

**GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION**



d. Policy, Planning and Sustainability Administration

MEMORANDUM

TO: Sara Bardin
Director, Office of Zoning

FROM: Samuel Zimbabwe *szw*
Associate Director

DATE: November 24, 2014

SUBJECT: ZC Case No. 13-12 – 1333 M Street SE

PROJECT SUMMARY

1333 M St, SE, LLC. (the "Applicant") seeks a First-Stage PUD, Consolidated PUD, and Related Map Amendment from M (high intensity industrial) to C-3-C (high density mixed-use) to construct a mixed-use development at 1333 M Street, SE (Sq. 1025E, Lot 802; Sq. 1048S, Lots 1, 801 & 802; and Reservations 129 & 299). The site is generally bound by M Street SE on the north, Water Street SE on the east, and Virginia Avenue on the west. The completed project would include three high-rise residential towers containing approximately 673 dwelling units, below grade parking for at least the minimum number of parking spaces required by the zoning regulations, a private road between Virginia Avenue and M Street, and approximately 10,000 square feet of retail space.

SUMMARY OF DDOT REVIEW

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, multi-administration review of the case materials submitted by the Applicant, DDOT finds:

Site Design

- The road network in the immediate vicinity of the site is currently incomplete or substandard – the Virginia Avenue roadway does not currently exist and M Street does not meet current DDOT standards.
- The Applicant proposes a number of improvements to the adjacent roads in order to provide access to the site including rebuilding M Street along the frontage of the property, constructing approximately 450' of Virginia Avenue, and constructing a new private road through the site;
- The Applicant's preliminary site plan identifies a circular driveway for Building 2 and lay-bys for Building 1 Tower B and Building 3. DDOT objects to the circular driveways or lay-bys for this project and they should be removed from the site plan. The drop off zones are not pertinent to the PUD application and will be addressed during the public space permitting process;
- Loading for Building 1 and Building 2 is proposed from the private street and includes back-in movements as well as from an on-street loading zone. A curbside loading zone is proposed for Building 3. DDOT will not support a curbside loading zone for Building 1 Tower A. The Applicant's Loading Management Plan is a good basis for mitigating loading impacts, but DDOT recommends that the plan be strengthened to accommodate safe back-in truck movements on private space. Further, the loading zone for Building 1 is not appropriate and is unlikely to be approved; and
- The Applicant proposes approximately 37 new curbside parking spaces. DDOT and the Applicant are in agreement that curbside parking spaces should be metered so as to deter long-term parking in these spaces. The Applicant will be required to coordinate with DDOT on a curbside management plan during public space permitting.
- The Applicant proposes a grand stair case to connect Virginia Avenue to Water Street that occupies a significant amount of public space. The Public Space Committee granted conceptual approval of the grand stair case in public space as currently proposed.

Travel Assumptions

- The action is expected to generate a significant number of new vehicle and transit trips and a moderate number of pedestrian and bicycle trips;
- The Applicant is assuming a high rate of non-auto travel. While DDOT believes this mode split is achievable in light of the vehicle parking provision, the site has limited access to non-auto transportation options.
- A robust TDM plan is required in order to justify the proposed non-auto mode split. As proposed, the TDM plan does not adequately promote non-auto transportation options.

Analysis

- The Applicant utilized sound methodology to perform the vehicle capacity analysis;
- The action is projected to increase vehicle travel delay and queue lengths at several intersections in the vicinity;
- The site is not currently well-served by transit options with Metro stations and bus stops located beyond the typical walkshed of transit facilities;
- The Applicant performed a transit demand analysis to determine the shuttle service needed to provide adequate transit access for the site. The actual demand for shuttle service is likely to be higher than projected;
- The pedestrian network in the vicinity does not meet current DDOT standards and contains some gaps in connectivity;

- The site is adjacent to the Anacostia Riverwalk Trail and in close proximity to additional bicycle infrastructure;
- The Applicant proposes a minimum of 224 bicycle parking spaces for the entire site. The parking for Building 1 will be located in the parking garage. Bicycle parking locations for Building 2 and Building 3 are not specified and will need to be determined during the Stage 2 PUD(s); and
- Currently no Capital Bikeshare stations are located within one-quarter mile of the site.

Mitigations

The Applicant has proposed the following mitigations.

The Applicant proposes a number of physical improvements as part of the project:

- Rebuild M Street along the frontage of the property
- Construct approximately 450' of Virginia Avenue
- Reconstruct the Anacostia Riverwalk Trail along the M Street frontage of the property between the traffic circle and Water Street
- Extend the existing multiuse trail on Water Street along the entire extent of the property
- Construct a sidewalk along the south side of M Street as part of Phase 1 in order to provide pedestrian access to Building 1 Tower A

DDOT agrees with these physical improvements and notes that new facilities must meet DDOT standards and the Applicant is required to coordinate with DDOT on the final design of the infrastructure.

