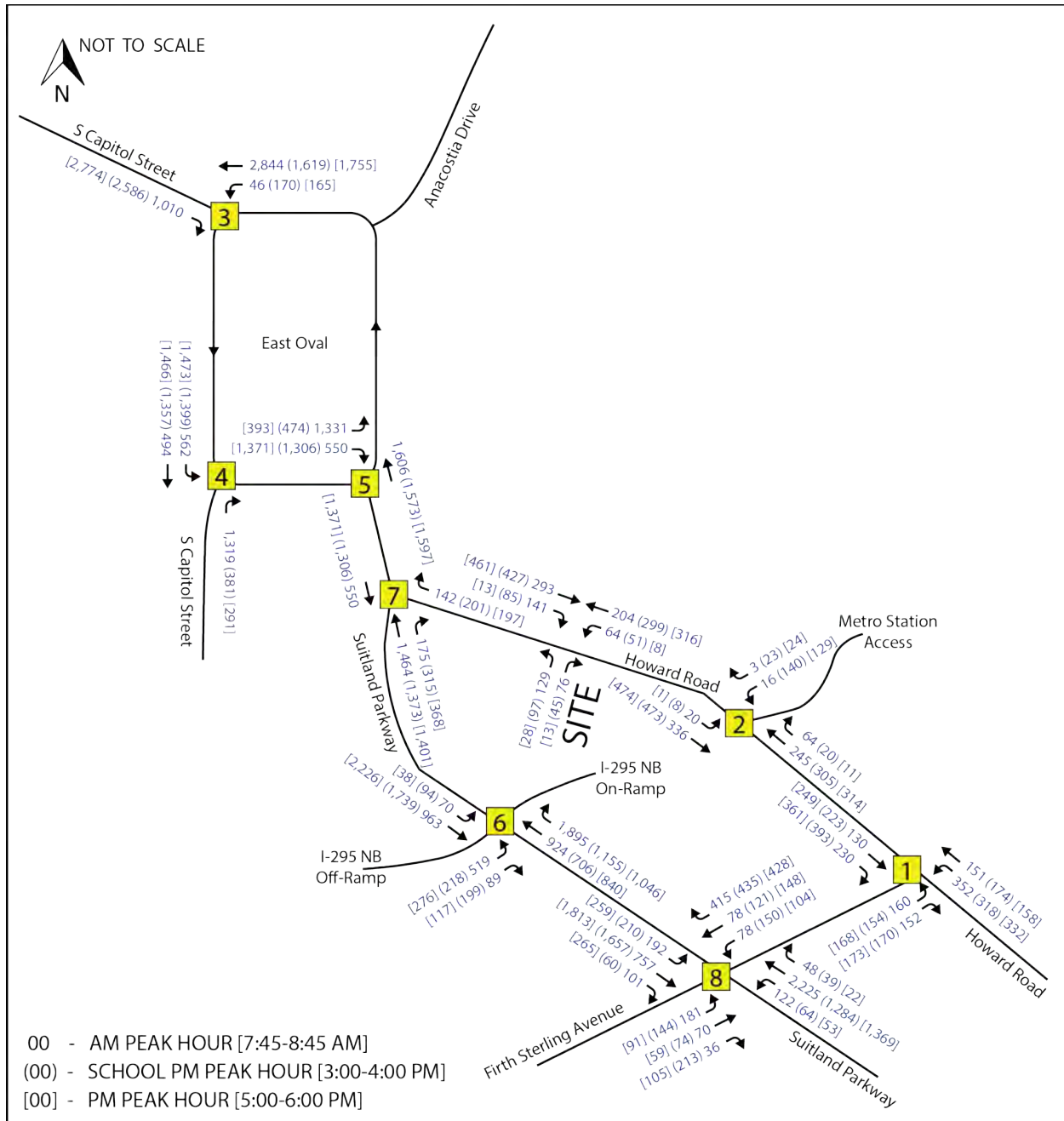
³ Trip generation extracted from Bridge District Parcels 3 & 4 CTR (September 17, 2021)



Figure 19: Background Development Locations

Table 6: DDOT Historical AADT Data

Roadway	Annual Growth Rate
Suitland Parkway	0.1%
I-295 NB	0.5% AM; 2% SPM & PM
Firth Sterling Avenue	0.2%
South Capitol Street	0.2%
Howard Road	1.0%



Total Future Conditions Analysis

This section outlines future traffic conditions associated with the Cedar Tree Academy project. It summarizes the projected trip generation of the site and the trip distribution based on existing traffic volumes. This section also summarizes the capacity analysis results as the study intersections for Total Future conditions. The Total Future traffic volumes include traffic generated by existing volumes, background developments, background growth, and the proposed project.

Trip Generation

The school background and total future vehicle trip generation are calculated using existing rates determined from driveway traffic counts, shown in **Table 7**. The net increase in trips between background and total future conditions are shown in **Table 8**. The school will generate a net increase of 54 vehicle trips during the AM peak hour, 36 vehicle trips during the School PM peak hour, and 8 vehicle trips during the PM peak hour.

Table 7: Existing Vehicle Counts and Rates

Land Use	Mode	AM Peak (7:45-8:45AM)			School PM Peak (3:00-4:00PM)			PM Peak (5-6PM) ⁴		
		In	Out	Total	In	Out	Total	In	Out	Total
Public Charter School (428 Students)	Auto	146	146	292	97	101	198	15	29	44
	Rate	.34	.34	.68	.23	.24	.47	0.04	0.07	0.10

Table 8: Trip Generation Summary

Land Use	AM Peak (7:45-8:45AM)			School PM Peak (3-4PM)			PM Peak (5-6PM) ⁵		
	In	Out	Total	In	Out	Total	In	Out	Total
Future Capacity (680 Students)	232	232	464	154	160	314	24	46	70
Baseline Capacity (600 Students)	205	205	410	136	142	278	21	41	62
Net Increase	27	27	54	18	18	36	3	5	8

Trip Distribution

Trip distribution for the site-generated trips was determined based on student zip codes. Trip distribution assumptions are provided in **Figure 21** and **Figure 22**. The assignment of site-generated traffic volumes through the study intersections are shown in **Figure 23**. 2027 total future traffic volumes are shown in **Figure 24**. This includes total background volumes, shown in **Figure 20**, and site-generated traffic.

