# GOVERNMENT OF THE DISTRICT OF COLUMBIA
## DEPARTMENT OF TRANSPORTATION

**d. Planning and Sustainability Division**

**MEMORANDUM**

**TO:** Sara Bardin
Director, Office of Zoning

**FROM:** Jim Sebastian
Associate Director

**DATE:** July 16, 2018

**SUBJECT:** ZC Case No. 08-07C – Reunion Square Building 4

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### PROJECT SUMMARY

Four Points, LLC (the "Applicant") proposes a Second Stage Planned Unit Development (PUD) in accordance with the First Stage PUD, approved in 2013 (ZC 08-07) and vested under the 1958 Zoning Regulations (ZR58), to construct an office building. This application is for Building 4 of the larger mixed-use Reunion Square development, which is located west of Shannon Street SE, east of Railroad Avenue, north of Chicago Street, and south of W Street. Building #4 is proposed with the following development program:

- 280,000 SF office;
- 8,000 SF retail;
- 460 vehicle parking spaces (136 of which are tandem spaces);
- 82 long-term and 10 short-term bicycle parking spaces; and
- Three (3) 30-foot loading berths.

### SUMMARY OF DDOT REVIEW

The District Department of Transportation (DDOT) is committed to achieving an exceptional quality of life in the nation's capital by encouraging sustainable travel practices, constructing safer streets, and providing outstanding access to goods and services. As one means to achieve this vision, DDOT works through the zoning process to ensure that impacts from new developments are manageable within, and take advantage of, the District's multimodal transportation network.

The purpose of DDOT's review is to assess the potential safety and capacity impacts of the proposed action on the District's transportation network and, as necessary, propose mitigations that are

commensurate with the action. After an extensive review of the case materials submitted by the Applicant, DDOT finds:

**Site Design**

- The proposed density, design, and development program of Building 4 is consistent with the 2013 First Stage PUD approval. Minor changes to the locations of the parking garage entrance and loading berths are proposed;
- The Applicant is proposing to close all existing curb cuts on Shannon Place, W Street, and Railroad Avenue and will introduce two (2) new curb cuts on Railroad Avenue (one for each of the loading and parking garage entrances). This represents a net reduction of three (3) curb cuts serving Building 4;
- A 79 ½-foot curb cut is proposed on Railroad Avenue to serve the parking garage and loading area. Per the DDOT Design and Engineering Manual (DEM) the curb cut should be a maximum of 24 feet wide with a 12-foot pedestrian refuge between the two entrances;
- ZR58 requires 488 vehicle parking spaces while ZR16 only requires 73 spaces due to the site's proximity to the Anacostia Metrorail Station. The Applicant is proposing 460 spaces (324 zoning-compliant and 136 tandem);
- 26 bicycle parking spaces are shown on the plan set, as required by ZR58, while the CTR states that 92 spaces (82 long-term and 10 short-term) will be provided to meet ZR16. The Applicant's plan set should be revised to reflect 92 spaces.
- 10 short-term bicycle parking spaces can be accommodated by installing five (5) inverted U-racks in public space near the retail and office entrances;
- Bicycle storage rooms, showers, and lockers are not currently shown on the plan set. The CTR states that six (6) showers, 49 lockers, and storage rooms will be provided in Building 4 to meet ZR16 requirements. These should be shown on the plan set and stated in the final TDM plan;
- The Applicant requests relief from one (1) delivery space and one (1) berth under ZR58 requirements and proposes all loading and trash pick-up activities will occur via three (3) 30-foot berths on the Railroad Avenue side of the building;
- The Applicant proposes to widen W Street from a 50-foot right-of-way (ROW) to 70-feet, with the additional 20-feet of space coming from the Applicant's private property on the south side of W Street;
- No electric vehicle charging stations or carsharing spaces are proposed, but DDOT suggests the Applicant consider providing nine (9) electric vehicle charging stations (1 per 50 spaces).

**Travel Assumptions**

- The Applicant utilized sound methodology and assumptions to perform the analysis in the Comprehensive Transportation Review (CTR) study which also took into account the cumulative impacts of future Second Stage PUD applications for Buildings 5, 8, and 9;
- The CTR also took into account traffic generated at full build-out of the yet-to-be constructed Poplar Point, Barry Farm, MLK Gateway, and Maple View Flats developments;
- Building 4 is located approximately ¼ mile from Anacostia Metrorail station and immediately adjacent to the future Shepherd Branch Trail;

- The combination of Buildings 4, 5, 8, and 9 is expected to generate a moderate number of vehicle trips (224-272 trips) and transit trips (221-275 trips) and a minor amount of walking and bicycling trips during the weekday and Saturday peak hours. Building 4, is expected to generate the largest share of those trips given the type of land use (office rather than residential) and intensity of development proposed.

**Analysis**

- 460 vehicle parking spaces are proposed. Since the site is ¼ mile walking distance to a Metrorail Station, DDOT would expect an office/retail building of this size to provide approximately 175 to 200 spaces;
- Providing additional vehicle parking encourages driving and discourages walking, bicycling, and riding transit. To offset these potential impacts, additional strategies in the TDM Plan and improvements to pedestrian and bicycle facilities should be provided (see below);
- The widened portion of W Street should be provided within a public access easement. When Building 2 is constructed one block to the east, the curb line adjacent to that building should also be moved to match the new curb line adjacent to Building 4;
- DDOT estimates that the removal of three (3) curb cuts on Shannon Place and W Street would restore approximately five (5) to eight (8) on-street vehicle parking spaces;
- The Martin Luther King Jr. Avenue SE and South Capitol Street Great Streets Initiative recommends bulb-outs be installed along the eastern side of Martin Luther King Jr. Avenue where on-street parking is located to improve pedestrian safety;
- Railroad Avenue SE is classified as a street and should not be treated like an alley. As such, the street should be designed with sidewalks, trees, and curbs;
- The Applicant is proposing a Loading Management Plan (LMP), as discussed in greater detail later in this report, to mitigate back-in loading and to address the requested relief from one (1) delivery space and one (1) berth. DDOT finds the proposed LMP acceptable for Building 4;
- An inventory of existing curbside signage and a proposed curbside management plan was not included in the CTR, as is always required by DDOT with PUD applications. This supplemental information should be provided to DDOT during permitting;
- The CTR identified degradation in Level of Service (LOS) to LOS E or F at six (6) intersections along Martin Luther King Jr Avenue SE due to the addition of site-generated traffic;
- To help mitigate vehicular impacts, the CTR recommends installing a traffic signal at the intersection of Martin Luther King Jr Avenue and Shannon Place and retiming traffic signals along the corridor;
- DDOT does not concur that a signal should be installed at Shannon Place and Martin Luther King Jr Avenue because it is located only 240 feet south of the signal at Good Hope Road which provides only 150 feet of stacking space between intersections, which does not meet DDOT's minimum standard of 300 feet of separation between signals;
- The Applicant should consider converting the Shannon Place intersection to right-in/right-out access and route the majority of inbound and outbound vehicles at the existing signalized W Street entrance;

- In lieu of the CTR's recommended signal timing and cycle length adjustments, which cannot be done in isolation within the larger Martin Luther King Jr Avenue corridor, the Applicant should implement additional TDM strategies and improvements to pedestrian and bicycle facilities;
- The TDM plan proposed in the June 11, 2018 CTR is not sufficiently robust to encourage non-auto travel, and mitigate vehicular impacts to the transportation network. As previously mentioned, DDOT recommends the inclusion of additional TDM measures (see below).

