


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:** March 26, 2018

**SUBJECT:** ZC Case No. 02-38 I – 375 & 425 M Street SW (Waterfront Station)

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**PROJECT SUMMARY**

Waterfront 375 M Street, LLC and Waterfront 425 M Street, LLC (jointly the “Applicant”) proposes a Second Stage Planned Unit Development (PUD) and Modification of Significance to the approved First Stage PUD to construct two (2) mixed-use buildings on the vacant properties adjacent to Waterfront Metrorail Station. The combined development program for both 375 M Street and 425 M Street SW properties is as follows:

- 604 residential units (increased from 0 units);
- 38,040 SF office (reduced from 662,600 SF);
- 41,870 SF retail (increased from 40,000 SF);
- 399 vehicle parking spaces in Stage 2 PUD area (unspecified at site level during Stage 1);
- 1,356 total parking spaces in Stage 1 PUD area (increased from 1,087spaces);
- 172 long-term and 47 short-term bicycle parking spaces; and
- Four (4) 30-foot loading berths and two (2) 20-foot delivery spaces.

**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 PUD proposes to swap the office use from the First-Stage approval with residential;
- Vehicular access to parking garages and access to loading facilities at each of the two buildings is proposed via two-way 30-foot north-south private driveways from M Street SW;
- The two buildings are bisected by 4<sup>th</sup> Street SW, which is a private street with a public access easement between I Street and M Street SW;
- The 172 long-term and 47 short-term bicycle parking spaces meet the ZR16 requirements;
- ZR16 required showers and lockers are not currently shown on the plan set;
- Short-term bicycle parking spaces are proposed around the perimeter of the site but not currently on the plan set. These can be accommodated with 24 inverted U-racks in the ‘furniture zone’ of public space predominantly located near retail entrances;
- The proposed loading scheme which includes two (2) loading berths, one (1) delivery space in each building meets ZR16 requirements for loading facilities;
- The Applicant is proposing a revised design of the public realm around the Metrorail Station entrance and within 4<sup>th</sup> Street SW; and
- No electric vehicle charging stations or carsharing spaces proposed. DDOT recommends seven (7) spaces be served by charging stations and four (4) be reserved for carsharing services.

### Travel Assumptions

- The Applicant utilized sound methodology and assumptions to perform the analysis in the Comprehensive Transportation Review (CTR) study;
- The two (2) buildings are located directly adjacent to the Waterfront Metrorail station;
- The PUD is expected to generate a moderate number of vehicle trips and a significant amount of non-automotive trips during the weekday peak hours; and
- Change in the predominant land use from office to residential will result in a net reduction in the number of vehicle trips during the AM (-307 trips) and PM (-232 trips) peak periods.

### Analysis

- DDOT understands sidewalks are now proposed along both north-south private driveways. These should be shown on the plan set as connecting the entire length from the east-west private drive southward to M Street SW;
- The Applicant is proposing to relocate the existing bikeshare station from the west building’s 4<sup>th</sup> Street SW frontage to another location in the vicinity of the site due to the proposed presence of retail on the corner. The Applicant should fund the station relocation and work with Capital Bikeshare staff during public space permitting to find an appropriate alternate location. If a suitable alternative cannot be found then the station will remain in its current location;
- The Applicant should implement the signage, striping, and traffic calming improvements on the private drives, as proposed in the March 16, 2018 supplemental transportation memorandum. DDOT staff is available to assist in the refinement of a final plan, if necessary;

- The 399 proposed vehicle parking spaces between the two buildings in the Stage 2 PUD area are significantly more than the 138 required by ZR16 (including the 50% transit reduction) and the 250-265 spaces DDOT would expect with a project of this size, land use mix, and location immediately adjacent to a Metrorail station;
- Specific vehicle parking caps were not set by land bay in the First Stage PUD (ZC 02-38A) approval;
- This PUD modification proposes to increase the overall number of parking spaces within the larger approved First Stage area from a minimum of 1,087 spaces (ZC 02-38A) to 1,356 spaces;
- Providing additional vehicle parking encourages driving and discourages walking, bicycling, and riding transit;
- The CTR identified traffic impacts at two intersections due to the addition of site-generated traffic: 1 “Eye” Street at 7<sup>th</sup> Street SW and 4<sup>th</sup> Street at M Street SW;
- In lieu of the CTR’s recommended signal timing and cycle length adjustments, the Applicant should focus on implementing additional TDM strategies and improving circulation within the local transportation network;
- The CTR demonstrated that re-introducing the southbound left-turn movement at 4<sup>th</sup> Street and M Street SW would have minimal impacts on level of service at nearby intersections but could improve overall circulation;
- Improved roadway circulation would lead to improved connectivity in the area and potentially improved level of service at other nearby intersections such as 3<sup>rd</sup> Street and M Street SW;
- The Applicant should commit to completing a pedestrian safety study that evaluates the impacts of re-introducing the southbound left-turn movement at 4<sup>th</sup> Street and M Street SW, then implement the results of that study; and
- The TDM plan proposed in the October 19, 2017 CTR is not sufficiently robust to encourage non-auto travel, mitigate vehicular impacts to the transportation network, and offset the PUD being significantly over-parked. As previously mentioned, DDOT recommends the inclusion of additional measures and minor revisions.

### **Mitigations**

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

- Fund and conduct a safety study that, at a minimum, evaluates the crash history, ANC safety concerns, sight lines, impacts to pedestrians and cyclists, and vehicle queuing on 4<sup>th</sup> Street SW. This effort should be coordinated with the ANC and DDOT staff. The Applicant should then fund and implement the recommendations of the study, subject to DDOT approval, with improvements limited to signage, on-street striping, bicycle lane design, and minor changes to the existing traffic signal, as necessary; and
- Implement the Transportation Demand Management (TDM) Plan as proposed by the Applicant in the October 17, 2017 CTR, for the life of the project, unless otherwise noted, with the following revisions:

- Include 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;
- Clarify in TDM Plan: A final plan for the proposed pedestrian enhancements on 4<sup>th</sup> Street SW near the Metrorail station will be coordinated with and agreed to by DDOT;
- Clarify in TDM Plan: Price of unbundled parking will be set at the average market rate within ¼ mile of the sites;
- Include in TDM Plan: Long-term bicycle storage will be offered free of charge to residents and employees and storage rooms will accommodate non-traditional sized bikes including cargo, tandem, and kids bikes;
- Include in TDM Plan: Install a bicycle repair station within each of the long-term bicycle storage rooms;
- Include in TDM Plan: Install at least two (2) showers and 52 lockers in each building (per ZR16 requirements) accompanying the long-term bicycle storage facilities, for use by office and retail employees;
- Include in TDM Plan: Provide at least 20 shopping carts (10 in each building) for resident use to run errands and for grocery shopping;
- Include in TDM Plan: Provide annual Capital Bikeshare or carshare memberships, to each residential unit, retail employee, and office employee for the first three (3) years after occupancy; and
- Include in TDM Plan: Provide four (4) spaces dedicated for carsharing services to use with right of first refusal. If an agreement has not been reached with a car sharing service to occupy at least two (2) spaces then the Applicant will provide an additional year of annual Capital Bikeshare or carshare memberships to each residential unit. If an agreement has not been reached for both of the remaining two (2) spaces then the Applicant will work with DDOT staff to identify an alternate comparable TDM measure.