⁴ Commuter peak rates are calculated using [the ITE ratio of PM Peak Hour of Generator (School PM) to PM peak of street traffic (4-6 PM)] multiplied by [the School PM rate].

⁵ Commuter peak hour trips were projected using the Fall 2024 ratio of 123 aftercare student enrollment and a total of 399 students. Inbound/outbound vehicle rates were assumed to be the same as School PM trips.

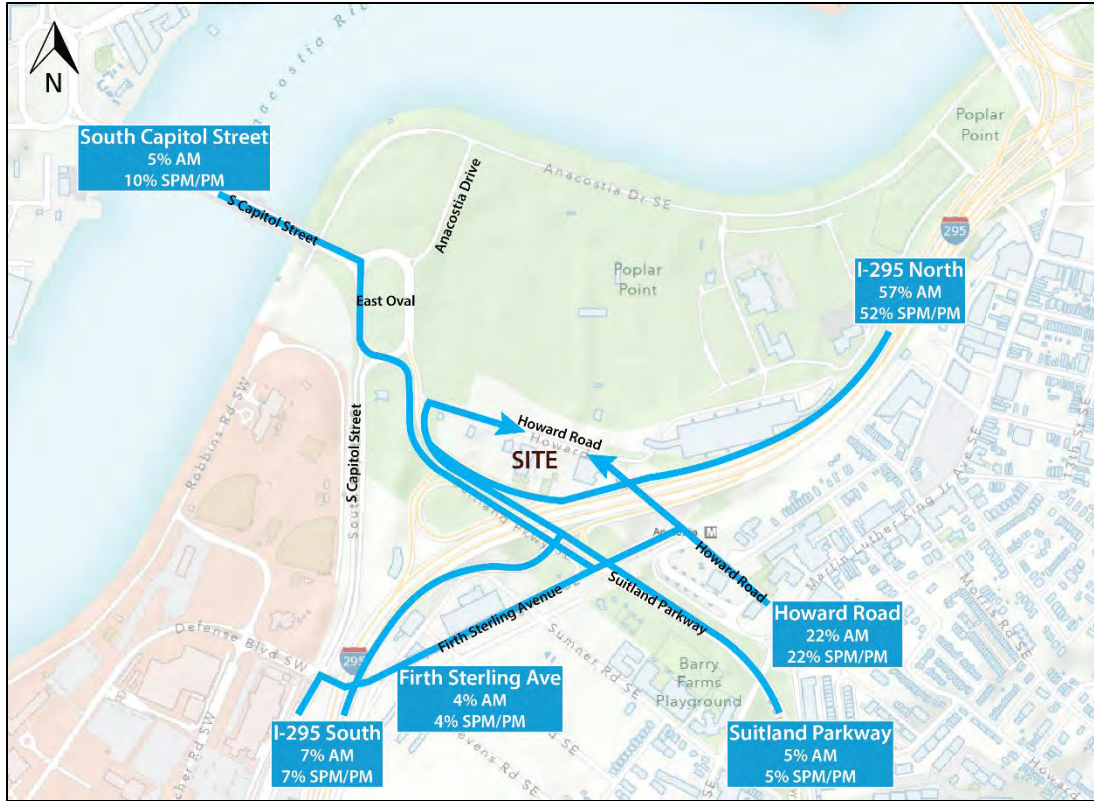


Figure 21: Inbound Site Trip Distribution

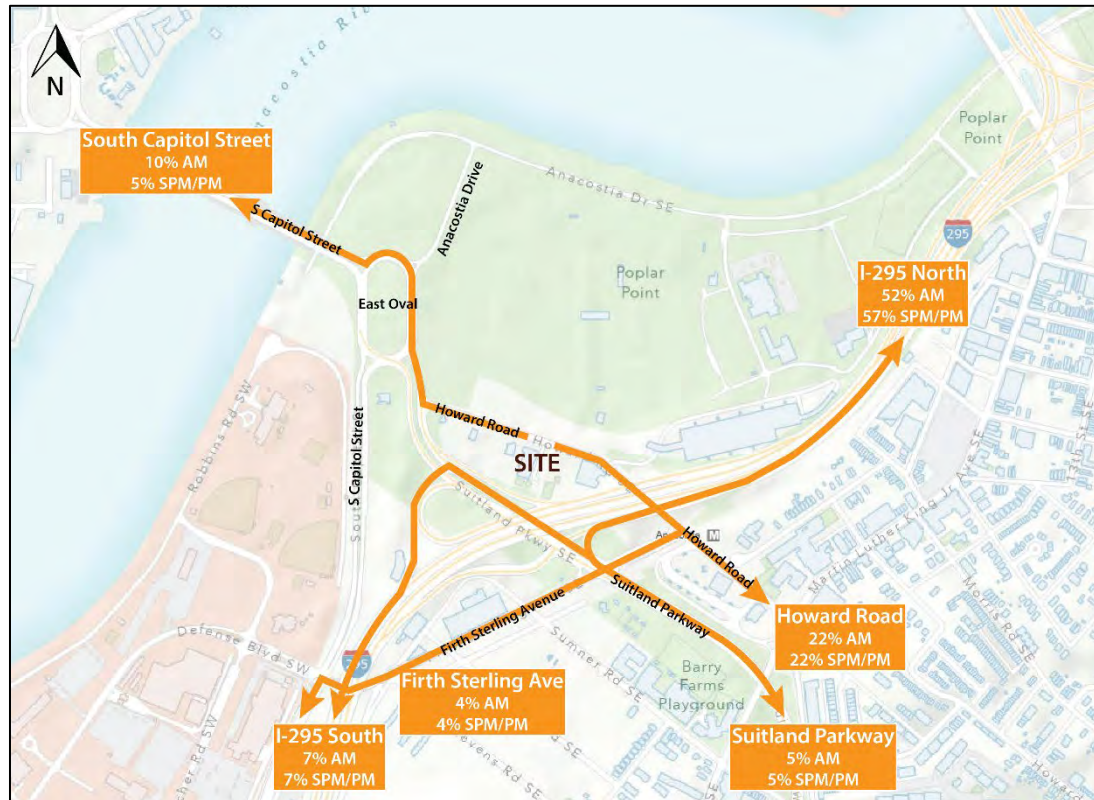


Figure 22: Outbound Site Trip Distribution

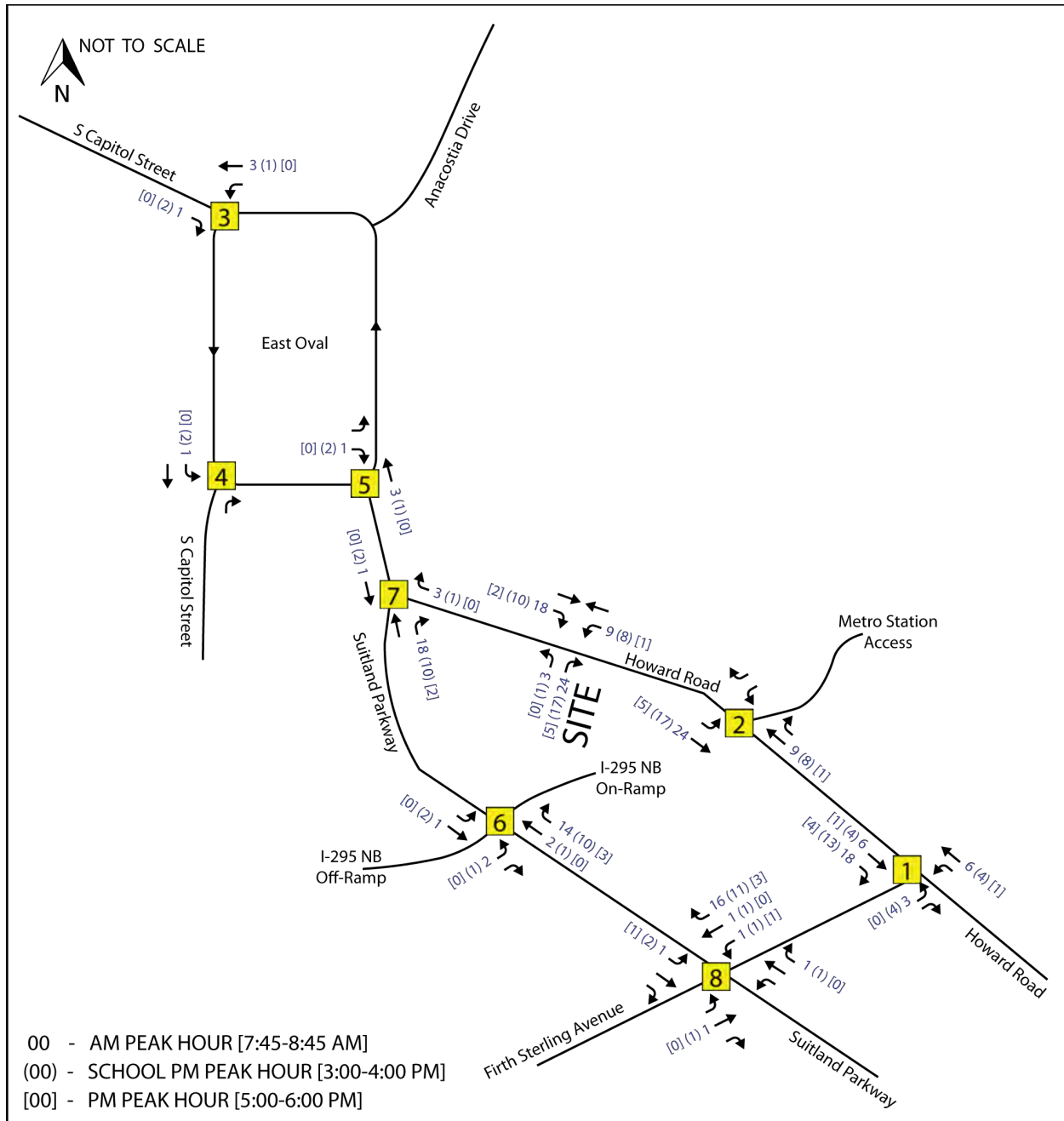


Figure 23: Site Trip Assignment

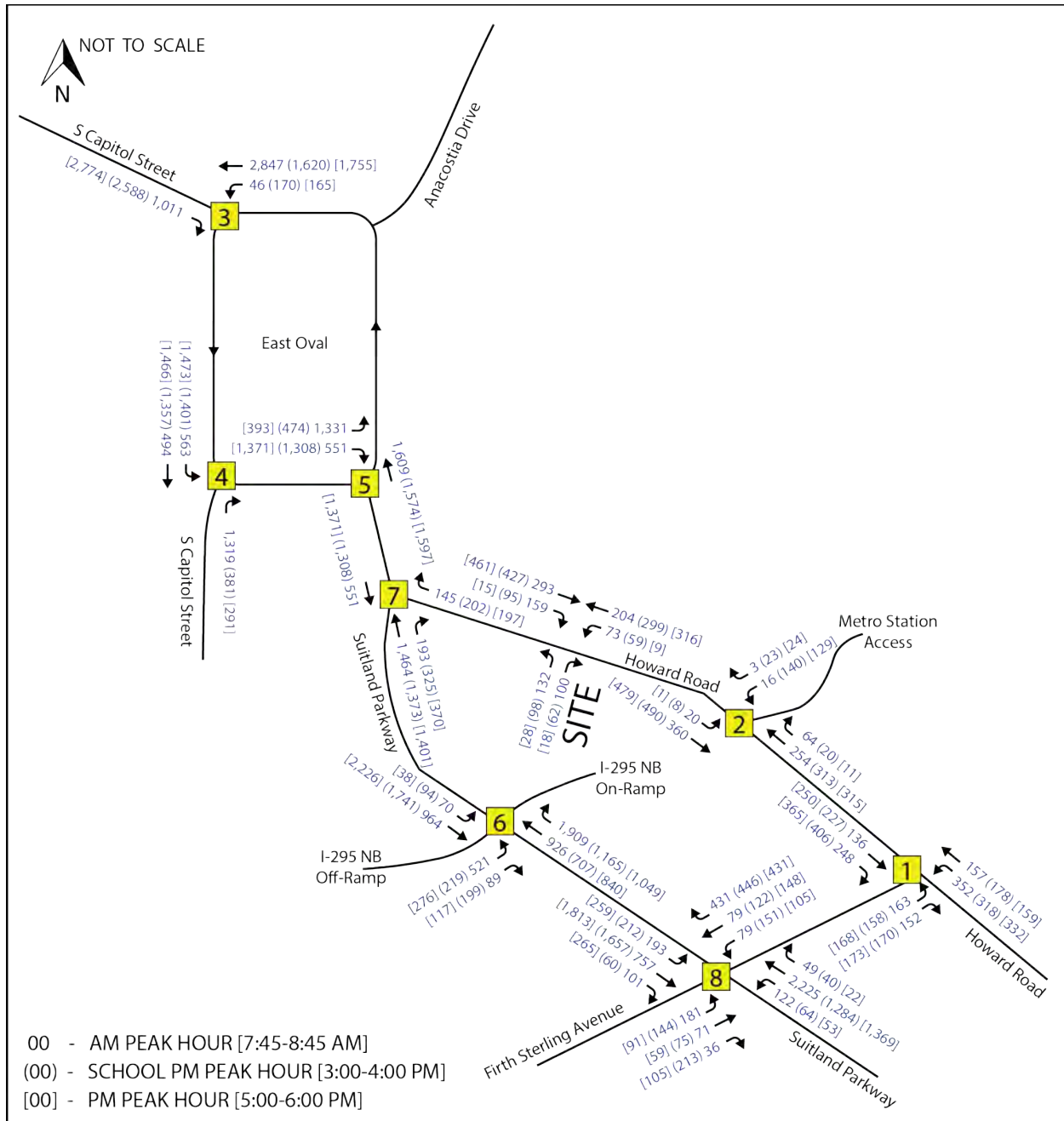


Figure 24: Total Future Traffic Volumes (2027)

Traffic Analysis Summary

LOS and delay results are summarized in **Table 9** for Existing, Background (2027), and Future (2027) Conditions for comparison. Volume-to-capacity (v/c) ratios are shown in **Table 10**. The 50th and 95th percentile queue lengths are shown in **Table 11** and **Table 12**, respectively.

