COMPREHENSIVE TRANSPORTATION REVIEW

ECKINGTON YARDS PUD

WASHINGTON, DC

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EXECUTIVE SUMMARY

The following report is a Comprehensive Transportation Review (CTR) for the Eckington Yards project. This report reviews the transportation aspects of the project's Planned Unit Development (PUD) application. The Zoning Commission Case Number is 15-15.

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

Proposed Project

The project will redevelop the existing surface parking lots and commercial buildings into a mixed-use project with a thriving, pedestrian-friendly environment. The development is comprised of two potential phases:

- Phase A will consist of the northwest and southwest buildings. These buildings will include 468 residential units and up to 77,184 square feet of retail spaces. A parking garage will be accessible from a shared access with The Gale along Q Street and provide 187 parking spaces. Loading will also be shared with The Gale and will be accessible from Eckington Place.
- Phase B will consist of the northeast and southeast buildings. These buildings will be residential only and include 227 units. A parking garage will be accessible from an existing public alley off of Harry Thomas Way and will provide 144 parking spaces. Loading for the northeast building will be from the existing alley. Loading for the southeast building will be shared with The Gale and will be accessible from Harry Thomas Way.

At this time, both phases of the development are expected to be completed simultaneously; however, the Applicant is requesting the flexibility to allow for the construction of either Phase A or Phase B as the first phase of the development in order to respond to market conditions.

The development will also include the construction of a private alley, or promenade, acting as an extension of Quincy Place. Although the promenade will allow some vehicular traffic, the promenade will not have any curb cuts and will be catered to pedestrians.

Vehicular access to the Phase A parking garage will be from the existing Gale garage access along Q Street. Vehicular access to the Phase B parking garage will be from the existing public alley off of Harry Thomas Way on the north side of the site. The new promenade will also allow one-way eastbound vehicular traffic. It is expected that vehicular activity will primarily consist of loading and unloading for the retail uses along the promenade, and other pick-up/drop-off activity (e.g. taxis).

The amount of loading facilities on site will meet the project's needs. All three loading docks supply the appropriate facilities to accommodate the practical needs of the site, and maintain flexibility for retail loading activity to take place along the promenade or within the loading docks.

The amount of on-site parking provided will accommodate the anticipated parking demand generated by the site.

Multi-Modal Impacts and Recommendations

Transit

The site is well-served by regional and local transit services such as Metrorail and Metrobus. Although the development will be generating new transit trips on the network, the existing facilities have enough capacity to handle the new trips.

Pedestrian

The site is surrounded by a well-connected pedestrian network. The existing pedestrian infrastructure surrounding the site provides an excellent walking environment. There are some barriers east of the site due to the rail tracks and railyard, but overall there is a well-connected pedestrian network.

The site will improve the overall pedestrian environment by providing improved sidewalks along the interior and perimeter of the site, most notably by way of the new promenade through the site and curb extensions and crosswalks along Eckington Place. This report also recommends adding crosswalks where the private alley intersections Harry Thomas Way in coordination with the planed NoMa Green.

Bicycle

The site has access to several on- and off-street bicycle facilities including the Metropolitan Branch Trail and bike lanes on Eckington Place and Harry Thomas Way. The site is not expected to generate a significant amount of bicycle trips;

therefore, all site-generated bike trips can be accommodated on existing infrastructure.

The development site will include long-term bicycle parking within the parking garages and short-term bicycle parking within the site and along the perimeter of the site that meet or exceed DDOT requirements. The Applicant has agreed to fund the installation of a Capital Bikeshare station within a quarter-mile of the site or expand the existing Bikeshare station located at Eckington Place and Q Street.

Vehicular

The site is accessible from several principal arterials such North Capitol Street, New York Avenue, Florida Avenue, and Rhode Island Avenue. The arterials create connections to I-395, I-695, I-295, and ultimately the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs as well as regional access to I-95. All of these roadways bring vehicular traffic within a half-mile of the site, at which point minor arterials, collectors, and local roads can be used to access the site directly.

In order to determine if the proposed development will have a negative impact on this transportation network, this report projects future conditions with and without the development of the site and performs analyses of intersection delays.

The analysis concluded that three intersections triggered further review for mitigations. One of these intersections, Harry Thomas Way and Eckington Place, was found to be detrimentally impacted by PUD generated traffic. The most straightforward solution to mitigating delays at the intersection of Eckington Place and Harry Thomas Way is to convert the intersection to an all-way stop controlled intersection. This mitigation would also have the benefit of improving pedestrian crossings at this location. This report recommends that this mitigation be explored with DDOT, and if an all-way stop is agreed to as a mitigation for this PUD, this report recommends the Applicant pay for the necessary signing and marking improvements to implement the mitigation.

Summary and Recommendations

This report analyzed the potential impacts of the PUD, and concluded that the PUD will not have a detrimental impact to the surrounding transportation network, as long as the project implements the recommendations as follows:

For either Phase A or Phase B, whichever is constructed first:

- Mitigating vehicular impacts at the intersection of Harry Thomas Way and Eckington Place, via converting the intersection to an all-way stop sign or similar improvement. The actual mitigation measure will be finalized with DDOT in coordination with the Mid-City East Livability Study's recommendations for Eckington Place.
- Funding the installation of a Capital Bikeshare station within the NoMa Green Park or fund the expansion of the existing station located at Q Street and Eckington Place, NE.
- Implementing the TDM plan detailed in the body of the report, which includes establishing TDM leaders, providing transit information and an electronic message screen in each residential lobby, unbundling the parking from leasing costs, car-sharing parking spaces, bicycle parking and a bicycle maintenance facility.

Specific mitigations for Phase A:

- Coordinating with DDOT on the public space elements along Eckington Place, including aligning them with the anticipated implementation of the Livability project's recommendations.
- Implementing building specific TDM measures, such as constructing long and short term bicycle parking meeting the ZRR requirements.

Specific mitigations for Phase B:

- Coordinating on and constructing pedestrian crossing where the private alley/promenade intersections Harry Thomas Way, with the planned NoMa Green. The exact design of the crossing will be determined through the public space process, but it is anticipated to include curb extensions and high visibility signing and marking.
- Implementing building specific TDM measures, such as constructing long and short term bicycle parking meeting the ZRR requirements.

INTRODUCTION

This report reviews the transportation elements of the Eckington Yards PUD, Zoning Case number 15-15. The site, shown in Figure 1, is located in the Eckington neighborhood of Northeast DC.

The purpose of this report is to:

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

Proposed Project

The development, which is currently home to surface parking lots and one and two-story commercial buildings, is located in the Eckington neighborhood, in the Northeast quadrant of Washington, DC. The site is generally bounded by Eckington Place to the west, Harry Thomas Way to the east, and existing buildings or alleys to the north and south.

The redevelopment plans call for four buildings at each of the four quadrants of the site, with a private alley, or promenade, running down that middle that will act as an extension of Quincy Place. This alley will allow for some vehicular traffic, but will be oriented towards pedestrians.

The northwest and southwest buildings will be mixed-use buildings consisting of 468 residential units and up to 77,184 square feet or retail spaces. These buildings will be served by a below-grade parking garage accessible from a shared access with the adjacent residential development, The Gale, along Q Street. The garage will supply 187 parking spaces: 99 of which will be allocated to the retail component, 88 of which will be allocated to the residential component. Loading facilities for the west buildings will be shared with The Gale and will be accessible from Eckington Place. Some retail loading is also expected to take place along the private alley.

The northeast and southeast buildings will consist of residential uses only and will include a total of 227 units. Parking for the east buildings will be provided in a 144-space below-grade parking garage, accessible from an existing public alley on the north side of the site off of Harry Thomas Way. Loading for the northeast building will also occur along the existing public alley. Loading facilities for the southeast building will be shared with The Gale and will be accessible from Harry Thomas Way.

Pedestrian facilities along the perimeter of the site will be improved to include sidewalk and buffer widths that meet or exceed DDOT requirements. Notably the development proposes curb extensions at the proposed promenade curb cut at Eckington Place to create a safe and inviting pedestrian environment. The final design of these features will be coordinated with DDOT's Livability project and within the public space approval process.

The promenade will be catered towards pedestrians as retail entrances, residential entrances, café seating, and a pedestrian plaza are concentrated along the promenade. There will be an additional north-south pedestrian pathway that will connect the promenade with Q Street down the center of the site.

There are many existing bicycle facilities surrounding the site with a nearby connection to the Metropolitan Branch Trail, thus the site will include ample long-term bicycle parking spaces within the garage and short-term bicycle parking spaces along the perimeter of the site. The Applicant will also install a Capital Bikeshare station within a quarter-mile of the site (the location of this station to be coordinated with DDOT) or increase the size of the existing Capital Bikeshare station located at the southwest corner of Eckington Place and Q Street.

CONTENTS OF STUDY

This report contains nine sections as follows:

- *Study Area Overview*
  This section reviews transportation-related elements of the area near and adjacent to the proposed project and includes an overview of the site location.
- *Project Design*
  This section reviews the transportation components of the project, including the site plan and access. This chapter also contains the proposed Transportation Demand Management (TDM) plan for the site.
- *Trip Generation*
  This section outlines the travel demand of the proposed project. It summarizes the proposed trip generation of the project.
- *Traffic Operations*
  This section provides a summary of the existing roadway facilities and an analysis of the existing and future roadway capacity in the study area. This section highlights the vehicular impacts of the project, including presenting proposed mitigation measures.
- *Transit*
  This section summarizes the existing and future transit service adjacent to the site, reviews how the project's transit demand will be accommodated, outlines impacts, and presents recommendations as needed.
- *Pedestrian Facilities*
  This section summarizes existing and future pedestrian access to the site, reviews walking routes to and from the project site, outlines impacts, and presents recommendations as needed.
- *Bicycle Facilities*
  This section summarizes existing and future bicycle access to the site, reviews the quality of cycling routes to and from the project site, outlines impacts, and presents recommendations as needed.
- *Safety/Crash Analysis*
  This section reviews the potential safety impacts of the project. This includes a review of crash data at intersections in the study area and a qualitative discussion on how the development will influence safety.
- *Summary and Conclusions*
  This section presents a summary of the recommended mitigation measures by mode and presents overall report findings and conclusions.

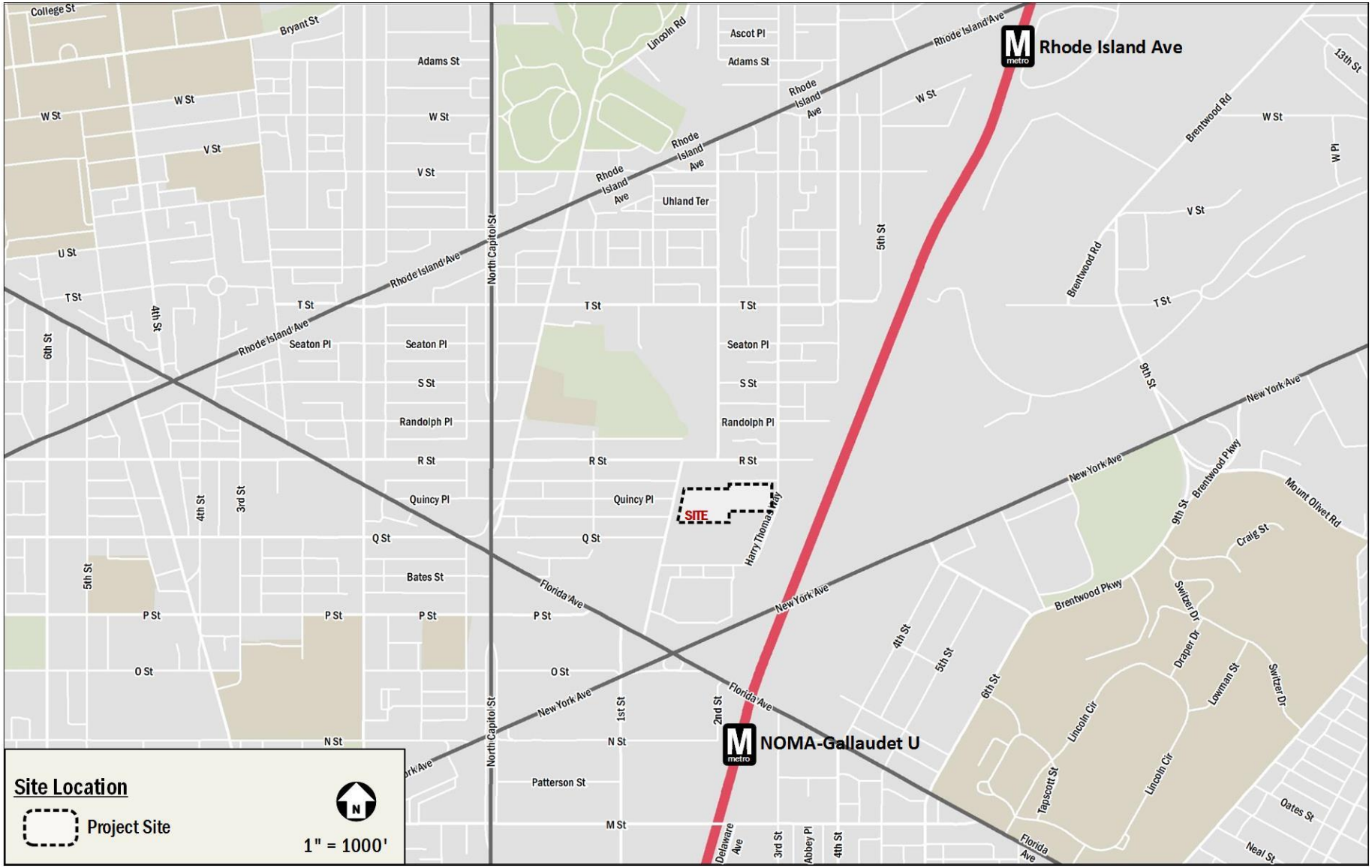

Figure 1: Site Location

STUDY AREA OVERVIEW

This section reviews the existing conditions of the surrounding transportation network and includes an overview of the site location, including a summary of the major transportation characteristics of the area and of future regional projects. More specific characteristics of each mode and their subsequent study areas will be defined in later sections of this report.

The following conclusions are reached within this chapter:

- The site is surrounded by an extensive regional and local transportation system that will accommodate the residents, employees, and patrons of the proposed development.
- The site is well-served by public transportation with access to the Metrorail's Red line and several local and regional Metrobus lines.
- There are several bicycle facilities surrounding the site including the Metropolitan Branch Trail and multiple east-west and north-south on-street bicycle facilities.
- The site is surrounded by a well-connected pedestrian environment, with the majority of sidewalks and crossings meeting DDOT requirements.

MAJOR TRANSPORTATION FEATURES

Overview of Regional Access

Under existing conditions, the Eckington Yards site has ample access to regional vehicular- and transit-based transportation options, as shown in Figure 3, that connect the site to destinations within the District, Virginia, and Maryland.

The site is accessible from several principal arterials such North Capitol Street, New York Avenue, Florida Avenue, and Rhode Island Avenue. The arterials create connections to I-395, I-695, I-295, and ultimately the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs as well as regional access to I-95. All of these roadways bring vehicular traffic within a half-mile of the site, at which point minor arterials, collectors, and local roads can be used to access the site directly.

The site has access to the Red Line via the NoMa-Gallaudet U Metrorail station, which provides connections to areas in the District and Maryland. The Red Line connects Rockville, MD with Glenmont, MD while providing access to the District core. Of particular importance, the Red Line provides a direct connection to Union Station, which is a hub for commuter rail – such as Amtrak, MARC, and VRE – in addition to all additional Metrorail lines, allowing for access to much of the DC Metropolitan area.

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

Overview of Local Access

There are several local transportation options near the site that serve vehicular, transit, walking, and cycling trips under existing conditions, as shown on Figure 4.

The site is served by a local vehicular network that includes several minor arterials and collectors such as Lincoln Road, T Street, R Street, Eckington Place, 2nd Street, and 3rd Street. In addition, there is an existing network of connector and local roadways that provide access to the site.

The Metrobus system provides local transit service in the vicinity of the site, including connections to several neighborhoods within the District and additional Metrorail stations. As shown in Figure 4 there are multiple bus routes that service the site. In the vicinity of the site the majority of routes travel along North Capitol Street, Florida Avenue, R Street, and T Street.

There are existing bicycle facilities that connect the site to areas within the District, most notably the Metropolitan Branch Trail which travels along the Red Line Metrorail tracks and provides a connection to Union Station. Other facilities include bicycle lanes on Eckington Place, Harry Thomas Way, 2nd Street, 3rd Street, 4th Street, R Street, and Q Street, cycle tracks along First Street NE and M Street NE, and shared lanes along R Street. A detailed review of existing and proposed bicycle facilities and connectivity is provided in a later section of this report.

In the vicinity of the site, most sidewalks meet DDOT requirements. Anticipated pedestrian routes, such as those to public transportation stops, retail zones, and community amenities, provide well-connected pedestrian facilities. There are some pedestrian barriers in the area that limit the overall connectivity to and from the site and some sidewalks that do not meet DDOT standards. A detailed review of existing and

proposed pedestrian access and infrastructure is provided in a later section of this report.

Overall, the site is surrounded by an extensive local transportation network that allows for efficient transportation options via transit, bicycle, walking, or vehicular modes.

Car-sharing

Three car-sharing companies provide service in the District: Zipcar, Enterprise Carshare, and Car2Go. All three services are private companies that provide registered users access to a variety of automobiles. Of these, Zipcar and Enterprise Carshare have designated spaces for their vehicles. There are two Zipcar and two Enterprise Carshare locations located within a quarter-mile of the site. These locations and the number of available vehicles are listed in Table 1.

Car-sharing is also provided by Car2Go, which provides point-to-point car sharing. Unlike Zipcar or Enterprise Carshare, which require two-way trips, Car2Go can be used for one-way rentals. Car2Go currently has a fleet of vehicles located throughout the District. Car2Go vehicles may park in any non-restricted metered curbside parking space or Residential Parking Permit (RPP) location in any zone throughout the defined "Home Area". Members do not have to pay meters or pay stations. Car2Go does not have permanent designated spaces for their vehicles; however availability is tracked through their website, which provides an additional option for car-sharing patrons.

Walkscore

Walkscore.com is a website that provides scores and rankings for the walking, biking, and transit conditions within neighborhoods of the District. Based on this website the planned development is located in the Eckington Neighborhood. This project location itself has a walk score of 79 (or "Very Walkable"), transit score of 71 (or "Excellent Transit"), and a bike score of 87 (or "Very Bikeable"). Figure 2 shows the neighborhood borders in relation to the site location and displays a heat map for walkability and bikeability.

As shown in Figure 2, the site is situated in a neighborhood that encompasses good walk and bike scores, but is hindered by the rail yard that creates a pedestrian and bicyclist barrier to the east. The site itself is situated in the southern portion of the neighborhood therefore it is less cut off by the railroad tracks than other parts of the neighborhood and is surrounding by existing bicycle lanes with a direct connection to the

Table 1: Carshare Locations

Carshare Location	Number of Vehicles
Zipcar	
151 Q Street NE (The Gale Eckington)	1 vehicle
100 Florida Ave NE (NoMA/Gallaudet Metro)	1 vehicle
Enterprise Carshare	
Harry Thomas Way / Eckington Place NE	2 vehicles
66 New York Avenue NE (Atlantic Parking Lot)	5 vehicles
Total	9 vehicles

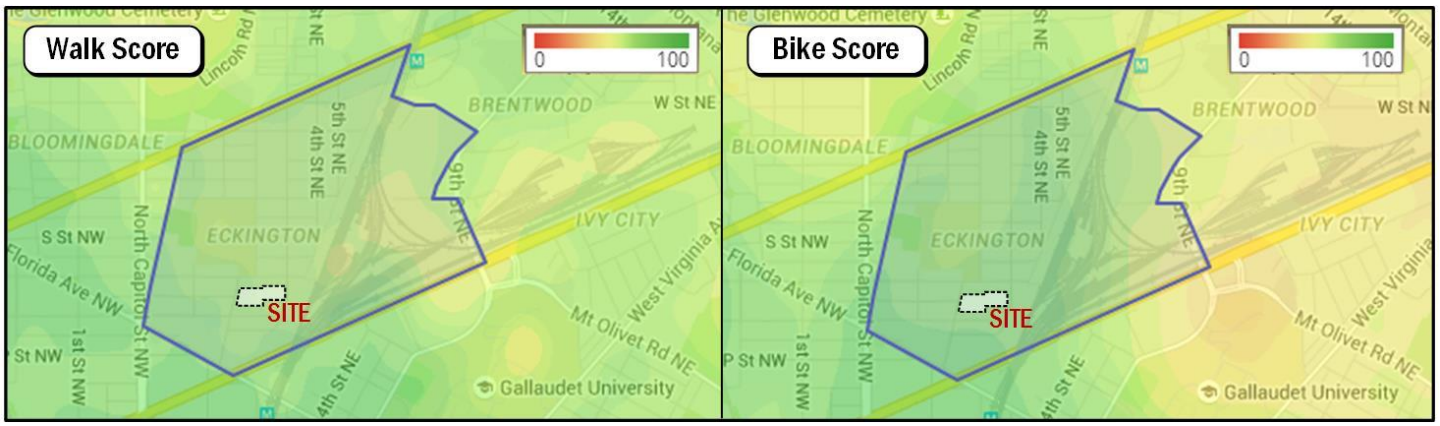

Figure 2: Summary of Walk and Bike Scores

Metropolitan Branch Trail. Overall, the Eckington neighborhood has extensive pedestrian, transit, and bike facilities, particularly in the direct vicinity of the site.