### **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 curbside management and signage plan, assumed to include multi-space meter installation at the Applicant's expense, consistent with current DDOT policies. This plan should also include any proposed changes to the curbside designations along 3<sup>rd</sup> Street SW;
- 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 M Street SW along the frontage of the west building;
  - Street trees should be installed along the M Street SW frontage of both buildings;

- Sidewalks along M Street SW should be at least 8 feet wide, straight, and align with sidewalks in front of recently constructed buildings to the east and west;
  - Sidewalk scoring along both sides of 4<sup>th</sup> Street SW, near the Metrorail entrance, should be extended across the east-west driveway to provide a consistent pattern for pedestrians;
  - Determine final locations for the short-term bicycle spaces (inverted U-racks) in an easily accessible location on private property or the 'furniture zone' within public space;
  - Relocation of the existing bikeshare station from the west building site to an appropriate alternate location;
  - Existing bollards in public space along 4<sup>th</sup> Street SW; and
  - All building entrances should be at-grade with no stairs or ramps in public space.
- Coordinate with DDOT's Project Review Team, Active Transportation Branch, and Transportation Operations and Safety Division (TOSD) on the final design of the public plaza along 4<sup>th</sup> Street SW and any changes to the operations of the roadway (e.g., installation of pedestrian refuge, removal of crosswalk);
  - Coordinate with DDOT's Project Review Team, Traffic Engineering and Signals Division (TESD) and TOSD to develop a scope for the requested pedestrian safety study at 4<sup>th</sup> Street and M Street SW and to implement any necessary modifications to the traffic signal, roadway geometry, signage and roadway striping to accommodate re-introduction of the southbound left-turn movement;
  - Coordinate with DDOT's Capital Bikeshare staff regarding the relocation of the existing bikeshare station at the northwest corner of 4<sup>th</sup> Street and M Street SW; and
  - Coordinate with DDOT's Urban Forestry Division (UFD) and the Ward 6 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 October 17, 2017 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

Each of the two buildings, 375 M Street SW (east building) and 425 M Street SW (west building), are proposed to have parking garage entrances and loading facilities accessed from the rear 30-foot private drives. The north-south private drives are accessed via the east-west private drives to the north of the sites (one-way away from 4<sup>th</sup> Street SW) and right-in/right-out private driveways at M Street. Additionally, the private drive serving the west building connects to the existing street Mackemie Place SW. No new curb cuts are proposed on M Street or 4<sup>th</sup> Street SW. There are several pedestrian entrances to the office and retail units along both M Street and 4<sup>th</sup> Street SW. Pedestrian access for the residential components will occur via entrances on 4<sup>th</sup> Street SW. Figure 1 below shows the layout of both east and west buildings.

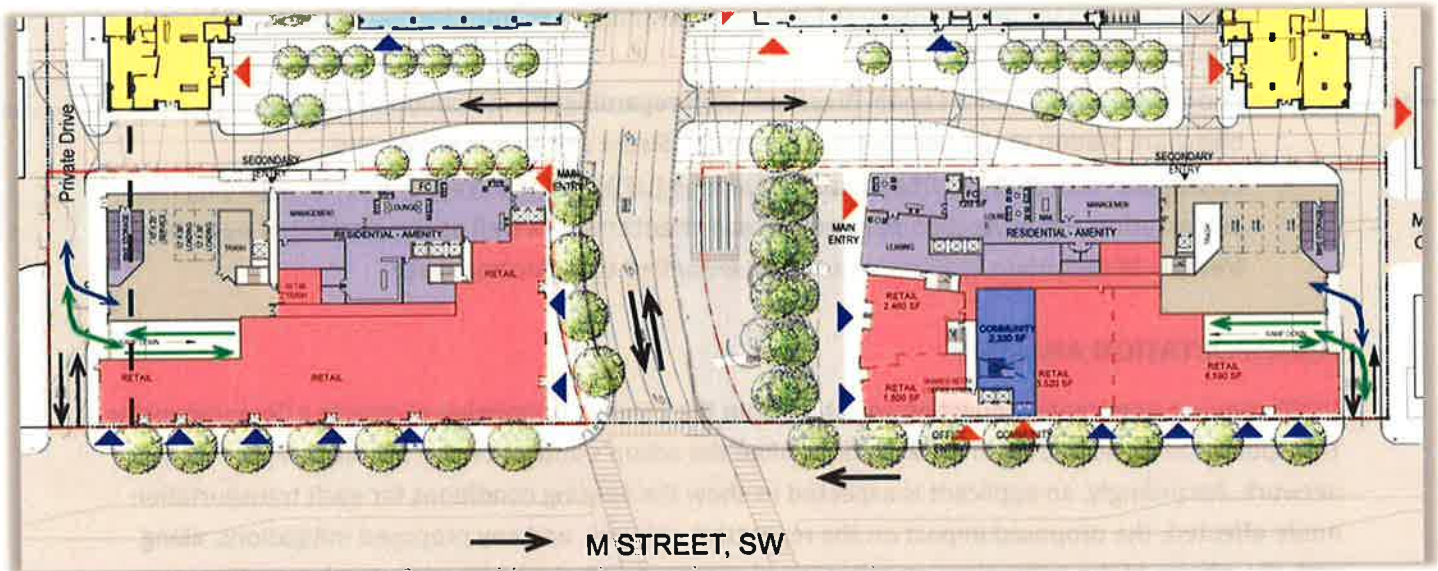


Figure 1 – Site Circulation Diagram (Source: Perkins Eastman DC, Plan Set, Page 10, 3/16/18)

### 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.

Per Subtitle C § 901.1 and § 901.4 of the 2016 Zoning Regulations, residential properties with more than 50 units are required to provide one (1) loading berth, one (1) loading platform, and one (1) 20-foot

delivery space. For the retail component of this project (under 20,000 SF at each building), zoning requires one (1) loading berth, one (1) loading platform, and zero (0) delivery spaces. The Applicant is proposing to meet these requirements by providing two (2) 30-foot loading berths with platforms and one (1) 20-foot delivery space at each of the east and west buildings. Access to the loading areas of each building will be via the rear private driveway. All truck turning maneuvers will occur on private property and all movements to and from the public transportation network will occur head-in and head-out. DDOT is in concurrence with the proposed loading scheme as shown in Figure 1 above.