Table 9: Traffic Analysis LOS Results

Intersection	Direction	Existing Conditions			Background Conditions			Future Conditions		
		AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak
Howard Road @ Firth Sterling Avenue	Overall	C/23.8	C/20.8	C/29.4	E/56.2	C/32.6	E/55.8	E/57.0	C/33.4	E/55.6
	Eastbound	E/72.3	E/69.5	F/111.9	F/192.3	F/118.1	F/207.1	F/198.9	F/122.0	F/207.1
	Northbound	A/7.5	A/8.0	A/9.9	A/8.2	A/9.0	B/12.2	A/8.2	A/9.0	B/12.2
	Southbound	A/4.6	A/6.8	A/5.9	A/5.2	A/6.5	A/6.1	A/5.3	A/6.6	A/6.1
Howard Road @ Metro Parking Garage	Overall	A/2.7	B/13.6	B/14.9	A/2.5	B/10.1	B/10.1	A/2.5	A/9.9	B/10.1
	Eastbound	A/1.3	A/3.3	A/3.4	A/1.5	A/3.8	A/4.0	A/1.5	A/3.9	A/4.1
	Westbound	A/1.6	A/2.2	A/2.2	A/2.1	A/3.1	A/3.4	A/2.1	A/3.2	A/3.4
	Southbound	C/27.8	D/41.6	D/42.6	C/27.8	D/42.1	D/43.4	C/27.8	D/42.1	D/43.4
S. Capitol Street @ S. Capitol Street Oval (N)	Overall	C/21.3	E/56.2	F/93.3	C/22.1	E/68.4	F/110.0	C/22.2	E/68.6	F/110.1
	Eastbound	B/14.6	E/78.9	F/141.3	B/17.8	F/97.8	F/168.6	B/17.8	F/98.2	F/168.6
	Westbound	C/23.4	C/22.1	C/21.8	C/23.6	C/25.9	C/25.5	C/23.7	C/25.9	C/25.5
S. Capitol Street @ S. Capitol Street Oval (S)	Overall	C/32.2	B/13.2	B/10.6	C/31.3	B/12.7	B/10.2	C/31.3	B/12.7	B/10.2
	Northbound	D/43.3	D/49.7	D/48.7	D/43.3	D/49.7	D/48.8	D/43.3	D/49.4	D/48.8
	Southbound	A/2.5	A/2.7	A/2.6	A/3.1	A/2.7	A/2.6	A/3.2	A/2.7	A/2.6
Suitland Parkway @ S. Capitol Street Oval	Overall	B/16.4	B/17.3	B/18.3	B/18.0	B/18.4	C/20.5	B/18.1	B/18.4	C/20.5
	Eastbound	A/3.0	B/13.6	B/18.7	A/3.0	B/13.4	B/16.4	A/3.0	B/13.4	B/16.4
	Northbound	C/28.3	B/18.5	B/16.9	C/30.5	B/19.9	C/21.5	C/30.5	B/19.9	C/21.5
Suitland Parkway @ NB I-295 Ramps	Overall	C/33.8	B/19.4	B/16.4	D/36.3	C/24.5	C/22.0	C/36.6	C/25.3	C/22.4
	Eastbound	D/39.7	B/15.8	B/13.6	D/38.9	B/19.2	B/19.4	D/38.9	B/19.6	B/19.8
	Westbound	C/27.2	B/15.6	B/11.3	C/31.0	C/24.1	B/19.1	C/31.5	C/25.7	B/19.6
	Northbound	D/54.9	D/54.1	E/58.9	E/56.3	D/49.8	D/51.3	E/56.3	D/49.1	D/50.9
Suitland Parkway @ Howard Road	Westbound	B/13.0	B/13.1	B/12.8	C/15.4	C/16.7	C/16.3	C/15.7	C/16.7	C/16.3
	Northbound	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0
Suitland Parkway @ Firth Sterling Avenue	Overall	E/57.7	D/49.0	D/41.6	E/65.4	E/59.5	D/54.7	E/67.9	E/60.8	E/55.3
	Eastbound	C/30.0	D/36.0	C/29.3	C/33.5	D/46.4	D/48.6	C/33.6	D/47.9	D/49.2
	Westbound	E/67.9	D/36.1	C/31.6	E/66.1	D/42.4	D/40.8	E/66.1	D/43.5	D/41.0
	Northbound	E/60.6	F/88.9	E/69.0	E/63.8	F/83.9	E/61.5	E/63.8	F/81.7	E/61.4
	Southbound	E/62.1	F/95.5	F/110.7	F/121.9	F/114.1	F/102.5	F/138.0	F/116.4	F/103.5
Site Driveway Inbound @ Howard	Eastbound	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0
	Westbound	A/1.9	A/1.7	A/0.6	A/2.3	A/1.7	A/0.3	A/2.5	A/1.9	A/0.3
Site Driveway Outbound @ Howard Road	Eastbound	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0
	Westbound	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0	A/0.0
	Northbound	B/11.4	B/11.9	B/10.7	C/17.7	C/21.3	C/16.0	C/18.9	C/21.9	C/15.7

As depicted in **Table 9**, the following intersections exceed the threshold of LOS E under Future Conditions:

- Howard Road/Firth Sterling Avenue: exceeds LOS E for the eastbound approach during all three peak hours but does not increase significantly in delay (by less than 5%) compared to Background Conditions.
- South Capitol Street/South Capitol Street Oval (N): exceeds LOS E for the eastbound approach during the school PM and PM peak hours but does not increase significantly in delay compared to Background Conditions (by less than 5%).
- Suitland Parkway/NB I-295 Ramps: exceeds LOS E for the northbound approach during the AM peak hour but with no increase in delay compared to Background Conditions
- Suitland Parkway/Firth Sterling Avenue: exceeds LOS E for the westbound approach during the AM peak hour but with no increase in delay compared to Background Conditions. It also exceeds LOS E for both the northbound and southbound approaches

under all three peak hours with significant increase in delay for the southbound approach during the AM peak hour compared to Background Conditions (by more than 5%). This intersection requires traffic mitigation.