Future Regional Projects

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

Local Initiatives

MoveDC: Multimodal Long-Range Transportation Plan

MoveDC is an implementation-based plan that provides a vision for the future of DC's transportation system. As the District grows, so must the transportation system, specifically in a way that expands transportation choices while improving the reliability of all transportation modes.

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

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

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

Mid-City East Livability Study

The purpose of this plan is to improve the overall livability of the Bloomingdale, Eckington, eastern Shaw, and LeDroit Park neighborhoods by: (1) addressing day to day transportation challenges faced by residents; (2) enhance community access and circulation (particular for walking and bicycling) for all residents; (3) protect local streets as the "home zone' of neighborhoods and communities; and (4) provide opportunities in the public rights of ways to celebrate community identity and place.

These goals are proposed to be addressed by designating pedestrian priority streets, prioritizing safety improvements at major intersections, enhancing multimodal travel options along minor corridors, creating unique, functional landscapes that provide mitigation for stormwater runoff, and where possible replacing pavement with green stormwater management spaces.

In direct relation to the proposed development, the Mid-City East Livability Study proposes improvements along the Eckington Place corridor. These improvements include a mini roundabout at Eckington Place and Q Street, curb extensions, and left-turn lane pockets in place of the existing two-way left-turn lane. These improvements are not funded nor do they have an expected completion date, therefore they were not included in the analysis; however, the Eckington Yards development reflects the ideas presented in this study within the proposed streetscape plans, by improving the sidewalk along Eckington Place and adding curb extensions at the intersection of Eckington Place with the new promenade. The final design of these features will be coordinated with DDOT's Livability project and within the public space approval process.

Planned Developments

There are several potential development projects in the vicinity of the Eckington Yards site. For the purpose of this analysis, only approved developments expected to be complete prior to planned development with an origin/destination within the study area were included. A detailed list of all background developments considered and a description of their applicability for incorporation in the study is included in the Technical Attachments. Figure 5 shows the location of these developments in relation to the proposed development. Of the background developments considered, only one was ultimately included. That background development is as follows:

- *50 Florida Avenue*
  The 50 Florida Avenue project is a mixed-use development that will include 185 residential units, approximately 8,000 square feet of ground-floor retail space, and 210 on-site parking spaces in an underground garage. The development is expected to be complete in 2016.

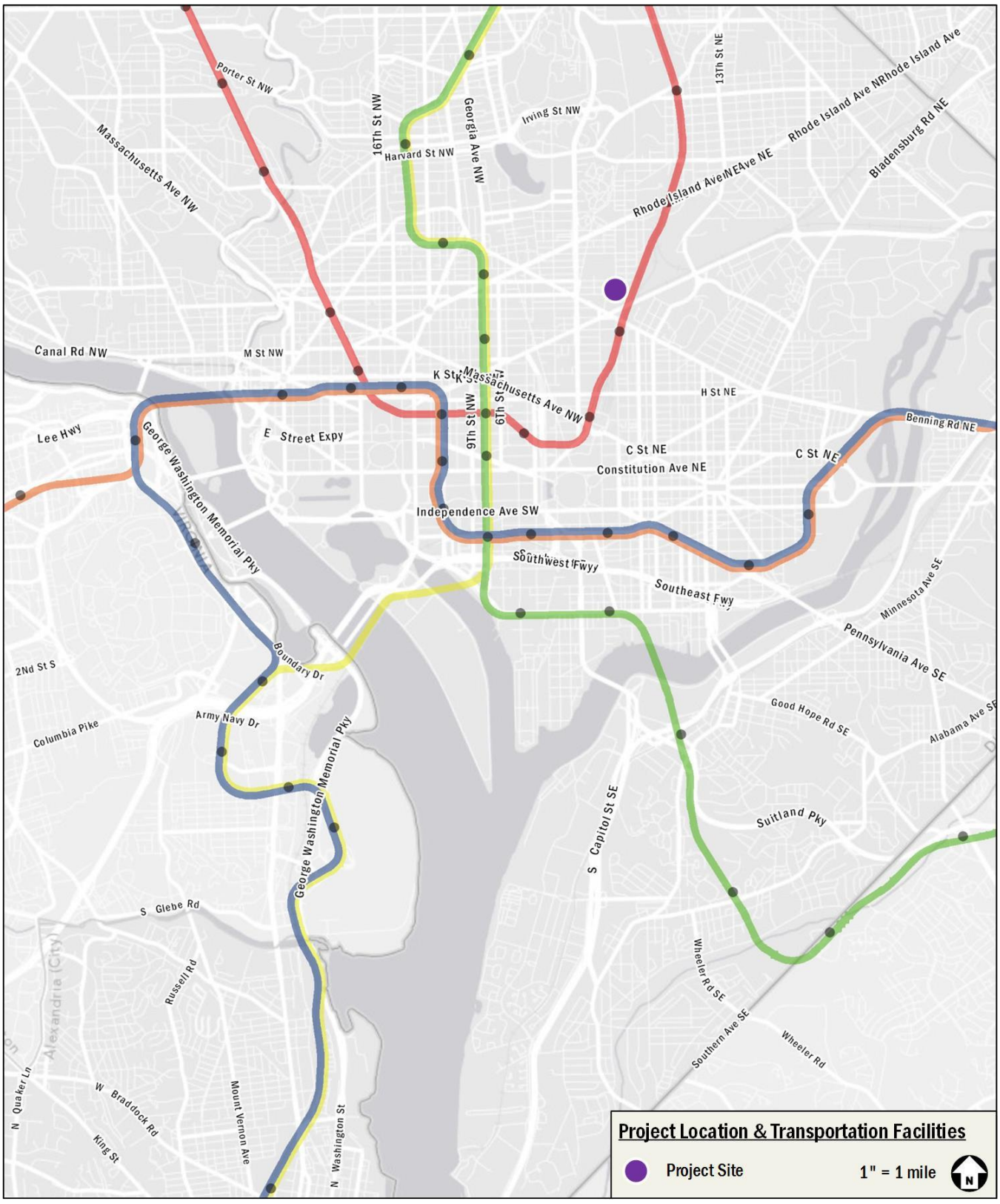

Figure 3: Major Regional Transportation Facilities

Figure 4: Major Local Transportation Facilities

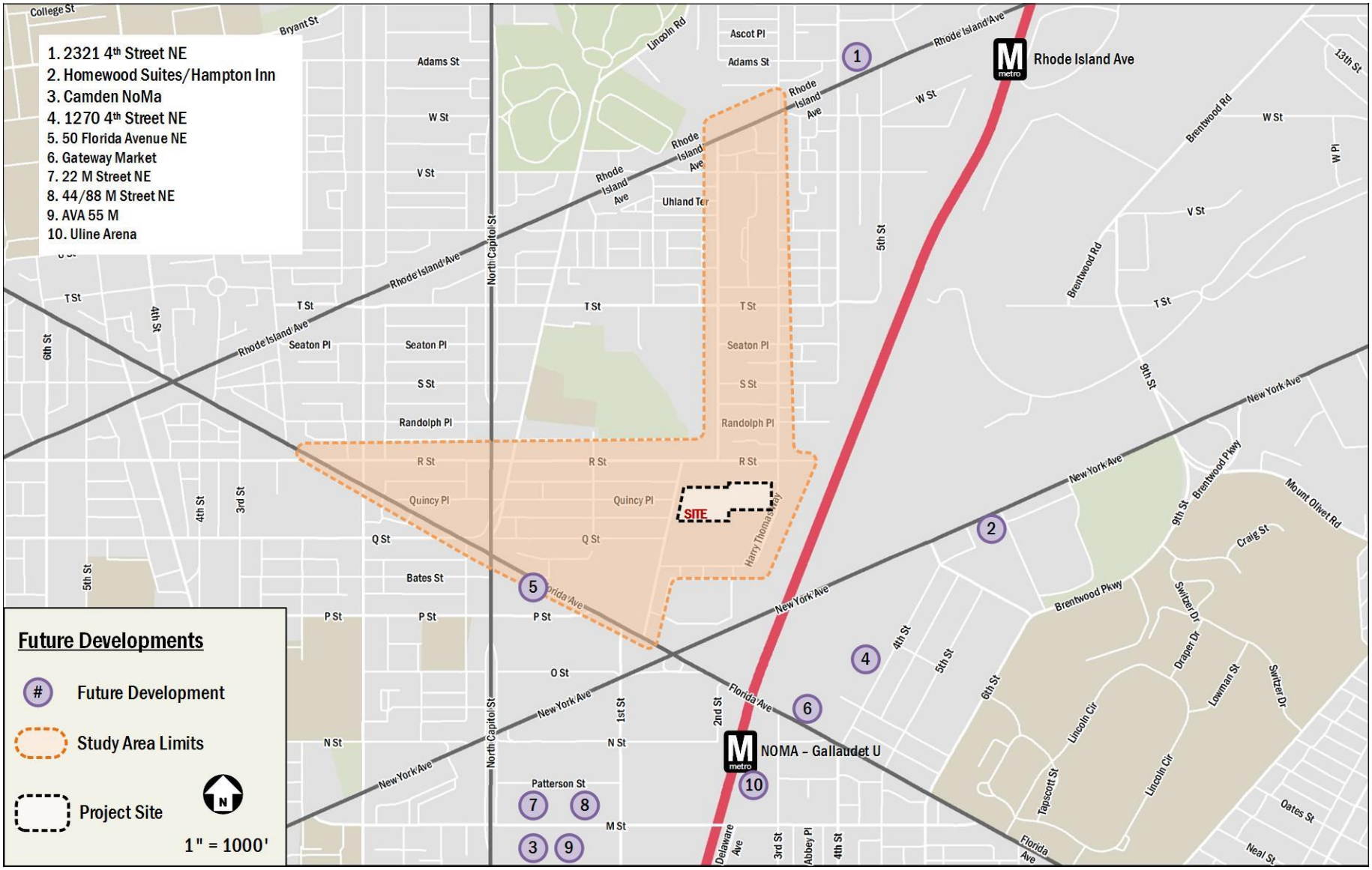

Figure 5: Background Development Map

PROJECT DESIGN

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

The project will redevelop the existing surface parking lots and commercial buildings into a mixed-use project with a thriving, pedestrian-friendly environment. The development is comprised of two potential phases:

- Phase A will consist of the northwest and southwest buildings. These buildings will include 468 residential units and up to 77,184 square feet of retail spaces. A parking garage will be accessible from a shared access with The Gale along Q Street and provide 187 parking spaces. A loading area will also be shared with The Gale and will be accessible from Eckington Place. Additional loading is expected to take place along the new private alley.
- Phase B will consist of the northeast and southeast buildings. These buildings will be residential only and include 227 units. A parking garage will be accessible from an existing public alley off of Harry Thomas Way and will provide 144 parking spaces. Loading for the northeast building will be from the existing alley. Loading for the southeast building will be shared with The Gale and will be accessible from Harry Thomas Way.

At this time, both phases of the development are expected to be completed simultaneously; however, the Applicant is requesting the flexibility to allow for the construction of either Phase A or Phase B as the first phase of the development in order to respond to market conditions.

The development will also include the construction of a private alley, or promenade, acting as an extension of Quincy Place. Although the promenade will allow some vehicular traffic, there will be no curb cuts off of the new promenade and it will generally be catered to pedestrians.

Figure 6 shows the proposed ground floor site plan and circulation. Figure 7 shows the development plan and potential phasing for the project.

SITE ACCESS

As shown in Figure 6, there will be several pedestrian retail entrances along Eckington Place and the new promenade. There will be multiple pedestrian access points for all four residential buildings along Eckington Place, Harry Thomas Way, the new promenade, the new pedestrian connection between the promenade and Q Street, and along the existing public alley.

Vehicular access to the Phase A parking garage will be from the existing Gale garage access along Q Street. In conjunction with the shared connection, residents of Phase A will also have the ability to utilize parking spaces in the Gale as they are not fully utilized. Vehicular access to the Phase B parking garage will be from the existing public alley off of Harry Thomas Way on the north side of the site. The new promenade will also allow one-way eastbound vehicular traffic. It is expected that vehicular activity will primarily consist of loading and unloading for the retail uses along the promenade, and other pick-up/drop-off activity (e.g. taxis).

LOADING

Truck routing to and from the site will be focused on designated primary truck routes, such as Florida Avenue, Eckington Place, and Harry Thomas Way. The only restricted truck routes surrounding the site is T Street between North Capitol Street and 4th Street.

Loading activity for the retail component of the site is expected to take place either along the new promenade or in the loading docks. Turning maneuvers showing the feasibility of loading activity along the promenade is included in the Technical Attachments. As discussed below, there is ample capacity in the two shared loading docks if retailers select to utilize those instead of the promenade.

Residential loading activity for the southwest and northwest buildings will take place within the existing Gale loading dock located off of Eckington Place, which supplies one (1) 30' loading berth and one (1) 20' service/delivery space. Residential loading activity for the southeast building will take place within the Gale loading dock located off of Harry Thomas Way, which supplies one (1) 30' loading berth and one (1) 20' service/delivery space. Both of these loading docks currently accommodate back-in/head-out maneuvering and will continue to do so under future conditions. The redesign of these loading docks to accommodate head-in/head-out maneuvers was

Table 2: Summary of Weekly Loading Capacity and Activity

Loading Facility	Capacity	Loading Activity		
		Existing Gale Buildings	*Proposed Eckington Yards Development*	*Total*
West Loading Facility (30' bay)	105 hrs	1 hr	3.1 hrs	4.1 hrs
West Loading Facility (20' service/delivery space)	105 hrs	15 hrs	50 hrs	65 hrs
East Loading Facility (30' bay)	105 hrs	1.6 hrs	0.75 hrs	2.35 hrs
East Loading Facility (20' service/delivery space)	105 hrs	25 hrs	4.6 hrs	29.6 hrs

analyzed, but determined to be infeasible due to architectural, code requirement, and ownership issues.

In order to determine the feasibility of a shared loading area, Gorove/Slade performed 24-hour loading counts at the two existing loading areas on Wednesday, September 30, 2015 and Saturday, October 3, 2015. Based on the existing counts, it was found that the additional loading activity from the Eckington Yards development would not overburden the loading docks. Table 2 outlines the weekly loading capacity and activity at the existing loading docks with and without the Eckington Yards, in which no loading bays exceed capacity. The full loading activity study is included in the Technical Attachments and includes a more detailed breakdown of the loading data.

Residential loading activity for northeast buildings will take place within a loading dock accessible from the existing alley off of Harry Thomas Way. This loading area will supply one (1) 30' loading berth and one (1) 20' service/delivery space.

The amount of loading activity expected at this loading dock is estimated as follows:

- As a baseline, it is assumed that there will be three daily truck deliveries (covering trash, a general shared delivery, and mail). This analysis assumes that loading activity for USPS and the shared delivery (UPS or FedEx) will take place along the promenade and trash pick-up will occur in the loading dock.
- Residential loading activity is estimated assuming an expected rental turnover of 18 months, with two trucks per move – one move in and one move out.

Using these estimates, and assuming that the residential components the northeast building will utilize this loading dock, it is anticipated that there will be approximately 1 residential loading activities per day and 2 total loading activities per day. This could increase to 4 loading activities per day if USPS, FedEx and UPS utilize the service/delivery space.

All three loading docks supply the appropriate facilities to accommodate the practical needs of the site, and maintain flexibility for retail loading activity to take place along the promenade or within the loading docks.

PARKING

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

- *Residential*
  1 space for each 3 dwelling units, amounting to a minimum requirement of 232 spaces.

- *Retail*
  1 space per 750 square feet of retail space in excess of 3,000 square feet, amounting to a minimum requirement of 99 spaces.

Overall, the parking supply generally provides parking ratios consistent with what is expected by current market conditions.

The overall residential parking ratio of 0.35 spaces per unit fits within data from Gorove/Slade's library showing residential developments with parking demand of 0.30 to 0.45 spaces per unit. With the proposed demand management measures recommended later in this report in place, the proposed parking should adequately serve all demand. The retail parking ratio of 1.28 per 1,000 square feet of retail area is close to the common observed District retail demand of 1.0 spaces per 1,000 square feet and will adequately accommodate all expected parking demand on-site.

A summary of the parking supply by phase and by land use is shown in Table 3.

Table 3: Proposed Parking Supply

Parking Supply	
Phase A	
Residential	88 spaces
Retail	99 spaces
Phase B	
Residential	144 spaces
Total	**232 spaces**

If Phase A is developed prior to Phase B, the overall residential parking ratio will be 0.18 parking spaces per unit. If phasing occurs in this order, additional parking resources may be necessary prior to the construction of Phase B. The most likely source of additional parking supply will be The Gale, which has an excess of parking supply and is directly adjacent to the PUD.

Bicycle and Pedestrian Facilities

The project will include both short- and long-term bicycle parking spaces. Secure long-term bicycle parking that meet or exceed zoning requirements will be supplied in both the Phase A and Phase B garages. There are 195 secure bicycle parking spaces proposed for the Phase A garage and 76 spaces proposed for the Phase B garage. In addition, short-term bicycle parking spaces will be placed along the interior and perimeter of the site. These short-term spaces will include inverted U-racks placed in high-visibility areas. The applicant will work with DDOT to determine the exact location of bicycle racks in public space.

The applicant has agreed to pay for the installation of one Capital Bikeshare station within the new NoMa Green Park, across from Harry Thomas Way from the development or upsize the existing Bikeshare station located on the southwest corner of Q Street and Eckington Place, NE. The Applicant will work with the NoMa Business Improvement District and DDOT to determine the appropriate direction.

Pedestrian facilities directly surrounding the site meet DDOT requirements, but will be improved along Eckington Place to provide a more inviting pedestrian environment and comply with the improvements laid out in the *Mid-City East Livability Study*. As shown in Figure 6, curb extensions and crosswalks will be at the intersection of Eckington Place with Quincy Place/the proposed promenade. The final design of these features will be coordinated with DDOT's Livability project and within the public space approval process.

The promenade itself will be catered towards pedestrian activity and will provide a pedestrian plaza to be used by residents and patrons of the retail establishments. Other amenities such as café seating and ample landscaping will be implemented along the promenade. The development also proposes a pedestrian connection between the promenade and Q Street in coordination with the adjacent property, The Gale. Overall, the Eckington Yards development will further improve the pedestrian environment surrounding the site and increase the porosity and connectivity of the neighborhood.

Transportation Demand Management (TDM)

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

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

- The Applicant will identify TDM Leaders (for planning, construction, and operations). The TDM Leaders will work with goDCgo staff to create free customized marketing materials and a TDM outreach plan for resident and retail employees, including developing a site-specific transportation guide for residents and visitors.
- The building management will provide updated contact information for the TDM Leader and report TDM efforts and amenities to goDCgo staff once per year.
- The building management will stock Metrorail, Metrobus, DC Circulator, Capital Bikeshare, Guaranteed Ride Home, DC Commuter Benefits Law, and other brochures.
- The Applicant will unbundle all parking costs from the cost of the lease and set the cost at no less than the charges of the lowest fee garage located within a quarter-mile of the site.
- The applicant will comply with Zoning requirements to provide bicycle parking/storage facilities. This includes secure parking located in the garage for residents.

- The Applicant will install Transportation Information Center Displays (kiosks or screens) within the lobbies of all residential buildings, containing information related to local transportation alternatives.
- The Applicant will dedicate two spaces in the residential garage or on-street along the perimeter of the site for car sharing services to use with right of first refusal. These spaces will be convenient to the garage entrance, available to members of the car sharing service 24 hours a day, seven days a week, without restrictions (the garage may be gated – members of the service would have access to the spaces via a key pad combination to a pass code system or other similar device).
- The Applicant has agreed to fund the installation of a Capital Bikeshare station within the NoMa Green Park or fund the expansion of the existing station located at Q Street and Eckington Place, NE.