**Conditions**

DDOT has no objection to approval of the Second Stage PUD with the following revisions and conditions included in the Zoning Order:

- Fund and construct the widened portion of W Street SE between Shannon Place and Railroad Avenue, as proposed by the Applicant and shown on the plan set. This approximately 20-foot strip along the northern portion of private property intended to serve as the new pedestrian realm and widened vehicle cart path on W Street should be constructed to DDOT standards and be provided within a public access easement. The easement must be recorded with the Office of the Surveyor;
- Upgrade Railroad Avenue SE between Chicago Street and W Street to include a curb on the west side and a row of street trees. Work with DDOT to determine the ultimate cross-section of Railroad Avenue and which side of the street the row of trees will be installed;
- In lieu of the proposed traffic signal at Martin Luther King Jr Avenue and Shannon Place, the Applicant should fund and construct the following pedestrian network improvements in the vicinity of the site to offset vehicular impacts to the transportation network and encourage non-automotive travel:
    - Bulb-outs on the east side of Martin Luther King Jr Avenue at Morris Road, Maple View Place, Pleasant Street, W Street, V Street and U Street, consistent with the recommendations of the Great Streets Initiative; and
    - A 6-foot sidewalk along the north side of Talbert Street SE between Shannon Place and the public alley.
- Implement the Loading Management Plan (LMP), for the life of the project, as proposed by the Applicant in the June 11, 2018 CTR (see later in this report);
- Implement the Transportation Demand Management (TDM) Plan as proposed by the Applicant in the June 11, 2018 CTR, for the life of the project, unless otherwise noted, with the following additions and minors revisions:
    - Clarify in TDM Plan: Specify a minimum of six (6) showers, 49 lockers, 82 long-term and 10 short-term bicycle spaces will be provided at Building 4 to meet ZR16 requirements;
    - Clarify in TDM Plan: Provide TDM leader contact information to DDOT and report TDM efforts and amenities to goDCgo staff once per year. Will also notify goDCgo staff each time a new office tenant moves in;
    - Add to TDM Plan: Unbundle the cost of retail and office parking from the cost of lease or purchase, and only offer hourly, daily, or weekly rates. Monthly, annually, and discounted parking rates will not be offered;

- Add to TDM Plan: Retail and office tenants with 20 or more employees will demonstrate compliance with the DC Commuter Benefits Law and participate in one of the three transportation benefits outlined in the law (employee-paid pre-tax benefit, employer-paid direct benefit, or shuttle service);
- Add to TDM Plan: Post all TDM commitments online, publicize availability, and allow the public to see what commitments have been promised;
- Add to TDM Plan: Fund and install a 19-dock Capital Bikeshare station within the Reunion Square development and provide funding for one year of maintenance and operations;
- Add to TDM Plan: Fund and install the expansions of three nearby existing Capital bikeshare stations to 19 docks (Pleasant Street, Shannon Place, and Good Hope Road); and
- Add to TDM Plan: Dedicate two (2) parking spaces within the garage for car-share services. If a car-share provider chooses not to locate vehicles in those spaces, then an alternate TDM strategy should be implemented.

- The portion of the sidewalk along the western side of Shannon Place SE proposed on private property should be provided within a public access easement to be recorded with the Office of the Surveyor.

**Continued Coordination**

Given the complexity and size of the action, the Applicant is expected to continue to work with DDOT on the following matters outside of the zoning process:

- Provide a detailed curbside management and signage plan, assumed to include multi-space meter installation at the Applicant's expense, consistent with current DDOT policies;
- Public space, including curb and gutter, street trees and landscaping, street lights, sidewalks, curb ramps, and other features within the public rights of way, are expected to be designed and built to DDOT standards;
- The Applicant will be required to obtain public space permits for all elements of the project shown in public space. The following issues with the current public space design should be coordinated with DDOT as the Applicant pursues public space permits:
  - DDOT concurs with the removal of three (3) curb cuts along Shannon Place and W Street SE;
  - Remove unused curb cut on Railroad Avenue just south of the Building 4 property;
  - The proposed 79 ½-foot curb cut to the loading area and parking garage on Railroad Avenue is wider than DDOT standards;
  - All vaults are expected to be located on private property;
  - Loading area must be separated from the parking garage driveway by at least 12 feet;
  - Install curbs on the west side of Railroad Avenue;
  - Install one row of street trees along Railroad Avenue between Chicago Street and W Street on either the east or west side. If on the east side, then the curb must be moved at least 4 feet to fit tree boxes;

  - The sidewalk jogs on Shannon Place south of the retail portion of the building. The courtyard feature should be moved back a minimum of 3 feet to accommodate a straight sidewalk and additional street trees installed where missing;
  - Determine final locations for the short-term bicycle spaces (inverted U-racks) in the 'furniture zone' within public space near the retail entrances;
  - All building entrances should be at-grade with no stairs or ramps in public space;
  - Doors are currently shown swinging into the pedestrian realm along both Shannon Place and W Street. Doors should be recessed into the building to ensure a continuous 6-foot wide pedestrian clear zone; and
  - Do not preclude future bicycle and pedestrian connections to the Shepherd Branch Trail at either Chicago Street or W Street SE.
- It is recommended that the Applicant participate in a Preliminary Design Review Meeting (PDRM) with the Office of Planning and DDOT to resolve the public space issues noted above;
- Coordinate with DDOT's Project Review Team, Transportation Safety and Operations Division (TOSD), and Traffic Engineering and Signals Division (TESD) regarding the proposed and recommended pedestrian improvements and roadway changes;
- Coordinate with DDOT's Capital Bikeshare Team regarding the location of a new bikeshare station as well as expansion of the three existing stations;
- Coordinate with DDOT's Active Transportation Branch regarding the future Shepherd Branch Trail and any connections from the Reunion Square development; and
- Coordinate with DDOT's Urban Forestry Division (UFD) and the Ward 8 arborist regarding the preservation and protection of existing small street trees, as well as the planting of new street trees, in bioretention facilities or a typical expanded tree planting space.

**TRANSPORTATION ANALYSIS**

DDOT requires applicants requesting an action from the Zoning Commission complete a Comprehensive Transportation Review (CTR) in order to determine the action's impact on the overall transportation network. Accordingly, an applicant is expected to show the existing conditions for each transportation mode affected, the proposed impact on the respective network, and any proposed mitigations, along with the effects of the mitigations on other travel modes. A CTR should be performed according to DDOT direction. The Applicant and DDOT coordinated on an agreed-upon scope for the CTR that is consistent with the scale of the action.

The review of the analysis is divided into four categories: site design, travel assumptions, analysis, and mitigations. The following review provided by DDOT evaluates the Applicant's June 11, 2018 CTR, prepared by Gorove/Slade Associates, to determine its accuracy and assess the action's consistency with the District's vision for a cohesive, sustainable transportation system that delivers safe and convenient ways to move people and goods, while protecting and enhancing the natural, environmental, and cultural resources of the District.

## Site Design

Site design, which includes site access, loading, and public realm design, plays a critical role in determining a proposed action's impact on the District's infrastructure. While transportation impacts can change over time, the site design will remain constant throughout the lifespan of the proposed development, making site design a critical aspect of DDOT's development review process. Accordingly, new developments must provide a safe and welcoming pedestrian experience, enhance the public realm, and serve as positive additions to the community.