Table 10: Traffic Analysis Volume-to-Capacity Ratios

Intersection and Movement	Existing Conditions			Background Conditions			Future Conditions		
	AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak
Howard Road @ Firth Sterling Avenue									
Eastbound Left	0.95	0.37	0.26	1.53	1.07	1.41	1.56	1.10	1.41
Eastbound Right	0.11	0.13	0.15	0.13	0.14	0.16	0.13	0.14	0.16
Northbound Left	0.49	0.41	0.52	0.55	0.52	0.67	0.55	0.52	0.67
Northbound Thru	0.11	0.07	0.05	0.16	0.17	0.18	0.16	0.18	0.18
Southbound Thru	0.10	0.15	0.20	0.13	0.21	0.27	0.14	0.22	0.27
Southbound Right	0.11	0.20	0.19	0.22	0.30	0.31	0.24	0.31	0.31
Howard Road @ Metro Parking Garage									
Eastbound Left Thru	0.11	0.15	0.16	0.20	0.25	0.28	0.21	0.26	0.28
Westbound Thru Right	0.19	0.12	0.08	0.30	0.30	0.34	0.31	0.31	0.34
Southbound Left	0.27	0.68	0.70	0.27	0.70	0.72	0.27	0.70	0.72
S. Capitol Street @ S. Capitol Street Oval (N)									
Eastbound Right	0.50	1.10	1.25	0.58	1.15	1.31	0.58	1.15	1.31
Westbound Left	0.33	1.19	1.21	0.28	1.28	1.31	0.28	1.28	1.31
Westbound Thru	0.91	0.43	0.49	0.94	0.46	0.53	0.94	0.46	0.53
S. Capitol Street @ S. Capitol Street Oval (S)									
Northbound Thru	0.89	0.29	0.24	0.89	0.30	0.24	0.89	0.30	0.24
Southbound Thru	0.21	0.48	0.53	0.25	0.51	0.58	0.25	0.52	0.58
Suitland Parkway @ S. Capitol Street Oval									
Eastbound Left	0.81	0.33	0.28	0.81	0.33	0.28	0.81	0.33	0.28
Northbound Thru	0.76	0.55	0.56	0.82	0.60	0.62	0.82	0.60	0.62
Suitland Parkway @ Northbound I-295 Ramps									
Eastbound Left	0.28	0.28	0.11	0.28	0.28	0.11	0.28	0.28	0.11
Eastbound Thru	0.31	0.55	0.65	0.33	0.61	0.75	0.33	0.61	0.75
Westbound Thru	1.02	0.80	0.73	1.05	0.94	0.91	1.05	0.95	0.91
Westbound Right	0.88	0.54	0.52	0.93	0.59	0.58	0.93	0.60	0.58
Northbound Left	0.56	0.25	0.35	0.59	0.24	0.31	0.59	0.24	0.31
Northbound Right	0.11	0.27	0.16	0.13	0.27	0.16	0.13	0.27	0.16
Suitland Parkway @ Howard Road									
Westbound Right	0.10	0.15	0.13	0.31	0.41	0.40	0.32	0.42	0.40
Northbound Thru	0.31	0.29	0.29	0.31	0.29	0.29	0.31	0.29	0.29
Southbound Thru	0.10	0.26	0.27	0.12	0.28	0.28	0.12	0.28	0.28
Suitland Parkway @ Firth Sterling Avenue									
Eastbound Left	0.35	0.29	0.34	0.57	0.52	0.64	0.57	0.52	0.64
Eastbound Thru	0.46	0.92	0.95	0.46	0.98	1.05	0.46	0.99	1.05
Eastbound Right	0.12	0.06	0.27	0.12	0.07	0.29	0.12	0.07	0.29
Westbound Left	0.68	0.46	0.27	0.65	0.71	0.52	0.65	0.76	0.52
Westbound Thru Right	1.01	0.60	0.59	1.01	0.66	0.68	1.01	0.67	0.69
Northbound Left	0.63	0.65	0.55	0.67	0.58	0.41	0.67	0.57	0.41
Northbound Thru Right	0.27	0.87	0.41	0.33	0.89	0.50	0.33	0.87	0.50
Southbound Left	0.21	1.00	0.46	0.30	1.03	0.48	0.30	1.01	0.48
Southbound Thru	0.22	0.42	0.67	0.25	0.39	0.50	0.25	0.38	0.50
Southbound Right	0.66	0.50	0.48	1.09	0.98	0.95	1.15	1.00	0.96
Site Driveway Inbound @ Howard Road									
Eastbound Thru Right	0.17	0.21	0.18	0.29	0.34	0.31	0.31	0.34	0.31
Westbound Left Thru	0.04	0.03	0.01	0.07	0.06	0.01	0.09	0.07	0.01
Site Driveway Outbound @ Howard Road									
Eastbound Thru	0.10	0.17	0.17	0.19	0.28	0.30	0.19	0.28	0.30
Westbound Thru	0.09	0.08	0.04	0.18	0.23	0.21	0.17	0.23	0.21
Northbound Left-Right	0.23	0.17	0.05	0.49	0.42	0.12	0.53	0.46	0.13

As shown in **Table 10**, the following movements have a v/c ratio over 1.0 under Future Conditions:

- Howard Road/ Metro Parking Garage: eastbound left-thru movement exceeds v/c ratio of 1.0 during all three peak hours under Background Conditions and continued to increase under Future Conditions less than 5% increase.
- S. Capitol Street/S. Capitol Street Oval (N): westbound thru- right and eastbound right movements exceed v/c ratio of 1.0 during the school PM and PM peak hours under Existing and Background Conditions. The v/c ratio continued to exceed 1.0 under Future Conditions (less than 5% increase).
- Suitland Parkway/Firth Sterling Avenue: eastbound thru, southbound left, and southbound right movements exceeds v/c ratio of 1.0 under Background Conditions and continued under Future Conditions (less than 5% increase). The westbound thru-right movement exceeds v/c ratio of 1.0 under Existing Conditions, Background Conditions, and continued under Future Conditions (no increase).
- Suitland Parkway/NB I-295 Ramps: westbound thru movement exceeds v/c ratio of 1.0 under Existing Conditions, Background Conditions, and continued under Future Conditions (no increase).