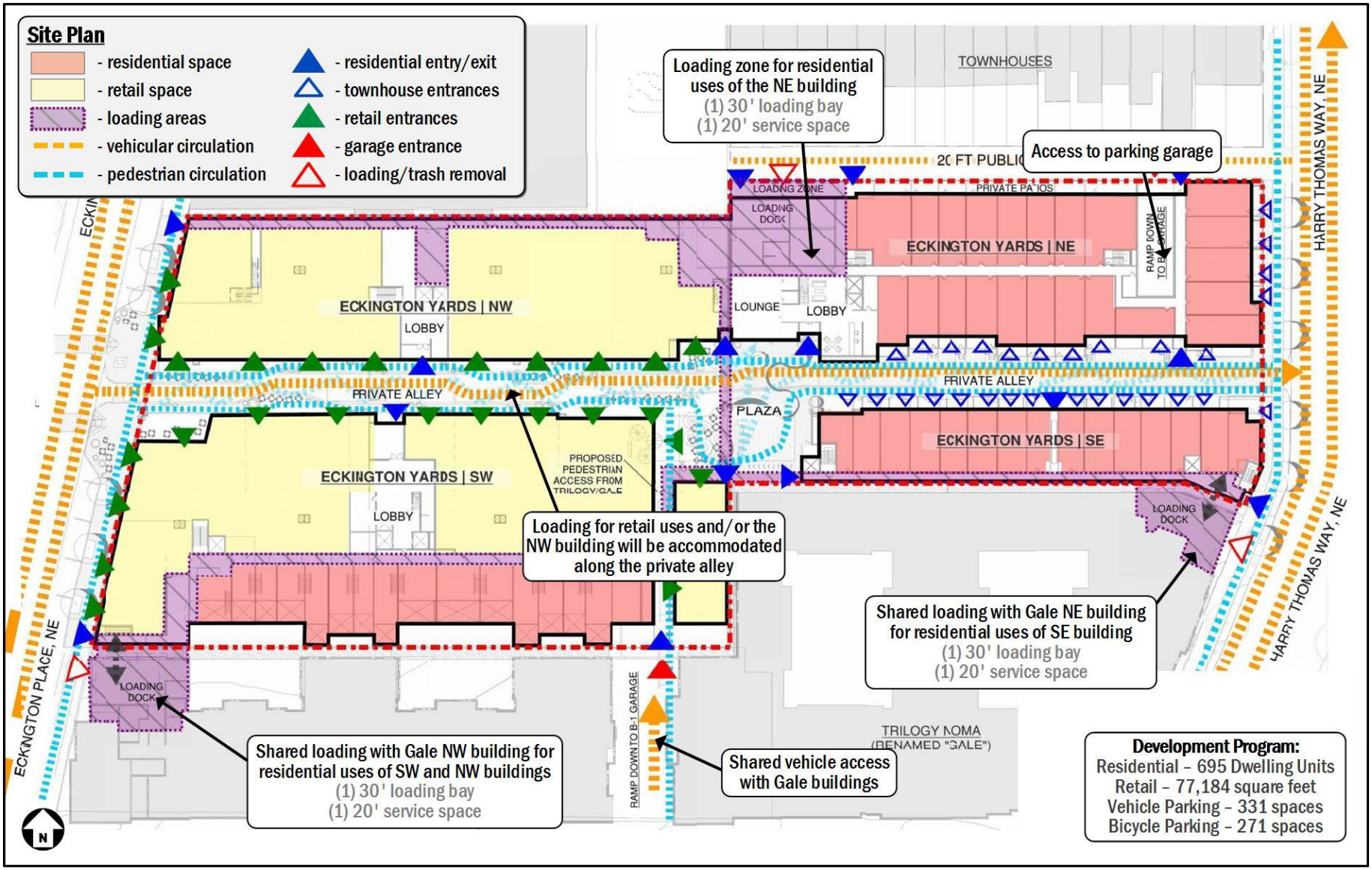

Figure 6: Ground Floor and Circulation Plan

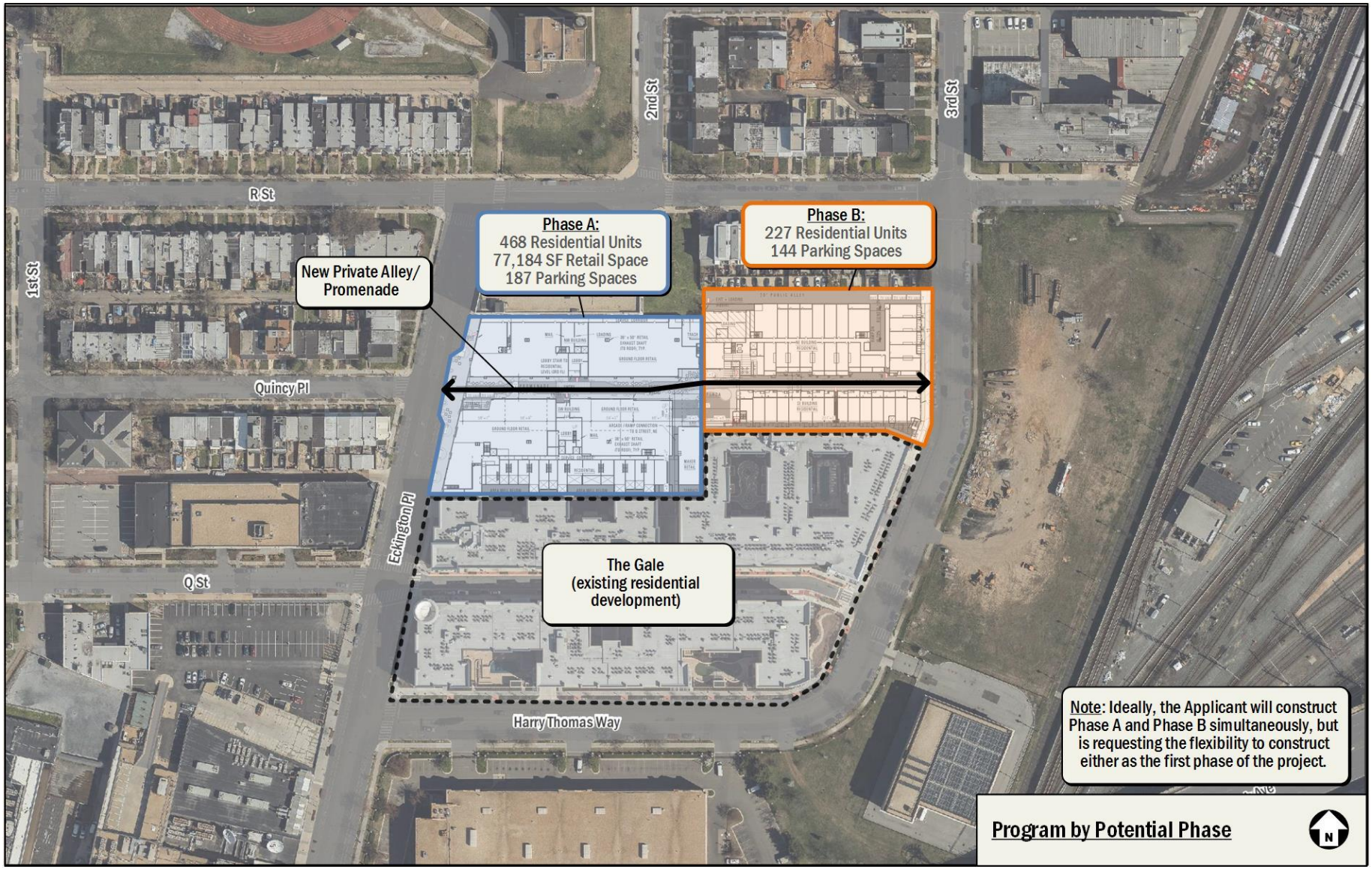

Figure 7: Development Program and Project Phasing

TRIP GENERATION

This section outlines the transportation demand of the proposed Eckington Yards development. It summarizes the projected trip generation of the site by land use and by mode, which forms the basis for the chapters that follow.

Traditionally, weekday peak hour trip generation is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) Trip Generation, 9th Edition. This methodology was supplemented to account for the urban nature of the site (Trip Generation provides data for non-urban, low transit uses) to generate trips for multiple modes.

Residential trip generation was calculated based on ITE land use 220, Apartments, splitting trips into different modes using assumptions based on census data for the residents that currently live near the site. The vehicular mode split was then adjusted down from the census data to reflect the overall parking supply and other developments with similar proximity to Metrorail.

Retail trip generation was calculated based on ITE land use 820, Shopping Center. Mode split for the retail component was primarily based on data for retail sites from the *Ridership Survey*, influenced by census data for employees that travel to the site to take into account employees that will be arriving or departing during the peak hours. The vehicular mode split was than adjusted to reflect the retail parking supply.

The mode split assumptions for all land uses within the development is summarized in Table 6. A summary of the multimodal trip generation for Phase A is shown on Table 4 and a summary for Phase B is shown on Table 5 for morning and afternoon peak hours. Multi-modal trip generation for the overall development is provided in Table 6 for the both peak hours. Detailed calculations are included in the Technical Appendix.

Table 6: Summary of Mode Split Assumptions

Land Use	Mode			
	Auto	Transit	Bike	Walk
Residential	50%	40%	2%	8%
Office	65%	30%	2%	3%
Retail	40%	40%	5%	15%
Daycare	60%	0%	0%	40%
Community Center	35%	15%	10%	40%

Table 4: Phase A Multi-Modal Trip Generation

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	*Out*	*Total*	*In*	*Out*	*Total*
Auto	Apartments	16 veh/hr	65 veh/hr	81 veh/hr	61 veh/hr	33 veh/hr	94 veh/hr
	Retail	16 veh/hr	10 veh/hr	26 veh/hr	48 veh/hr	52 veh/hr	100 veh/hr
	Total	**32 veh/hr**	**75 veh/hr**	**107 veh/hr**	**109 veh/hr**	**85 veh/hr**	**194 veh/hr**
Transit	Apartments	27 ppl/hr	105 ppl/hr	132 ppl/hr	99 ppl/hr	53 ppl/hr	152 ppl/hr
	Retail	33 ppl/hr	20 ppl/hr	53 ppl/hr	98 ppl/hr	106 ppl/hr	204 ppl/hr
	Total	**60 ppl/hr**	**125 ppl/hr**	**185 ppl/hr**	**197 ppl/hr**	**159 ppl/hr**	**356 ppl/hr**
Bike	Apartments	3 ppl/hr	10 ppl/hr	13 ppl/hr	10 ppl/hr	5 ppl/hr	15 ppl/hr
	Retail	1 ppl/hr	0 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	5 ppl/hr
	Total	**4 ppl/hr**	**10 ppl/hr**	**14 ppl/hr**	**12 ppl/hr**	**8 ppl/hr**	**20 ppl/hr**
Walk	Apartments	5 ppl/hr	21 ppl/hr	26 ppl/hr	20 ppl/hr	11 ppl/hr	31 ppl/hr
	Retail	20 ppl/hr	12 ppl/hr	32 ppl/hr	59 ppl/hr	63 ppl/hr	122 ppl/hr
	Total	**25 ppl/hr**	**33 ppl/hr**	**58 ppl/hr**	**79 ppl/hr**	**74 ppl/hr**	**153 ppl/hr**

Table 5: Phase B Multi-Modal Trip Generation

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	*Out*	*Total*	*In*	*Out*	*Total*
Auto	Apartments	8 veh/hr	31 veh/hr	39 veh/hr	30 veh/hr	16 veh/hr	46 veh/hr
Transit	Apartments	12 ppl/hr	51 ppl/hr	63 ppl/hr	48 ppl/hr	26 ppl/hr	74 ppl/hr
Bike	Apartments	1 ppl/hr	5 ppl/hr	6 ppl/hr	5 ppl/hr	3 ppl/hr	8 ppl/hr
Walk	Apartments	3 ppl/hr	10 ppl/hr	13 ppl/hr	9 ppl/hr	5 ppl/hr	14 ppl/hr

Table 7: Overall Development Multi-Modal Trip Generation

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	*Out*	*Total*	*In*	*Out*	*Total*
Auto	Apartments	24 veh/hr	96 veh/hr	120 veh/hr	91 veh/hr	49 veh/hr	140 veh/hr
	Retail	16 veh/hr	10 veh/hr	26 veh/hr	48 veh/hr	52 veh/hr	100 veh/hr
	Total	**40 veh/hr**	**106 veh/hr**	**146 veh/hr**	**139 veh/hr**	**101 veh/hr**	**240 veh/hr**
Transit	Apartments	39 ppl/hr	156 ppl/hr	195 ppl/hr	147 ppl/hr	79 ppl/hr	226 ppl/hr
	Retail	33 ppl/hr	20 ppl/hr	53 ppl/hr	98 ppl/hr	106 ppl/hr	204 ppl/hr
	Total	**72 ppl/hr**	**176 ppl/hr**	**248 ppl/hr**	**245 ppl/hr**	**185 ppl/hr**	**430 ppl/hr**
Bike	Apartments	4 ppl/hr	15 ppl/hr	19 ppl/hr	15 ppl/hr	8 ppl/hr	23 ppl/hr
	Retail	1 ppl/hr	0 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	5 ppl/hr
	Total	**5 ppl/hr**	**15 ppl/hr**	**20 ppl/hr**	**17 ppl/hr**	**11 ppl/hr**	**28 ppl/hr**
Walk	Apartments	8 ppl/hr	31 ppl/hr	39 ppl/hr	29 ppl/hr	16 ppl/hr	45 ppl/hr
	Retail	20 ppl/hr	12 ppl/hr	32 ppl/hr	59 ppl/hr	63 ppl/hr	122 ppl/hr
	Total	**28 ppl/hr**	**43 ppl/hr**	**71 ppl/hr**	**88 ppl/hr**	**79 ppl/hr**	**167 ppl/hr**

TRAFFIC OPERATIONS

This section provides a summary of an analysis of the existing and future roadway capacity in the study area. Included is an analysis of potential vehicular impacts of the Eckington Yards development and a discussion of potential improvements.

The purpose of the capacity analysis is to:

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

This analysis was accomplished by determining the traffic volumes and roadway capacity for multiple scenarios. Although the development is expected to completed in one phase, the Applicant is requesting flexibility to construct either Phase A or Phase B as the first phase of the development, depending on current market conditions. For this reason, the following scenarios were analyzed in order to determine the impacts of any one of these phasing outcomes:

1. 2015 Existing Conditions
2. 2018 Future Conditions without the development (2018 Background)
3. 2018 Future Conditions with Phase A of the development (2018 Future with Phase A)
4. 2018 Future Conditions with Phase B of the development (2018 Future with Phase B)
5. 2019 Future Conditions with Phase A and B of the Development (2019 Future with Phase A/B)

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

The following conclusions are reached within this chapter:

- There are four study intersections that operate at unacceptable levels of service during at least one study scenario; three of these intersections operate at unacceptable conditions as a result of the development.
- Potential improvements for each of these three intersections was analyzed and it was determined that mitigations should only be implemented for the intersection of Eckington Place and Harry Thomas Way. The PUD's impacts at the other two intersections are minor.
- The most straightforward solution to mitigating delays at the intersection of Eckington Place and Harry Thomas Way is to convert the intersection to an all-way stop controlled intersection. This mitigation would also have the benefit of improving pedestrian crossings at this location. This report recommends that this mitigation be explored with DDOT, and coordinated with the recommendations from the Livability project. If an all-way stop is agreed to as a mitigation for this PUD, this report recommends the Applicant pay for the necessary signing and marking improvements to implement the mitigation.
- Overall, this report concludes that the project will not have a detrimental impact to the surrounding transportation network, assuming mitigations are implemented.

STUDY AREA, SCOPE, & METHODOLOGY

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

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

Capacity Analysis Scenarios

The vehicular analyses are performed to determine if the proposed development will lead to adverse impacts on traffic operations. (A review of impacts to each of the other modes is outlined later in this report.) This is accomplished by comparing future scenarios: (1) without the proposed development (referred to as the Background conditions) and (2) with the development approved and constructed (referred to as the Future conditions). Due to the potential phased nature of this PUD, there are multiple future conditions.

Specifically, the roadway capacity analysis examined the following scenarios:

1. 2015 Existing Conditions

2. 2018 Future Conditions without the development (2018 Background)
3. 2018 Future Conditions with Phase A of the development (2018 Future with Phase A)
4. 2018 Future Conditions with Phase B of the development (2018 Future with Phase B)
5. 2019 Future Conditions with Phase A and B of the Development (2019 Future with Phase A/B)

Study Area

The study area of the analysis is a set of intersections where detailed capacity analyses are performed for the scenarios listed above. The set of intersections decided upon during the study scoping process with DDOT are those intersections most likely to have potential impacts or require changes to traffic operations to accommodate the proposed development. Although it is possible that impacts will occur outside of the study area, those impacts are not significant enough to be considered a detrimental impact nor worthy of mitigation measures.

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

1. Rhode Island Avenue & 2nd Street NE
2. Rhode Island Avenue & 3rd Street NE
3. R Street & Eckington Place NE
4. R Street & 2nd Street NE
5. R Street & 3rd Street NE
6. Harry Thomas Way & Eckington Place NE
7. Florida Avenue & Eckington Place NE
8. North Capitol Street & R Street
9. North Capitol Street & Quincy Place
10. North Capitol Street & Lincoln Road
11. Quincy Place & Lincoln Road NE
12. North Capitol Street & Florida Avenue
13. Q Street & Florida Avenue NW
14. North Capitol Street & Q Street
15. Florida Avenue & R Street NW
16. Quincy Place & Eckington Place NE
17. Harry Thomas Way & Rowhouse Alley NE
18. Q Street & Eckington Place NE
19. Q Street & Harry Thomas Way NE
20. Q Street & North Trilogy Garage Access NE

Figure 8 shows a map of the study area intersections.

Geometry and Operations Assumptions

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

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.

The lane configurations and traffic controls assumed for the Existing Conditions are included in the Technical Attachments.

2018 Background Geometry and Operations Assumptions (without the project)

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

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

Based on these criteria, no background improvements were included in the analysis. Improvements associated with the *Mid-City East Livability Study* and the *New York Avenue Corridor Study* were considered; however, the improvements were either not yet funded or did not have a known completion date prior to the proposed development. Therefore, the lane configurations and traffic controls for the 2018 Background Conditions are based on those for the Existing Conditions.

2018 Future Geometry and Operations Assumptions (with Phase A of the project)

Under the scenario in which Phase A is built first, no significant changes to geometry and operations are assumed. Under Phase A, vehicular and loading access will be shared with the existing facilities used by The Gale. The promenade will be partially built as part of Phase A

2018 Future Geometry and Operations Assumptions (with Phase B of the project)

Under the scenario in which Phase B is built first, no significant changes to geometry and operations are assumed. Under Phase B, vehicular and loading access will be from an existing

alley or from shared facilities with the adjacent Gale property. The promenade will be partially built as part of Phase B.

2019 Future Geometry and Operations Assumptions (with Phase A and B of the project)

Under full build-out, the geometry and operations assumptions are primarily that of which is observed under existing conditions. All vehicular access points are from existing curb cuts or alleys, with the only change in geometry arising as a result of the new promenade. For purposes of this analysis, no vehicular traffic was assumed along the promenade as it is expected to be used primarily for retail loading activity which is more likely to occur outside of peak periods.

Traffic Volume Assumptions

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

Existing Traffic Volumes

The existing traffic volumes are comprised of turning movement count data, which was collected on Wednesday, June 17, 2015 and Wednesday, October 21, 2015. The results of the traffic counts and the existing peak hour traffic volumes are included in the Technical Attachments. For all intersections the individual morning and afternoon peak hours were used.

2018 Background Traffic Volumes (without the project)

Traffic projections for the background conditions typically consist of the existing volumes with two additions:

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

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

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

As discussed previously, multiple background developments were considered for inclusion in the study, with one development ultimately meeting all of the criteria. The development includes the following:

- 50 Florida Avenue NE

This development was approved under ZC Case No. 12-02. The mode split, trip generation, and trip distribution information assumed in the 50 Florida Avenue NE CTR, performed by O. R. George & Associates in May of 2013, was used to determine the background site-generated trips along the network. Mode split and trip generation assumptions for 50 Florida Avenue NE are shown in Table 8.

While the background developments represent local traffic changes, regional traffic growth is typically accounted for using percentage growth rates. The growth rates used in this analysis are derived from the Metropolitan Washington Council of Government's (MWCOG) currently adopted regional transportation model, comparing the difference between the year 2015 and 2020 model scenarios. The growth rates observed in this model served as a basis for analysis assumptions, and where negative growth was observed, a conservative 0.10 percent annual growth rate was applied to the roadway. The applied growth rates are shown in Table 9.

The traffic volumes generated by the background development and the inherent growth along the network were added to the existing traffic volumes in order to establish the 2018 Background traffic volumes. The traffic volumes for the 2018 Background conditions are included in the Technical Attachments.