### Site Access

The parking garage entrance and loading facilities are proposed from Railroad Avenue SE which is a 30-foot wide street located at the rear of Building 4. Pedestrian entrances for both office and retail uses are located on W Street and Shannon Place. The Applicant is proposing to close a net total of three (3) existing curb cuts on W Street and Shannon Place. Additionally, two (2) existing curb cuts will be closed and relocated on Railroad Avenue. Figure 1 below shows the site layout of Building 4.

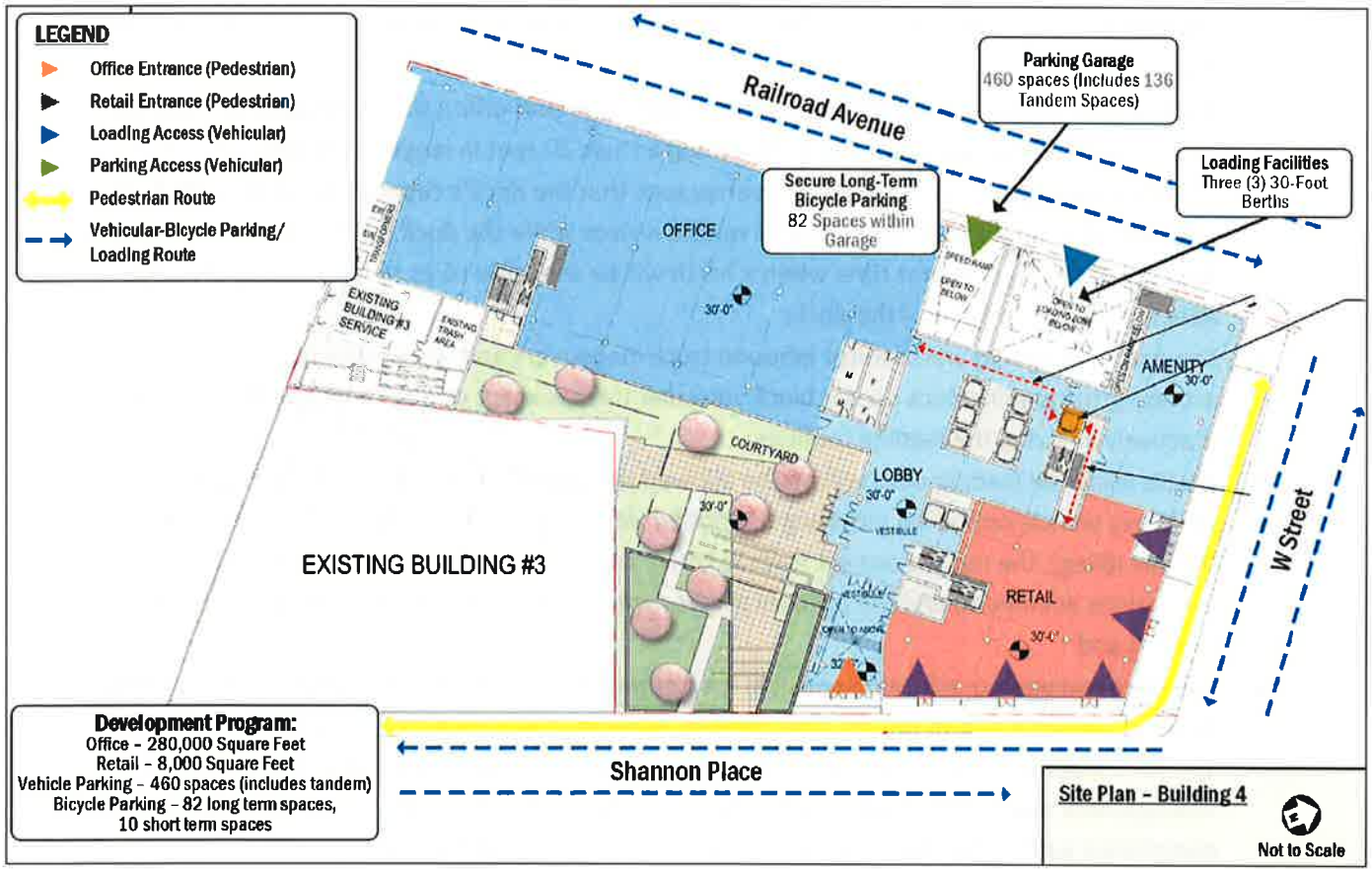


**Figure 1 – Site Access and Circulation (Source: CTR, Gorove/Slade, Figure 8, 6/11/18)**

### Loading

DDOT's practice is to accommodate vehicle loading in a safe and efficient manner, while at the same time preserving safety across non-vehicle modes and limiting any hindrance to traffic operations. For new developments, DDOT requires that loading take place in private space and that no back-up maneuvers occur in the public realm.

Since the First Stage PUD was approved under the 1958 Zoning Regulations (ZR58), Building 4 is subject to those requirements. Per the Applicant's tabulations, ZR58 requires a total of four (4) berths and one (1) delivery space for the sizes and types of land uses proposed. The Applicant is proposing to provide three (3) 30-foot loading berths and zero (0) delivery spaces. DDOT finds the requested relief from one (1) berth and one (1) delivery space acceptable. However, as currently designed, the site would require trucks to back through public space on Railroad Avenue, which does not meet DDOT standards. Since Railroad Avenue is along the rear of the building and a low volume street, DDOT finds the loading design acceptable so long as the curb cuts meet DDOT standards, a quality streetscape is installed on Railroad Avenue, and a Loading Management Plan (LMP) is implemented.

As noted above, the Applicant should commit to implementing the following LMP as proposed in the June 11, 2018 Gorove/Slade Comprehensive Transportation Review (CTR) study:

- A loading dock manager will be designated by the retail tenants. The dock manager will coordinate with vendors and tenants to schedule deliveries and will be on duty during delivery hours;
- All retail tenants will be required to schedule deliveries that utilize the loading docks – defined here as any loading operation conducted using a truck 20-feet in length or larger;
- The dock manager(s) will schedule deliveries such that the dock's capacity is not exceeded. In the event that an unscheduled delivery vehicle arrives while the dock is full, that driver will be directed to return at a later time when a berth will be available so as to not impede the drive aisle that passes in front of the dock;
- The dock manager(s) will monitor inbound truck maneuvers and will ensure that trucks accessing the loading dock do not block vehicular traffic except during those times when a truck is actively entering the loading facilities;
- Trucks using the loading dock will not be allowed to idle and must follow all District guidelines for heavy vehicle operation including but not limited to DCMR 20 – Chapter 9, Section 900 (Engine Idling), the regulations set forth in DDOT's Freight Management and Commercial Vehicle Operations document, and the primary access routes listed in the DDOT Truck and Bus Route system; and
- The dock manager(s) will be responsible for disseminating suggested truck routing maps to the building's tenants and to drivers from delivery services that frequently utilize the loading dock. The dock manager(s) will also distribute flyers and materials such as DDOT's Freight Management and Commercial Vehicle Operations document to drivers as needed to encourage compliance with idling laws. The dock manager(s) will also post these documents in a prominent location within the service area.

Streetscape and Public Realm

In line with District policy and practice, any substantial new building development or renovation is expected to rehabilitate streetscape infrastructure between the curb and the property lines. This includes curb and gutters, street trees and landscaping, street lights, sidewalks, and other appropriate features within the public rights of way bordering the site.

The Applicant must work closely with DDOT and the Office of Planning (OP) to ensure that the design of the public realm meets current standards and will substantially upgrade the appearance and functionality of the streetscape for public users needing to access the property or circulate around it. In conjunction with Titles 11, 12A, and 24 of the DCMR, DDOT's recently released 2017 version of the *Design and Engineering Manual (DEM)* and DDOT's *Public Realm Design Manual* will serve as the main public realm references for the Applicant. Public space designs will be reviewed in further detail during the public space permitting process. DDOT staff will be available to provide additional guidance during these processes.