### 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, 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 M Street SW along the frontage of the west building;
- Street trees should be installed along the M Street SW frontage of both buildings;
- Sidewalks along M Street SW should be at least 8 feet wide, straight, and align with sidewalks in front of recently constructed buildings to the east and west;
- Sidewalk scoring along both sides of 4<sup>th</sup> Street SW, near the Metrorail entrance, should be extended across the east-west driveway to provide a consistent pattern for pedestrians;
- Determine final locations for the short-term bicycle spaces (inverted U-racks) in an easily accessible location on private property or the 'furniture zone' within public space;
- Relocation of the existing bikeshare station from the west building site to behind the Waterfront Metrorail station escalators;
- Existing bollards in public space along 4<sup>th</sup> Street SW; and
- All building entrances should be at-grade with no stairs or ramps in public space.

DDOT has had significant coordination with the Applicant regarding the public space design of the public plaza surrounding the Metrorail entrance and operational changes within 4<sup>th</sup> Street SW. DDOT generally

finds the Applicant's proposal, in Figure 2 below, to be acceptable. However, it is noted that these plans should be part of the public space application package and any changes within the roadway (e.g., removal of crosswalk, installation of pedestrian refuge) are subject to DDOT approval.

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

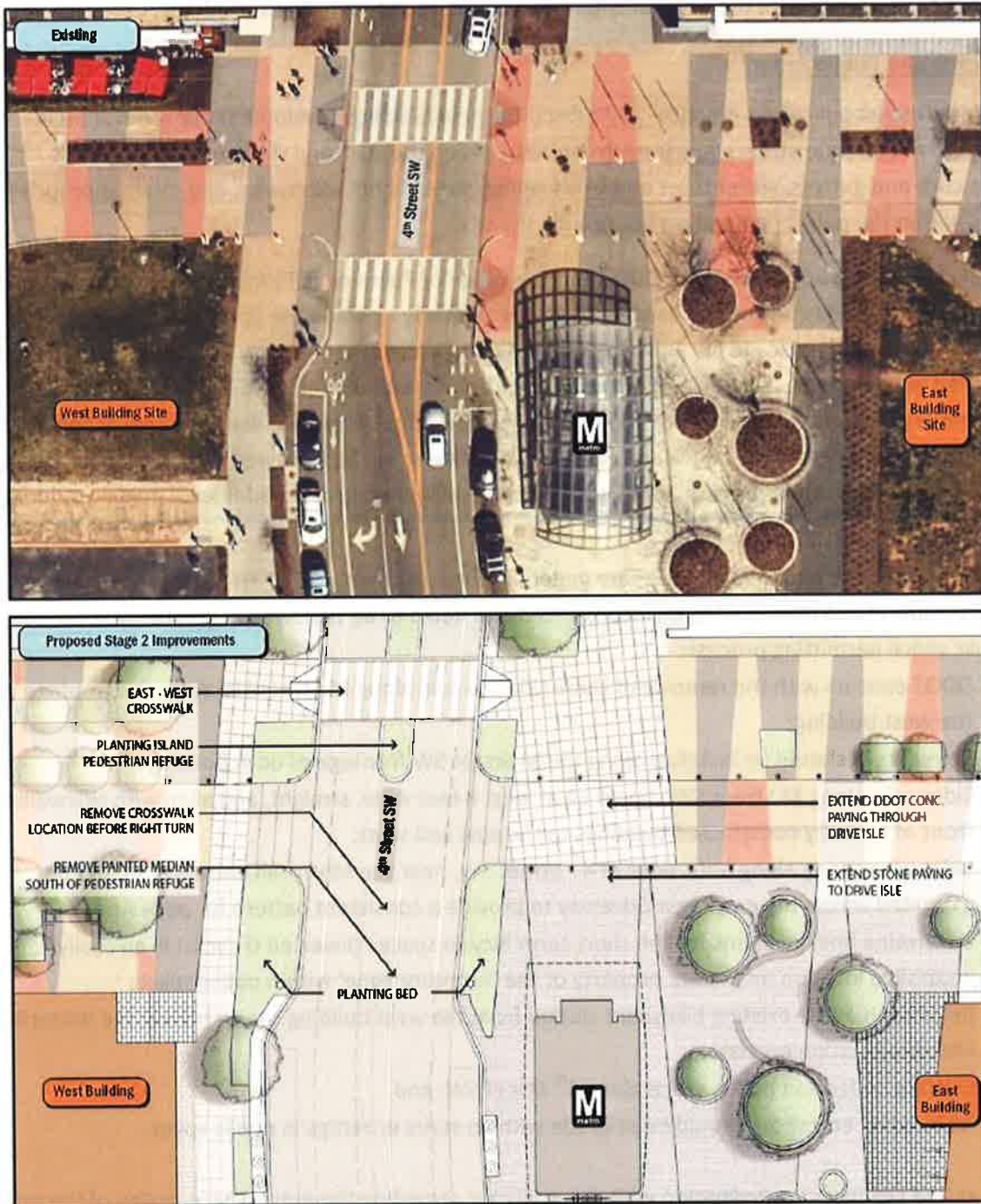


Figure 2 – Public Plaza Concept (Source: CTR, Gorove/Slade, Figure 12, 10/17/17)



### 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 6 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 that the Applicant provide at least one (1) electric vehicle charging station on-site for every 50 vehicle parking spaces provided for a total of seven (7) distributed between the two vehicle parking garages.

### **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 nine (9) specific nearby projects (Wharf Phase 1, Wharf Phase 2, The View at Waterfront, Eliot on 4<sup>th</sup>, 1000 4<sup>th</sup> Street SW, Town Center East, 301 M Waterfront, St. Matthews Evangelical Lutheran Church redevelopment, and 680 I (Eye) Street) was taken into account as background developments anticipated to be constructed by 2019.

DDOT requires applicants account for regional growth through the build-out year of 2019. 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 only major change to the local transportation network anticipated before 2019 is the reconfiguration of the intersection of I Street and 7<sup>th</sup> Street SW. This was assumed in all Year 2019 study scenarios.

### 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.

Per Subtitle C § 701.5 of the 2016 Zoning Regulations, DDOT estimates the Applicant is required to provide 200 vehicle parking spaces for 604 residential units (1 per 3 units in excess of 4 units), 52 spaces for 41,870 SF of retail (1.33 per 1,000 SF in excess of 3,000 SF), and 18 spaces for 38,040 SF of office (0.5 per 1,000 SF in excess of 3,000 SF) for a total of 270 spaces. With a 50% transit reduction, as allowed by Subtitle C §702.1 due to close proximity to the Waterfront Metrorail Station, only 138 vehicle spaces are required for both buildings combined. The Applicant is proposing to provide a total of 399 spaces, which is significantly more than that the minimum amount required by ZR16 and approximately 140 spaces more than DDOT would expect (approximately 250-265) given the mix of uses and location immediately adjacent to a Metrorail station. Providing additional vehicle parking encourages driving an automobile and discourages walking, bicycling, and riding transit. The Applicant should include additional strategies in the proposed Transportation Demand Management (TDM) Plan to offset the potential impacts from extra available vehicle parking.