Table 11: Traffic Analysis 50th Percentile Queue Lengths

Intersection and Movement	Storage Length (ft)	Existing Conditions			Background Conditions			Future Conditions		
		AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak
Howard Road @ Firth Sterling Avenue										
Eastbound Left	378	59	47	26	136	108	163	160	106	125
Eastbound Right	378	74	111	119	119	113	166	82	117	127
Northbound Left	541	485	86	119	559	280	401	543	221	449
Northbound Thru	541	398	21	15	540	161	222	500	63	363
Southbound Thru	542	59	40	52	540	209	139	529	230	253
Howard Road @ Metro Parking Garage										
Eastbound Left Thru	258	10	32	38	245	82	105	162	104	91
Westbound Thru Right	542	15	18	12	30	58	119	40	43	50
Southbound Left	1000	20	109	110	30	118	118	29	113	127
S. Capitol Street @ S. Capitol Street Oval (N)										
Eastbound Right	1800	140	968	1158	148	958	1164	138	836	1206
Westbound Left	263	23	61	50	38	64	100	79	69	78
Westbound Thru	263	234	200	204	215	199	225	191	218	228
S. Capitol Street @ S. Capitol Street Oval (S)										
Northbound Thru	1773	481	137	123	394	139	140	439	141	126
Southbound Thru	531	111	268	215	128	270	241	113	295	230
Suitland Parkway @ S. Capitol Street Oval										
Eastbound Thru	104	53	47	42	51	49	52	56	46	42
Northbound Thru	240	316	128	132	350	135	140	331	267	137
Suitland Parkway @ Northbound I-295 Ramps										
Eastbound Left	250	43	59	16	40	99	13	42	105	14
Eastbound Thru	660	232	303	234	236	398	249	239	422	255
Westbound Thru	174	189	136	137	181	154	171	189	157	170
Westbound Right	174	120	55	40	144	70	31	138	63	41
Northbound Left	591	281	141	131	296	156	192	285	154	144
Northbound Right	591	59	151	76	11	171	128	14	174	81
Suitland Parkway @ Howard Road										
Westbound Right	692	1	6	2	19	340	334	52	283	203
Northbound Thru	153	33	50	60	44	49	72	53	50	62
Suitland Parkway @ Firth Sterling Avenue										
Eastbound Left	174	60	56	64	111	83	93	94	78	75
Eastbound Thru	174	145	181	121	132	198	113	149	195	115
Westbound Left	400	325	51	47	158	50	47	195	51	47
Westbound Thru Right	6252	5200	1829	628	4746	2345	2060	5233	2155	2041
Northbound Left	430	430	158	102	444	242	143	361	274	99
Northbound Thru Right	430	237	249	111	143	367	132	69	388	146
Southbound Left	378	361	121	125	395	302	336	394	326	333
Southbound Thru	378	339	115	173	433	326	348	435	354	361
Southbound Right	280	287	153	190	294	255	259	296	264	262
Site Driveway Inbound @ Howard Road										
Westbound Left Thru	13	12	9	1	19	24	15	19	22	6
Site Driveway Outbound @ Howard Road										
Northbound Left-Right	200	54	36	19	77	87	49	82	82	31

Table 12: Traffic Analysis 95th Percentile Queue Lengths

Intersection and Movement	Storage Length (ft)	Existing Conditions			Background Conditions			Future Conditions		
		AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak	AM Peak	SPM Peak	PM Peak
Howard Road @ Firth Sterling Avenue										
Eastbound Left	378	95	206	70	262	206	319	301	205	239
Eastbound Right	378	131	202	223	227	202	322	169	221	225
Northbound Left	541	172	590	216	570	590	680	630	438	750
Northbound Thru	541	68	510	47	672	510	592	761	227	778
Southbound Thru	542	57	549	99	703	549	578	639	578	589
Howard Road @ Metro Parking Garage										
Eastbound Left Thru	258	37	81	96	356	193	253	355	247	201
Westbound Thru Right	542	47	56	41	86	187	390	109	116	128
Southbound Left	1000	62	178	179	76	184	185	70	185	193
S. Capitol Street @ S. Capitol Street Oval (N)										
Eastbound Right	1800	261	1596	1479	284	1542	1514	301	1470	1383
Westbound Left	263	65	142	118	85	146	235	107	160	182
Westbound Thru	263	440	328	324	458	310	342	468	323	348
S. Capitol Street @ S. Capitol Street Oval (S)										
Northbound Thru	1773	798	257	191	584	209	350	887	237	203
Southbound Thru	531	224	471	402	237	485	495	263	515	413
Suitland Parkway @ S. Capitol Street Oval										
Eastbound Thru	104	105	89	83	98	92	101	113	85	86
Northbound Thru	240	403	256	152	427	394	414	427	396	399
Suitland Parkway @ Northbound I-295 Ramps										
Eastbound Left	250	81	190	45	67	322	39	82	339	46
Eastbound Thru	660	351	531	363	360	689	387	377	687	401
Westbound Thru	174	236	207	210	243	219	228	234	227	234
Westbound Right	174	276	185	157	299	212	137	289	197	158
Northbound Left	591	396	213	205	457	241	426	399	241	225
Northbound Right	591	140	253	155	50	296	376	53	275	162
Suitland Parkway @ Howard Road										
Westbound Right	692	5	39	13	79	559	586	175	549	447
Northbound Thru	153	129	151	173	122	143	193	145	146	170
Suitland Parkway @ Firth Sterling Avenue										
Eastbound Left	174	115	123	136	171	164	187	159	160	149
Eastbound Thru	174	298	295	247	276	318	247	308	299	233
Westbound Left	400	663	146	109	409	121	118	491	137	110
Westbound Thru Right	6252	8179	3571	1272	7611	4782	5232	7984	4546	4112
Northbound Left	430	536	280	185	497	460	319	593	504	190
Northbound Thru Right	430	535	421	211	446	542	269	189	556	289
Southbound Left	378	526	236	326	419	480	462	415	467	474
Southbound Thru	378	513	261	347	457	539	472	457	509	511
Southbound Right	280	328	277	309	307	309	304	306	299	310
Site Driveway Inbound @ Howard Road										
Westbound Left Thru	13	36	31	12	42	49	42	45	47	28
Site Driveway Outbound @ Howard Road										
Northbound Left-Right	200	85	64	44	97	139	110	99	134	67

As shown in the tables above, although 95th percentile queue length of some movements exceeded the available capacity, none were exceeded by more than 150 feet of what was under Existing or Background Conditions in the Future Conditions.