While the preliminary public space plans are generally consistent with DDOT standards, as shown in Figure 2 below, there are several considerations that need to be incorporated and items to be reviewed in greater detail during the public space permitting process:

- DDOT concurs with the removal of three (3) curb cuts along Shannon Place and W Street SE;
- Remove unused curb cut on Railroad Avenue just south of the Building 4 property;
- The proposed 79 ½-foot curb cut to the loading area and parking garage on Railroad Avenue is wider than DDOT standards;
- All vaults are expected to be located on private property;
- Loading area must be separated from the parking garage driveway by at least 12 feet;
- Install curbs on the west side of Railroad Avenue;
- Install one row of street trees along Railroad Avenue between Chicago Street and W Street on either the east or west side. If on the east side, then the curb must be moved at least 4 feet to fit tree boxes;
- The sidewalk jogs on Shannon Place south of the retail portion of the building. The courtyard feature should be moved back a minimum of 3 feet to accommodate a straight sidewalk and additional street trees installed where missing;
- Determine final locations for the short-term bicycle spaces (inverted U-racks) in the 'furniture zone' within public space near the retail entrances;
- All building entrances should be at-grade with no stairs or ramps in public space;
- Doors are currently shown swinging into the pedestrian realm along both Shannon Place and W Street. Doors should be recessed into the building to ensure a continuous 6-foot wide pedestrian clear zone; and
- Do not preclude future bicycle and pedestrian connections to the Shepherd Branch Trail at either Chicago Street or W Street SE.

DDOT encourages the Applicant to participate in a Preliminary Design Review Meeting (PDRM) to address design related issues raised by DDOT and OP.


**Figure 2 – Public Space Concept (Source: Applicant Plan Set, Page L-01, 7/6/18)**

## Heritage Trees

Heritage Trees are defined as a tree with a circumference of 100 inches or more and are protected by the Tree Canopy Protection Amendment Act of 2016. With approval by the Mayor and DDOT's Urban Forestry Division (UFD), Heritage Trees might be permitted to be relocated. As such, the Applicant may be required to redesign the site plan in order to preserve the Non-Hazardous Heritage Trees. UFD did not identify any Heritage Trees or Special Trees on-site and recommends that the Applicant coordinate with the Ward 8 arborist regarding the preservation and protection of existing small street trees, as well as the planting of new street trees, in bioretention facilities or a typical expanded tree planting space.

## Sustainable Transportation Elements

Sustainable transportation measures target to promote environmentally responsible types of transportation in addition to the transportation mode shift efforts of TDM programs. These measures can range anywhere from practical implementations that would promote use of vehicles powered by alternative fuels to more comprehensive concepts such as improving pedestrian access to transit in order to increase potential use of alternative modes of transportation. Within the context of DDOT's development review process, the objective to encourage incorporation of sustainable transportation

elements into the development proposals is to introduce opportunities for improved environmental quality (air, noise, health, etc.) by targeting emission-based impacts.

The Applicant is not proposing to provide any electric vehicle charging stations which are common with PUD applications. DDOT recommends the site provide at least one (1) electric vehicle charging station on-site for every 50 vehicle parking spaces for a total of nine (9) in the parking garage.

## Travel Assumptions

The purpose of the CTR is to inform DDOT's review of a proposed action's impacts on the District's transportation network. To that end, selecting reasonable and defensible travel assumptions is critical to developing a realistic analysis.

Background Developments and Regional Growth

As part of the analysis of future conditions, DDOT requires applicants to account for future growth in traffic on the network or what is referred to as background growth. The Applicant coordinated with DDOT on the appropriate background developments to include in the analysis. Traffic from four (4) specific nearby projects (MLK Gateway, Maple View Flats, Poplar Point, and Barry Farm) were taken into account as background developments anticipated to be constructed by 2021. To present the most conservative estimate (highest potential amount) of background traffic, the CTR assumed full build-out of the background developments.

DDOT requires applicants account for regional growth through the build-out year of 2021. This can be done by assuming a general growth rate or by evaluating growth patterns forecast in MWCOG's regional travel demand model. The Applicant coordinated with DDOT on an appropriate measure to account for regional growth that accurately accounted for background growth on the network. Annually compounding background regional growth rates of between 0.10% and 1.00 % were assumed in the study area, differing based on roadway and peak hour.

DDOT also requires applicants to consider future changes to the roadway network. It was determined in coordination with DDOT staff that the no major changes to the local transportation network would occur prior to the project build-out year of 2021.

Vehicle Parking

The overall parking demand created by the development is primarily a function of land use, development square footage, price, and supply of parking spaces. However in urban areas, other factors contribute to the demand for parking, such as the availability of high quality transit, frequency of transit service, proximity to transit, connectivity of bicycle and pedestrian facilities within the vicinity of the development, and the demographic composition and other characteristics of the potential residents.

The Applicant is proposing to provide 460 vehicle parking spaces (324 zoning-compliant and 136 tandem), which is similar to the ZR58 requirements but significantly more than the 73 spaces required by ZR16. Based on the ¼ mile walking distance to the Anacostia Metrorail Station, DDOT would expect an office/retail building of this size to provide approximately 175 to 200 spaces. Providing additional

vehicle parking encourages driving an automobile and discourages walking, bicycling, and riding transit. The Applicant should instead include additional strategies in the proposed Transportation Demand Management (TDM) Plan, as well as make physical improvements to the pedestrian network to offset the potential impacts from extra available vehicle parking (see Mitigations section).

Trip Generation

Each trip a person makes is made by a certain means of travel, such as vehicle, bicycle, walking, and transit. The means of travel is referred to as a 'mode' of transportation. A variety of elements impact the mode of travel, including density of development, diversity of land use, design of the public realm, proximity to transit options, availability and cost of vehicle parking, among many others.

The Applicant provided trip generation estimates by utilizing the rates published in the Institute of Transportation Engineers (ITE) *Trip Generation Manual, 10th Edition* (Land Use Code 221 Mid-Rise Multi-Family Housing, Code 820 Shopping Center, Code 310 Hotel, and Code 710 General Office) and the assumed mode split to convert base vehicular trips to base person trips using average auto occupancy data and then back to vehicular, transit, bicycle, and pedestrian trips. It is noted that the CTR did not document the trip generation associated with Building 4 alone. Instead, the trip generation estimates for the entirety of Buildings 4, 5, 8, and 9 were calculated and utilized to evaluate the cumulative impacts of all four buildings adjacent to each other. DDOT finds these methods appropriate.