### 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, 9<sup>th</sup> Edition* (Land Use Code 220 Apartment, Code Code 820 Shopping Center 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. 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			
	Drive	Transit	Bike	Walk
Residential Mode Split	45%	35%	5%	15%
Retail Mode Split	30%	35%	5%	30%
Office Mode Split	50%	45%	2%	3%

Figure 3 – Mode Split Assumptions (Source: CTR, Gorove/Slade, Tables 3 and 4, 10/17/17)

Based on the trip generation and mode split assumptions, Figure 4 shows the predicted number of weekday peak hour trips generated by mode:

Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	60 veh/hr	119 veh/hr	179 veh/hr	136 veh/hr	104 veh/hr	240 veh/hr
Transit	65 ppl/hr	110 ppl/hr	175 ppl/hr	146 ppl/hr	124 ppl/hr	270 ppl/hr
Bike	8 ppl/hr	15 ppl/hr	23 ppl/hr	20 ppl/hr	17 ppl/hr	37 ppl/hr
Walk	25 ppl/hr	49 ppl/hr	74 ppl/hr	81 ppl/hr	66 ppl/hr	147 ppl/hr

Figure 4 – Combined Trip Generation Summary (Source: CTR, Gorove/Slade, Table 7, 10/17/17)

Figure 5 shows a comparison of the currently proposed development program with the previously approved Stage 1 approval for these land bays (using modern trip generation methodology):

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
2017	Auto	60 veh/hr	119 veh/hr	179 veh/hr	136 veh/hr	104 veh/hr	240 veh/hr
	Non-Auto	98 ppl/hr	174 ppl/hr	272 ppl/hr	247 ppl/hr	207 ppl/hr	454 ppl/hr
2007	Auto	424 veh/hr	62 veh/hr	486 veh/hr	94 veh/hr	378 veh/hr	472 veh/hr
	Non-Auto	499 ppl/hr	85 ppl/hr	584 ppl/hr	171 ppl/hr	497 ppl/hr	616 ppl/hr
Difference	Auto	-364 veh/hr	57 veh/hr	-307 veh/hr	42 veh/hr	-274 veh/hr	-232 veh/hr
	Non-Auto	-401 ppl/hr	89 ppl/hr	-312 ppl/hr	76 ppl/hr	-290 ppl/hr	-162 ppl/hr

Figure 5 – Trip Generation Comparison 2007 vs 2017 (Source: CTR, Gorove/Slade, Table 9, 10/17/17)

The proposed project is expected to generate a moderate number of vehicle trips and a significant amount of non-automotive trips during the weekday peak hours. Additionally, the proposed change in the predominant land use from office to residential will result in a reduction in the number of vehicle trips during the AM (-307 trips) and PM (-232 trips) peak periods.

Study Area and Data Collection

The Applicant in conjunction with DDOT identified 14 existing intersections (including the adjacent private driveways) 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 Tuesday, May 23, 2017 and Thursday, June 8, 2017 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 October 17, 2017 which includes an extensive multi-modal analysis of existing conditions (2017 Existing), future with no development (2019 Background), future conditions with development (2019 Future), and 2019 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 tables (Figures 6 and 7) summarize 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	Existing Conditions				Future without Development Conditions (2019)				Future with Development Conditions (2019)			
		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
1. I Street & 7th Street, SW	Overall	20.2	C	15.2	B	22.9	C	50.9	D	23.5	C	65.4	E
	Westbound	27.6	C	18.2	B	28.5	C	20.4	C	28.7	C	19.5	B
	Northbound	16.4	B	8.6	A	18.0	B	11.7	B	17.9	B	11.7	B
	Southbound	15.9	B	15.8	B	22.1	C	87.2	F	23.1	C	116.3	F
	Eastbound	51.9	D	58.0	E	58.1	E	61.5	E	63.7	E	60.8	E
12. M Street & 4th Street, SW	Overall	30.5	C	60.9	E	35.0	C	66.2	E	36.8	D	64.8	E
	Eastbound	60.9	E	59.1	E	70.6	E	60.4	E	79.6	E	60.0	E
	Westbound	59.1	E	48.9	D	59.6	E	49.9	D	60.4	E	50.5	D
	Northbound	59.1	E	48.9	D	59.6	E	49.9	D	60.4	E	50.5	D
	Southbound	59.1	E	48.9	D	59.6	E	49.9	D	60.4	E	50.5	D

Figure 6 – Vehicular Capacity Analysis (Source: CTR, Gorove/Slade, Table 12, 10/17/17)

Intersection	Approach	Existing Conditions				Future with Development Conditions (2019)				Future with Development Conditions (2019) (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
1. I Street & 7th Street, SW	Overall	--	--	15.2	B	--	--	65.4	E	--	--	24.1	C
	Westbound	--	--	18.2	B	--	--	19.5	B	--	--	47.2	D
	Northbound	--	--	8.6	A	--	--	11.7	B	--	--	10.2	B
	Southbound	--	--	15.8	B	--	--	116.3	F	--	--	22.9	C
	Eastbound	51.9	D	--	--	63.7	E	--	--	56.3	E	--	--
12. M Street & 4th Street, SW	Overall	30.5	C	--	--	36.8	D	--	--	34.2	C	--	--
	Eastbound	60.9	E	--	--	79.6	E	--	--	66.8	E	--	--
	Westbound	59.1	E	--	--	60.4	E	--	--	62.1	E	--	--
	Northbound	59.1	E	--	--	60.4	E	--	--	62.1	E	--	--
	Southbound	41.9	D	--	--	42.4	D	--	--	42.9	D	--	--

Figure 7 – Vehicular Capacity Analysis w/Mitigations (Source: CTR, Gorove/Slade, Table 14, 10/17/17)

As shown above, the roadway capacity analysis provided in the CTR shows that two (2) intersections 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:

- I “Eye” Street and 7<sup>th</sup> Street SW – the southbound approach is projected to operate at LOS F during the evening peak hour under Background 2019 conditions and delay to worsen by more than 5% under Future 2019 conditions. To improve the southbound approach’s level of service to an LOS C, the CTR recommends increasing the traffic signal cycle length. DDOT finds 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. The Applicant should instead focus on providing additional TDM measures to encourage traveling by non-auto modes to mitigate the traffic impacts to this intersection (see the Mitigations section).
- M Street and 4<sup>th</sup> Street SW – several approaches are projected to degrade to LOS E under Background 2019 conditions and delay further worsened by more than 5% under Future 2019 conditions, during both the weekday morning and evening commuter peak hours. To improve delay for the westbound approach and overall intersection, the CTR recommends a signal timing adjustment. DDOT finds signal timing 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. The Applicant should instead focus on providing additional TDM measures to offset the impact to this intersection, as well as improving transportation network circulation by studying the safety implications then implementing the re-introduction of the southbound left-turn movement (see both the following section and the Mitigations section).