The Applicant has also proposed mitigations which require additional coordination, mitigations which are not appropriate, and mitigations which are not adequate. The Applicant should address the concerns as follows:

- The Applicant proposes a number of signal timing adjustments to mitigate the impacts of the project on roadway operations. *DDOT will further review the signal timing change to determine if they are appropriate.*
- The Applicant proposes modifications to the I Street/11th Street intersection that would negatively impact other modes and is therefore not appropriate. *Mitigation should take the form of a strengthened the TDM plan as a means to reducing vehicle trips through that intersection.*
- The Applicant proposes a Loading Management Plan to mitigate the impacts of the loading relief. *DDOT finds the Loading Management Plan a good basis for mitigating potential loading impacts of the loading relief but recommends that the plan be strengthened to accommodate safe back-in truck movements on private space by providing for a flagger to be present whenever a vehicle is entering/exiting the loading dock.*
- The Applicant proposes a TDM plan to mitigate project impacts. As proposed, the TDM plan is not sufficiently robust to justify the proposed non-auto mode split. *DDOT requests that the following changes be made to the Applicant's TDM plan as a condition of approval:*
 - Provide a one year Capital Bikeshare membership to each residential unit for a period of 10 years;
 - Provide a one year carshare membership to each residential unit for a period of 10 years;
 - Unbundle parking costs from the price of lease or purchase;
 - Commit to fund the installation of a Capital Bikeshare station plus one year of operating expenses; and

- Agree to a prohibition of satellite parking agreements with off-site parking providers in order to ensure that the site does not generate additional vehicle trips beyond what was studied as part of this analysis.
- The Applicant proposes to implement a shuttle service in order to improve transit accessibility to the site. Elements of the shuttle impacting public space must be coordinated with DDOT. *DDOT requests that the following changes to the Applicant's shuttle plan as a condition of approval:*
 - Provide shuttle capacity to serve the projected demand, approximately 100 seats per hour at full build-out, in the peak direction for the peak period at a frequent headway. Shuttle demand is expected to increase as the project builds out. As such, shuttle service may be pro-rated according to development phase;
 - At a minimum, headways should be between 10-15 minutes for the peak period; and
 - At a minimum, hours of operation should be over three hours during the AM and PM peak periods, generally 7AM-10AM and 4PM-7PM.

Additional mitigations may be necessary upon an updated analysis as part of the Stage 2 PUD process.

Continued Coordination

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

- For each subsequent Stage 2 PUD submission, DDOT expects consistency with the Stage 1 analysis. If the Stage 2 PUD submissions are found to have significantly higher trip generation due to changes in the program or evaluation of existing occupied portions of the project, DDOT will request a full CTR update;
- Public space, including curb and gutter, street trees and landscaping, street lights, sidewalks, and other features within the public rights of way, are expected to be designed and built to DDOT standards. While the Public Space Committee granted conceptual approval of the grand staircase concept, the Applicant is expected to coordinate closely with DDOT and the Office of Planning on the final design of the feature;
- Coordination of the final design of M Street and Virginia Avenue and any signal timing changes;
- All utility vaults are expected to be accommodated on private property;
- Coordination is expected to determine curbside management;
- Location of electric vehicle charging stations. DDOT recommends that the Applicant provide at least one 240-volt electric car charging station in the Building 1 parking garage and at least one station in the Building 2 parking garage; and
- A curbside management strategy, which will be developed during public space permitting.

TRANSPORTATION ANALYSIS

DDOT requires applicants who request approval from the Zoning Commission perform 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 CTR 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 road network in the immediate vicinity of the site is currently incomplete or substandard – the Virginia Avenue roadway does not currently exist and M Street does not meet current DDOT standards. The Applicant proposes a number of improvements to the adjacent roads in order to provide access to the site. The Applicant will construct an approximately 450' extension of Virginia Avenue from the existing traffic circle to the southeast. Additionally, the Applicant will reconstruct M Street along the frontage of the subject property. A proposed new private road between M Street and Virginia Avenue would provide access to loading access for Building 1 and Building 2. Parking garage access for Building 1 and Building 2 is proposed from M Street via a curb cut for each building. Building 3 does not contain a parking garage or loading facilities and does therefore not require vehicular site access. The new and modified street network is important for providing adequate site access and circulation for the proposed project. The Applicant proposes M Street and Virginia Avenue as public streets, which shall be designed and constructed to DDOT standards.



Figure 1 Site Design and Access (Source: Wells + Associates)

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. This often results in loading being accessed through an alley network.

The Applicant seeks to provide two 30-foot loading berths with 100 SF platforms in lieu of the three 55-foot loading berths with 200 SF loading platforms. Building 1 and Building 2 would each contain one 30-foot loading berth while Building 3 would not contain on-site loading facilities.

Loading for Building 1 and Building 2 is proposed via the new private road connecting M Street and Virginia Avenue. While the loading arrangement requires trucks to back-in to the loading bays, the movements are made on private space and are therefore not subject to DDOT standards that prohibit back-in loading. However, given the level of pedestrian and retail activity along the private street, DDOT strongly encourages the Applicant to enhance the Loading Management Plan to mitigate the impacts of back-in maneuvers across the sidewalk area. The Applicant's preliminary site plan also identifies a curbside loading zone on M Street adjacent to Building 1 Tower A. DDOT will not permit a curbside loading zone for Building 1 Tower A because on-site loading is provided for this building. The site plan should be updated accordingly.

Loading for Building 3 is proposed via a curbside loading zone on M Street. This arrangement is preferable to previous iterations of the plan that called for back-in loading via a curb cut on M Street. DDOT does not permit back-in loading maneuvers in public space. Such a requirement is particularly important given the fact that the Anacostia Riverwalk Trail passes along the south side of M Street adjacent to Building 3, which would increase exposure risk from the loading facility to cyclists traveling along the trail. The Applicant must submit a formal loading zone request to DDOT. DDOT will review the request and determine if the need for loading facilities in the vicinity warrants a curbside loading zone. DDOT's lack of objection to the loading relief does not constitute approval for the curbside loading zone. Should the request for a curbside loading zone be denied, the Applicant and/or tenants could apply for DDOT Emergency No Parking signs to establish a temporary loading zone.