Mode split assumptions used in the subject analysis were informed by the Census, WMATA's 2005 Development-Related Readership Survey, and mode splits used for nearby developments. Figure 3 below shows the mode splits that were assumed for this proposal.

| Land Use | Mode | | | |
|---|---|---|---|---|
| | Auto | Transit | Bike | Walk |
| Residential | 45% | 45% | 3% | 7% |
| Retail | 40% | 40% | 3% | 17% |
| Office | 50% | 40% | 0% | 10% |
| Hotel | 55% | 25% | 3% | 17% |

**Figure 3 – Mode Split Assumptions (Source: CTR, Gorove/Slade, Table 5, 6/11/18)**

Based on the trip generation and mode split assumptions, Figure 4 shows the predicted number of weekday peak hour trips generated by mode for the combination of Buildings 4, 5, 8 and 9:

| Mode | AM Peak Hour | | | PM Peak Hour | | | Saturday Peak Hour | | |
|---|---|---|---|---|---|---|---|---|---|
| | In | Out | Total | In | Out | Total | In | Out | Total |
| Auto (vehicles/hour) | 182 | 56 | 238 | 78 | 194 | 272 | 121 | 103 | 224 |
| Transit (people/hour) | 167 | 54 | 221 | 85 | 190 | 275 | 124 | 109 | 233 |
| Bike (people/hour) | 3 | 2 | 5 | 6 | 5 | 11 | 8 | 7 | 15 |
| Walk (people/hour) | 48 | 17 | 65 | 30 | 57 | 87 | 49 | 42 | 91 |

**Figure 4 – Trip Generation Summary (Source: CTR, Gorove/Slade, Table 6, 6/11/18)**

The proposed project (all four buildings) is expected to generate a moderate number of vehicle trips (224-272 trips) and transit trips (221-275 trips) and a minor amount of walking and bicycling trips during the weekday and Saturday peak hours.

Study Area and Data Collection

The Applicant in conjunction with DDOT identified 12 existing intersections where detailed vehicle counts would be collected and a level of service analysis would be performed. These intersections are immediately adjacent to the site and include intersections radially outward from the site with the greatest potential to see impacts in vehicle delay. DDOT acknowledges that not all affected intersections are included in the study area and there will be intersections outside of the study area which would realize new trips. However, DDOT expects minimal to no increase in delay outside the study area as a result of the proposed action.

The Applicant collected weekday intersection traffic count data on Wednesday, April 18, 2018 between 6:30 AM-9:30 AM and 4:00 PM-7:00 PM while District of Columbia Public Schools and Congress were in session. DDOT is in agreement with the data collection time frames and dates.

## Analysis

To determine the PUD's impacts on the transportation network, the Applicant completed a Comprehensive Transportation Review (CTR), prepared by Gorove/Slade, dated June 11, 2018 which includes an extensive multi-modal analysis of existing conditions (2018 Existing), future with no development (2021 Background), future conditions with development (2021 Future), and 2021 Future with Mitigations scenarios.

Roadway Capacity and Operations

DDOT aims to provide a safe and efficient roadway network that provides for the timely movement of people, goods and services. As part of the evaluation of travel demand generated by the site, DDOT requests analysis of traffic conditions for the agreed upon study intersections for the current year and after the facility opens both with and without the site development or any transportation changes.

The following table (Figure 5) summarizes the results of the Applicant's capacity analysis and demonstrates the impacts on delay and level of service of the proposed mitigation measures.

| Intersection | Approach | Future Without Development Conditions (2021) | | | | Future With Development Conditions (2021) | | | | Future With Development Conditions (2021), with Mitigations | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | | AM Peak Hour | | PM Peak Hour | |
| | | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS | Delay | LOS |
| MLK Avenue & Good Hope Road | Overall | 55.3 | E | 36.7 | D | 54.8 | D | 46.8 | D | -- | -- | 41.5 | D |
| | Eastbound | 31.4 | C | 36.3 | D | 31.4 | C | 36.3 | D | -- | -- | 37.2 | D |
| | Westbound | 94.0 | F | 40.6 | D | 94.0 | F | 40.6 | D | -- | -- | 45.7 | D |
| | Northbound | 21.1 | C | 43.7 | D | 23.4 | C | 77.3 | E | -- | -- | 47.3 | D |
| | Southbound | 41.7 | D | 32.4 | C | 42.2 | D | 33.4 | C | -- | -- | 37.3 | D |
| MLK Avenue & Shannon Place | Eastbound | 49.4 | E | 0.0 | A | 99.2 | F | 505.6 | F | 47.8 | D | 53.0 | D |
| | Northbound | 0.1 | A | 0.2 | A | 0.1 | A | 0.2 | A | 3.4 | A | 4.3 | A |
| | Southbound | 0.0 | A | 0.0 | A | 0.0 | A | 0.0 | A | 0.9 | A | 3.1 | A |
| MLK Avenue & V Street/Parking Lot Entrance | Eastbound | 0.0 | A | 26.5 | D | 0.0 | A | 29.3 | D | 0.0 | A | 18.8 | C |
| | Westbound | 57.6 | F | 49.1 | E | 76.8 | F | 61.3 | F | 64.2 | F | 28.3 | D |
| | Northbound | 0.0 | A | 0.1 | A | 0.0 | A | 0.1 | A | 0.0 | A | 0.1 | A |
| | Southbound | 0.9 | A | 1.5 | A | 0.9 | A | 1.6 | A | 0.9 | A | 1.6 | A |
| MLK Avenue & V Street (South) | Eastbound | 23.9 | C | 40.1 | E | 34.5 | D | 59.2 | F | -- | -- | 35.6 | E |
| | Northbound | 0.1 | A | 0.4 | A | 0.1 | A | 0.4 | A | -- | -- | 0.4 | A |
| | Southbound | 0.0 | A | 0.0 | A | 0.0 | A | 0.0 | A | -- | -- | 0.0 | A |
| MLK Avenue & W Street | Overall | 6.1 | A | 11.0 | B | 7.0 | A | 13.9 | B | -- | -- | 10.9 | B |
| | Eastbound | 47.0 | D | 52.3 | D | 50.3 | D | 64.1 | E | -- | -- | 43.6 | D |
| | Northbound | 7.7 | A | 2.6 | A | 8.0 | A | 2.6 | A | -- | -- | 3.3 | A |
| | Southbound | 2.0 | A | 9.4 | A | 1.7 | A | 9.9 | A | -- | -- | 8.4 | A |
| MLK Avenue & Morris Road | Overall | 24.1 | C | 17.7 | B | 28.8 | C | 19.8 | B | 25.5 | C | 17.8 | B |
| | Westbound | 74.7 | E | 101.7 | F | 90.0 | F | 114.5 | F | 73.1 | E | 98.2 | F |
| | Northbound | 11.4 | B | 9.4 | A | 11.4 | B | 9.4 | A | 13.2 | B | 9.7 | A |
| | Southbound | 3.5 | A | 2.3 | A | 3.7 | A | 2.2 | A | 4.2 | A | 2.3 | A |

**Figure 5 – Vehicular Capacity Analysis (Source: CTR, Gorove/Slade, Table 12, 6/11/18)**

As shown above, the roadway capacity analysis provided in the CTR demonstrates that six (6) intersections along Martin Luther King Jr. Avenue SE, within the study area, have one or more approaches during at least one peak hour that either degrades to LOS E or LOS F conditions as a result of site traffic or is already operating at LOS E or LOS F and delay is worsened by site traffic by 5 percent or more. To help mitigate these impacts, the CTR recommends installing a traffic signal at the intersection of Martin Luther King Jr. Avenue and Shannon Place, as well as retiming a number of signals in the vicinity.

The proposed traffic signal at Shannon Place would only be 240 feet from Good Hope Road (and only provide 150 feet of stacking space), which does not meet DDOT's minimum standard of 300 feet separation between signals. Additionally, signal timing or cycle length adjustments are not appropriate

as an isolated traffic mitigation solution in conjunction with a development project because an entire corridor would need to be re-timed. In lieu of installing a traffic signal or retiming existing signals, the Applicant should instead focus on upgrading pedestrian facilities (such as missing sidewalks and installing bulb-outs) and providing additional TDM measures to encourage traveling by non-auto modes to mitigate the traffic impacts to the intersections shown in Figure 5 above.