#### 4<sup>th</sup> Street and M Street SW Southbound Left-Turn Analysis

During the CTR scoping process, DDOT requested the Applicant include an additional study scenario that analyzed the capacity and level of service (LOS) impacts of re-introducing the southbound left-turn movement from 4<sup>th</sup> Street to M Street SW. The analysis considered the re-routing of existing traffic that would likely choose to make this movement if available. As shown below in Figure 8, the CTR demonstrated that permitting southbound left-turns would have a minimal impact on study intersections and may improve LOS at 3<sup>rd</sup> Street and M Street SW. The Applicant should conduct a safety study in coordination with DDOT and the ANC to analyze the safety implications to pedestrians, and then make any necessary alterations to the signage, on-street striping, and the existing traffic signal to re-introduce southbound left-turns at this intersection.

Intersection	Approach	Future with Development Conditions (2019)				Future with Development, Reroute of 4th and M SBL Trips			
		AM Peak Hour		PM Peak Hour		AM Peak Hour		PM Peak Hour	
		Delay	LOS	Delay	LOS	Delay	LOS	Delay	LOS
4. I Street & 4th Street, SW	Overall	19.0	B	25.2	C	19.0	B	22.8	C
	Eastbound	15.2	B	11.2	B	15.3	B	11.3	B
	Westbound	19.0	B	11.9	B	19.0	B	11.9	B
	Northbound	21.7	C	28.0	C	21.7	C	28.2	C
	Southbound	20.7	C	48.9	D	20.4	C	40.6	D
5. I Street & 3rd Street, SW	Overall	13.9	B	12.2	B	13.8	B	12.0	B
	Eastbound	9.0	A	12.1	B	8.3	A	11.7	B
	Westbound	19.0	B	7.3	A	12.9	B	7.3	A
	Northbound	24.8	C	26.4	C	24.8	C	26.4	C
	Southbound	18.5	B	24.7	C	18.5	B	24.7	C
8. 4th Street & Pedestrian Plaza, SW	Overall	0.9	A	1.6	A	0.9	A	1.6	A
	Northbound	0.7	A	1.7	A	0.8	A	1.7	A
	Southbound	1.2	A	1.6	A	1.1	A	1.5	A
10. M Street/Maine Avenue & 6th Street, SW	Overall	10.3	B	25.3	C	10.3	B	25.3	C
	Eastbound	14.2	B	34.7	C	14.2	B	34.7	C
	Westbound	6.2	A	8.3	A	6.2	A	8.3	A
	Northbound	35.9	D	38.9	D	35.9	D	38.9	D
	Southbound	25.2	C	33.2	C	25.2	C	33.2	C
12. M Street & 4th Street, SW	Overall	63.7	E	60.8	E	63.8	E	62.3	E
	Eastbound	36.8	D	64.8	E	36.8	D	64.8	E
	Westbound	79.6	E	60.0	E	79.7	E	60.0	E
	Northbound	60.4	E	50.5	D	60.4	E	50.5	D
	Southbound	42.4	D	53.6	D	45.8	D	66.8	E
13. M Street & East Alley, SW	Overall	0.5	A	0.4	A	0.5	A	0.4	A
	Eastbound	0.0	A	0.0	A	0.0	A	0.0	A
	Westbound	0.0	A	0.0	A	0.0	A	0.0	A
	Southbound	10.3	B	10.3	B	10.3	B	10.3	B
	Overall	19.6	B	18.9	B	19.4	B	15.2	B
14. M Street & 3rd Street, SW	Eastbound	2.8	A	8.2	A	5.0	A	7.8	A
	Westbound	22.5	C	18.2	B	22.5	C	18.2	B
	Northbound	36.1	D	35.8	D	36.1	D	39.8	D
	Southbound	42.6	D	73.0	E	38.4	D	51.3	D

Figure 8 – Capacity Analysis w/Rerouting Southbound Left-Turns (Source: CTR, Gorove/Slade, Table 16, 10/17/17)

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.

Both proposed buildings are located directly adjacent to the Waterfront Metrorail station which is served by the Green Line. Trains serve the Metrorail station approximately every 4-8 minutes during weekday peak hours, 12 minutes during weekday non-peak times, and 15 minutes on weekends.

There are a number of bus stops in the vicinity of the site along M Street, 3<sup>rd</sup> Street, 6<sup>th</sup> Street, and I Street SW. These stops are served by Metrobus routes 74, A9, P6, V1, 735, 850, PRTC D-300, and Loudoun County Transit, as shown in Figure 9 below, with headways generally ranging between 6 and 45 minute depending on route.