Appropriate measures for mitigating the impacts of the loading relief and promoting safe loading operations are discussed in the Mitigations section.

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 the DC Municipal Regulations, DDOT's *Design and Engineering Manual* will serve as the main public realm references for the Applicant. DDOT staff will be available to provide additional

guidance during the public space permitting process. Specifically, DDOT suggests that the Applicant participate in a Preliminary Design Review Meeting (PDRM) to address design related issues prior to the submission of public space permit applications.

The Applicant is offering as a public amenity to construct a grand staircase to connect Virginia Avenue with Water Street. The feature would create a new pedestrian and bicycle connection where one does not currently exist, providing improved access to the Anacostia River. A significant portion of the grand stair case is proposed in public space. At its November hearing, the Public Space Committee granted conceptual approval of the grand stair case in public space. The Applicant is required to coordinate closely with DDOT and OP on the final design of the staircase during the public space permitting process.

As discussed above, the Applicant will construct an approximately 450' extension of Virginia Avenue from the existing traffic circle to the southeast and will reconstruct M Street along the frontage of the subject property. Additionally, the Applicant will be required to extend an existing path on Water Street along the extent of the property. For all of these improvements, the Applicant will be required to meet DDOT standards. Final design of all public space elements, including the grand staircase and new roads, will be determined during DDOT's public space permitting process. These improvements are discussed in greater detail in the Mitigations section of this report.

Curbside Management

Curbside space is a limited commodity with multiple competing demands place upon it. This area is commonly utilized for vehicle parking in the District. However, in more densely populated areas, this space tends to serve a more diverse set of uses such as commercial loading zones, motorcoach passenger loading areas, bicycle parking corrals, bikeshare stations, and building entrance zones.

The Applicant's preliminary site plan identifies drop off areas for Building 1 Tower B, Building 2, and Building 3. These drop off zones take the form of a circular driveway for Building 2 and lay-bys for Building 1 Tower B and Building 3. DDOT does not support circular driveways or lay-bys for this project and they should be removed from the site plan. The drop off zones will be addressed during the public space permitting process.

As discussed in the Curbside Management section above, the Applicant proposes a curbside loading zone for Building 3 in lieu of on-site loading facilities, which will be reviewed by DDOT as part of a formal application submitted by the Applicant. The Applicant's preliminary site plan also identifies a curbside loading zone on M Street adjacent to Building 1 Tower A. DDOT will not permit a curbside loading zone for Building 1 Tower A because on-site loading is provided for this building. The site plan should be updated accordingly.

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.

Based on the size of the proposed development and the number of vehicular parking spaces, DDOT recommends that the Applicant provide at least one 240-volt electric car charging station in the Building 1 parking garage and at least one station in the Building 2 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 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 travel forecasting methodology to include in the analysis. Specifically, the Applicant used the future traffic volumes from DDOT's most recently completed traffic analysis for 11th Street Bridge FEIS as a basis to estimate future volumes.

Off-Street Parking

The overall parking demand created by the development is primarily a function of land use, development square footage, and price/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, and proximity to transit.

The Applicant proposes 221 off-street parking spaces, which exceeds the minimum 176 spaces required by zoning. Of the 221 spaces, 214 are for residential units and seven are for retail uses. This equates to a parking ratio of 0.32 parking spaces per residential unit, which is generally consistent with the level of parking provision for other proposed projects throughout the District. However, this also equates to approximately 450 residential units without vehicle parking. Given the relatively isolated nature of the site and the limited number of transportation alternatives available, a robust Transportation Demand Management plan to promote the use on non-auto transportation options and low rates of auto-ownership is crucial to minimize potential transportation impacts.

Trip Generation

The Applicant provided trip generation estimates utilizing the Institute of Traffic Engineers (ITE) Trip Generation Manual. The Applicant applied an internal capture rate to account for retail trips generated from the residential uses on the site. No pass-by trip reduction was utilized per DDOT's direction. Because of the site's relative isolated nature, it is unlikely that the retail component of the project will attract pass-by trips. DDOT generally find this methodology appropriate.

Each trip a person makes is made by a certain means of travel, such as vehicle, bicycle, walking, etc. 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, availability

and cost of parking, among many others. The Applicant developed mode split assumptions informed by WMATA's 2005 Development-Related Ridership Survey and data from the US Census Bureau. The Applicant assumed a 50% non-auto mode split for the project.

Based on the trip generation and mode split assumptions, the Applicant predicted the following level of weekday peak hour trip generation:

LAND USE	AM PEAK HOUR			PM PEAK HOUR		
	IN	OUT	TOTAL	IN	OUT	TOTAL
APARTMENTS - LUC 220 (673 DU)						
Total Trips ¹	67	267	334	252	136	388
Internal Trips ²	(1)	(1)	(2)	(8)	(6)	(14)
External Trips	66	266	332	244	130	374
Total Non-auto Trips ³	(33)	(133)	(166)	(122)	(65)	(187)
Transit (38%)	(25)	(101)	(126)	(93)	(49)	(142)
Bicycle (2%)	(1)	(5)	(6)	(5)	(3)	(8)
Pedestrian (10%)	(7)	(27)	(34)	(24)	(13)	(37)
New Vehicle Trips	33	133	166	122	65	187
RETAIL - LUC 820 (10,370 SF)						
Total Trips ¹	24	15	39	63	68	131
Internal Trips ²	(1)	(1)	(2)	(6)	(8)	(14)
External Trips	23	14	37	57	60	117
Total Non-auto Trips ⁴	(3)	(2)	(5)	(9)	(9)	(18)
Transit (9%)	(2)	(1)	(3)	(5)	(5)	(10)
Bicycle (5%)	(1)	(1)	(2)	(3)	(3)	(6)
Pedestrian (1%)	(0)	(0)	(0)	(1)	(1)	(2)
New Vehicle Trips	20	12	32	48	51	99
DEVELOPMENT TOTALS						
Total Trips ¹	91	282	373	315	204	519
Internal Trips ²	(2)	(2)	(4)	(14)	(14)	(28)
External Trips	89	280	369	301	190	491
Total Non-Auto Trips	(36)	(135)	(171)	(131)	(74)	(205)
Transit	(27)	(102)	(129)	(98)	(54)	(152)
Bicycle	(2)	(6)	(8)	(8)	(6)	(14)
Pedestrian	(7)	(27)	(34)	(25)	(14)	(39)
New Vehicle Trips	53	145	198	170	116	286
¹ Trips generated using Institute of Transportation Engineers (ITE) Trip Generation, Ninth Edition. ² Internal Trips based on methodology outlined in ITE's Trip Generation Manual. AM internal capture assumed to be half that of PM. ³ Non-auto Mode Splits for residential use are based on Census Data. ⁴ Non-auto Mode Splits for retail use are based on 2005 WMATA Ridership Survey and proposed parking supply.						

Figure 2 Weekday Peak Hour Vehicle Trip Generation (Source: Wells + Associates)

With the proposed trip generation and mode split assumptions, the proposed action is expected to generate a significant number of transit and vehicular trips during the morning and evening peak hours.

While DDOT believes this mode split is achievable in light of the vehicle parking provision, the site has limited access to non-auto transportation options. As is discussed in greater detail in the Mitigations

section below, a robust TDM plan is required in order to justify the proposed non-auto mode split. As proposed, the TDM plan does not adequately support the mode split assumptions used in the analysis and must be strengthened. Without additional TDM elements, the site is likely to generate additional vehicle trips, which have the potential to further impact vehicle travel conditions in the vicinity. To further minimize the potential for vehicle impacts, the Applicant should agree to a prohibition of satellite parking agreements with off-site parking providers in order to ensure that the site does not generate additional vehicle trips beyond what was studied as part of this analysis.

Study Area and Data Collection

The Applicant in conjunction with DDOT identified thirteen intersections where level of service analysis would be performed. These intersections are immediately adjacent to the site and include intersections radially outward from the site that have the greatest potential to see moderate to significant increases 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 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 utilized forecasts from the 11th Street Bridge FEIS rather than use existing traffic volumes to forecast future traffic. However, data collection at select intersections within the study area was performed to capture data not included in the FEIS including peak hour factors, heavy vehicle percentages, bicycle volumes, and pedestrian volumes in the study area. DDOT is generally in agreement with this methodology.

Analysis

To determine the action's impacts on the transportation network, a CTR includes an extensive multi-modal analysis of the existing baseline conditions, future conditions without the proposed action, and future conditions with the proposed development. The Applicant completed their analysis based on the assumptions described above.

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.

Analysis provided by the Applicant shows that vehicle traffic impacts from the action will negatively impact conditions at three intersections during the PM peak area as measured by Level of Service (LOS). Each of these intersections is projected to operate at unacceptable levels under background conditions; however, the proposed development will substantially increase the delay:

- M Street/12th Street
- M Street/9th Street
- I Street/11th Street

The Applicant's analysis reveals that vehicle queuing space would nominally exceed available queue space at the 11th Street/I-696 eastbound off-ramp intersection and exceed available queue space by approximately 4 vehicle lengths at the intersection of 12th Street/Southeast Boulevard intersection.

Appropriate mitigations for the impacted intersections are discussed in the Mitigations section.

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.

Two major transportation facilities serve to isolate the subject site from the surrounding neighborhoods and constrains access to plentiful transit options in the surrounding vicinity. The 11th Street bridges to the west create a visual barrier between the subject site and points east, which is reinforced by surface roads with high daily vehicle volumes that detract from the pedestrian friendliness of the area. To the north, the CSX right of way and the former Southeast/Southwest Freeway create a physical barrier that cannot be crossed under current conditions. DDOT is currently studying as part of the Barney Circle and Southeast Boulevard Transportation Planning Study the inclusion of one or more pedestrian crossings that would connect the subject site with the neighborhood to the north where the Potomac Avenue Metro Station is located. However, these plans are in the early stages and there are no set plans or timeframe for study completion or implementation.

While the Potomac Avenue Metro Station is only 0.3 miles away from the subject site as the crow flies, the walking distance around the infrastructure barriers is .7 miles, or approximately a 14 minute walk. Additionally, the Navy Yard-Ballpark Metro Station is 0.9 miles to the east or an approximately 18 minute walk. Under current conditions, both Metro stations are outside of the typical ½ walkshed of heavy rail stations. Additionally, walking to either Metro station would require walking through the 11th Street bridges project area.