Transit Service

The District and Washington Metropolitan Area Transit Authority (WMATA) have partnered to provide extensive public transit service in the District of Columbia. DDOT's vision is to leverage this investment to increase the share of non-automotive travel modes so that economic development opportunities increase with minimal infrastructure investment.

Building 4 is proposed to be located approximately ¼ mile from the Anacostia Metrorail Station which is served by the Green Line. Trains serve the Metrorail station approximately every 8 minutes during weekday peak hours, 12 minutes during weekday non-peak times, and 12-20 minutes on weekends.

There are a number of bus stops in the vicinity of the site along Martin Luther King Jr Avenue SE. These stops are served by Metrobus routes 90, 92, A9, A33, B2, P6, V2, V5, W2, W3, W6, W8, and DC Circulator, as shown in Figure 6 below, with headways generally ranging between 10 and 40 minutes depending on route and time of day.

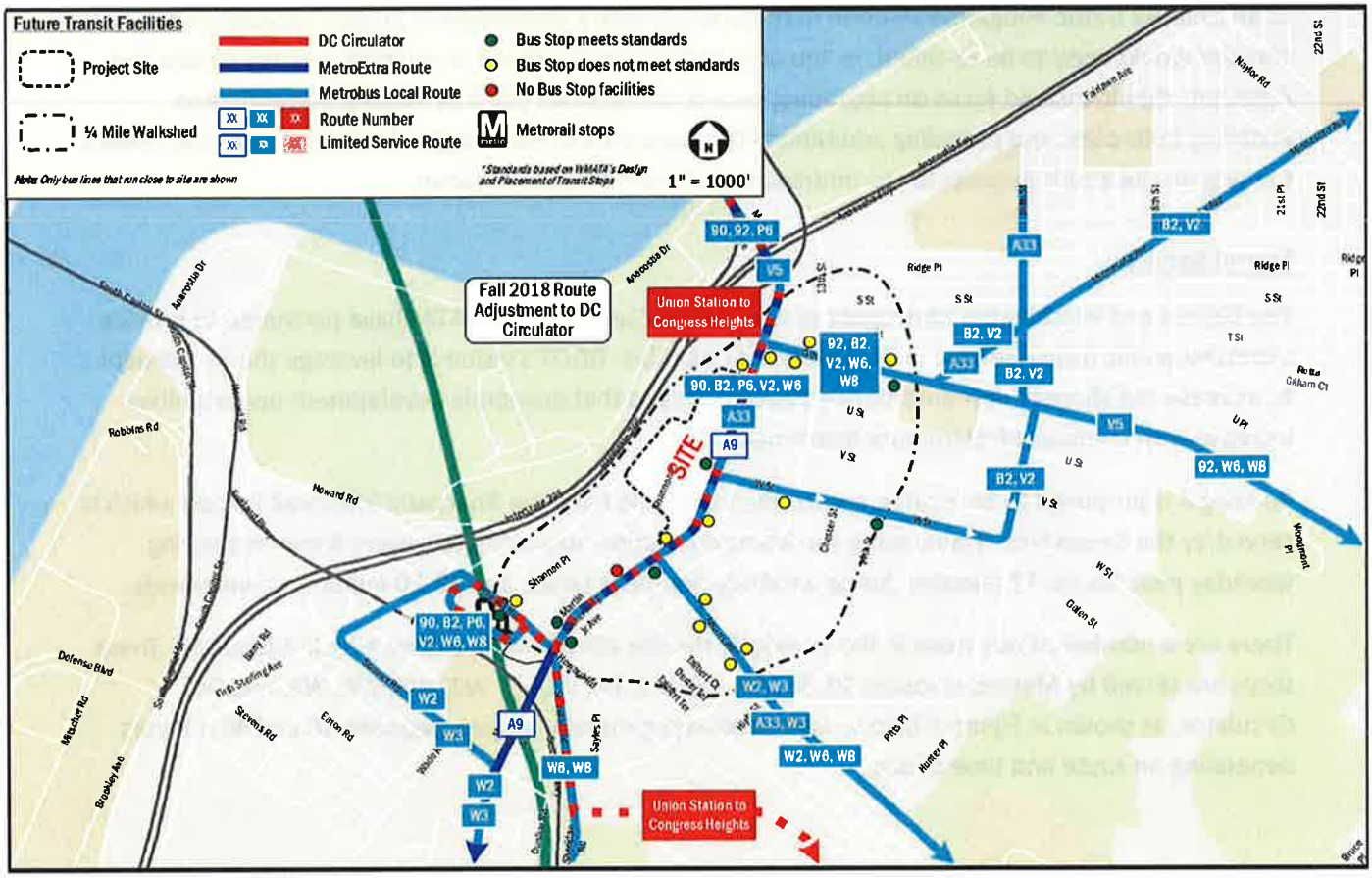


**Figure 6 – Transit Service w/Rerouted DC Circulator (Source: CTR, Gorove/Slade, Figure 24, 6/11/18)**

Pedestrian Facilities

The District is committed to enhancing pedestrian accessibility by ensuring consistent investment in pedestrian infrastructure on the part of both the public and private sectors. DDOT expects new developments to serve the needs of all trips they generate, including pedestrian trips. Walking is expected to be an important mode of transportation for this development.

The CTR's inventory of pedestrian infrastructure, as shown in Figure 7 below, demonstrates that most sidewalks and curb ramps in the vicinity of the site are currently consistent with DDOT standards. While there are a few missing or substandard segments of sidewalk and curb ramps in the broader area, the existing pedestrian network along major pathways to schools, attractions, and the Metrorail station is generally adequate. There is a missing link of sidewalk along the northern side of Talbert Street just to the south of the site. This segment of sidewalk should be constructed in conjunction with other improvements, as noted elsewhere in this report, to improve pedestrian connectivity in the study area and to offset traffic impacts from site generated traffic.

Additionally, the Martin Luther King Jr. Avenue SE corridor is planned as part of the Great Streets Initiative to have bulb-outs installed along the eastern side. These bulb-outs would short the crossing distances for pedestrians, better delineate on-street vehicle parking, and slow vehicles turning onto side streets. Bulb-outs should be installed at Morris Road SE, Maple View Place, Pleasant Street, W Street, V

Street and U Street to encourage walking to and from the site and to help mitigate the impacts from site-generated traffic.

