

**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:** June 4, 2018

**SUBJECT:** ZC Case No. 17-14 – 500 Penn Street NE

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**PROJECT SUMMARY**

UM 500 Penn Street NE, LLC & UDR, Inc. (the “Applicant”) proposes a Consolidated Planned Unit Development (PUD) and Related Map Amendment from the PDR-1 District to the MU-9 District under the 2016 Zoning Regulations at premises 500 Penn Street, N.E. (Sq. 3594, pt. of Lot 3) in Ward 5. The development program includes:

- 299 residential units
- 22,714 square feet of retail
- 203 vehicle parking spaces
- 103 long- and 22 short-term bicycle parking spaces

**SUMMARY OF DDOT REVIEW**

The District Department of Transportation (DDOT) is committed to achieve an exceptional quality of life in the nation’s capital by encouraging sustainable travel practices, safer streets, and 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 including the April 2017 Comprehensive Transportation Review (CTR) and May 25, 2018 transportation memorandum, DDOT finds:

### Site Design

- Vehicle site access and loading access is proposed from an existing public alley consistent with DDOT standards;
- The property immediately to the east of the subject site is expected to be redeveloped through a future PUD. This property, which is under the same ownership as the subject site, does not have alley access, but alley access could feasibly be provided via the subject site;
- Loading is appropriately designed without backing movements across the sidewalk;
- A series of canopies are proposed that do not meet regulations and are not explicitly supported by the Union Market Streetscape Guidelines and therefore cannot be supported at this time. The final design of the canopies will be addressed permitting; and
- Preliminary public space plans are generally consistent with the Union Market Streetscape Guidelines.

### Travel Assumptions

- The action is expected to generate a disproportionately high number of new vehicle trips, largely as the result of the high supply of vehicle parking spaces proposed for the project, along with a large number of transit and pedestrian trips and a moderate number of bicycle trips;
- The assumed auto-mode split is commensurate with the high level of parking provision, and the vehicle traffic projections in the CTR reasonably account for the high level of parking;
- The analysis correctly assumes a significant growth in trip-making as a result of other background developments in the vicinity;
- Per DDOT direction, the analysis assumes the conversion of 5<sup>th</sup> Street to two-way vehicular circulation, which currently operates as one-way northbound; and
- Significant pedestrian activity is expected between the on-site parking and the off-site uses.

### Analysis

- High parking provision for the subject site and other PUDs in the vicinity is likely to induce additional vehicle trips leading to congestion within the Market and can detract from the vision for high transit, bike, and pedestrian activity;
- The action is expected to significantly impact nine (9) intersection in the study area;
- The proposed mitigations are insufficient to fully mitigate expected impacts from the project. These impacts can be reduced but not eliminated through additional Transportation Demand Management (TDM) measures not currently proposed;
- The site is well-served by rail and bus services as well as a robust network of bicycle trails and paths; and
- Many of the existing substandard pedestrian conditions within the vicinity will be improved as part of the subject development and other developments in the Market, but several gaps are anticipated to remain and should be addressed by the Applicant.

### Mitigations

DDOT has no objection to the requested PUD with the following conditions:

- As proposed, signalize the Penn Street/4<sup>th</sup> Street intersection;
- Implement a southbound overlap phase at 4<sup>th</sup> Street & Florida Avenue through signal hardware improvements subject to DDOT approval at permitting;
- Implement wayfinding signage in the vicinity to encourage access via Brentwood Parkway if this improvement is not implemented by others prior to Certificate of Occupancy;

- Convert 5<sup>th</sup> Street to two-way operations between Morse Street and Penn Street if this improvement is not implemented by others prior to Certificate of Occupancy;
- Construct the following improvements to the pedestrian network:
  - Sidewalk gap on Penn Street – Install approximately 125 feet of sidewalk along the north side of Penn Street starting from the eastern edge of the subject site and improve any substandard pedestrian crossings in this stretch.
  - Sidewalk Gap on 4th Street – Install approximately 275 feet of sidewalk on the west side of 4th Street from New York Avenue to the property housing a PNC Bank branch and improve any substandard pedestrian crossings in this stretch.
  - Mid-block crossing on Penn Street – Remove the existing substandard and unwarranted mid-block north-south pedestrian crossing on Penn Street between 4th Street NE and 5th Street NE.
  - High-visibility crosswalk at NY/4th – Install a high-visibility crosswalk in this location to improve pedestrian safety.
- Provide an access easement on the subject site’s driveway to provide direct access between the neighboring property and the alley; and
- Implement the Transportation Demand Management (TDM) Plan as proposed by the Applicant in the April 2018 CTR and May 25, 2018 transportation memorandum, for the life of the project, unless otherwise noted, with the following revisions:
  - Supply 10 shopping carts for tenants to use for daily errands;
  - Charge market-rate costs for retail parking; and
  - Offer an annual Capital Bikeshare membership to each residential unit for a period of five (5) years.