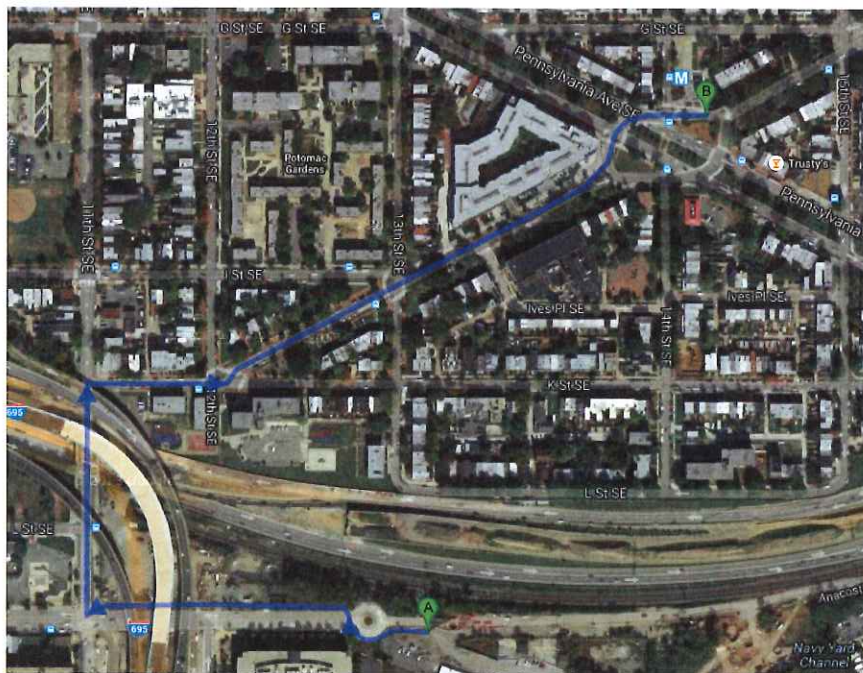
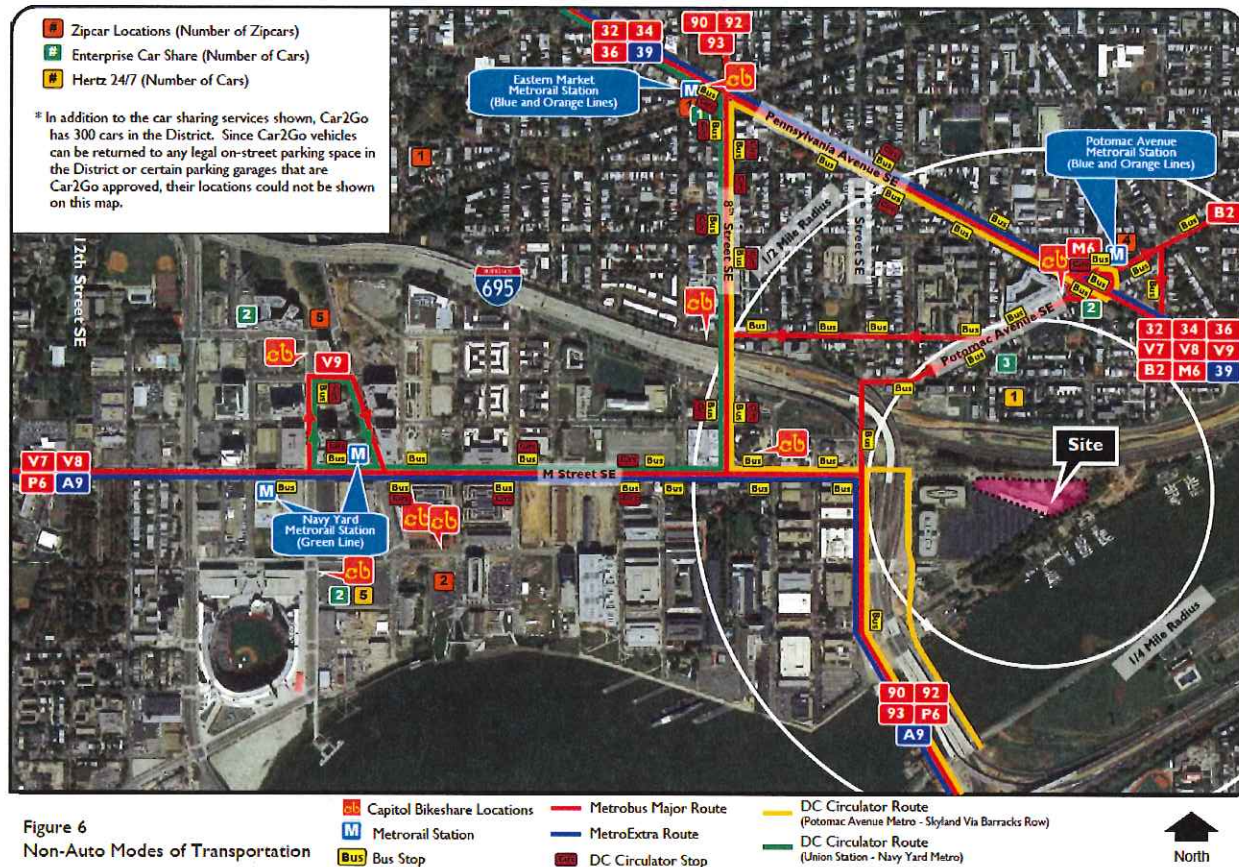


Figure 3 Walking Route to Potomac Avenue Metro Station Under Current Conditions (0.7 Miles)

Easily accessible bus stops within ¼ mile of the site are also limited under current conditions. Only the V7/V9 line has stops that are accessible within ¼ mile of the site, but even then the walking distance is greater than ¼ mile due to the CSX/Southeast-Southwest Freeway barrier. Bus service is more plentiful within ½ mile of the site; however this is beyond the typical walkshed of buses.