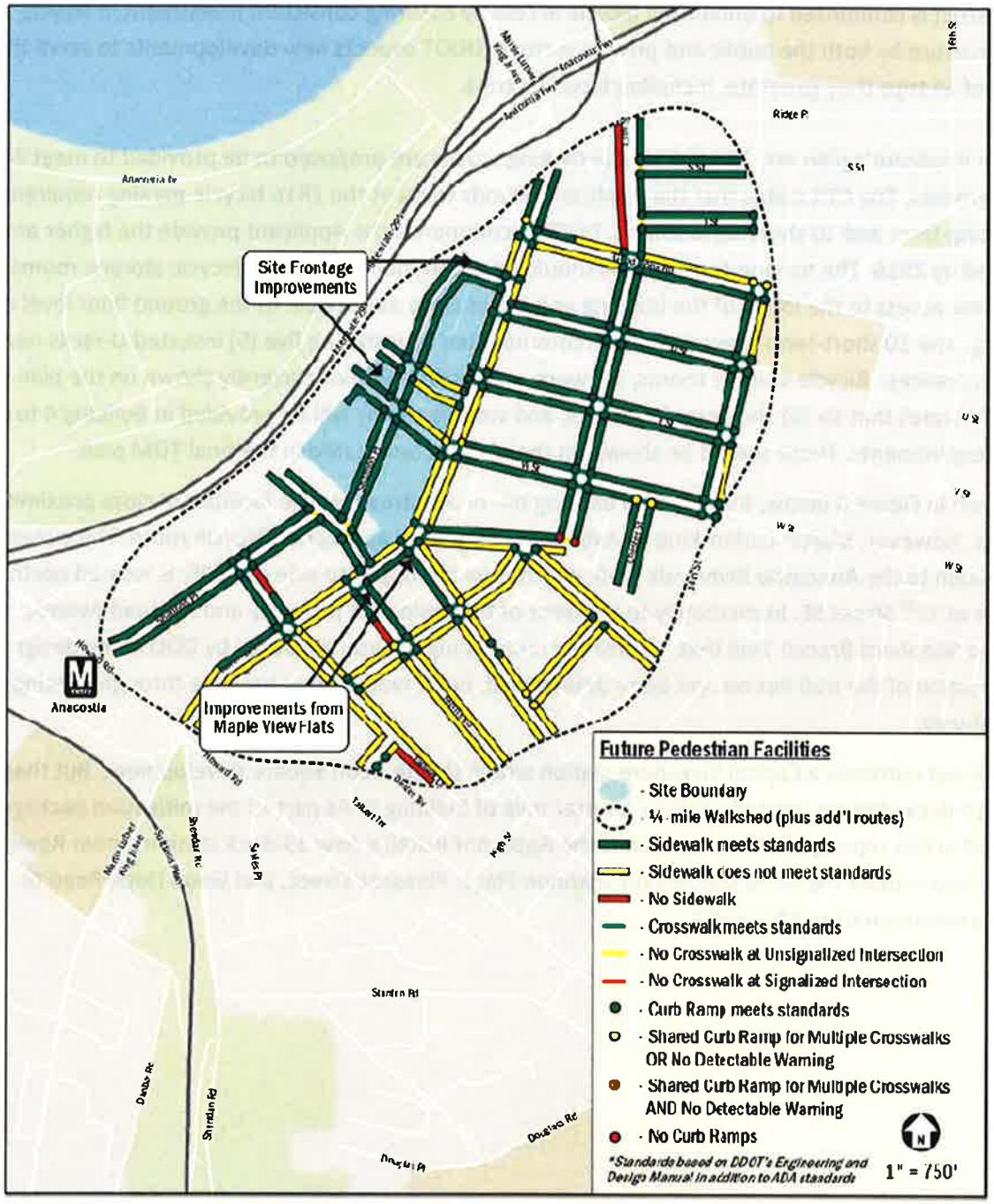


**Figure 7 – Expected Future Pedestrian Infrastructure (Source: CTR, Gorove/Slade, Figure 27, 6/11/18)**

Bicycle Facilities

The District is committed to enhancing bicycle access by ensuring consistent investment in bicycle infrastructure by both the public and private sectors. DDOT expects new developments to serve the needs of all trips they generate, including bicycling trips.

Per the Applicant's plan set, 26 total bicycle parking spaces are proposed to be provided to meet ZR58 requirements. The CTR states that the Applicant intends to meet the ZR16 bicycle parking requirements of 82 long-term and 10 short-term spaces. DDOT recommends the Applicant provide the higher amounts required by ZR16. The 82 long-term spaces should be accommodated within bicycle storage rooms that have easy access to the lobby of the building and are as close as possible to the ground floor level of the building. The 10 short-term spaces can be accommodated by installing five (5) inverted U-racks near the retail entrances. Bicycle storage rooms, showers, and lockers are not currently shown on the plan set. The CTR states that six (6) showers, 49 lockers, and storage rooms will be provided in Building 4 to meet ZR16 requirements. These should be shown on the plan set and stated in the final TDM plan.

As shown in Figure 8 below, there are no existing on- or off-street bicycle facilities in close proximity to the site. However, Martin Luther King Jr. Avenue is designated as a signed bicycle route. The closest connection to the Anacostia Riverwalk Trail, which is on the opposite side of I-295, is located north of the site at 11$^{th}$ Street SE. Immediately to the west of the Building 4 property and Railroad Avenue is the planned Shepherd Branch Trail that is currently undergoing a feasibility study by DDOT. The design and final location of the trail has not yet been determined, but it would likely traverse through existing CSX right-of-way.

There is not currently a Capital Bikeshare station within the Reunion Square development. But there are three 11-dock stations located within a quarter mile of Building 4. As part of the mitigation package outlined in this report, DDOT recommends the Applicant install a new 19-dock station within Reunion Square and expand the three stations on Shannon Place, Pleasant Street, and Good Hope Road to DDOT's minimum size of 19-docks.