Table 8: 50 Florida Avenue Mode Split and Trip Generation

Mode	Mode Split	AM Peak Hour			PM Peak Hour		
		In	*Out*	*Total*	*In*	*Out*	*Total*
Auto	35%	4 veh/hr	18 veh/hr	22 veh/hr	15 veh/hr	9 veh/hr	24 veh/hr
Transit	45%	5 ppl/hr	23 ppl/hr	28 ppl/hr	20 ppl/hr	12 ppl/hr	32 ppl/hr
Bike	5%	1 ppl/hr	3 ppl/hr	4 ppl/hr	2 ppl/hr	1 ppl/hr	3 ppl/hr
Walk	15%	2 ppl/hr	8 ppl/hr	10 ppl/hr	7 ppl/hr	4 ppl/hr	11 ppl/hr

Table 9: Applied Annual and Total Growth Rates

Road	Proposed Annual Growth Rate		Total Growth between 2015 and 2018		Total Growth between 2015 and 2019	
	AM Peak Hour	*PM Peak Hour*	*AM Peak Hour*	*PM Peak Hour*	*AM Peak Hour*	*PM Peak Hour*
Eckington Place NE – Northbound	0.10%	0.10%	0.30%	0.30%	0.40%	0.40%
Eckington Place NE – Southbound	0.10%	0.10%	0.30%	0.30%	0.40%	0.40%
R Street NE – Eastbound	0.10%	1.00%	0.30%	3.03%	0.40%	4.06%
R Street NE – Westbound	1.25%	0.75%	3.80%	2.27%	5.09%	3.03%
Florida Avenue – Northwestbound	0.50%	1.25%	1.51%	3.80%	2.02%	5.09%
Florida Avenue - Southeastbound	2.25%	0.25%	6.90%	0.75%	9.31%	1.00%
North Capitol Street – Northbound	0.10%	0.10%	0.30%	0.30%	0.40%	0.40%
North Capitol Street – Southbound	0.10%	0.10%	0.30%	0.30%	0.40%	0.40%
Rhode Island Avenue – Northeastbound	0.10%	0.10%	0.30%	0.30%	0.40%	0.40%
Rhode Island Avenue – Southeastbound	0.10%	0.10%	0.30%	0.30%	0.40%	0.40%

2018 Future Traffic Volumes (with Phase A of the project)

The 2018 Total Future traffic volumes with Phase A consist of the 2018 Background volumes with the addition of the traffic volumes generated by Phase A of the proposed development (Phase A site-generated trips). Thus, the 2018 Total Future traffic volumes with Phase A include traffic generated by: the existing volumes, the background development, the inherent growth on the study area roadways, and trips generated by Phase A of the proposed project.

Trip distribution for the Phase A site-generated trips was determined based on: (1) CTPP TAZ data, (2) existing travel patterns in the study area, and (3) the Phase A parking access location.

The residential trip distribution was significantly influenced by the CTPP TAZ flow data for drivers commuting from the site's TAZ, and adjusted based on traffic volumes and patterns. The origin of outbound and destination of inbound Phase A residential vehicular trips is the shared access with the adjacent Gale property along Q Street.

The retail trip distribution is based predominantly on residential zones situated around the development as these are the mostly likely driving customers of the retail space. CTPP TAZ flow data for drivers commuting to the site's TAZ was also used as a reference to account for the retail employees' commuting patterns. The origin of outbound and destination of inbound retail vehicular trips was the shared Q Street access.

Based on traffic patterns and the site access along Q Street, a one-way eastbound roadway, the site-generated trips were distributed through the study area intersections. A summary of trip distribution routing assumptions is shown on Figure 9 and Figure 10 for the inbound and outbound traffic, respectively.

The site-generated traffic volumes for Phase A and the 2018 Future traffic volumes with Phase A are included in the Technical Attachments.

2018 Background Traffic Volumes (with Phase B of the project)

The 2018 Total Future traffic volumes with Phase B consist of the 2018 Background volumes with the addition of the traffic volumes generated by Phase B of the proposed development (Phase B site-generated trips). Thus, the 2018 Total Future traffic volumes with Phase B include traffic generated by: the existing volumes, the background development, the inherent growth on the study area roadways, and trips generated by Phase B of the proposed project.

Trip distribution for the Phase B site-generated trips was determined based on: (1) CTPP TAZ data, (2) existing travel patterns in the study area, and (3) the Phase B parking access location.

The residential trip distribution was significantly influenced by the CTPP TAZ flow data for drivers commuting from the site's TAZ, and adjusted based on traffic volumes and patterns. The origin of outbound and destination of inbound Phase B

residential vehicular trips is the existing alley on the north side of the site, accessible from Harry Thomas Way.

Based on traffic patterns and the site access location, the site-generated trips were distributed through the study area intersections. A summary of trip distribution routing assumptions is shown on Figure 9 and Figure 10 for the inbound and outbound traffic, respectively.

The site-generated traffic volumes for Phase B and the 2018 Future traffic volumes with Phase B are included in the Technical Attachments.

2019 Future Traffic Volumes (with Phase A and Phase B of the project)

The 2019 Future traffic volumes consist of the 2018 Background volumes with additional background growth, the addition of the traffic volumes generated by both Phase A and Phase B of the proposed development (Phase A and B site-generated trips). Thus, the 2019 Future traffic volumes include traffic generated by: the existing volumes, the background development, the inherent growth on the study area roadways, and trips generated by Phase A and Phase B of the proposed project. The 2019 Future traffic volumes with Phase A and Phase B are included in the Technical Attachments.

VEHICULAR ANALYSIS RESULTS

Intersection Capacity Analysis

Intersection capacity analyses were performed for the five scenarios outlined previously at the intersections contained within the study area during the morning and afternoon peak hours. *Synchro*, version 9.0 was used to analyze the study intersections based on the Highway Capacity Manual 2000 (HCM) methodology.

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

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

Table 10 and Table 11 shows the results of the capacity analyses for the AM and PM peak hours, respectively, including LOS and average delay per vehicle (in seconds) for the Existing, 2018 Background, 2018 Future with Phase A, 2018 Future with Phase B, and 2019 Future with Phase A and B scenarios. The capacity analysis results for the morning and afternoon peak hours are included in the Technical Attachments.

Multiple study intersections operate at unacceptable conditions or have an approach that operates at unacceptable conditions during at least one of the study scenarios. These intersections are as follows:

- 3rd Street & Rhode Island Avenue, NE
- Eckington Place & Harry Thomas Way, NE
- Florida Avenue & Eckington Place, NE
- Lincoln Road & Quincy Place, NE

Generally speaking, the proposed development is considered to have an impact at an intersection within the study area if the capacity analyses show an LOS E or F at an intersection or along an approach in the future conditions with the proposed development where one does not exist in the existing or background conditions. The development is also considered to have an impact if there is an increase in delay at any approach or the overall intersection operating under LOS E or F of greater than 5 seconds, when compared to the background condition. Following these guidelines there are impacts to three intersections as a result of the development.

The only intersection that was not impacted by the development is the intersection of Lincoln Road and Quincy Place. Although this intersection is shown to operate at unacceptable conditions during the existing, background, and total future conditions, the intersection cannot be accurately modeled in Synchro due to its nonstandard operations. This intersection is controlled by a signal along the southbound approach and stop-controlled along the northbound approach.

The northbound approach was modeled as being part of the intersection, but will ultimately operate differently as it is stop-controlled.

Mitigations

This section discusses the three intersections that operate at unacceptable levels due to the development and offers mitigation measures to improve those intersections. Based on the capacity analysis of the mitigation measures, the following conclusions were made:

- *3rd Street & Rhode Island Avenue, NE*

  Under existing conditions, delays along the northbound and southbound approaches of 3rd Street at Rhode Island Avenue operate under unacceptable conditions during the morning and afternoon peak hours. These conditions are likely due to the two-way unsignalized nature of the intersection and the high volumes along Rhode Island Avenue that result in minimal crossing gaps. These conditions are worsened by the inclusion of background and site-generated volumes such that delay along the southbound approach increases by more than 5 seconds over the background conditions during the morning and afternoon peak hours.

  Upon further analysis, it was found that this intersection warrants a signal under existing conditions. However, when field observations were performed, it was found that delay and queues are less than what is determined in the HCM analysis. This is due to the fact that drivers will accept shorter gaps as delays increase and that left-turning and through vehicles will use the center median to perform two-stage crossings. Also, there is oftentimes room for drivers to create de facto separate right and left turn lanes on the north and southbound approaches, which is not accounted for in the Synchro model.

  Although a signal may be warranted based on vehicular and/or pedestrian volumes, this report is not recommending a signal be installed as part of the PUD. Although delays along the southbound approach increases by more than 5 seconds, the percentage of site-generated trips traveling through the intersection is negligible.

  This report recommends that DDOT explore placing a traffic signal at this location to alleviate existing delay and LOS concerns. Although a signal may be warranted, this report does not necessarily recommend DDOT install one to alleviate the existing problems. This is because (1) the intersection's delays are not as extreme as those presented by Synchro (as discussed above), (2) the adjacent intersection at 4th Street is signalized so drivers have options for accessing Rhode Island Avenue, and (3) an additional signal along the Rhode Island Avenue corridor may have unintended negative impacts on vehicular throughput along the corridor.

- *Eckington Place & Harry Thomas Way, NE*

  According to the capacity analysis results, this intersection requires mitigation under the 2018 Future Conditions regardless of whether Phase A or Phase B is constructed first, due to the increase in traffic along Harry Thomas Way as a result of the development.

  Two potential mitigations were studied at this intersection: (1) separating the left and right turn lanes along the westbound approach of Harry Thomas Way, and (2) converting the intersection to an all-way stop controlled intersection. As shown in Table 12 and Table 13, the all-way stop control condition greatly improves LOS and delay at the intersection whereas the separate left and right-turn lanes only minimally improve delay.

  Thus, the most straightforward solution to mitigating delays at the intersection of Eckington Place and Harry Thomas Way is to convert the intersection to an all-way stop controlled intersection. This mitigation would also have the benefit of improving pedestrian crossings at this location. This report recommends that this mitigation be explored with DDOT, and coordinated with the recommendations from the Livability project.

  If an all-way stop is agreed to as a mitigation for this PUD, this report recommends the Applicant pay for the necessary signing and marking improvements to implement the mitigation.

- *Florida Avenue & Eckington Place, NE*

  Under 2018 Future Conditions with Phase A and 2019 Future Conditions with Phase A and B, the southbound approach of Eckington Place at Florida Avenue increases such that the LOS degrades from LOS D to LOS E; however, this is only results in an increase in delay by 4 seconds or less along the southbound approach over background conditions.

An exploration of solutions for this increase in delay revealed that the reason for the delay is the way the traffic signal is timed. It is possible to adjust signal timings to give more green time to Eckington Place and improve LOS and delay results, as shown in Table 12 and Table 13. Changes to the signal timing are not proposed as part of the PUD, however, as this signal is under the same control as multiple other intersections, and changes in timing could result in impacts to other intersections not studied in this analysis. Additionally, changes to the overall geometry and operations surrounding the Florida Avenue and New York Avenue intersection are being studied as part of the *New York Avenue Corridor Study*, thus geometry and operations at the intersection of Eckington Place and Florida Avenue are likely to change as a result. Thus, this report does not recommend mitigation measures for this intersection because the impact is minor and overall operations for the corridor are under review.

Queuing Analysis

In addition to the capacity analyses presented above, a queuing analysis was performed at the study intersections. The queuing analysis was performed using the *Synchro* software. The 50th percentile and 95th percentile maximum queue lengths are shown for each lane group at the study area signalized intersections. The 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 14 and Table 15 show the queuing results for the study area intersections during the AM and PM peak hours, respectively. The proposed development is considered to have an impact on queuing if the 95th percentile queue length increases by more than 150 when compared to the background scenario. The queuing analysis results generally align with the HCM capacity analysis results and generate the same overall conclusions. No additional mitigation measures are necessary as a result of the queuing analysis results.