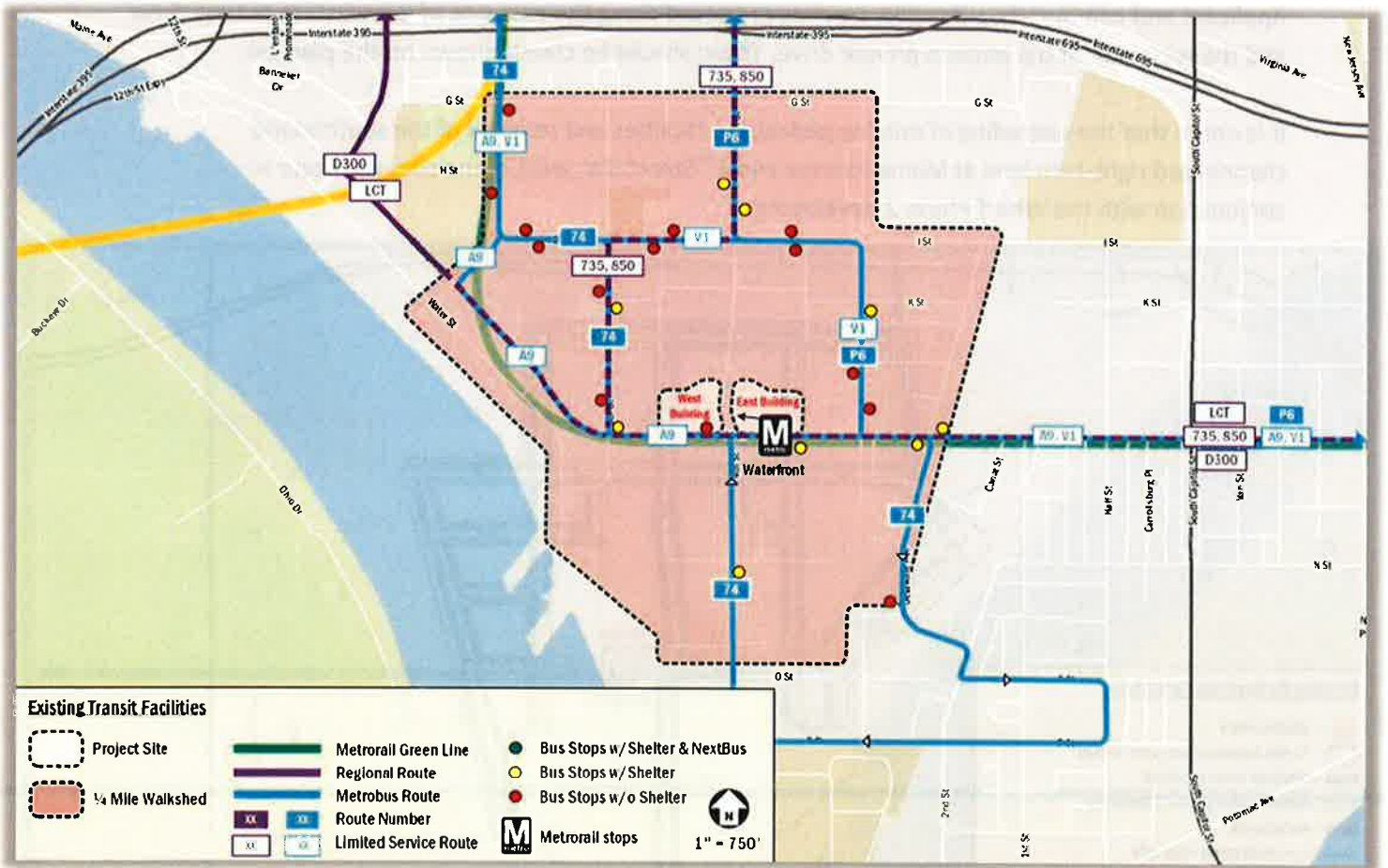


Figure 9 – Existing Transit Service (Source: CTR, Gorove/Slade, Figure 28, 10/17/17)

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 existing pedestrian infrastructure, as shown in Figure 10 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. The existing sidewalk along the northern side of M Street currently has a substandard width for the future mix of land uses proposed. The sidewalk should be reconstructed at least 8 feet wide and align with the sidewalks recently constructed with the buildings to the east and west. Additionally, DDOT understands that following recent discussions between the

Applicant and community, sidewalks are now proposed along the east side of the western private drive and the west side of the eastern private drive. These should be clearly shown on the plan set.

It is noted that the upgrading of missing pedestrian facilities and removal of the southbound channelized right-turn lane at Maine Avenue and 6<sup>th</sup> Street SW, west of the site, will occur in conjunction with the Wharf Phase 2 development.

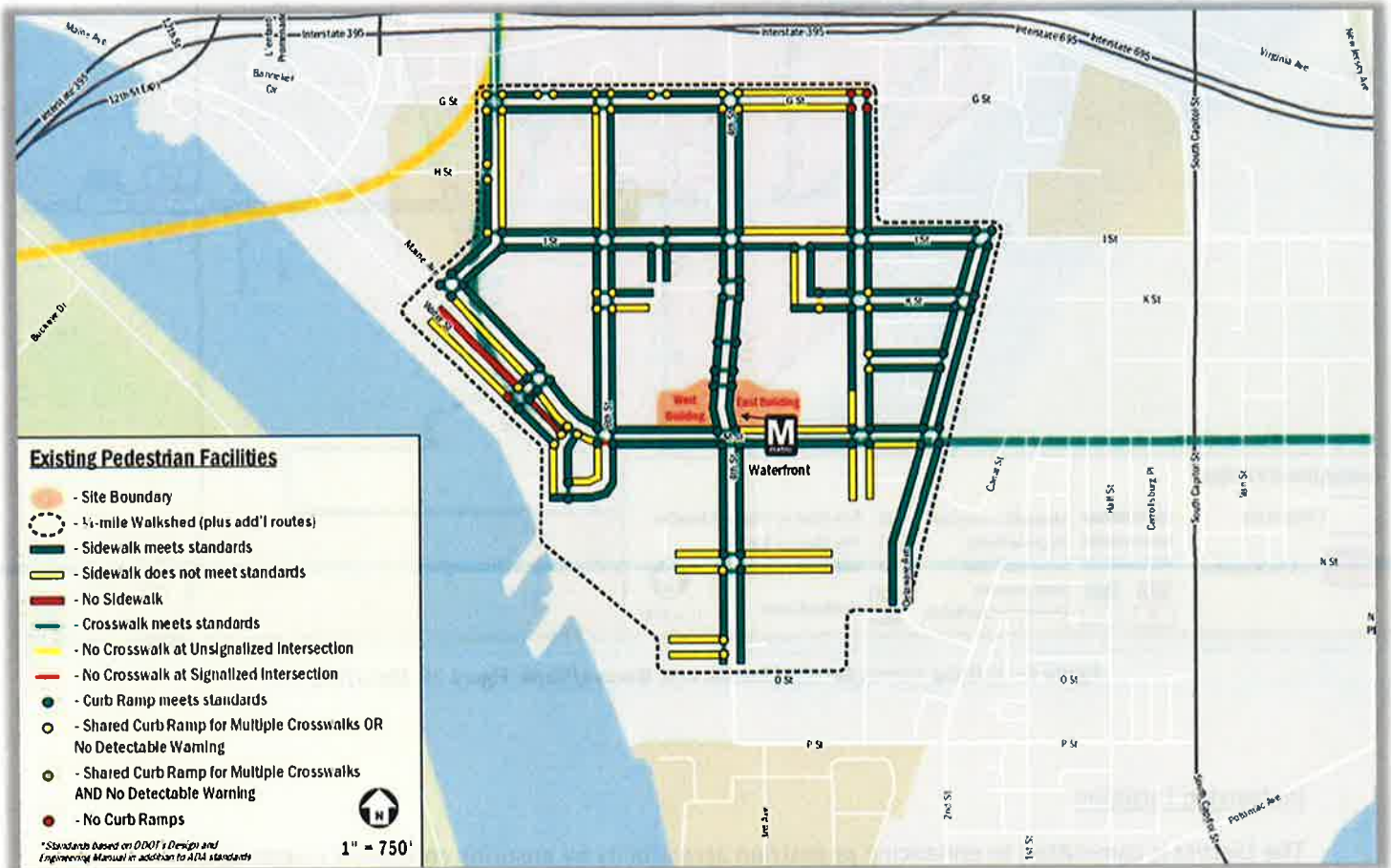


Figure 10 – Existing Pedestrian Infrastructure (Source: CTR, Gorve/Slade, Figure 30, 10/17/17)

Additionally, the Applicant has proposed a signage, striping, and traffic calming plan for the private drives surrounding both buildings. While not on a public roadway or alley, DDOT generally supports the Applicant's proposal to slow vehicles and prioritize pedestrian safety and connectivity. The Applicant should commit to implementing the improvements shown in Figure 11 below.