Traffic Mitigations

The CTR Guidelines require mitigation measures for any capacity or queuing issues identified in the traffic analysis. The following defines “significant impact” to the roadway network:

1. When the proposed project causes any one or more intersection approaches to exceed the established LOS threshold. This threshold will be set for each project and will be defined as LOS “E” or “F” as requested by DDOT; or
2. When the proposed project causes any one or more intersection approaches with an existing LOS “E” or “F” to experience an increase in vehicle delay of 5% or more; or
3. When the proposed project causes the 95th percentile queue length to exceed the available capacity of an approach or turn lane; or
4. When the proposed project causes the 95th percentile queue length to exceed the available capacity in the short- or long-term planning horizon and experience an increase in queue of 150 feet or more; or
5. When the proposed project causes a movement or lane group’s V/C ratio to increase above 1.0; or
6. When the proposed project causes any deficient movement or lane group’s V/C ratio to increase by 5 percent or more

As the previous indicates, the following intersection requires mitigation measure:

- Suitland Parkway/Firth Sterling Avenue: more than 5% increase in delay .

TDM measures are proposed in the following section to mitigate the traffic impact of the project on the surrounding roadway network..

TRANSPORTATION DEMAND MANAGEMENT

This following section outlines TDM measures currently employed by the school:

- The school is in compliance with the DC Commuter Benefits Law to participate in at least one of the three transportation benefits outlined in the law (employee-paid pre-tax benefit, employer-paid direct benefit, or shuttle service), as well as any other commuter benefits related laws that may be implemented in the future. The Transportation Coordinator will maintain records to establish compliance with the requirements.
- The school currently offers a SmartTrip card with \$100 per month per employee to subsidize the use of transit.
- Comprehensive bicycle/walking program (showers, bike racks, lockers, financial incentives)
 - Provide at least 40 short-term bicycle parking spaces.
 - Provide at least four showers and eight lockers for use by employees
 - Long-term bicycle storage room will accommodate eleven bicycles. There will be no fee to the employees for usage of the bicycle storage room.

The following section outlines additional TDM measures proposed by the school:

- Prior to the issuance of a building permit, Transportation Coordinators will be identified for the planning, construction, and operations phases of development. The Transportation Coordinators will act as points of contact with DDOT, goDCgo, and Zoning Enforcement and will provide their contact information to goDCgo.
- Transportation Coordinator will conduct an annual commuter survey of employees on-site and parents, and report TDM activities and data collection efforts to goDCgo once per year.
- Check in with goDCgo's School Services Team halfway through the year to track progress.
- Transportation Coordinator(s) will develop, distribute, and market various transportation alternatives and options to the employees and families, including promoting transportation events (i.e., Bike to Work Day, National Walking Day, Car Free Day) on property website and in any internal building newsletters or communications.
- Transportation Coordinator(s) will receive TDM training from goDCgo prior to the issuance of a building permit to learn about the transportation conditions for this project and available options for implementing the TDM Plan.
- The school will comply with the Parking Cash-Out Law. Transportation Coordinator will report to goDCgo every two years detailing how the school is complying with the law or if an exemption applies.
- Transportation Coordinator will implement a carpooling system a least one month before the first day of school such that individuals working in the building who wish to carpool can easily locate other employees who live nearby.
- Facilitate car/vanpool formation meetings and ride matching.
- Sign up for and promote SchoolPool, a ride matching platform for students and families
- Promote the Carpool Now App and Commuter Connections' ride matching platform annually.

- Designate a minimum of two preferential carpooling spaces in a convenient location within the parking lot for employee use prior to issuance of a certificate of occupancy.
- Provide links to CommuterConnections.com and goDCgo.com on school website prior to issuance of a certificate of occupancy.
- Comprehensive bicycle/walking program (showers, bike racks, lockers, financial incentives)
 - Work with WABA's bicycle and pedestrian education program for charter schools to schedule bicycle safety course for staff and students annually.
 - Promote WABA bicycling classes to staff annually.
 - Participate in the annual Capital Bikeshare corporate membership by offering it to employees who bike to school at least once a week
 - Provide one (1) complimentary Capital Bikeshare coupon good for a free ride to each new employee.
- Send out reminders for Commuter Benefits Open Enrollment
- Promote commuter benefits and other sustainable transportation programs to new and existing hires annually.
- Host a tabling event with goDCgo to sign staff up for commuter benefits within the first month of each school year.
- Provide information on nearby transportation options on the school's website prior to certificate of occupancy.
- Work with DDOT and WMATA to distribute Kids Ride Free SmarTrip cards to students annually.

PERFORMANCE MONITORING PLAN

This following section outlines the proposed performance monitoring plan:

Cedar Tree Academy shall conduct counts and provide a monitoring report to DDOT's Policy, Planning, and Sustainability Administration twice per year (fall and spring semesters, not to coincide within a week before or after any extended school breaks) for two years beginning in the Fall 2027 semester and again when the school reaches the proposed cap of 680 students.

- Trip generation counts and queuing shall be observed from 7:30AM – 9:00AM and 2:30PM – 4:30PM.
- Vehicle trip generation shall include all vehicle trips to the site, including vehicles traveling to the site but not entering the driveway.
- The number of trips in the AM peak hour must not exceed 464 total trips, and the number of trips in the PM peak hour must not exceed 314 total trips.
- If site trips exceeds the vehicle trip generation count, Cedar Tree Academy shall employ additional Transportation Demand Management measures and continue monitoring twice per year for two years for a total of four successful monitoring reports.

SUMMARY AND RECOMMENDATIONS

This report concludes that the Cedar Tree Academy project will not have a detrimental impact on the surrounding transportation network, considering Transportation Demand Management mitigation measures .

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

- The site's close proximity to transit and existing bicycle infrastructure;
- Several planned future bicycle and pedestrian facility improvements linking the site, the Frederick Douglass Memorial Bridge, and the Anacostia Metrorail Station.