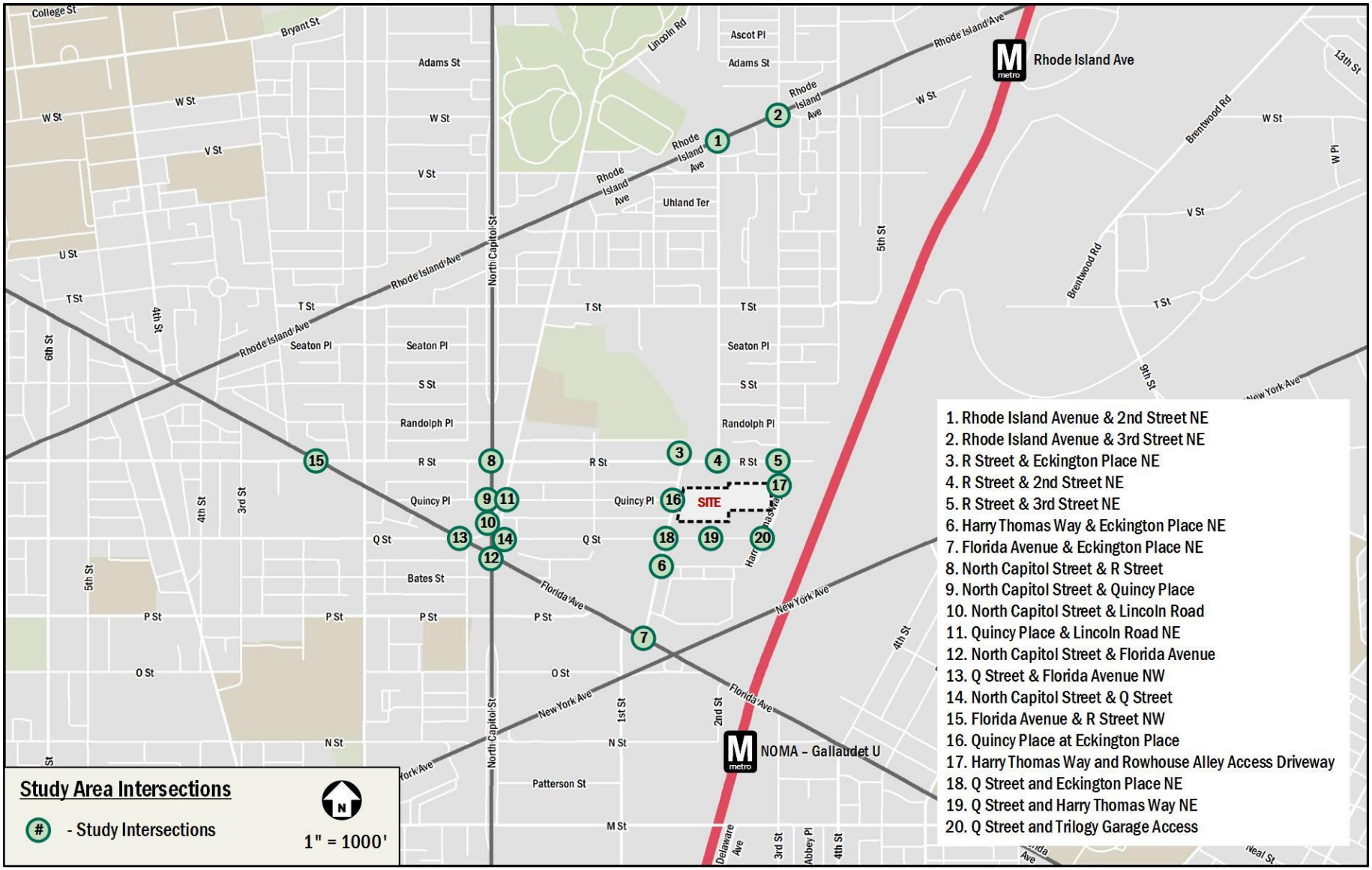

Figure 8: Study Area Intersections

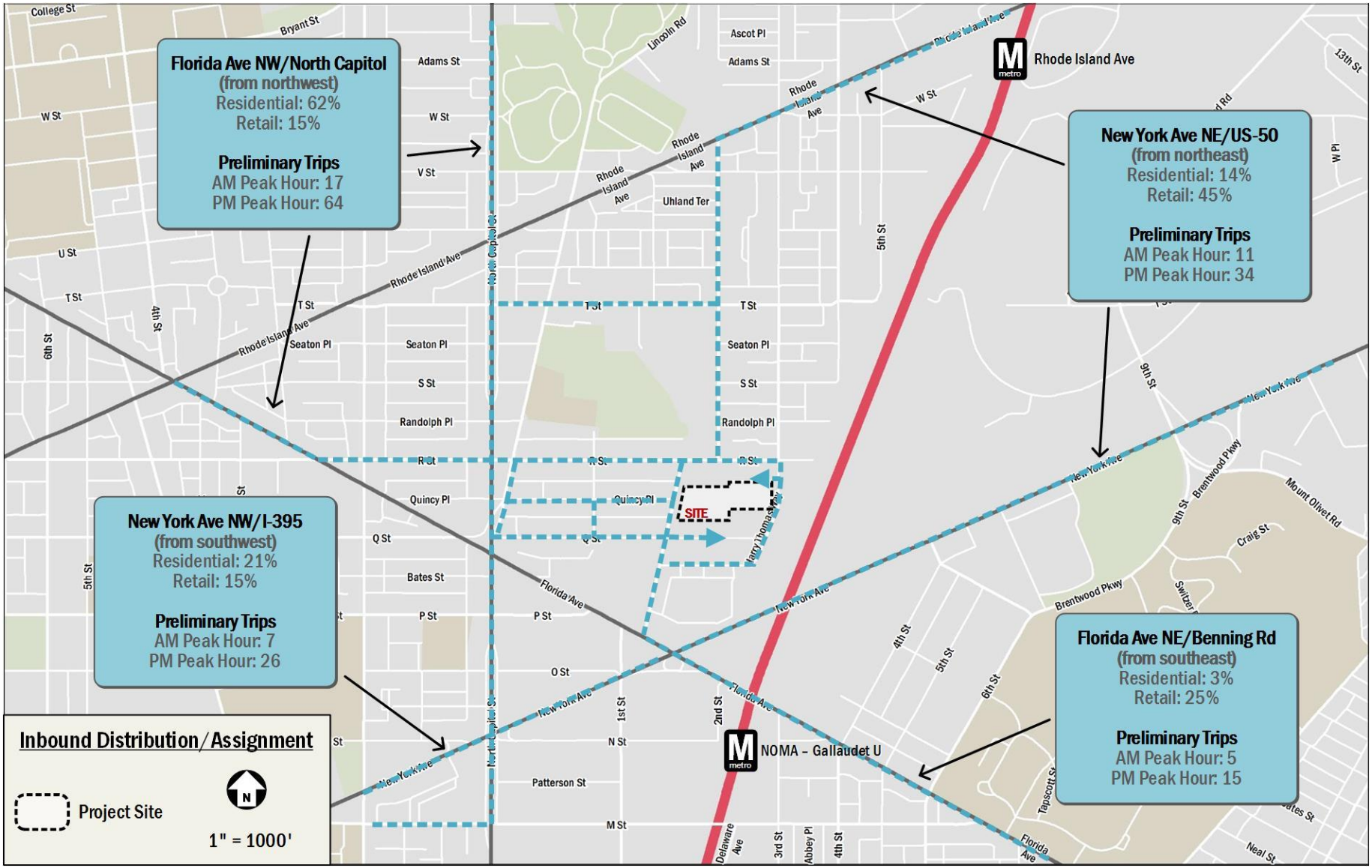

Figure 9: Inbound Distribution and Routing

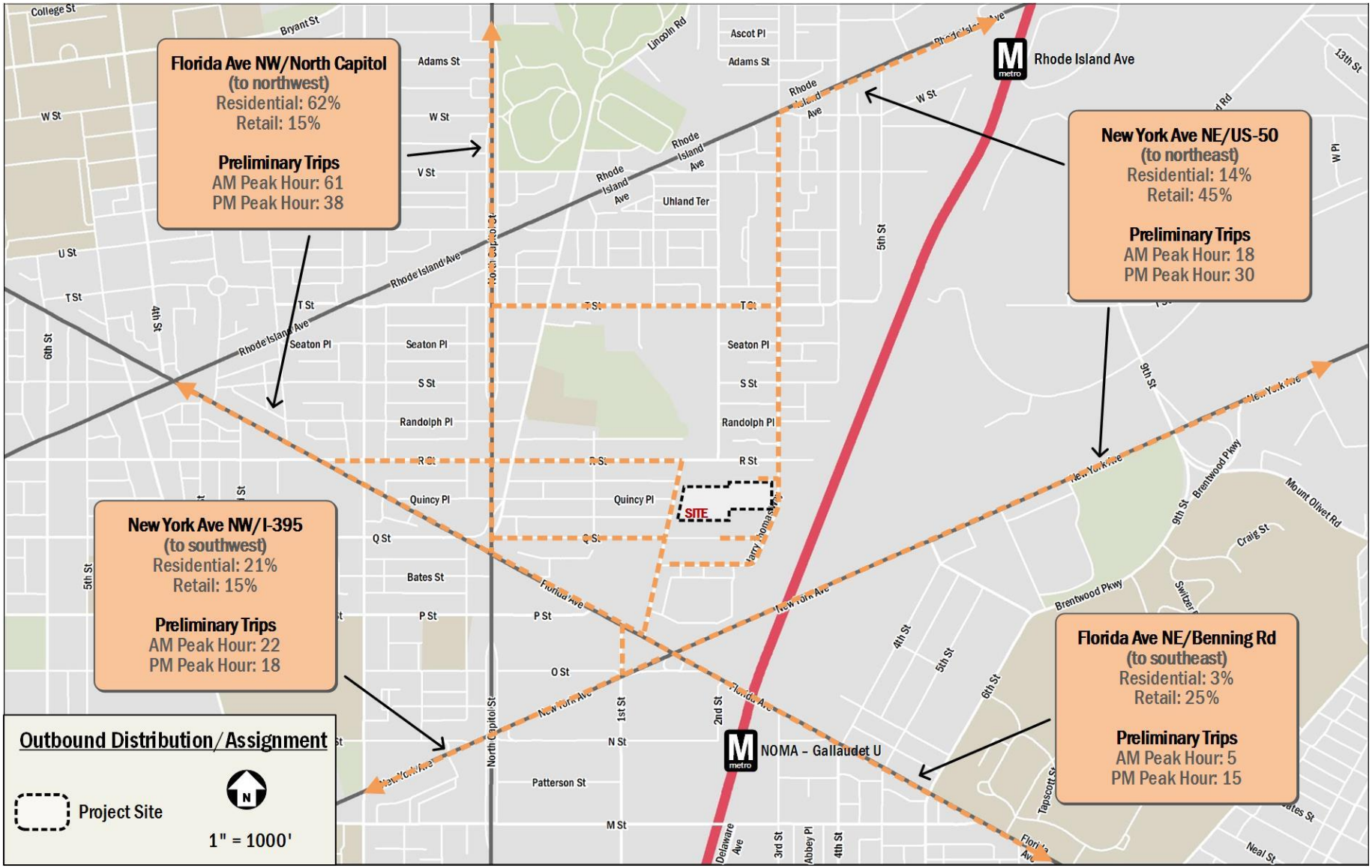

Figure 10: Outbound Distribution and Routing

Table 10: AM Peak Hour Vehicular Capacity Analysis Results

Intersection	Approach	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2019) - with Phase A and Phase B	
		AM Peak Hour		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2nd Street & Rhode Island Ave NE	Westbound Left	9.8	A	9.8	A	9.8	A	9.8	A	9.8	A
3rd Street & Rhode Island Ave NE	Eastbound Left	5.8	A	5.9	A	5.9	A	5.9	A	5.8	A
	Northbound	156.6	F	164.5	F	157.9	F	158.6	F	146.5	F
	Southbound	349.5	F	388.0	F	411.0	F	394.0	F	373.9	F
Eckington Place & R Street NE	**Overall**	**11.8**	**B**	**11.9**	**B**	**12.2**	**B**	**11.9**	**B**	**12.2**	**B**
	Eastbound	8.3	A	8.3	A	8.4	A	8.3	A	8.4	A
	Westbound	13.8	B	14.0	B	14.4	B	14.0	B	14.5	B
	Northbound	8.8	A	8.8	A	8.9	A	8.8	A	8.9	A
R Street & 2nd Street NE	Southbound	10.2	B	10.2	B	10.3	B	10.3	B	10.3	B
3rd Street & R Street NE	**Overall**	**7.9**	**A**	**7.9**	**A**	**7.9**	**A**	**7.9**	**A**	**8.0**	**A**
	Eastbound	8.1	A	8.1	A	8.1	A	8.1	A	8.2	A
	Westbound	7.0	A	7.0	A	7.0	A	7.0	A	7.1	A
	Northbound	7.7	A	7.7	A	7.8	A	7.7	A	7.8	A
Eckington Place & Harry Thomas Way	Eastbound	13.9	B	14.0	B	14.1	B	14.0	B	14.2	B
	Westbound	91.8	F	93.7	F	266.4	F	150.1	F	346.9	F
	Northbound Left	0.5	A	0.5	A	0.5	A	0.5	A	0.5	A
	Southbound Left	9.3	A	9.3	A	9.4	A	9.3	A	9.4	A
Florida Avenue & Eckington Place	**Overall**	**16.2**	**B**	**16.2**	**B**	**18.1**	**B**	**17.0**	**B**	**19.0**	**B**
	Westbound	6.8	A	6.9	A	6.9	A	6.9	A	6.9	A
	Southbound	53.4	D	53.7	D	56.4	E	54.7	D	57.7	E
North Capitol Street & R Street	**Overall**	**15.2**	**B**	**15.3**	**B**	**15.3**	**B**	**15.3**	**B**	**15.3**	**B**
	Eastbound	20.6	C	20.6	C	19.8	B	20.3	C	19.8	B
	Westbound	23.4	C	23.5	C	23.5	C	23.5	C	23.5	C

Intersection	Approach	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2019) - with Phase A and Phase B	
		AM Peak Hour		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
	Northbound	6.2	A	6.3	A	6.2	A	6.2	A	6.2	A
	Southbound	20.4	C	20.6	C	20.6	C	20.6	C	20.6	C
North Capitol Street & Quincy Place	**Overall**	**3.4**	**A**	**3.4**	**A**	**3.4**	**A**	**3.4**	**A**	**3.4**	**A**
	Westbound	1.4	A	1.4	A	1.4	A	1.4	A	1.4	A
	Northbound	1.5	A	1.5	A	1.6	A	1.5	A	1.5	A
	Southbound	4.9	A	4.9	A	4.9	A	4.9	A	4.9	A
North Capitol Street & Lincoln Road	**Overall**	**7.8**	**A**	**7.9**	**A**	**7.9**	**A**	**7.9**	**A**	**8.0**	**A**
	Westbound	7.7	A	7.7	A	7.7	A	7.7	A	7.7	A
	Northbound	15.2	B	15.4	B	15.5	B	15.5	B	15.6	B
	Southbound	1.2	A	1.2	A	1.2	A	1.2	A	1.2	A
Lincoln Road & Quincy Place	**Overall**	**45.0**	**D**	**45.0**	**D**	**45.0**	**D**	**45.0**	**D**	**45.0**	**D**
	Northbound	55.7	E	55.6	E	55.6	E	55.6	E	55.6	E
	Southbound	32.6	C	32.6	C	32.6	C	32.6	C	32.6	C
North Capitol Street & Florida Ave	**Overall**	**19.6**	**B**	**19.9**	**B**	**20.3**	**C**	**20.1**	**C**	**20.5**	**C**
	Eastbound	20.8	C	20.8	C	20.8	C	20.8	C	20.8	C
	Westbound	34.4	C	35.1	D	36.5	D	35.7	D	37.2	D
	Northbound	16.3	B	16.4	B	16.4	B	16.4	B	16.4	B
	Southbound	13.8	B	14.0	B	14.0	B	14.0	B	14.0	B
Florida Avenue & Q Street NW	Eastbound	10.9	B	10.9	B	11.1	B	10.9	B	10.9	B
North Capitol Street & Q Street	Westbound	9.3	A	9.3	A	9.4	A	9.3	A	9.4	A
Florida Avenue & R Street NW	**Overall**	**16.0**	**B**	**16.5**	**B**	**15.8**	**B**	**16.7**	**B**	**17.4**	**B**
	Westbound	37.8	D	38.1	D	38.1	D	38.1	D	38.2	D
	Northbound	13.6	B	14.8	B	13.1	B	15.3	B	16.7	B
	Southbound	9.3	A	9.5	A	9.6	A	9.5	A	9.8	A

Intersection	Approach	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2019) - with Phase A and Phase B	
		AM Peak Hour		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Eckington Place & Quincy Place	Eastbound	12.9	B	13.0	B	13.2	B	13.0	B	13.2	B
	Northbound Left	8.4	A	8.4	A	8.5	A	8.4	A	8.5	A
Harry Thomas Way & Alley	Eastbound	8.4	A	8.4	A	8.4	A	8.7	A	8.7	A
	Northbound Left	0.0	A	0.0	A	0.0	A	0.3	A	0.3	A
Eckington Place & Q Street NE	**Overall**	**11.7**	**B**	**11.9**	**B**	**12.5**	**B**	**11.9**	**B**	**12.5**	**B**
	Eastbound	8.9	A	9.0	A	9.1	A	9.0	A	9.1	A
	Northbound	9.1	A	9.1	A	9.3	A	9.1	A	9.3	A
	Southbound	13.9	B	14.1	B	15.1	C	14.1	B	15.1	C
Q Street & Parking Access	Eastbound Left	1.1	A	1.1	A	3.7	A	1.1	A	3.7	A
	Southbound	9.1	A	9.1	A	10.2	B	9.1	A	10.2	B
Harry Thomas Way & Q Street	**Overall**	**7.2**	**A**	**7.2**	**A**	**7.5**	**A**	**7.4**	**A**	**7.6**	**A**
	Eastbound	7.0	A	7.0	A	7.4	A	7.1	A	7.5	A
	Northbound	7.5	A	7.5	A	7.7	A	7.5	A	7.7	A
	Southbound	7.3	A	7.3	A	7.5	A	7.5	A	7.7	A

Table 11: PM Peak Hour Vehicular Capacity Analysis Results

Intersection	Approach	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2019) - with Phase A and Phase B	
		PM Peak Hour		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
2nd Street & Rhode Island Ave NE	Westbound Left	15.4	C	15.6	C	16.2	C	15.7	C	16.3	C
3rd Street & Rhode Island Ave NE	Eastbound Left	3.1	A	3.1	A	3.2	A	3.1	A	3.2	A
	Northbound	334.6	F	355.4	F	352.7	F	355.8	F	353.8	F
	Southbound	43.6	E	46.9	E	56.2	F	47.5	E	57.1	F
Eckington Place & R Street NE	**Overall**	**9.1**	**A**	**9.1**	**A**	**9.5**	**A**	**9.2**	**A**	**9.6**	**A**
	Eastbound	8.4	A	8.4	A	8.8	A	8.7	A	9.0	A
	Westbound	10.3	B	10.4	B	10.9	B	10.4	B	11.0	B
	Northbound	8.1	A	8.1	A	8.3	A	8.2	A	8.4	A
R Street & 2nd Street NE	Southbound	9.4	A	9.4	A	9.6	A	9.5	A	9.7	A
3rd Street & R Street NE	**Overall**	**8.4**	**A**	**8.4**	**A**	**8.5**	**A**	**8.5**	**A**	**8.6**	**A**
	Eastbound	8.7	A	8.7	A	8.8	A	8.8	A	8.9	A
	Westbound	7.5	A	7.5	A	7.5	A	7.5	A	7.6	A
	Northbound	7.8	A	7.8	A	8.0	A	7.9	A	8.1	A
Eckington Place & Harry Thomas Way	Eastbound	13.3	B	13.3	B	13.6	B	13.3	B	13.6	B
	Westbound	29.5	D	29.8	D	71.9	F	34.2	D	89.6	F
	Northbound Left	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A
	Southbound Left	8.9	A	8.9	A	9.0	A	8.9	A	9.0	A
Florida Avenue & Eckington Place	**Overall**	**19.9**	**B**	**19.9**	**B**	**21.7**	**C**	**20.3**	**C**	**22.1**	**C**
	Westbound	9.5	A	9.6	A	9.7	A	9.6	A	9.7	A
	Southbound	51.4	D	51.9	D	54.8	D	52.5	D	55.6	E
North Capitol Street & R Street	**Overall**	**27.4**	**C**	**27.6**	**C**	**27.8**	**C**	**27.7**	**C**	**28.0**	**C**
	Eastbound	28.9	C	28.9	C	30.5	C	29.7	C	31.0	C
	Westbound	27.0	C	27.0	C	27.1	C	27.0	C	27.1	C

Intersection	Approach	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2019) - with Phase A and Phase B	
		PM Peak Hour		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
	Northbound	32.4	C	32.5	C	32.6	C	32.6	C	32.6	C
	Southbound	19.9	B	20.2	C	20.7	C	20.4	C	21.0	C
North Capitol Street & Quincy Place	**Overall**	**10.3**	**B**	**10.5**	**B**	**10.6**	**B**	**10.5**	**B**	**10.7**	**B**
	Westbound	2.3	A	2.3	A	2.3	A	2.3	A	2.3	A
	Northbound	1.4	A	1.4	A	1.4	A	1.4	A	1.4	A
	Southbound	22.9	C	23.2	C	23.5	C	23.4	C	23.7	C
North Capitol Street & Lincoln Road	**Overall**	**17.5**	**B**	**17.6**	**B**	**17.6**	**B**	**17.5**	**B**	**17.6**	**B**
	Westbound	6.2	A	6.2	A	6.2	A	6.2	A	6.2	A
	Northbound	25.6	C	25.8	C	25.9	C	25.8	C	25.9	C
	Southbound	4.4	A	4.4	A	4.3	A	4.3	A	4.2	A
Lincoln Road & Quincy Place	**Overall**	**73.4**	**E**	**73.2**	**E**	**73.2**	**E**	**73.2**	**E**	**73.2**	**E**
	Northbound	86.8	F	86.5	F	86.4	F	86.5	F	86.4	F
	Southbound	41.7	D	41.7	D	41.7	D	41.7	D	41.7	D
North Capitol Street & Florida Ave	**Overall**	**26.2**	**C**	**26.9**	**C**	**27.8**	**C**	**27.3**	**C**	**28.4**	**C**
	Eastbound	42.4	D	42.7	D	44.8	D	43.7	D	45.7	D
	Westbound	42.4	D	44.5	D	46.5	D	45.2	D	48.1	D
	Northbound	19.8	B	20.0	B	20.1	C	20.0	C	20.1	C
	Southbound	13.3	B	13.7	B	13.8	B	13.8	B	13.9	B
Florida Avenue & Q Street NW	Eastbound	10.5	B	10.4	B	10.4	B	10.4	B	10.4	B
North Capitol Street & Q Street	Westbound	10.0	B	10.1	B	10.1	B	10.1	B	10.1	B
Florida Avenue & R Street NW	**Overall**	**11.3**	**B**	**11.4**	**B**	**12.2**	**B**	**11.7**	**B**	**12.7**	**B**
	Westbound	45.8	D	45.8	D	45.7	D	45.8	D	45.9	D
	Northbound	2.8	A	3.3	A	4.0	A	3.6	A	4.4	A
	Southbound	12.2	B	12.3	B	13.4	B	12.8	B	14.3	B

Intersection	Approach	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2019) - with Phase A and Phase B	
		PM Peak Hour		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
Eckington Place & Quincy Place	Eastbound	11.1	B	11.2	B	11.8	B	11.2	B	11.8	B
	Northbound Left	8.0	A	8.0	A	8.2	A	8.0	A	8.2	A
Harry Thomas Way & Alley	Eastbound	8.8	A	8.8	A	8.8	A	8.8	A	8.7	A
	Northbound Left	0.0	A	0.0	A	0.0	A	0.0	A	0.8	A
Eckington Place & Q Street NE	**Overall**	**10.5**	**B**	**10.6**	**B**	**12.3**	**B**	**10.7**	**B**	**12.4**	**B**
	Eastbound	8.8	A	8.8	A	9.4	A	8.9	A	9.8	A
	Northbound	9.0	A	9.1	A	9.9	A	9.1	A	9.9	A
	Southbound	12.1	B	12.1	B	14.8	B	12.2	B	14.9	C
Q Street & Parking Access	Eastbound Left	2.5	A	2.5	A	5.9	A	2.3	A	5.7	A
	Southbound	9.3	A	9.3	A	13.0	B	9.4	A	13.0	B
Harry Thomas Way & Q Street	**Overall**	**7.2**	**A**	**7.2**	**A**	**7.6**	**A**	**7.3**	**A**	**7.7**	**A**
	Eastbound	7.0	A	7.0	A	7.5	A	7.1	A	7.7	A
	Northbound	7.5	A	7.5	A	7.7	A	7.6	A	7.8	A
	Southbound	7.2	A	7.2	A	7.4	A	7.3	A	7.5	A

Table 12: AM Peak Hour Mitigated Capacity Analysis Results

Intersection	Approach	Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase A Only MITIGATED		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2018) - with Phase B Only MITIGATED		Total Future Conditions (2019) - with Phase A and Phase B		Total Future Conditions (2019) - with Phase A and Phase B MITIGATED	
		AM Peak Hour		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*		*AM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Street & Rhode Island Ave NE	Eastbound Left	5.9	A	5.9	A	5.9	A	5.9	A	5.8	A	5.8	A
Separated LT/R lane on SB Approach	Northbound	157.9	F	138.0	F	158.6	F	138.7	F	146.5	F	120.0	F
	Southbound	411.0	F	305.8	F	394.0	F	289.5	F	373.9	F	270.5	F
Eckington Place & Harry Thomas Way	**Overall**	--	--	**13.9**	**B**	--	--	**12.8**	**B**	--	--	**14.7**	**B**
All-Way Stop Control at Intersection	Eastbound	14.1	B	9.0	A	14.0	B	8.8	A	14.2	B	9.2	A
	Westbound	266.4	F	13.3	B	150.1	F	11.8	B	346.9	F	14.5	B
	Northbound (Left)	0.5	A	12.8	B	0.5	A	11.9	B	0.5	A	13.3	B
	Southbound (Left)	9.4	A	15.2	C	9.3	A	14.2	B	9.4	A	16.0	C
Eckington Place & Harry Thomas Way	Eastbound	14.1	B	13.9	A	14.0	B	13.8	B	14.2	B	13.9	B
Separated L/R lane on WB Approach	Westbound	266.4	F	258.4	F	150.1	F	137.1	F	346.9	F	341.7	F
	Northbound Left	0.5	A	0.5	A	0.5	A	0.5	A	0.5	A	0.5	A
	Southbound Left	9.4	A	9.4	A	9.3	A	9.3	A	9.4	A	9.4	A
Florida Avenue & Eckington Place	**Overall**	**18.1**	**B**	**18.5**	**B**	**17.0**	**B**	**17.5**	**B**	**19.0**	**B**	**19.2**	**B**
AM Signal timings adjusted, PM Signal timings Adjusted	Westbound	6.9	A	8.8	A	6.9	A	8.7	A	6.9	A	8.8	A
	Southbound	56.4	E	51.5	D	54.7	D	50.2	D	57.7	E	52.5	D

Table 13: PM Peak Hour Mitigated Capacity Analysis Results

Intersection	Approach	Total Future Conditions (2018) - with Phase A Only		Total Future Conditions (2018) - with Phase A Only MITIGATED		Total Future Conditions (2018) - with Phase B Only		Total Future Conditions (2018) - with Phase B Only MITIGATED		Total Future Conditions (2019) - with Phase A and Phase B		Total Future Conditions (2019) - with Phase A and Phase B MITIGATED	
		PM Peak Hour		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*		*PM Peak Hour*	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
3rd Street & Rhode Island Ave NE	Eastbound Left	3.2	A	3.2	A	3.1	A	3.1	A	3.2	A	3.2	A
Separated LT/R lane on SB Approach	Northbound	352.7	F	325.0	F	355.8	F	327.9	F	353.8	F	326.1	F
	Southbound	56.2	F	42.6	E	47.5	E	37.4	E	57.1	F	43.1	E
Eckington Place & Harry Thomas Way	**Overall**	--	--	**12.9**	**B**	--	--	**11.6**	**B**	--	--	**13.3**	**B**
All-Way Stop Control at Intersection	Eastbound	13.6	B	9.1	A	13.3	B	8.7	A	13.6	B	9.2	A
	Westbound	71.9	F	11.1	B	34.2	D	9.8	A	89.6	F	11.5	B
	Northbound (Left)	0.1	A	13.3	B	0.1	A	11.5	B	0.1	A	13.8	B
	Southbound (Left)	9.0	A	13.7	B	8.9	A	12.5	B	9.0	A	14.1	B
Eckington Place & Harry Thomas Way	Eastbound	13.6	B	13.5	B	13.3	B	13.3	B	13.6	B	13.5	B
Separated L/R lane on WB Approach	Westbound	71.9	F	68.6	F	34.2	D	31.6	D	89.6	F	86.3	F
	Northbound Left	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A	0.1	A
	Southbound Left	9.0	A	9.0	A	8.9	A	8.9	A	9.0	A	9.0	A
Florida Avenue & Eckington Place	**Overall**	**21.7**	**C**	**21.9**	**C**	**20.3**	**C**	**20.6**	**C**	**22.1**	**C**	**22.3**	**C**
AM Signal timings adjusted, PM Signal timings Adjusted	Westbound	9.7	A	11.4	B	9.6	A	11.3	B	9.7	A	11.4	B
	Southbound	54.8	D	50.8	D	52.5	D	48.9	D	55.6	E	51.4	D