### **Continued Coordination**

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

- Final design of public space, including curb and gutter, street trees and landscaping, street lights, sidewalks, and other features within the public rights of way, which are expected to be designed and built to the Union Market Streetscape Guidelines and DDOT standards;
- Final design of canopies, including any required code modifications;
- The location and treatment of short-term bicycle racks and utility vaults, which are expected to be located on private space;
- The development of a curbside management plan for streets adjacent to the site as part of the public space permitting process; and
- Location of electric vehicle charging stations.

### **TRANSPORTATION ANALYSIS**

DDOT requires applicants requesting an action from the Zoning Commission complete a 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

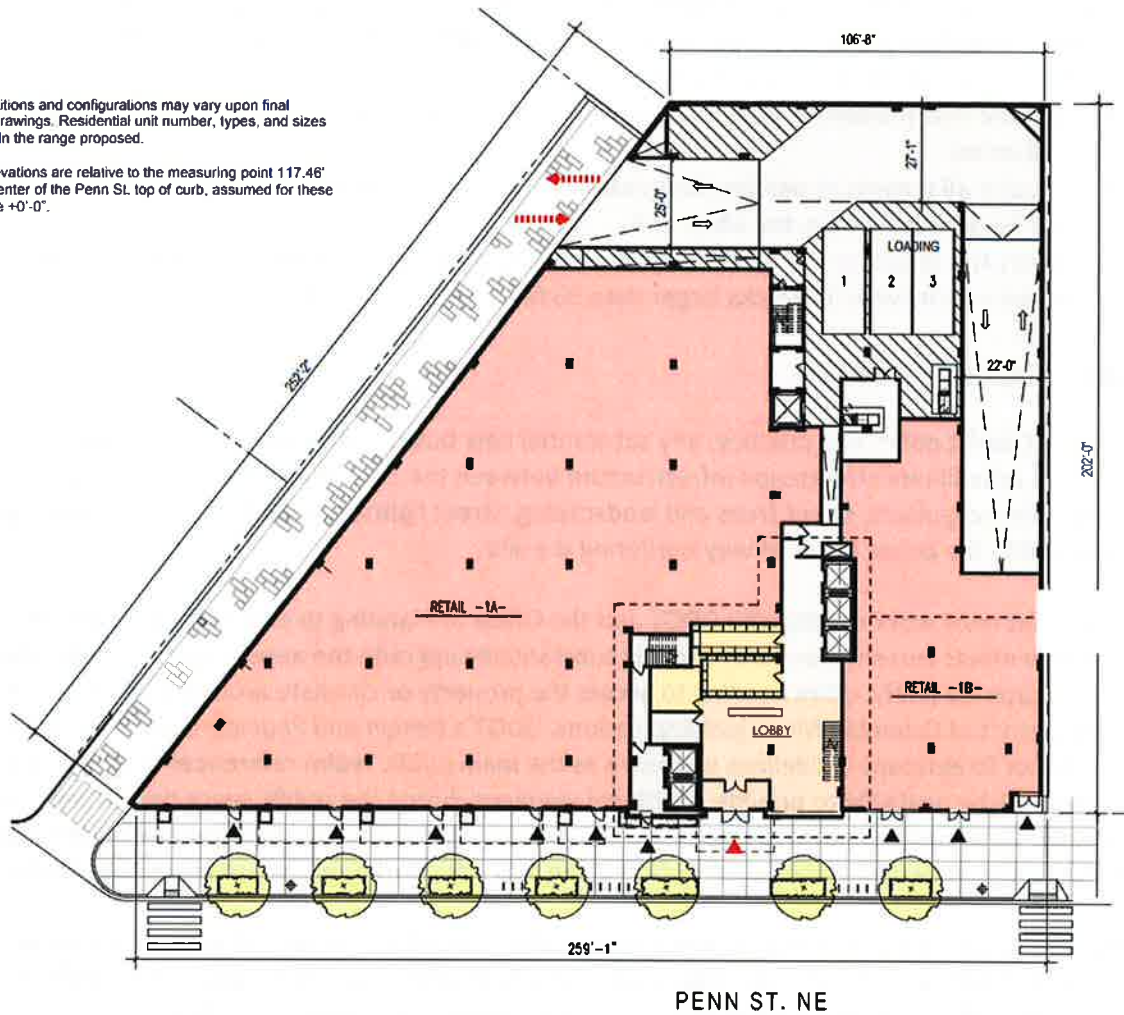
The site is bounded by Penn Street to the South, 4<sup>th</sup> Street to the west, a public alley to the north, and private property to the east. Parking garage and loading access is proposed from the adjacent public alley consistent with DDOT standards.