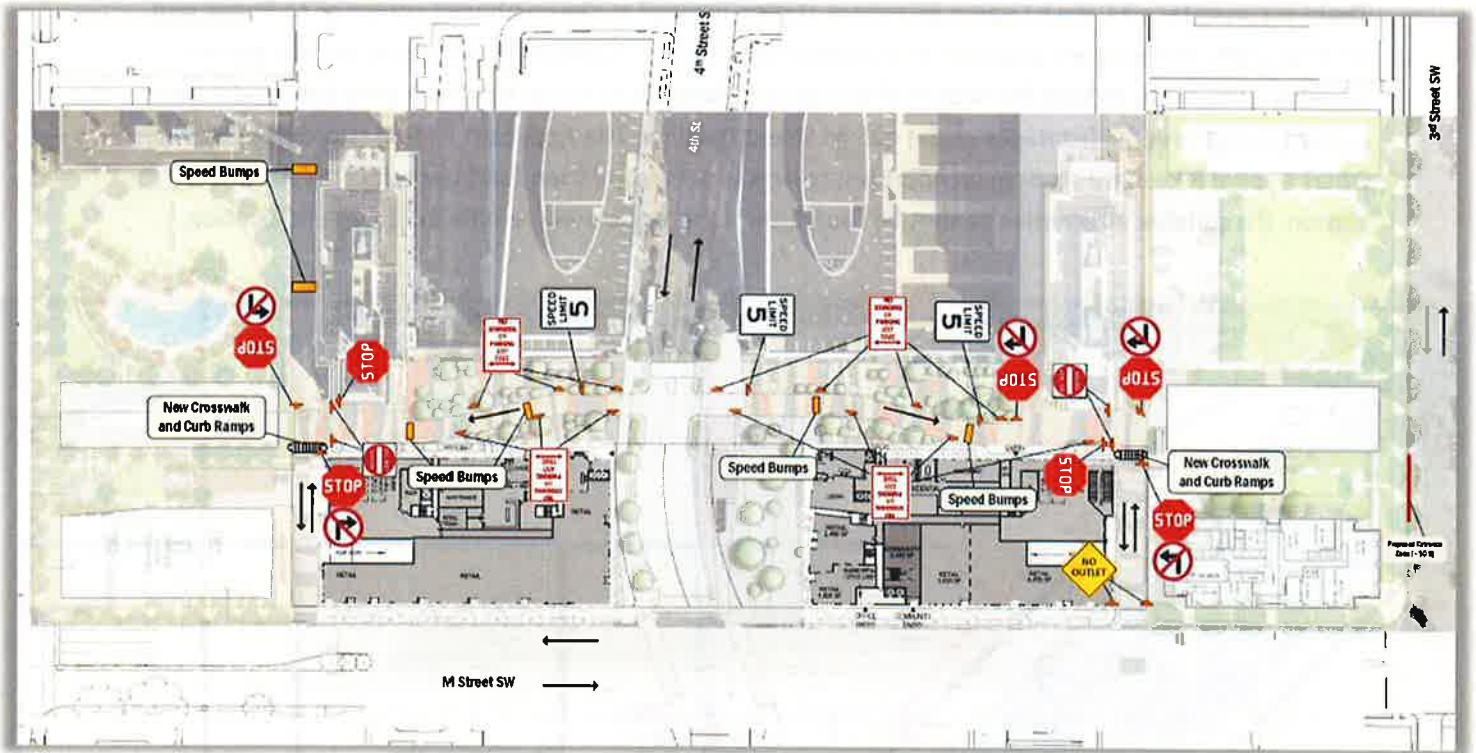


Figure 11 – Signage, Striping and Traffic Calming (Source: Transportation Memo, Gorove/Slade, Figure 3, 3/16/18)

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 Subtitle C § 802.1 of the 2016 Zoning Regulations (ZR16), DDOT estimates that the Applicant is required to provide 172 long-term and 47 short-term bicycle parking spaces. The Applicant is proposing to meet these requirements by providing 172 long-term and 47 short-term spaces. Additionally, four (4) showers and 11 lockers will be installed in the two buildings. The short-term spaces are shown on the plans as inverted U-racks in public space along M Street SW. The long-term spaces are shown as two (2) bicycle storage rooms, one (1) in each building, accessed at ground level from the east-west private drive. It is noted that the Applicant is not currently proposing to meet ZR16 requirements for showers and lockers. ZR16 requires two (2) showers and 52 lockers in each building. These should be shown on the plans and committed to in the TDM Plan.

As shown in Figure 12 below, the site is currently in close proximity to bicycle facilities including striped bicycle lanes on both 4<sup>th</sup> Street and I Street SW, as well as portions of cycletrack and the Anacostia Riverwalk Trail to the south and west of the properties.

There is currently a 21-dock Capital Bikeshare station located at the northwest corner of M Street and 4<sup>th</sup> Street SW, immediately adjacent to the west building. The Applicant is proposing to relocate this bikeshare station to behind the Metrorail station overhang so as not to block the proposed pedestrian entrances to the retail frontages at the 425 M Street building. The Applicant should coordinate with DDOT Capital Bikeshare staff on an appropriate new location and then fund the relocation of this station. If a suitable alternative cannot be found, then the station will remain in its current location.