The Applicant performed a transit demand analysis to determine the number of transit seats needed to serve the residential component of the project during the peak hour. The Applicant’s analysis assumed that 38% of the overall site trips would be made by transit and 84% of those trips would be made by Metrorail with the remaining 16% made by bus. The analysis only considered transit demand from the residential component of the project. Based on these assumptions, the Applicant determined the following cumulative transit demand, by development phase:

- Phase 1: 29 transit trips
- Phase 2: 45 transit trips
- Phase 3: 75 transit trips
- Phase 4: 86 transit trips

The assumptions used in this assessment likely underestimate the amount of transit demand generated by the project. First, the assumptions that 50% of travel demand will be by vehicle is likely high due to the level of parking provided on-site. However, this assumption allows for a conservative vehicle travel analysis. Second, it is unlikely that 16% of transit riders will use bus service due to the lack of easily

accessible bus stops in close proximity and the inaccessibility of employment centers to the routes. Thus, it seems most likely that more than the 38% assumed to use transit will and that of the transit users, fewer than assumed are likely to utilize Metrobus service.

DDOT would expect the demand for transit travel to approach 350 person trips for the peak periods at full build-out of the project. As previously noted, approximately 450 units will not have vehicles on site and will need to find non-single occupancy vehicle travel. If the travel demand from these 450 units is proportioned according to the assumed mode split, 38% transit and 12% bike/pedestrian, then between 325-350 of those units would utilize transit. Assuming a marginal number utilize bus service, residents from well over 300 units are likely to utilize transit in the peak travel periods. It is also appropriate to evaluate transit demand for the actual peak period rather than only the peak hour. The peak period is typically 3 hours long, with the overall peak periods lasting from approximately 7am-10am and 4pm-7pm. Thus, DDOT would expect more than 100 person trips in the peak direction in the peak period in each of the three peak hours.

In sum, the site is not served well by transit, and the existing transit is insufficient to accommodate the transit demand generated by the project. Strategies for increasing transit service to the site are discussed in the Mitigations section.

Pedestrian Facilities

The District is committed to enhance the 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 Applicant performed a high level summary of the pedestrian infrastructure in the vicinity and noted any substandard conditions. Sidewalks are temporarily closed on portions of 11th Street and M Street west of the circle due to the 11th Street Bridge construction project. Existing sidewalk widths on both M Street and 11th Street do not meet DDOT's 6-foot minimum width standard. Additionally, no pedestrian facilities are present on M Street east of the circle. As will be discussed in the Mitigations section, while the Applicant will construct sidewalks as part of the rebuilding of M Street, this is proposed to take place in conjunction with Phase 2 (Building 1 Tower B). Such a timeframe would result in the opening of Phase 1 (Building 1 Tower 1), which front M Street, without sufficient pedestrian facilities. Finally, a multiuse path only extends along a portion of the property's Water Street frontage, leaving a gap in pedestrian connectivity.

As discussed in the Site Access section, the Applicant is expected to work with DDOT through the public space permitting process to ensure that adequate pedestrian facilities are incorporated into the public space adjacent to the subject site. This includes M Street, Virginia Avenue, and Water Street. DDOT expects the Applicant to meet all DDOT standards for pedestrian facilities, including sidewalks that are a minimum of 8', exclusive of the tree box planting area. In addition to these pedestrian improvements, the Applicant may be required to make additional improvements to the pedestrian network during the public space permitting process.

Bicycle Facilities

The District of Columbia is committed to enhance bicycle access by ensuring consistent investment in bicycle 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 bicycling trips. The site is adjacent to the Anacostia Riverwalk Trail and provides an east-west bicycle connection. Adjacent to the site, the trail is approximately 8', which is below the standard of 10' for a multiuse trail. The site is in close proximity to bicycle lanes on 11th Street that provide a north-south connection.

Currently no Capital Bikeshare stations are located within one-quarter mile of the site. There are three stations located approximately ½ mile from the site, which is considered beyond the typical walkshed of a station.

The Applicant proposes at least 224 secure long-term bicycle parking spaces for the overall project. The Building 1 long-term bicycle parking spaces will be located on the P1 level of the parking garage. In order to support the proposed mode split it may be necessary to provide additional long-term bicycle parking spaces for future phases, and the adequacy of bicycle parking facilities will be reviewed during the Stage 2 PUD review for later phases of the project. Additionally, bicycle parking locations for Building 2 and Building 3, which are not currently shown on the site plans, will be reviewed during the Stage 2 PUD review. DDOT notes that since no vehicle parking garage is currently proposed for Building 3, the bicycle parking will need to be provided in a bicycle room. The Applicant is expected to provide an appropriate number of short-term bicycle facilities for each phase. The number and location of short-term bicycle facilities will be determined during the public space permitting process.

Curbside Parking

For parking relief actions or larger developments that may have a greater impact on the local neighborhood, the CTR must evaluate the supply of and demand for curbside parking spaces. Based on the quantitative analysis provided, the CTR should provide an evaluation of the adequacy of curbside parking to accommodate excess demand generated by an action.

There is currently no on-street parking adjacent to the site, but metered spaces exist along M Street west of the circle. The proposed site design allows for 37 new on-street parking spaces on M Street, Virginia Avenue, and the new private street. The Applicant is required to coordinate with DDOT on a curbside management plan during the public space permitting process, including a management strategy for parking. Curbside parking should be managed such that it is not a viable option for potential long-term spillover parking for future residents or employees at nearby employment centers. DDOT and the Applicant are in agreement that curbside parking spaces should be metered so as to deter long-term parking in these spaces.