Table 14: AM Peak Hour Queuing Results

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			AM Peak		AM Peak		AM Peak		AM Peak		AM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
2nd Street & Rhode Island Ave NE	Eastbound Thru	315	--	0	--	0	--	0	--	0	--	0
	Eastbound TR	300	--	0	--	0	--	0	--	0	--	0
	Westbound Left	70	--	15	--	15	--	16	--	15	--	16
	Westbound Thru	375	--	0	--	0	--	0	--	0	--	0
3rd Street & Rhode Island Ave NE	Eastbound LT	375	--	13	--	13	--	13	--	13	--	13
	Eastbound Thru	375	--	0	--	0	--	0	--	0	--	0
	Westbound Thru	350	--	0	--	0	--	0	--	0	--	0
	Westbound TR	60	--	0	--	0	--	0	--	0	--	0
	Northbound LTR	310	--	81	--	84	--	89	--	87	--	87
	Southbound LTR	250	--	309	--	322	--	329	--	324	--	318
Eckington Place & R Street NE	Eastbound TR	515	--	--	--	--	--	--	--	--	--	--
	Westbound LT	150	--	--	--	--	--	--	--	--	--	--
	Northbound Left	50	--	--	--	--	--	--	--	--	--	--
	Northbound Right	210	--	--	--	--	--	--	--	--	--	--
R Street & 2nd Street NE	Eastbound Thru	175	--	0	--	0	--	0	--	0	--	0
	Southbound LR	200	--	39	--	39	--	41	--	39	--	41
3rd Street & R Street NE	Eastbound LTR	340	--	--	--	--	--	--	--	--	--	--
	Westbound LTR	210	--	--	--	--	--	--	--	--	--	--
	Northbound TR	515	--	--	--	--	--	--	--	--	--	--
Eckington Place & Harry Thomas Way	Eastbound LTR	50	--	1	--	1	--	1	--	1	--	1
	Westbound LTR	685	--	200	--	202	--	427	--	283	--	522
	Northbound LTR	450	--	1	--	1	--	1	--	1	--	1

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			AM Peak		AM Peak		AM Peak		AM Peak		AM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
	Southbound Left	50	--	1	--	1	--	1	--	1	--	1
	Southbound TR	130	--	0	--	0	--	0	--	0	--	0
Florida Avenue & Eckington Place	Westbound Thru	115	115	130	118	133	119	134	118	133	119	134
	Westbound TR	120	115	130	118	133	119	134	118	133	119	134
	Southbound Right	425	90	148	96	155	134	200	111	173	150	219
North Capitol Street & R Street	Eastbound LTR	800	39	68	39	69	41	71	40	70	43	73
	Westbound LTR	65	83	138	86	142	86	142	86	142	87	143
	Northbound LT	190	39	51	39	56	39	56	39	55	38	57
	Northbound Thru	190	39	51	39	56	39	56	39	55	38	57
	Northbound TR	190	39	51	39	56	39	56	39	55	38	57
	Southbound LT	195	--	--	--	--	--	--	--	--	--	--
	Southbound Thru	195	325	378	330	384	330	384	330	384	330	384
	Southbound TR	195	325	378	330	384	330	384	330	384	330	384
North Capitol Street & Quincy Place	Westbound LTR	550	0	m0	0	m0	0	m0	0	m0	0	m0
	Northbound LT	40	13	12	12	12	13	12	12	12	12	12
	Northbound Thru	30	13	12	12	12	13	12	12	12	12	12
	Northbound TR	30	13	12	12	12	13	12	12	12	12	12
	Southbound LT	130	80	54	83	55	83	55	83	55	83	55
	Southbound Thru	130	80	54	83	55	83	55	83	55	83	55
	Southbound TR	130	80	54	83	55	83	55	83	55	83	55
North Capitol Street & Lincoln Road	Westbound Left	30	18	26	18	26	18	26	18	26	18	26
	Northbound Thru	185	323	389	329	395	332	397	330	395	333	397
	Northbound TR	225	323	389	329	395	332	397	330	395	333	397

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			AM Peak		AM Peak		AM Peak		AM Peak		AM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
	Southbound Thru	80	8	10	8	10	8	10	8	10	8	10
Lincoln Road & Quincy Place	Northbound LTR	130	207	283	207	283	207	183	207	283	207	283
	Southbound LTR	200	283	194	132	194	132	194	132	194	132	194
North Capitol Street & Florida Ave	Eastbound Thru	265	94	109	98	113	98	113	98	113	100	115
	Eastbound TR	275	94	190	98	113	98	113	98	113	100	115
	Westbound Thru	200	322	405	332	418	350	439	341	427	359	450
	Westbound TR	210	322	405	332	418	350	439	341	427	359	450
	Northbound Thru	315	214	254	217	257	218	258	217	257	218	258
	Northbound TR	300	214	254	217	257	218	258	217	257	218	258
	Southbound Thru	145	184	258	189	264	189	264	189	264	189	264
Florida Avenue & Q Street NW	Eastbound LR	525	--	15	--	15	--	16	--	15	--	15
	Northbound Thru	155	--	0	--	0	--	0	--	0	--	0
	Southbound Thru	350	--	0	--	0	--	0	--	0	--	0
North Capitol Street & Q Street	Westbound Right	615	--	2	--	2	--	3	--	2	--	3
	Northbound Thru	70	--	0	--	0	--	0	--	0	--	0
	Northbound TR	70	--	0	--	0	--	0	--	0	--	0
	Southbound Thru	100	--	0	--	0	--	0	--	0	--	0
	Southbound TR	100	--	0	--	0	--	0	--	0	--	0
Florida Avenue & R Street NW	Westbound LTR	200	181	277	187	284	187	284	187	284	189	288
	Northbound LT	215	104	168	115	181	133	194	122	187	137	204
	Northbound TR	215	104	168	115	181	133	194	122	187	137	204
	Southbound LT	110	108	141	118	152	121	157	119	154	125	162
	Southbound TR	110	108	141	118	152	121	157	119	154	125	162

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			AM Peak		AM Peak		AM Peak		AM Peak		AM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
Eckington Place & Quincy Place	Eastbound LR	475	--	9	--	9	--	9	--	9	--	9
	Northbound Left	50	--	0	--	0	--	0	--	0	--	0
	Northbound Thru	215	--	0	--	0	--	0	--	0	--	0
	Southbound TR	210	--	0	--	0	--	0	--	0	--	0
Harry Thomas Way & Alley	Eastbound LR	275	--	0	--	0	--	0	--	3	--	3
	Northbound LT	415	--	0	--	0	--	0	--	0	--	0
	Southbound TR	100	--	0	--	0	--	0	--	0	--	0
Eckington Place & Q Street NE	Eastbound LTR	410	--	--	--	--	--	--	--	--	--	--
	Northbound Left	50	--	--	--	--	--	--	--	--	--	--
	Northbound TR	100	--	--	--	--	--	--	--	--	--	--
	Southbound LTR	200	--	--	--	--	--	--	--	--	--	--
Q Street & Parking Access	Eastbound LT	50	--	0	--	0	--	2	--	0	--	2
	Southbound Left	75	--	3	--	3	--	12	--	3	--	12
Harry Thomas Way & Q Street	Eastbound LR	575	--	--	--	--	--	--	--	--	--	--
	Northbound Thru	700	--	--	--	--	--	--	--	--	--	--
	Southbound Thru	415	--	--	--	--	--	--	--	--	--	--

Table 15: PM Peak Hour Queuing Results

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			PM Peak		PM Peak		PM Peak		PM Peak		PM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
2nd Street & Rhode Island Ave NE	Eastbound Thru	315	--	0	--	0	--	0	--	0	--	0
	Eastbound TR	300	--	0	--	0	--	0	--	0	--	0
	Westbound Left	70	--	17	--	18	--	23	--	18	--	23
	Westbound Thru	375	--	0	--	0	--	0	--	0	--	0
3rd Street & Rhode Island Ave NE	Eastbound LT	375	--	8	--	8	--	8	--	8	--	8
	Eastbound Thru	375	--	0	--	0	--	0	--	0	--	0
	Westbound Thru	350	--	0	--	0	--	0	--	0	--	0
	Westbound TR	60	--	0	--	0	--	0	--	0	--	0
	Northbound LTR	310	--	154	--	157	--	190	--	159	--	191
	Southbound LTR	250	--	48	--	51	--	59	--	52	--	60
Eckington Place & R Street NE	Eastbound TR	515	--	--	--	--	--	--	--	--	--	--
	Westbound LT	150	--	--	--	--	--	--	--	--	--	--
	Northbound Left	50	--	--	--	--	--	--	--	--	--	--
	Northbound Right	210	--	--	--	--	--	--	--	--	--	--
R Street & 2nd Street NE	Eastbound Thru	175	--	0	--	0	--	0	--	0	--	0
	Southbound LR	200	--	22	--	22	--	25	--	23	--	26
3rd Street & R Street NE	Eastbound LTR	340	--	--	--	--	--	--	--	--	--	--
	Westbound LTR	210	--	--	--	--	--	--	--	--	--	--
	Northbound TR	515	--	--	--	--	--	--	--	--	--	--
Eckington Place & Harry Thomas Way	Eastbound LTR	50	--	7	--	7	--	7	--	7	--	7
	Westbound LTR	685	--	42	--	43	--	147	--	56	--	177
	Northbound LTR	450	--	0	--	0	--	0	--	0	--	0

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			PM Peak		PM Peak		PM Peak		PM Peak		PM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
	Southbound Left	50	--	0	--	0	--	0	--	0	--	0
	Southbound TR	130	--	0	--	0	--	0	--	0	--	0
Florida Avenue & Eckington Place	Westbound Thru	115	124	142	131	149	134	154	131	150	137	156
	Westbound TR	120	124	142	131	149	134	154	131	150	137	156
	Southbound Right	425	115	168	126	178	168	226	135	189	179	238
North Capitol Street & R Street	Eastbound LTR	800	53	93	55	95	85	137	68	113	100	156
	Westbound LTR	65	71	123	72	123	72	124	72	123	72	125
	Northbound LT	190	493	543	498	549	499	549	498	549	499	549
	Northbound Thru	190	493	543	498	549	499	549	498	549	499	549
	Northbound TR	190	493	543	498	549	499	549	498	549	499	549
	Southbound LT	195	307	385	314	393	320	401	316	397	322	405
	Southbound Thru	195	--	--	--	--	--	--	--	--	--	--
	Southbound TR	195	307	385	314	393	320	401	316	397	322	405
North Capitol Street & Quincy Place	Westbound LTR	550	0	m0	0	m0	0	m0	0	m0	0	m0
	Northbound LT	40	12	12	12	12	12	12	12	12	12	12
	Northbound Thru	30	12	12	12	12	12	12	12	12	12	12
	Northbound TR	30	--	--	--	--	--	--	--	--	--	--
	Southbound LT	130	--	--	--	--	--	--	--	--	--	--
	Southbound Thru	130	305	386	311	311	315	396	313	394	371	398
	Southbound TR	130	305	386	392	392	315	396	313	394	371	398
North Capitol Street & Lincoln Road	Westbound Left	30	5	8	5	8	5	8	5	8	5	8
	Northbound Thru	185	510	572	516	579	519	580	517	579	520	580
	Northbound TR	225	510	572	516	579	519	580	517	579	520	580

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			PM Peak		PM Peak		PM Peak		PM Peak		PM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
	Southbound Thru	80	33	31	33	31	32	30	33	31	32	30
Lincoln Road & Quincy Place	Northbound LTR	130	282	#462	282	#461	282	#462	281	#462	281	#462
	Southbound LTR	200	95	157	95	157	95	157	95	157	95	157
North Capitol Street & Florida Ave	Eastbound Thru	265	167	212	171	215	178	221	173	218	181	225
	Eastbound TR	275	167	212	171	215	178	221	173	218	181	225
	Westbound Thru	200	336	#431	352	#473	363	#491	356	#480	372	#505
	Westbound TR	210	336	#431	352	#473	363	#491	356	#480	372	#505
	Northbound Thru	315	347	402	353	408	356	413	354	410	357	414
	Northbound TR	300	347	402	353	408	356	413	354	410	357	414
	Southbound Thru	145	153	209	158	213	158	215	158	214	158	215
Florida Avenue & Q Street NW	Eastbound LR	525	--	11	--	11	--	11	--	11	--	11
	Northbound Thru	155	--	0	--	0	--	0	--	0	--	0
	Southbound Thru	350	--	0	--	0	--	0	--	0	--	0
North Capitol Street & Q Street	Westbound Right	615	--	4	--	4	--	4	--	4	--	4
	Northbound Thru	70	--	0	--	0	--	0	--	0	--	0
	Northbound TR	70	--	0	--	0	--	0	--	0	--	0
	Southbound Thru	100	--	0	--	0	--	0	--	0	--	0
	Southbound TR	100	--	0	--	0	--	0	--	0	--	0
Florida Avenue & R Street NW	Westbound LTR	200	81	m132	82	m131	81	m130	82	m131	83	m132
	Northbound LT	215	16	m28	16	m28	16	m28	16	m28	16	m28
	Northbound TR	215	16	m28	16	m28	16	m28	16	m28	16	m28
	Southbound LT	110	143	185	145	188	162	212	153	198	173	228
	Southbound TR	110	143	185	145	188	162	212	153	198	173	228

Intersection	Lane Group	Storage Length (ft)	Existing Conditions (2015)		Future Background Conditions (2018)		Total Future Phase A Conditions (2018)		Total Future Phase B Conditions (2018)		Total Future Conditions (2019)	
			PM Peak		PM Peak		PM Peak		PM Peak		PM Peak	
			50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %	50th %	95th %
Eckington Place & Quincy Place	Eastbound LR	475	--	5	--	6	--	6	--	6	--	6
	Northbound Left	50	--	0	--	0	--	0	--	0	--	0
	Northbound Thru	215	--	0	--	0	--	0	--	0	--	0
	Southbound TR	210	--	0	--	0	--	0	--	0	--	0
Harry Thomas Way & Alley	Eastbound LR	275	--	0	--	0	--	0	--	0	--	2
	Northbound LT	415	--	0	--	0	--	0	--	0	--	1
	Southbound TR	100	--	0	--	0	--	0	--	0	--	0
Eckington Place & Q Street NE	Eastbound LTR	410	--	--	--	--	--	--	--	--	--	--
	Northbound Left	50	--	--	--	--	--	--	--	--	--	--
	Northbound TR	100	--	--	--	--	--	--	--	--	--	--
	Southbound LTR	200	--	--	--	--	--	--	--	--	--	--
Q Street & Parking Access	Eastbound LT	50	--	1	--	1	--	8	--	1	--	8
	Southbound Left	75	--	2	--	2	--	18	--	2	--	18
Harry Thomas Way & Q Street	Eastbound LR	575	--	--	--	--	--	--	--	--	--	--
	Northbound Thru	700	--	--	--	--	--	--	--	--	--	--
	Southbound Thru	415	--	--	--	--	--	--	--	--	--	--

TRANSIT

This section discusses the existing and proposed transit facilities in the vicinity of the site, accessibility to transit, and evaluates the overall transit impacts due to the Eckington Yards project.

The following conclusions are reached within this chapter:

- The development site is approximately 0.4 miles from the NoMa-Gallaudet U Metrorail station and is surrounded by several Metrobus routes that travel along multiple primary corridors.
- The site is expected to generate a manageable amount of transit trips, and the existing service is capable of handling these new trips.

EXISTING TRANSIT SERVICE

The study area is well-served by both Metrorail and Metrobus. Combined, these transit services provide local, city wide, and regional transit connections and link the site with major cultural, residential, employment, and commercial destinations throughout the region. Figure 11 identifies the major transit routes, stations, and stops in the study area.

The NoMa-Gallaudet U Metrorail station is located approximately 0.4 miles from the development site and is served by the Red Line. The Red Line travels south from Shady Grove, travels through downtown DC, and continues north to Glenmont. Trains run approximately every three minutes during the morning and afternoon peak periods. They run about every 5 to 6 minutes during weekday non-peak periods, every 10 to 15 minutes on weekday evenings after 7 pm and 6 to 16 minutes on the weekends.

The site is also serviced by Metrobus along multiple primary corridors. These bus lines connect the site to many areas of the District, including several Metrorail stations serving all of the six lines. Table 16 shows a summary of the bus route information for the routes that serve the site, including service hours, headway, and distance to the nearest bus stop.

PROPOSED TRANSIT SERVICE

Due to growth of population, jobs, and retail in several neighborhoods in the District and the potential for growth in other neighborhoods, the District's infrastructure is challenged with the need for transportation investments to support the recent growth and to further strengthen neighborhoods.

In regards to transit serving the site, WMATA and DDOT have published one Metrobus study: the *Metrobus North Capitol Street Line Study: Route 80* in October 2013. The *North Capitol Street Line Study* evaluates additional express route that is considered for the 80 Line. This route would likely have 15 minute headways, which would add four new buses per hour to the North Capitol Street Corridor. Currently it is only expected to operate during peak periods on weekday, but there is potential for adding mid-day, late night, and weekend service in the future.

Table 16: Metrobus Route Information

Route Number	Route Name	Service Hours	Headway	Walking Distance to Nearest Bus Stop
80	North Capitol Street Line	Weekdays: 4:29AM-2:16AM Weekend: 4:40AM-2:25AM	10-30 min	0.2 miles, 5 minutes
90,92,93	U Street-Garfield Line	Weekdays: 4:05AM-3:27AM Weekend: 4:05AM-3:06AM	10-30 min	0.2 miles, 5 minutes
M31	McKinley High School Line	Weekdays: Eastbound 3:25PM-3:53PM Westbound 7:53AM-8:28AM	10 min	0.3 miles, 7 minutes
P6	Anacostia-Eckington Line	Weekdays: 5:00AM-1:15AM Weekend: 5:20AM-2:15AM	10-30 min	0.1 miles, 2 minutes
X3	Benning Road Line	Weekdays: Eastbound 3:31PM-6:39PM Westbound 6:00AM-9:27AM	20-30 min	0.2 miles, 5 minutes

TRANSIT SITE IMPACTS

Site-Generated Transit Trips

The proposed development is projected to generate 248 transit trips (72 inbound, 176 outbound) during the morning peak hour and 430 transit trips (245 inbound, 185 outbound) during the afternoon peak hour.

US Census data was used as a basis for determining the distribution of those taking Metrorail and those taking Metrobus. The site lies within TAZ 10213 which shows that approximately 75 percent of transit riders used Metrorail and the remaining 25 percent use Metrobus. Given the transit trip generation of the development, approximately 186 people will use Metrorail and 62 will use Metrobus during the morning peak hour; approximately 323 people will use Metrorail and 107 will use Metrobus during the afternoon peak hour.

WMATA studied capacity of Metrorail stations in its *Station Access & Capacity Study.* The study analyzed the capacity of Metrorail stations for their vertical transportation, for example the capacity of the station at elevators, stairs, and escalators to shuttle patrons between the street, mezzanine, and platforms. The study also analyzed stations capacity to process riders at fare card gates. For both analyses, vertical transportation and fare card gates, volume-to-capacity ratios were calculated for existing data (from 2005) and projections for the year 2030. According to the study, high volume-to-capacity ratios were not observed at the NoMa-Gallaudet U Station in 2005 nor are they expected by 2030. However, this station had only been open for approximately one year when data was collected.

WMATA also studied capacity along Metrobus routes. DC's *Transit Future System Plan* (2010) lists the bus routes with the highest load factor (a ratio of passenger volume to bus capacity). A load factor is considered unacceptable if it is over 1.2 during peak periods or over 1.0 during off-peak or weekend periods. According to this study, two of the Metrobus routes that travel near the site, the 90, 92 Line and the X3 line, exceed acceptable load factors. The remaining three lines do not experience any existing capacity concerns. Based on this information, the number of Metrobus trips expected, and the peak period headways of the surrounding Metrobus routes, it is not expected that site-generated transit trips will cause detrimental impacts to Metrobus service.