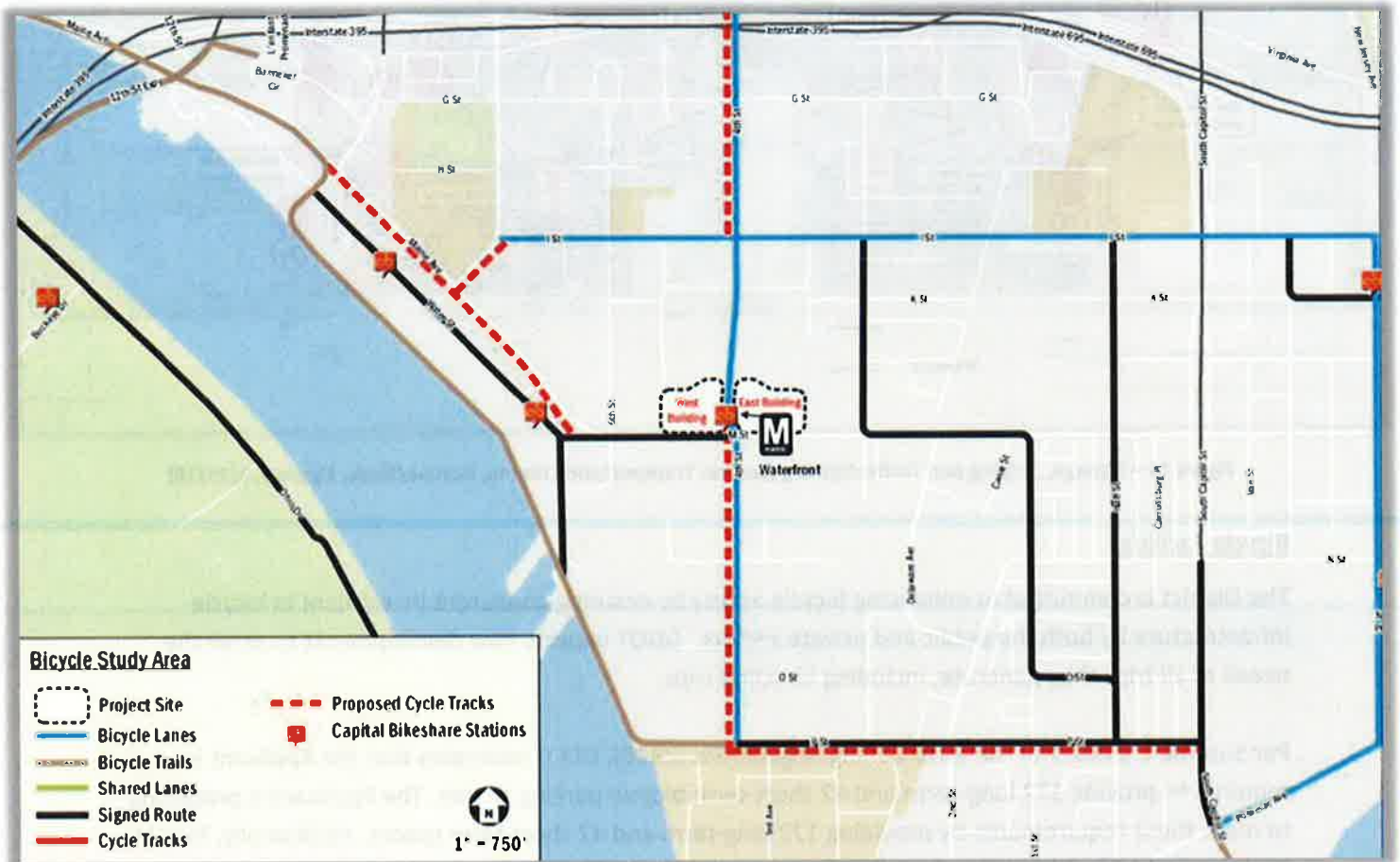


Figure 12 – Existing and Proposed Bicycle Facilities (Source: CTR, Gorove/Slade, Figure 31, 10/17/17)

### 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 two (2) intersections within the study area (4<sup>th</sup> Street at M Street and 6<sup>th</sup> Street at K Street SW) have a crash rate of 1.0 Million Entering Vehicles (MEV) or higher, which is the threshold for further design considerations. It is

anticipated that the moderate amount of additional traffic (approximately 179 AM and 240 PM trips) associated with the development will not have a major impact on the MEV rates of study intersections.

## **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 adjusting the signal cycle length at I "Eye" Street and 7<sup>th</sup> Street SW, as well as adjustments to the traffic signal timings at M Street and 4<sup>th</sup> Street SW could improve intersection delay and level of service. These improvements would necessitate the retiming of entire corridors of traffic signals which is why DDOT typically does not make these changes in conjunction with a land development project. In lieu of traffic signal adjustments, the Applicant should focus on implementing TDM strategies that reduce auto-mode share and encourage non-auto travel, as well as improve transportation network circulation.

The CTR demonstrated that the re-introduction of the southbound left-turn movement at 4<sup>th</sup> Street and M Street SW would have minimal impact to level of service at the intersection but had the potential to improve local connectivity and improve level of service at other nearby intersections. DDOT recommends the Applicant conduct a safety study at 4<sup>th</sup> Street and M Street SW to evaluate the impacts to pedestrians and then implement the results of the study. Specifics of the study should be scoped with DDOT staff and overall effort coordinated with the ANC.

### Transportation Demand Management

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 October 17, 2017 CTR which includes the following elements:

- Identify TDM Leaders for planning, construction, and operations. The TDM Leader will work with residents and tenants of the M Street buildings to distribute and market various transportation alternatives and options. This includes providing TDM materials to new residents and tenants in the Welcome Package;
- Provide enhanced pedestrian treatments and increase pedestrian safety through pavements treatments, crosswalk changes and signage at 4<sup>th</sup> Street in the vicinity of the Metro station and the east-west private driveways;
- Provide SmarTrip cards, during first time lease-up only, at a maximum cost to the developer of \$20.00 per card, per person for free to residents and full-time employees;
- Post all TDM commitments online, publicize availability, and allow the public to see what commitments have been promised;
- Install a Transportation Information Center Display (electronic screen) within the lobby of the M Street buildings, containing information related to local transportation alternatives;
- Meet the 2016 Zoning Regulations' requirements for short- and long-term bicycle parking. This includes secure interior bicycle parking and short-term exterior bicycle parking around the perimeter of the M Street sites; and
- Unbundle all parking from the cost of the lease or purchase of residential units. Parking costs will be set at no less than the charges of the lowest fee garage located within ¼ mile.

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 the to offset the impacts to the transportation network:

- Include 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;
- Clarify in TDM Plan: A final plan for the proposed pedestrian enhancements on 4<sup>th</sup> Street SW near the Metrorail station will be coordinated with and agreed to by DDOT;
- Clarify in TDM Plan: Price of unbundled parking will be set at the average market rate within ¼ mile of the sites;

- Include in TDM Plan: Long-term bicycle storage will be offered free of charge to residents and employees and storage rooms will accommodate non-traditional sized bikes including cargo, tandem, and kids bikes;
- Include in TDM Plan: Install a bicycle repair station within each of the long-term bicycle storage rooms;
- Include in TDM Plan: Install at least two (2) showers and 52 lockers in each building (per ZR16 requirements) accompanying the long-term bicycle storage facilities, for use by office and retail employees;
- Include in TDM Plan: Provide at least 20 shopping carts (10 in each building) for resident use to run errands and for grocery shopping;
- Include in TDM Plan: Provide annual Capital Bikeshare or carshare memberships, to each residential unit, retail employee, and office employee for the first three (3) years after occupancy; and
- Include in TDM Plan: Provide four (4) spaces dedicated for carsharing services to use with right of first refusal. If an agreement has not been reached with a car sharing service to occupy at least two (2) spaces then the Applicant will provide an additional year of annual Capital Bikeshare or carshare memberships to each residential unit. If an agreement has not been reached for both of the remaining two (2) spaces then the Applicant will work with DDOT staff to identify an alternate comparable TDM measure.

JS:az