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 as 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 Applicant’s analysis of DDOT crash data reveals three intersections within the study area that have a crash rate of 1.0 Million Entering Vehicles (MEV) or higher. A significant portion of the crashes are designated as “rear end” or “side swipe” crashes.

Intersection	Number of Crashes (3 Years)	ADT (veh/day)	Crash Rate (MEV)
M Street/Water Street (Unsignalized)	3	4,600	0.60
M Street/12 th Street/11 th Street Bridge Off-ramp (Signalized)	18	6,140	2.68
M Street/11 th Street (Signalized)	62	26,530	2.13
M Street/9 th Street/Parsons Street (Signalized)	19	11,850	1.46
M Street/8 th Street (Signalized) ¹	6	3	0.24
11 th Street/I Street (Signalized)	10	11,710	0.78

Figure 5 Intersection Safety (Source: Wells + Associates)

The Applicant’s analysis noted that no discernable trend could be identified and that no mitigations measures could be determined. It is likely that the 11th Street Bridge construction project influenced the high crash rates at intersections within the study area. The 11th Street Bridge project has altered several of these intersections; therefore, crash rates are expected to decrease in the vicinity.

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.

Physical Improvements to the Right-of-Way

Physical improvements to the right-of-way are occasionally needed in order to accommodate site-generated traffic.

The road network in the immediate vicinity of the site is currently incomplete or substandard – Virginia Avenue does not currently exist and M Street does not meet current DDOT standards. The Applicant

proposes a number of improvements to the adjacent roads in order to provide access to the site. The Applicant proposes a series of physical improvements to address these issues. DDOT agrees that the following changes should be made:

- The Applicant will rebuild M Street from the circle to Water Street. The existing M Street does not meet DDOT standards and is in poor condition. Rebuilding M Street is necessary to provide adequate site access to the subject site. The M Street right of way is approximately 72 feet wide. The anticipated cross section of the rebuilt street is likely to include:
 - 8' sidewalk on south side
 - 4' tree box on south side
 - 8' parking lane on south side
 - 2 11.5' travel lanes
 - 4' tree box on north side
 - 10' Anacostia Riverwalk Trail on north side
 - 15' for a pedestrian crossing landing as part of a future Barney Circle and Southeast Boulevard Transportation Planning Study

M Street shall be rebuilt to current DDOT standards. The Applicant is required to coordinate with DDOT on the final design of the street.

- The Applicant will construct Virginia Avenue for a length of approximately 450 feet from the circle to the intersection of the proposed private road. The Virginia Avenue roadway does not currently exist. Constructing Virginia Avenue is necessary to provide adequate site access to the subject site. The Virginia Avenue right of way varies in width. Because of this, it may be necessary for the Applicant to construct portions of the sidewalk and tree box on private property. A public access easement for any portion of the sidewalk on private property would be required in order to ensure a continuous public sidewalk along the extent of the street. The anticipated cross section of the newly constructed street is likely to include:
 - 8' sidewalk on south side
 - 6' tree box on south side
 - 8' parking lane on south side
 - 2 11' travel lanes
 - 8' parking lane on north side
 - 6' tree box on north side

Virginia Avenue shall be built to current DDOT standards. The Applicant is required to coordinate with DDOT on the final design of the street.

- The Applicant will reconstruct the Anacostia Riverwalk Trail along the M Street frontage of the property between the traffic circle and Water Street. The trail, which is currently too narrow and in poor repair, should be at least 10-foot wide and reconstructed on the north side of M Street. The Applicant is required to coordinate with DDOT through the public space permitting process on the final design of the trail.
- The Applicant will extend the existing multiuse trail on Water Street along the entire extent of the property. The Applicant is required to coordinate with DDOT through the public space permitting process on the final design of the trail.

A new private street is proposed to connect M Street with Virginia Avenue. The back-in loading design of the loading berths on the private street do not meet DDOT standards. Accordingly, DDOT is highly unlikely to accept the private street as a public street in the future. As such, DDOT will not maintain, plow, or manage the street.

The Applicant proposes the following phasing plan for the physical improvements:

- Phase 1 – 2018
 - Completion of Virginia Avenue Extension;
 - Public Parking on Virginia Avenue;
 - Construction of the private roadway;
 - Shuttle service either individually or as a collective with other stakeholders in the BID between the site and Metro; and
 - TDM plan implementation.
- Phase 2 – 2022
 - Reconstruction of M Street between the traffic circle and Water Street;
 - Reconstruction of the Anacostia Riverwalk Trail between the traffic circle and Water Street; and
 - Public Parking on M Street.
- Phase 3 – 2027
 - No additional physical improvements.
- Phase 4 – 2030
 - Pedestrian path extension on Water Street.

DDOT agrees that the implementation plan of the physical improvements is generally appropriate with the following exception: While the Applicant will construct sidewalks as part of the rebuilding of M Street, this is proposed to take place in conjunction with Phase 2 (Building 1 Tower B). Such a timeframe would result in the opening of Phase 1 (Building 1 Tower 1), which front M Street, without sufficient pedestrian facilities. The Applicant has committed to construct a sidewalk on the south side of M Street as part of Phase 1 in order to provide pedestrian access to Building 1 Tower 1. The sidewalk shall be built to current DDOT standards. The Applicant is required to coordinate with DDOT on the final design of the sidewalk.