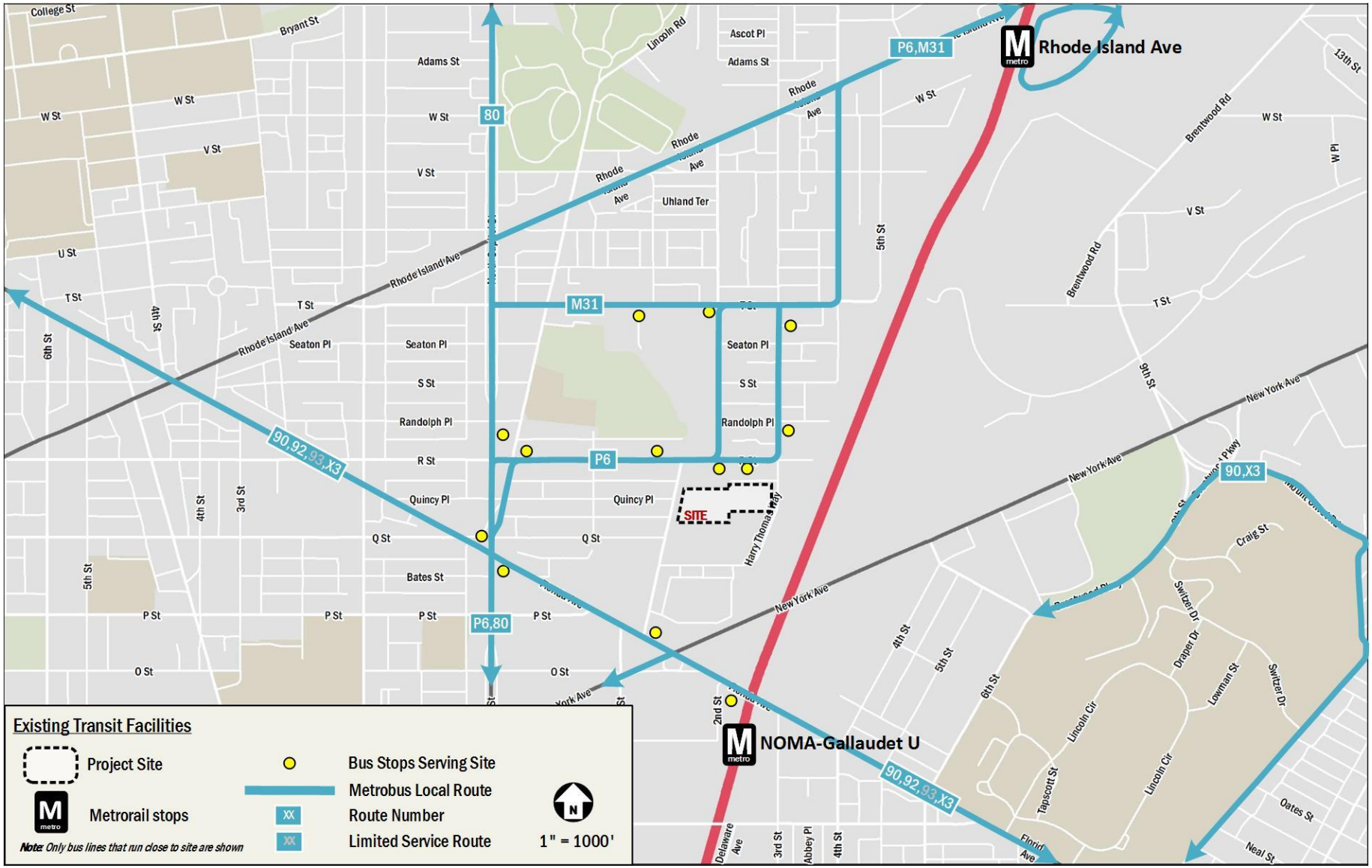

Figure 11: Existing Transit Service

PEDESTRIAN FACILITIES

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

The following conclusions are reached within this chapter:

- The existing pedestrian infrastructure surrounding the site provides an excellent walking environment. There are some barriers east of the site due to the rail tracks and railyard, but overall there is a well-connected pedestrian network.
- Future pedestrian improvements are expected in the vicinity of the site, particularly along Eckington Place as part of the *Mid-City East Livability Study* and in conjunction with the planned NoMa Green Park.
- The site will improve the overall pedestrian environment on site by providing improved sidewalks along the interior and perimeter of the site, most notably by way of the new promenade through the site, curb extensions along Eckington Place.

PEDESTRIAN STUDY AREA

Facilities within a quarter-mile of the site were evaluated as well as routes to the NoMa-Gallaudet U Metrorail station portal at 2nd Street and N Street, NE and Gallaudet University. The site is accessible to Metrorail along Eckington Place and Florida Avenue as well as several Metrobus stops along R Street T Street, North Capitol Street, and Florida Avenue. There are some barriers and areas of concern within the study area that negatively impact the quality of and attractiveness of the walking environment. This primarily includes the Red Line Metrorail tracks which create some limitations to the number of pedestrian connections available to the east. Figure 12 shows suggested pedestrian pathways, walking time and distances, and barriers or areas of concern.

PEDESTRIAN INFRASTRUCTURE

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

Existing Conditions

A review of pedestrian facilities surrounding the planned development shows that many facilities meet DDOT standards and provide a quality walking environment. Figure 13 shows a detailed inventory of the existing pedestrian infrastructure surrounding the site. Sidewalks, crosswalks, and curb ramps are evaluated based on the guidelines set forth by DDOT's *Public Realm Design Manual* in addition to ADA standards. Sidewalk widths and requirements for the District are shown below in Table 17.

Within the area shown, the majority of roadways are surrounded by low to moderate density residential. Most of the sidewalks surrounding the site comply with DDOT standards; however there are some areas that do not have adequate sidewalks, such as sections of 2nd Street, T Street, and Florida Avenue. Some of these sidewalks, such as those along Florida Avenue will likely be remedied as part of background developments.

ADA standards require that all curb ramps be provided wherever an accessible route crosses a curb and must have a detectable warning. Additionally, curb ramps shared between two crosswalks is not desired. As shown in the figure, under existing conditions there are minimal issues with crosswalks and curb ramps near the site.

Future Conditions

Although timelines are uncertain, several pedestrian improvements are proposed in the areas surrounding the Eckington Yards site. These improvements are shown on Figure 14.

Mid-City East Livability Study

The *Mid-City East Livability Study* will result in major pedestrian improvements along Eckington Place. These improvements include curb extensions at Harry Thomas Way, Q Street, and

Table 17: Sidewalk Requirements

Street Type	Minimum Sidewalk Width	Minimum Buffer Width
Residential (Low to Moderate Density)	6 ft	4 ft (6 ft preferred for tree space)
Residential (High Density)	8 ft	4 ft (6 ft preferred for tree space)
Commercial (Non-downtown)	10 ft	4 ft
Downtown	16 ft	6 ft

Quincy Place as well as crosswalks at all Eckington Place crossings along the corridor. Currently crosswalks only exist at Q Street. Some of these crosswalks will also include pedestrian refuge areas (likely in the form of raised concrete medians) to further improve pedestrian safety and act as a traffic calming measure.

The intersection of Eckington Place and Q Street is also proposed to be converted from an all-way stop to a roundabout. Roundabouts are considered safer for pedestrians because they need only cross one direction of traffic at a time at each approach, as compared to most traditional intersections.

The improvements associated with the *Mid-City East Livability Study* do not have a specific timeline and thus were not included in the vehicular analysis of this report. They should however be more heavily considered in regards to the streetscape design of the project. As the designs for Eckington Place become further refined, the Eckington Yards project should continue to work to incorporate these plans along the perimeter of the project.

NoMa Green

The NoMa Parks Foundation has purchased a 2-acre plot of land directly east of the Eckington Yards development between Harry Thomas Way and the Metropolitan Branch Trail. In conjunction with the NoMa Green, a Q Street trail connection may be implemented on the south side of the park to increase the porosity of the Metropolitan Branch Trail and provide additional access to areas of the District that are growing in density. The park will brighten the environment directly surrounding the site and the Q Street connection will result in an improved connection between the site and the Metropolitan Branch Trail.

The Applicant has committed to contribute $25,000 to the design and implementation of the NoMa Green and will work with the NoMa BID and community to determine the specific project or program that these funds will be allocated towards.

SITE IMPACTS

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

Pedestrian Trip Generation

The planned development is expected to generate 71 walking trips (28 inbound, 43 outbound) during the morning peak hour and 167 walking trips (88 inbound, 79 outbound) during the afternoon peak hour. The origins and destinations of these trips are likely to be:

- Employment opportunities where residents can walk to work
- Retail locations in the vicinity of the site
- Retail locations within the Eckington Yards development
- Nearby neighborhood destinations, such as schools, community gathering areas, or the planned NoMa Green

In addition to these trips, the transit trips generated by the site will also generate pedestrian demand between the site and nearby transit stops. About 75 percent of these will be walking to the NoMa-Gallaudet U Metrorail station located approximately 0.4 miles from the site and the rest will be walking to Metrobus stops, which are primarily located along R Street, Florida Avenue, and North Capitol Street.

On-Site Pedestrian Infrastructure

Although the sidewalks along the perimeter of the site meet DDOT requirements, the development will further improve the pedestrian environment along Eckington Place by adding curb extensions and additional street trees and will create a new connection between Eckington Place and Harry Thomas Way through the construction of the promenade. Although vehicular traffic will be allowed along this promenade, there will be no curb cuts and vehicular traffic is expected to be limited to loading activity and pick-up/drop-off activity. The promenade will primarily be catered to pedestrian traffic through the implementation of a shared street concept and the inclusion of pedestrian elements such as moveable outdoor furniture, landscaping, a bicycle repair station, and a center plaza.

An additional pedestrian connection will be added between Q Street and the promenade in conjunction with the shared access with the adjacent Gale Property.

Off-Site Pedestrian Infrastructure

In addition to pedestrian improvements within the site and along the perimeter, the Applicant will be adding crosswalks at Eckington Place and the private alley/promenade in

conjunction with the proposed promenade, as shown previously on Figure 6.

The exact design of the crosswalks at Eckington Place should align with the ultimate designs determined within the *Mid-City East Livability Study*. As such, the design of these pedestrian elements will be further refined throughout the public space approvals process.

This report also recommends that the Applicant install crosswalks where the private alley/promenade intersects Harry Thomas Way, given that the design of the planned NoMa Green is receptive to pedestrian flows to and from their side of Harry Thomas Way. The crossing could include elements such as curb extensions where the existing on-street parking is, median refuges, and high visibility signing and marking. The amount of traffic and crossing distance on Harry Thomas Way do not trigger the need for a signalized pedestrian crossing.

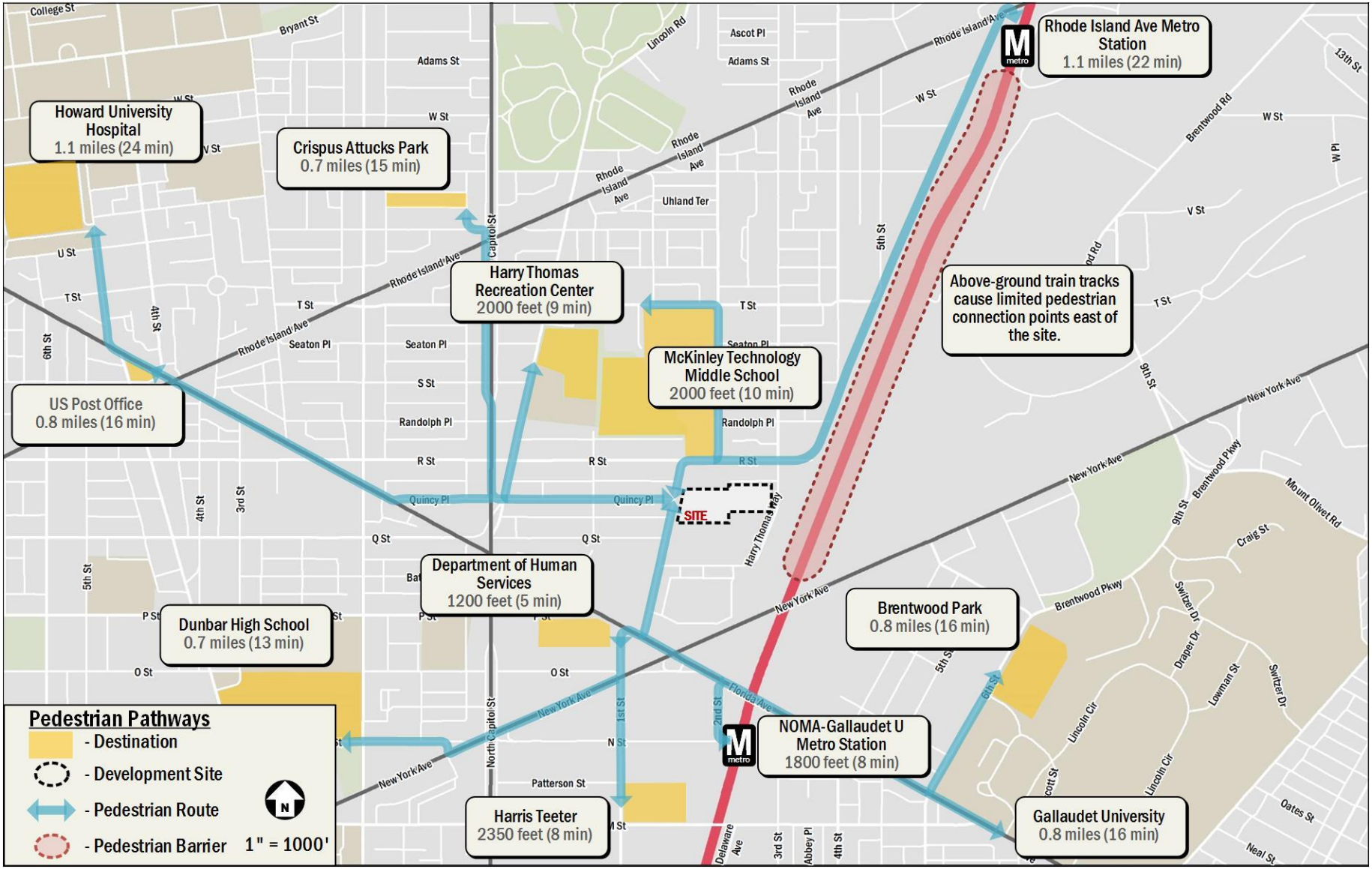

Figure 12: Pedestrian Pathways

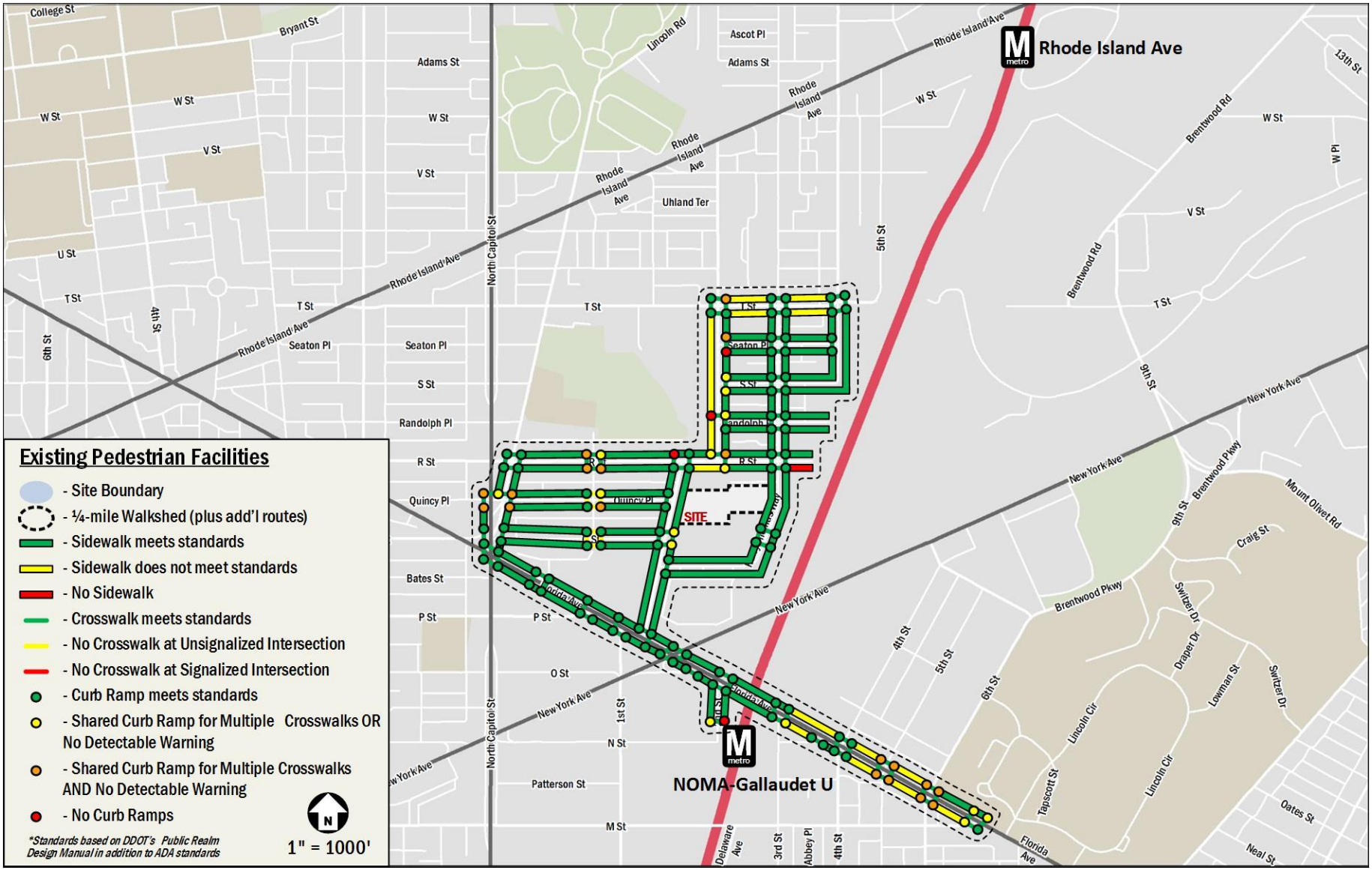

Figure 13: Existing Pedestrian Infrastructure

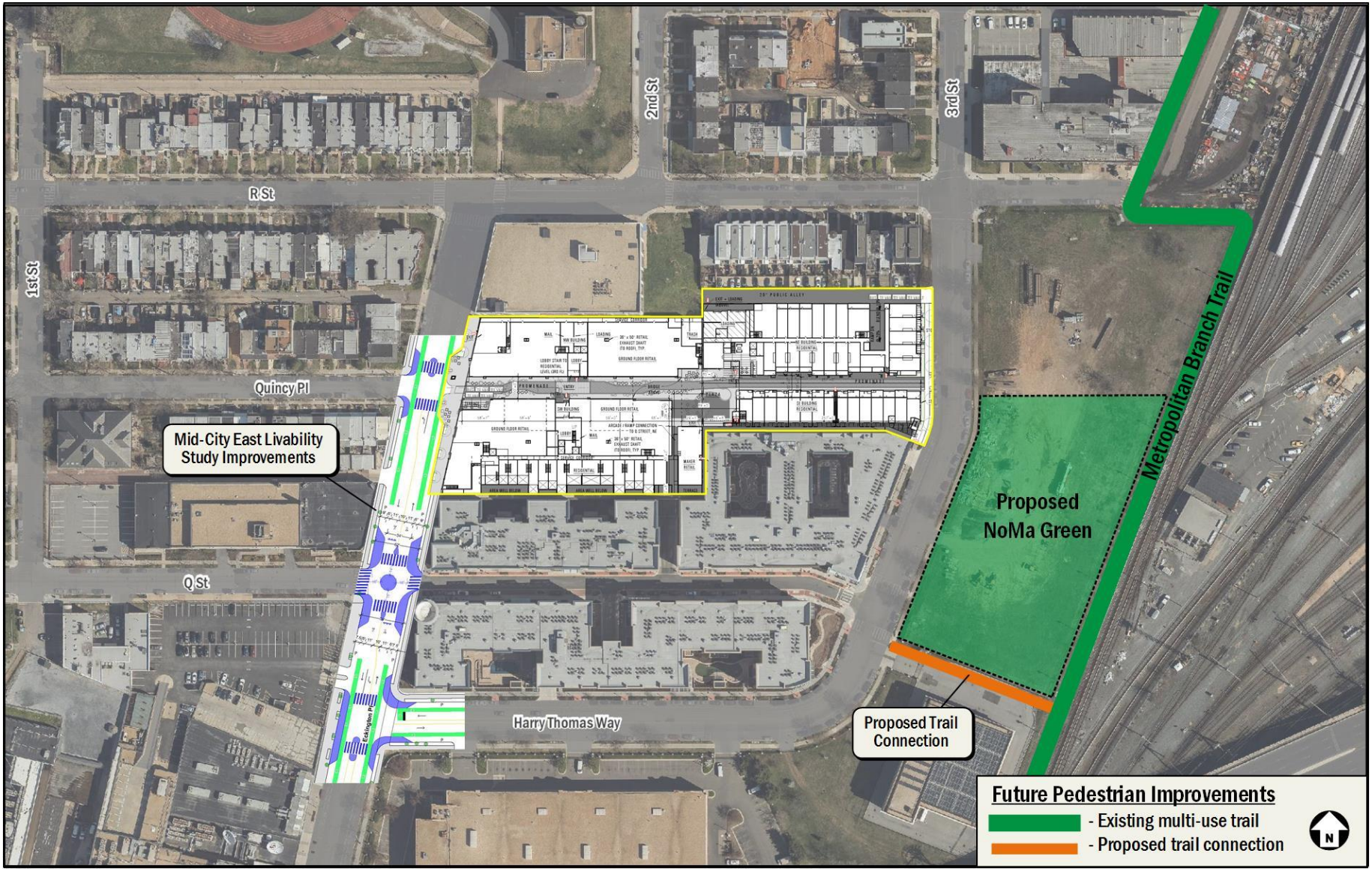

Figure 14: Future Pedestrian Improvements

BICYCLE FACILITIES

This section summarizes existing and future bicycle access, reviews the quality of cycling routes to and from the site, and presents recommendations.