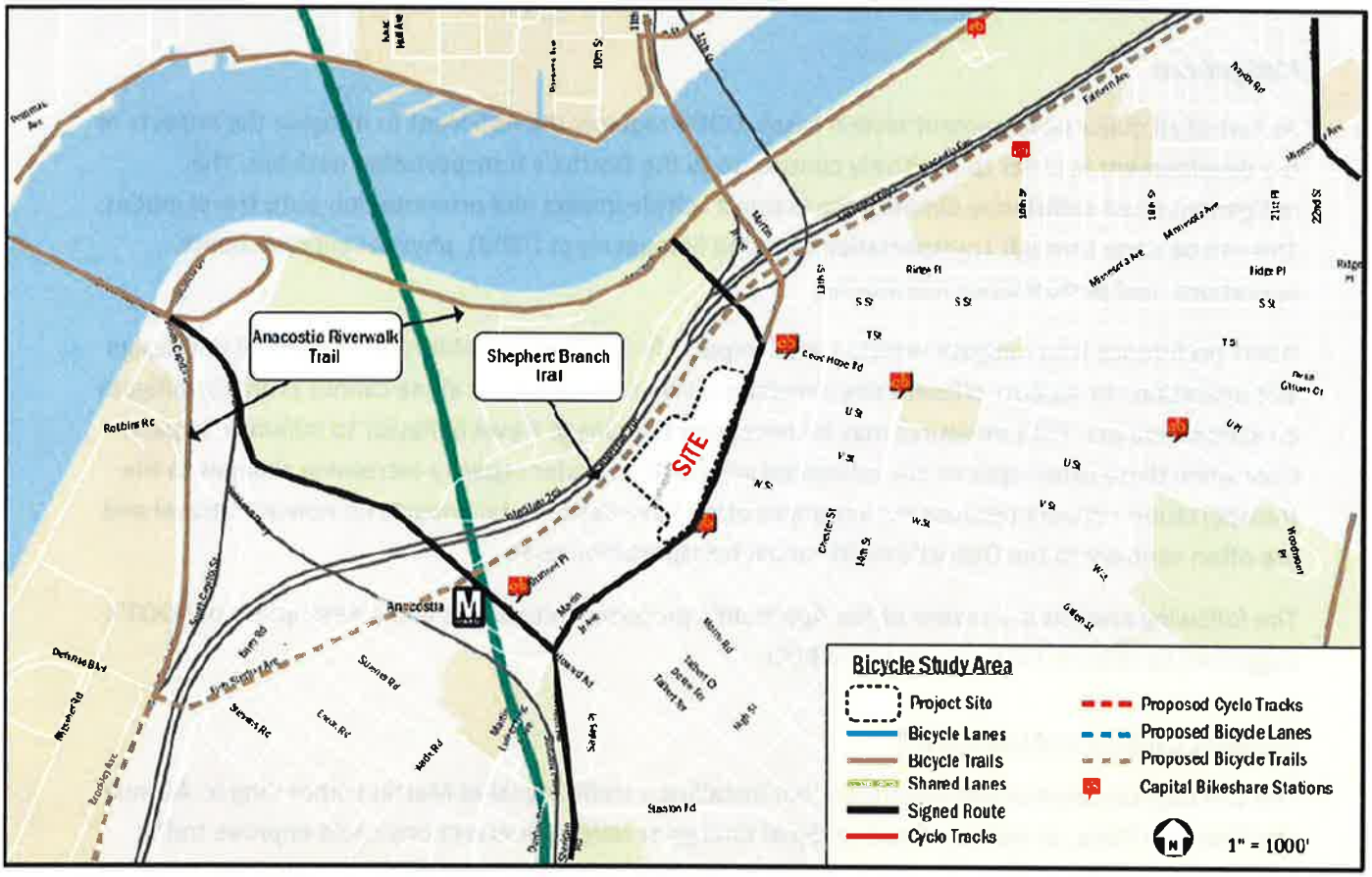


**Figure 8 – Existing and Proposed Bicycle Facilities (Source: CTR, Gorove/Slade, Figure 28, 6/11/18)**

Safety

DDOT requires that the Applicant conduct a safety analysis to demonstrate that the site will not create new, or exacerbate existing safety issues for all travel modes. DDOT asks for an evaluation of crashes at study area intersections as well as a site distance analysis along the public space where there is expected to be conflicts between competing modes (e.g. crosswalks, driveway entrances, etc.).

The CTR's analysis of DDOT crash data over a three-year period reveals that nine (9) of the 12 study intersections within the study area have a crash rate of 1.0 Million Entering Vehicles (MEV) or higher, which is the threshold for further design considerations. DDOT anticipates that the moderate amount of additional traffic (approximately 238 AM, 272 PM, and 224 Saturday peak hour trips) associated with the development could further negatively impact the MEV rates of study intersections. To mitigate the potential impacts to intersection crash rates and to improve general pedestrian safety, as previously recommended, the Applicant should fund and construct bulb-outs along the eastern side of Martin Luther King Jr. Avenue SE.

**Mitigations**

As part of all major development review cases, DDOT requires the Applicant to mitigate the impacts of the development in order to positively contribute to the District's transportation network. The mitigations must sufficiently diminish the action's vehicle impact and promote non-auto travel modes. This can be done through Transportation Demand Management (TDM), physical improvements, operations, and performance monitoring.

DDOT preference is to mitigate vehicle traffic impacts first through establishing an optimal site design and operations to support efficient site circulation. When these efforts alone cannot properly mitigate an action's impact, TDM measures may be necessary to manage travel behavior to minimize impact. Only when these other options are exhausted will DDOT consider capacity-increasing changes to the transportation network because such changes often have detrimental impacts on non-auto travel and are often contrary to the District's multi-modal transportation goals.

The following analysis is a review of the Applicant's proposed mitigations and a description of DDOT's suggested conditions for inclusion in the PUD:

Roadway Capacity and Operations

The CTR capacity analysis demonstrated that installing a traffic signal at Martin Luther King Jr. Avenue and Shannon Place, as well as adjusting signal timings at several intersections could improve traffic operations and Level of Service. These would necessitate installing a new signal at a distance closer than DDOT's minimum standard of 300 feet. DDOT typically does not make signal timing changes in conjunction with a land development project because it would require retiming the entire corridors of traffic signals. In lieu of a new traffic signal and signal timing adjustments, the Applicant should focus on implementing TDM strategies that reduce auto-mode share and encourage non-auto travel, as noted in the TDM section below, and maked the following upgrades to the pedestrian network:

- Bulb-outs on the east side of Martin Luther King Jr Avenue at Morris Road, Maple View Place, Pleasant Street, W Street, V Street and U Street, consistent with the recommendations of the Great Streets Initiative; and
- A 6-foot sidewalk along the north side of Talbert Street SE between Shannon Place and the public alley.

Transportation Demand Management (TDM)

As part of all major development review cases, DDOT requires the Applicant to produce a comprehensive Transportation Demand Management (TDM) plan to help mitigate an action's transportation impacts. TDM is a set of strategies, programs, services, and physical elements that influence travel behavior by mode, frequency, time, route, or trip length in order to help achieve highly efficient and sustainable use of transportation facilities. In the District, this typically means implementing infrastructure or programs to maximize the use of mass transit, bicycle and pedestrian

facilities, and reduce single occupancy vehicle trips during peak periods. The Applicant's proposed TDM measures play a role in achieving the desired and expected mode split.

The specific elements within the TDM plan vary depending on the land uses, site context, proximity to transit, scale of the development, and other factors. The TDM plan must help achieve the assumed trip generation rates to ensure that an action's impacts will be properly mitigated. Failure to provide a robust TDM plan could lead to unanticipated additional vehicle trips that could negatively impact the District's transportation network.

The Applicant proposes a TDM Plan in the June 11, 2018 CTR which includes the following elements:
*Overall Development*

- Identify TDM Leaders for planning, construction, and operations. The TDM Leaders will work with employees in the development to distribute and market various transportation alternatives and options;
- Work with DDOT and goDCgo (DDOT's TDM program) to implement TDM measures at the proposed development;
- Share the full contact information of the TDM coordinator for the proposed development with DDOT and goDCgo;
- Provide a bicycle repair station to be located in the secure long-term bicycle storage room;
- Meet ZR16 zoning requirements to provide bicycle parking facilities at the proposed development;
- Install a Transportation Information Center Display (electronic screen) within the lobby containing information related to local transportation alternatives;

*Retail/Office*

- Provide retail employees who wish to carpool with detailed carpooling information and will be referred to other carpool matching services sponsored by the Metropolitan Washington Council of Governments (MWCOG);
- Provide showers and changing facilities as required by ZR16 for employees.

DDOT finds the proposed TDM plan to be not sufficient for a development program of this size, land use mix, and number of vehicle parking spaces and recommends the following revisions be made to offset the impacts to the transportation network:

- Clarify in TDM Plan: Specify a minimum of six (6) showers, 49 lockers, 82 long-term and 10 short-term bicycle spaces will be provided at Building 4 to meet ZR16 requirements;
- Clarify in TDM Plan: Provide TDM leader contact information to DDOT and report TDM efforts and amenities to goDCgo staff once per year. Will also notify goDCgo staff each time a new office tenant moves in;
- Add to TDM Plan: Post all TDM commitments online, publicize availability, and allow the public to see what commitments have been promised;
- Add to TDM Plan: Unbundle the cost of retail and office parking from the cost of lease or purchase, and only offer hourly, daily, or weekly rates. Monthly, annually, and discounted parking rates will not be offered;

- Add to TDM Plan: Retail and office tenants with 20 or more employees will demonstrate compliance with the DC Commuter Benefits Law and participate in one of the three transportation benefits outlined in the law (employee-paid pre-tax benefit, employer-paid direct benefit, or shuttle service);
- Add to TDM Plan: Fund and install a 19-dock Capital Bikeshare station within the Reunion Square development and provide funding for one year of maintenance and operations;
- Add to TDM Plan: Fund and install the expansions of three nearby existing Capital bikeshare stations to 19 docks (Pleasant Street, Shannon Place, and Good Hope Road); and
- Add to TDM Plan: Dedicate two (2) parking spaces within the garage for car-share services. If a car-share provider chooses not to locate vehicles in those spaces, then an alternate TDM strategy should be implemented.

JS:az