To mitigate the vehicular impacts caused by the project, the Applicant proposes operational and roadway changes:

- Signal timing changes: The Applicant proposes a series of signal timing changes to improve LOS and reduce queue lengths at impacted intersections. DDOT will further review the signal timing change to determine if they are appropriate.
- I Street/11th Street modifications: The proposed changes to this intersection would require the removal of parking and modify the bicycle lane. While such changes may improve vehicle operations, they would negatively impact other modes and is therefore not appropriate. DDOT does not support the recommended changes to this intersection and the Applicant should strengthen the proposed TDM plan instead.

Loading

Truck loading and deliveries should be accommodated in a safe and efficient manner, preserving safety across non-vehicle modes and limiting impacts to traffic operations.

The Applicant proposes a Loading Management Plan to mitigate the impacts of the loading relief:

- Designate a member of the on-site management team as a loading coordinator;
- Require all tenants to use the on-site loading facilities for move-in/move-out activities;

- Restrict all tenants from using trucks longer than 30 feet;
- Require all tenants to notify the loading coordinator ahead of planned loading activities;
- In the event that trucks longer than 30 feet are required, emergency no parking signs from DDOT are available, if necessary;
- Secure DDOT permits for oversize and overweight vehicles; and
- Prohibit truck idling.

DDOT find the Loading Management Plan a good basis for mitigating potential loading impacts of the loading relief recommends that the plan be strengthened with the following measure to mitigate the impact of back-in movements on the private street:

- Require a flagger to be present whenever a vehicle is entering/exiting the loading dock. This flagger will alert pedestrian/bicyclists/other vehicles to trucks that may be entering or exiting the loading facilities.

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.

Given the relative isolated nature of the subject site and the limited availability of transportation options in the vicinity, a robust TDM plan is particularly important to realize the high non-auto mode split assumed in the Applicant's analysis. The Applicant proposed the following TDM strategies:

- Designate a TDM coordinator responsible for disseminating transportation information to tenants;
- Provide information and/or website links to commuterconnections.com, goDCgo.com, and other transportation services on developer and property management websites;
- Make available at least 2 vehicle parking spaces for a carshare service if there is interest from a carshare service;
- Install an electronic transportation information screen in each of the four buildings;
- Provide at least 224 secure, long-term bicycle parking spaces;
- Provide a one year Capital Bikeshare membership or the registration free for Car2Go for each residential unit at initial occupancy; and
- Make available at least 10 bicycle helmets for use by residents.

Additionally, in lieu of the physical improvements to I Street/11th Street modifications, the Applicant proposes the following TDM measures:

- Reserve a space for a future Capital Bikeshare station; and
- Coordinate with local businesses and service providers to promote delivery services for residents.

DDOT finds that these two additional TDM measures do not sufficiently mitigate the impacts to the I Street/11th Street intersection. Rather than simply reserve a space for a future Capital Bikeshare stations, the Applicant should commit to fund the installation of a Capital Bikeshare station plus one year of operating expenses.

As discussed previously in this report, the TDM plan is not sufficiently robust to justify the proposed non-auto mode split. As proposed, the TDM plan does not adequately support the mode split assumptions used in the analysis and must be strengthened in order to achieve the desired transportation impacts. Without a stronger TDM plan, additional vehicle trips are likely that will negatively impact roadway operations in the vicinity. DDOT requests that the following changes be made to the Applicant's TDM plan as a condition of approval:

- Provide a one year Capital Bikeshare membership to each residential unit for a period of 10 years;
- Provide a one year carshare membership to each residential unit for a period of 10 years;
- Unbundle parking costs from the price of lease or purchase;
- As noted above, commit to fund the installation of a Capital Bikeshare station plus one year of operating expenses; and
- Agree to a prohibition of satellite parking agreements with off-site parking providers.

Transit Expansion

The Applicant proposes to implement a shuttle service in order to address the lack of transit service available in the proximity. The Applicant's proposal includes a route that connects the site with the Navy Yard-Ballpark Metro Station with stops. Headways of either 24 or 12 minutes are proposed.

DDOT is in agreement that a shuttle service is essential in order to meet transit demand generated by the project. However, DDOT anticipates greater demand for transit service than assumed by the Applicant, and a shuttle service must have sufficient capacity and level of service to accommodate a higher level of demand. Accordingly, DDOT requests that the Applicant commit to a shuttle service with the following features:

- Provide shuttle capacity to serve the projected demand, approximately 100 seats per hour at full build-out, in the peak direction for the peak period at a frequent headway. Shuttle demand is expected to increase as the project builds out. As such, shuttle service may be pro-rated according to development phase:

Development Phase	Residential Units	Proportion of Total Units	Transit Seats/Hour (Cumulative)
1	218	32%	32
2	133	20%	52
3	234	35%	77
4	88	13%	100
TOTAL	673	100%	100

- At a minimum, headways should be between 10-15 minutes for the peak period. While DDOT recommends maximum headways of 10-15 minutes, it is important to maintain as frequent service as feasible in order to offer a high-quality, high-frequency transit option that will attract ridership and offer a viable non-auto transportation option to residents of the project; and
- At a minimum, hours of operation should be over three hours during the AM and PM peak periods, generally 7AM-10AM and 4PM-7PM.

As the project builds out, the Applicant may increase the vehicle size and/or the frequency of headways in order to accommodate increased shuttle demand generated by the new phases.

The Applicant may partner with existing shuttle services in the vicinity so long as adequate capacity and service is provided to meet the needs of the site.

Pick-up/drop-off areas in public space for any new shuttle service are subject to DDOT approval. The Applicant must coordinate with DDOT on pick-up/drop-off areas in public space.

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