The following conclusions are reached within this chapter:

- The site has access to several on- and off-street bicycle facilities including the Metropolitan Branch Trail and bike lanes on Eckington Place and Harry Thomas Way.
- The site is not expected to generate a significant amount of bicycle trips, therefore all site-generated bike trips can be accommodated on existing infrastructure.
- The development site will include long-term bicycle parking within the parking garages and short-term bicycle parking within the site and along the perimeter of the site.
- The Applicant has agreed to fund the installation of a Capital Bikeshare station within a quarter-mile of the site or expand the existing Bikeshare station located at Eckington Place and Q Street.
- The Applicant will fund a viability and design study for an aerial pedestrian and bicycle connection between R Street, NE and Penn Street/4th Street at Union Market.

EXISTING BICYCLE FACILITIES

The site has access to several existing on- and off-street bicycle facilities. The Eckington Yards development is located just blocks from the Metropolitan Branch Trail that runs along the Metrorail Red Line and surrounded by on-street bicycle lanes and shared lanes along Eckington Place, Harry Thomas Way, and R Street. Figure 15 illustrates the existing bicycle facilities in the area and the anticipated access routes to and from the site.

No bike parking is provided along the perimeter of the site under existing conditions. This results in many cyclists using street signs, parking meters, or similar objects to secure their bicycles. This indicated that there is a demand for additional short-term bicycle parking in the vicinity of the site.

PROPOSED BICYCLE FACILITIES

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

- *Tier 1*
  Investments should be considered as part of DDOT's 6-year TIP and annual work program development, if they are not already included. Some projects may be able to move directly into construction, while others become high priorities for advancement through the Project Development Process.

  A bicycle trail from Stanton Road to Firth Sterling Avenue along Suitland Parkway will be in the tier 1 additions.

- *Tier 2*
  Investments within this tier are not high priorities in the early years of MoveDC implementation. They could begin moving through the Project Development Process if there are compelling reasons for their advancement.

  There are a not tier 2 additions in the vicinity of the site.

- *Tier 3*
  Investments within this tier are not priorities for DDOT-led advancement in the early years of MoveDC's implementation. They could move forward earlier under circumstances such as real estate development initiatives and non-DDOT partnerships providing the opportunity for non-District-led completion of specific funding.

- *Tier 4*
  Generally, investments within this tier are not priorities for DDOT-led advancement and are lower priority for project development in the early years of implementation.

Due to the timeline of the Eckington Yards development, this report focuses on the Tier 1 and Tier 2 recommendations within the vicinity of the site. There is one Tier 1 recommendation near the site which proposes a 4.6 mile trail along New York Avenue. No Tier 2 recommendations are located in the vicinity of the site.

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

SITE IMPACTS

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

Bicycle Trip Generation

The planned development is expected to generate 20 bicycle trips (5 inbound, 15 outbound) during the morning peak hour and 28 bicycle trip (17 inbound, 11 outbound) during the afternoon peak hour. Although bicycling will be an important mode for getting to and from the site, with facilities located on site and routes to and from the site, the impacts from bicycling will be relatively less than impacts to other modes.

On-Site Bicycle Elements

The project will provide amenities that cater to cyclists including long-term and short-term bicycle racks. The Phase A garage will supply 195 secure long-term bicycle spaces and Phase B garage will supply 76 spaces. These spaces will be conveniently located on the first floor of each garage.

Exact numbers and locations of short-term bicycle racks have not yet been determined; however, this study recommends that the development provide a minimum of 57 short-term bicycle spaces, accommodated by the installation of 29 bicycle racks that can house two bikes each, in order to meet the ZRR requirements for short-term bicycle parking. It is expected that these bicycle racks will be located along the promenade and along the perimeter of the site, where primary pedestrian entrances are planned. The Applicant is willing to work with DDOT to determine the locations of bicycle racks within public space.

Off-Site Bicycle Elements

In addition to on-site bicycle accommodations, the Applicant has agreed to fund the cost of a Capital Bikeshare station within a quarter-mile of the site, preferably within the new NoMa Green, across Harry Thomas Way from the site. If a Bikeshare station in this location is already funded, the Applicant will fund the expansion of the existing Bikeshare station at the intersection of Q Street and Eckington Place in order to accommodate potential demand from the site.

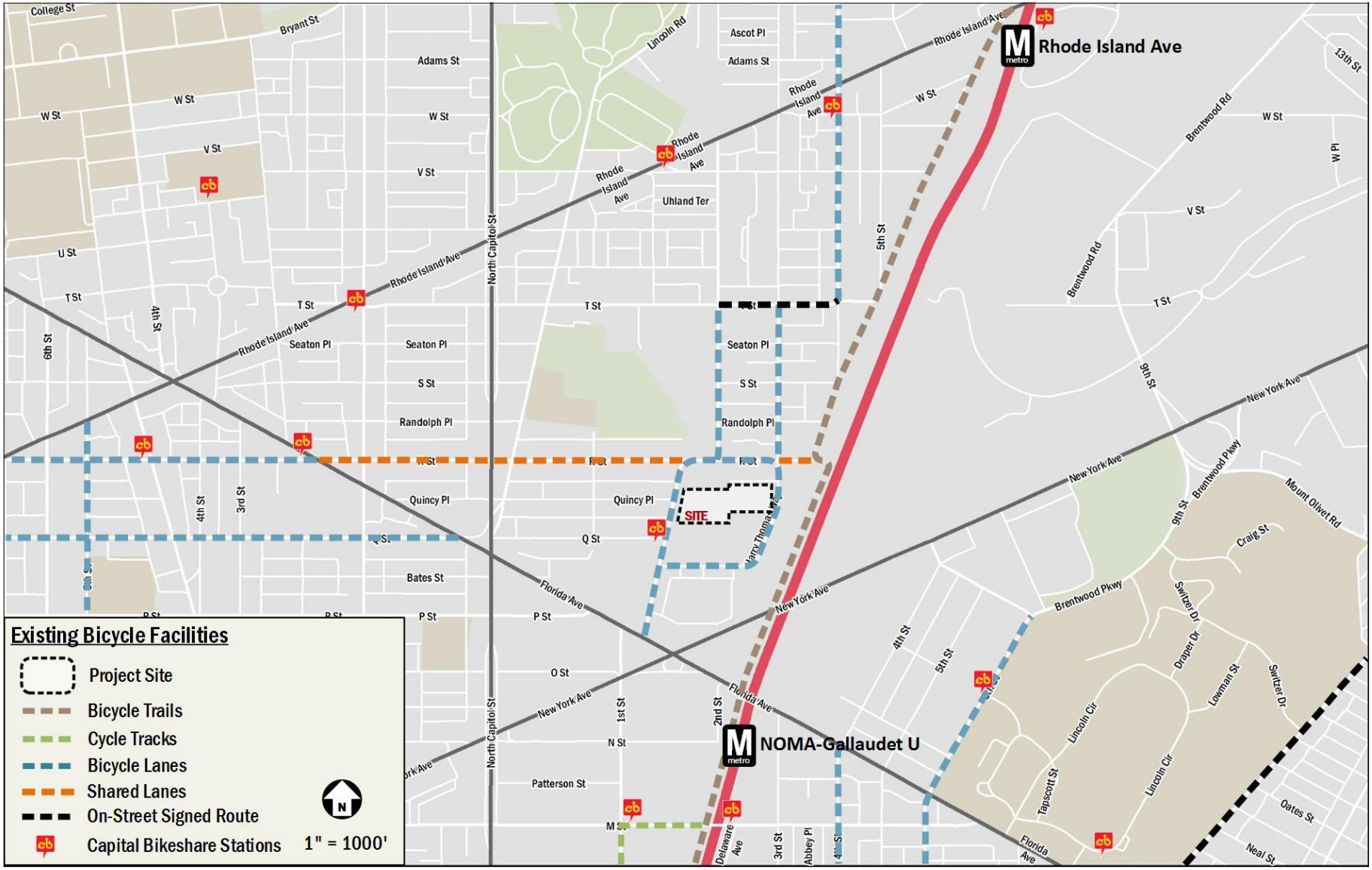

Figure 15: Existing Bicycle Facilities

CRASH DATA ANALYSIS

This section of the report reviews available crash data within the study area, reviews potential impacts of the proposed development on crash rates, and makes recommendations for mitigation measures where needed.

SUMMARY OF AVAILABLE CRASH DATA

A crash analysis was performed to determine if there was an abnormally high crash rate at study area intersections. DDOT provided the last three years of intersection crash data, from 2012 to 2014 for the study area. This data was reviewed and analyzed to determine the crash rate at each location. For intersections, the crash rate is measure in crash per million-entering vehicles (MEV). The crash rates per intersections are shown in Table 18.

According to the Institute of Transportation Engineer's *Comprehensive Transportation Review for Site Development*, a crash rate of 1.0 or higher is an indication that further study is required. Three intersections in this study area meet this criterion (as shown in red in Table 18 and detailed in Table 19). The Eckington Yards development should be developed in a manner to help alleviate, or at minimum not add to, the conflicts at these intersections.

A rate over 1.0 does not necessarily mean there is a significant problem at an intersection, but rather it is a threshold used to identify which intersections may have higher crash rates due to operational, geometric, or other issues. In some cases, the crashes were located near the intersection and not necessarily within the intersection.

For these intersections, the crash type information from the DDOT crash data was reviewed to see if there is a high percentage of certain crash types. Generally, the reasons for why an intersection has a high crash rate cannot be derived from crash data, as the exact details of each crash are not represented. However, some summaries of crash data can be used to develop general trends or eliminate possible causes. Table 19 contains a breakdown of crash types reported for the seven intersections with a crash rate over 1.0 per MEV.

POTENTIAL IMPACTS

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

- *R Street & 3rd Street NE*
  This intersection was found to have a high crash rate of 1.25 crashes per MEV over the course of the 3-year study period. The majority of crashes at this intersection were

Table 18: Intersection Crash Rates (2012 to 2014)

Intersection	Total Crashes	Ped Crashes	Bike Crashes	Rate per MEV*
Rhode Island Avenue & 2nd Street NE	12	0	1	0.35
Rhode Island Avenue & 3rd Street NE	26	2	2	0.74
R Street & Eckington Place NE	2	0	0	0.25
R Street & 2nd Street NE	3	0	1	0.53
R Street & 3rd Street NE	4	0	1	**1.25**
Harry Thomas Way & Eckington Place NE	1	0	0	0.10
Florida Avenue & Eckington Place NE	13	0	0	0.56
North Capitol Street & R Street	57	0	1	**1.27**
North Capitol Street & Quincy Place	21	0	0	0.50
North Capitol Street & Lincoln Road	10	2	0	0.21
North Capitol Street & Florida Avenue	57	1	5	0.84
Quincy Place & Lincoln Road NE	0	0	0	0.00
Q Street & Florida Avenue NW	8	2	1	0.37
North Capitol Street & Q Street	10	2	0	0.21
Florida Avenue & R Street NW	30	5	0	**1.29**
Quincy Place & Eckington Place NE	0	0	0	0.00
Q Street & Eckington Place NE	6	0	0	0.59
Q Street & Harry Thomas Way NE	0	0	0	0.00

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

Table 19: Crash Type Breakdown

Intersection	Rate per MEV	Right Angle	Left Turn	Right Turn	Rear End	Side Swiped	Head On	Parked	Fixed Object	Ran Off Road	Ped. Involved	Backing	Non-Collision	Under/Over Ride	Unspecified	Total
R Street & 3rd Street NE	**1.25**	0	0	1	2	0	0	1	0	0	0	0	0	0	0	4
		0%	*0%*	*25%*	*50%*	*0%*	*0%*	*25%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	*0%*	
North Capitol Street & R Street	**1.27**	6	7	4	17	15	1	1	0	0	0	0	1	0	5	57
		11%	*12%*	*7%*	*30%*	*26%*	*2%*	*2%*	*0%*	*0%*	*0%*	*0%*	*2%*	*0%*	*9%*	
Florida Avenue & R Street NW	**1.29**	4	3	0	8	7	1	2	0	0	5	0	0	0	0	30
		13%	*10%*	*0%*	*27%*	*23%*	*3%*	*7%*	*0%*	*0%*	*17%*	*0%*	*0%*	*0%*	*0%*	

rear end vehicles; however this only accounts for two crashes at the intersection as there were only four crashes total over the course of the 3-year study period. Therefore, an elevated crash rate at this intersection is more likely due to low vehicular volumes than safety concerns. Site-generated traffic is not expected to degrade the safety at this intersection; thus no improvements are recommended as part of the PUD.

- *North Capitol Street & R Street*

  This intersection was found to have a high crash rate of 1.27 crashes per MEV over the course of the 3-year study period. The majority of crashes at this intersection were rear end and side swiped vehicles. High rear end crashes are more typical at signalized intersections. Rear end and side swiped vehicles may be elevated at this intersection due to the lack of exclusive left-turn lanes along North Capitol Street. Additionally, side swiped crashes may be more prevalent due to unstriped on-street parking along both R Street and North Capitol Street, some of which is peak period restricted.

  The safety concerns at this intersection are primarily due to the existing lane configurations and flexible on-street parking. Changes to either of these elements would result in different issues, therefore there is not a simple solution to the elevated crashes at this intersection. Site-generated traffic is not expected to degrade the safety at this intersection; thus no improvements are recommended as part of the PUD.

- *Florida Avenue & R Street NW*

  This intersection was found to have a high crash rate of 1.29 crashes per MEV over the course of the 3-year study period. The majority of crashes at this intersection were rear end and side swiped vehicles. Rear end crashes are more typical at signalized intersections and may be elevated due to the skewed geometry at this intersection. Side swiped crashes are typical along roadways that have on-street parking which is the case along R Street.

  The safety concerns at this intersection are primarily due to the existing lane configurations and flexible on-street parking. Changes to either of these elements would result in different issues, therefore there is not an easy solution to the elevated crashes at this intersection. Site-generated traffic is not expected to degrade the safety at this intersection; thus no improvements are recommended as part of the PUD.

SUMMARY AND CONCLUSIONS

This report presents a review of the transportation aspects of a Planned Unit Development (PUD) application for the Eckington Yards project. The purpose of this study is to evaluate whether the project will generate a detrimental impact to the surrounding transportation network. This evaluation is based on a technical comparison of the existing conditions, background conditions, and three future conditions. This report concludes that **the project will not have a detrimental impact** to the surrounding transportation network assuming that all planned site design elements and mitigations are implemented.

Proposed Project

The project will redevelop the existing surface parking lots and commercial buildings into a mixed-use project with a thriving, pedestrian-friendly environment. The development is comprised of two potential phases:

- Phase A will consist of the northwest and southwest buildings. These buildings will include 468 residential units and up to 77,184 square feet of retail spaces. A parking garage will be accessible from a shared access with The Gale along Q Street and provide 187 parking spaces. Loading will also be shared with The Gale and will be accessible from Eckington Place.
- Phase B will consist of the northeast and southeast buildings. These buildings will be residential only and include 227 units. A parking garage will be accessible from an existing public alley off of Harry Thomas Way and will provide 144 parking spaces. Loading for the northeast building will be from the existing alley. Loading for the southeast building will be shared with The Gale and will be accessible from Harry Thomas Way.

At this time, both phases of the development are expected to be completed simultaneously; however, the Applicant is requesting the flexibility to allow for the construction of either Phase A or Phase B as the first phase of the development in order to respond to market conditions.

The development will also include the construction of a private alley, or promenade, acting as an extension of Quincy Place. Although the promenade will allow some vehicular traffic, the promenade will not have any curb cuts and will be catered to pedestrians.

Vehicular access to the Phase A parking garage will be from the existing Gale garage access along Q Street. Vehicular access to the Phase B parking garage will be from the existing public alley off of Harry Thomas Way on the north side of the site. The new promenade will also allow one-way eastbound vehicular traffic. It is expected that vehicular activity will primarily consist of loading and unloading for the retail uses along the promenade, and other pick-up/drop-off activity (e.g. taxis).

The amount of loading facilities on site will meet the project's needs. All three loading docks supply the appropriate facilities to accommodate the practical needs of the site, and maintain flexibility for retail loading activity to take place along the promenade or within the loading docks.

The amount of on-site parking provided will accommodate the anticipated parking demand generated by the site.

Multi-Modal Impacts and Recommendations

Transit

The site is well-served by regional and local transit services such as Metrorail and Metrobus. Although the development will be generating new transit trips on the network, the existing facilities have enough capacity to handle the new trips.

Pedestrian

The site is surrounded by a well-connected pedestrian network. The existing pedestrian infrastructure surrounding the site provides an excellent walking environment. There are some barriers east of the site due to the rail tracks and railyard, but overall there is a well-connected pedestrian network.

The site will improve the overall pedestrian environment by providing improved sidewalks along the interior and perimeter of the site, most notably by way of the new promenade through the site and curb extensions and crosswalks along Eckington Place. This report also recommends adding crosswalks where the private alley intersections Harry Thomas Way in coordination with the planed NoMa Green.

Bicycle

The site has access to several on- and off-street bicycle facilities including the Metropolitan Branch Trail and bike lanes on Eckington Place and Harry Thomas Way. The site is not expected to generate a significant amount of bicycle trips; therefore, all site-generated bike trips can be accommodated on existing infrastructure.

The development site will include long-term bicycle parking within the parking garages and short-term bicycle parking

within the site and along the perimeter of the site that meet or exceed DDOT requirements. The Applicant has agreed to fund the installation of a Capital Bikeshare station within a quarter-mile of the site or expand the existing Bikeshare station located at Eckington Place and Q Street.

Vehicular

The site is accessible from several principal arterials such North Capitol Street, New York Avenue, Florida Avenue, and Rhode Island Avenue. The arterials create connections to I-395, I-695, I-295, and ultimately the Capital Beltway (I-495) that surrounds Washington, DC and its inner suburbs as well as regional access to I-95. All of these roadways bring vehicular traffic within a half-mile of the site, at which point minor arterials, collectors, and local roads can be used to access the site directly.

In order to determine if the proposed development will have a negative impact on this transportation network, this report projects future conditions with and without the development of the site and performs analyses of intersection delays.

The analysis concluded that three intersections triggered further review for mitigations. One of these intersections, Harry Thomas Way and Eckington Place, was found to be detrimentally impacted by PUD generated traffic. The most straightforward solution to mitigating delays at the intersection of Eckington Place and Harry Thomas Way is to convert the intersection to an all-way stop controlled intersection. This mitigation would also have the benefit of improving pedestrian crossings at this location. This report recommends that this mitigation be explored with DDOT, and if an all-way stop is agreed to as a mitigation for this PUD, this report recommends the Applicant pay for the necessary signing and marking improvements to implement the mitigation.

Summary and Recommendations

This report analyzed the potential impacts of the PUD, and concluded that the PUD will not have a detrimental impact to the surrounding transportation network, as long as the project implements the recommendations as follows:

For either Phase A or Phase B, whichever is constructed first:

- Mitigating vehicular impacts at the intersection of Harry Thomas Way and Eckington Place, via converting the intersection to an all-way stop sign or similar improvement. The actual mitigation measure will be finalized with DDOT in coordination with the Mid-City East Livability Study's recommendations for Eckington Place.
- Funding the installation of a Capital Bikeshare station within the NoMa Green Park or fund the expansion of the existing station located at Q Street and Eckington Place, NE.
- Implementing the TDM plan detailed in the body of the report, which includes establishing TDM leaders, providing transit information and an electronic message screen in each residential lobby, unbundling the parking from leasing costs, car-sharing parking spaces, bicycle parking and a bicycle maintenance facility.

Specific mitigations for Phase A:

- Coordinating with DDOT on the public space elements along Eckington Place, including aligning them with the anticipated implementation of the Livability project's recommendations.
- Implementing building specific TDM measures, such as constructing long and short term bicycle parking meeting the ZRR requirements.

Specific mitigations for Phase B:

- Coordinating on and constructing pedestrian crossing where the private alley/promenade intersections Harry Thomas Way, with the planned NoMa Green. The exact design of the crossing will be determined through the public space process, but it is anticipated to include curb extensions and high visibility signing and marking.
- Implementing building specific TDM measures, such as constructing long and short term bicycle parking meeting the ZRR requirements.