Pedestrian access is proposed from Penn Street. No pedestrian access is shown via the public alley. Figure 1 shows the proposed site plan.

Of note, the property immediately to the east of the subject site is expected to be subject to a future PUD. This neighboring property, which is under the same ownership as the subject site, does not have alley access. As discussed in the Mitigations section, providing a connection through the subject site would provide direct access from the neighboring property to the alley thus allowing site access for the neighboring property to be provided via the alley consistent with DDOT standards.

**Notes:**

1. Interior partitions and configurations may vary upon final construction drawings. Residential unit number, types, and sizes may vary within the range proposed.
2. All spot elevations are relative to the measuring point 117.46' taken at the center of the Penn St. top of curb, assumed for these drawings to be +0'-0".



**Figure 1 - Site Plan (Source: Pre-Hearing Statement)**

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 proposes two (2) 30 foot loading berths and one (1) service/delivery space consistent with zoning requirements. The Applicant proposes to take advantage of the zoning provision allowing loading facilities in mixed-use buildings to be shared as long as internal access provided to both uses. Each loading facility can be accessed with head-in/head-out maneuvers in public space.

While the zoning requirements are met, there is likely to be an occasional need to serve trucks that are larger than 30 feet for things such as residential move-in/move-out. In such occasions, emergency no parking permits are expected to be secured to reserve the curbside along the north side of Penn Street.

The Applicant proposes a Loading Management Plan (LMP) to mitigate potential mitigations from truck deliveries serving the site, which is appropriate. The LMP includes the following elements:

- Identify a loading dock coordinator;
- Require that residential move-in/move-out are scheduled and coordinated with retail deliveries;
- Require all tenants to use the designated on-site loading area. No deliveries or moving activities will be permitted from the alley; and
- Notify the tenant of the procedures for securing a temporary curbside location for the moving activity or delivery for trucks larger than 30 feet.

### 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 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 District of Columbia Municipal Regulations, DDOT's *Design and Engineering Manual* and the Union Market Streetscape Guidelines 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.

Dimensions of the total public space dimensions on Penn Street are consistent with the dimensions called for in the draft Union Market Streetscape Guidelines with an overall public spaces width of 25 feet. Critical public space zones established in the streetscape guidelines – including the tenant zone, pedestrian access route, and the flex zone – are appropriately shown on preliminary public space plans.

Utility vaults are shown in the public alley, which is an acceptable location for utility vaults. Grated utility vaults in public space will not be supported by DDOT during the public space permitting process.

A curbside management and signage plan will be required at public space permitting.

The following details within the draft streetscape plans are not consistent with the streetscape guidelines or DDOT standards and will require adjustment or additional discussion during the public space permitting process:

- Canopies – The Applicant proposes 10 foot canopies on Penn Street. While the streetscape guidelines identify canopies, including 10 foot canopies that exceed the Building Code, as a defining characteristic of some streets within Union Market, Penn Street is not identified as a street where there is a historic precedent for 10 foot canopies. As such, canopies generally are supported on Penn Street, but 10 foot canopies are not explicitly supported by the Streetscape Guidelines. 10 foot canopies would require a design waiver from DCRA and public space permits from DDOT. The Applicant should continue to coordinate with DDOT, OP, and DCRA through the permitting process on the final dimension and design of the canopies.

- Metal edging around tree boxes and landscape beds – Metal edging in these areas is not explicitly recommended in the Streetscape Guidelines and would represent a non-standard element in public space. Further coordination on this element is required during public space permitting. If this element is determined to be something that can be supported by DDOT, a maintenance covenant would be required as a condition of public space permit approval.
- Special paving – Architectural plans show what appears to be circular space paving units between the main residential entrance and the curb. While some special paving may be appropriate to mark the main entrance, the amount of appropriate special paving is generally limited to twice the width of the door and projecting no further than one-third the depth of the sidewalk area.
- Public art at 5<sup>th</sup> Street & Penn Street – The Streetscape Guidelines identify this intersection as a location for public art. No art is shown in this location in the conceptual public space plans.

Final design of the public space will be determined during public space permitting.

### 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. Non-Hazardous Heritage Trees may not be damaged or removed. A preliminary assessment by DDOT's Urban Forestry Administration (UFA) identified zero Heritage Trees on site. The Applicant should confirm the lack of Heritage Trees to ensure there are no conflicts between these protected trees, including on adjacent lots, and the proposed project. In the event that conflicts exist, the Applicant may be required to redesign the site plan in order to preserve any Non-Hazardous Heritage Trees. With approval by the Mayor and the Urban Forestry Administration, Heritage Trees might be permitted to be relocated.

### 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 four (4) 240-volt electric car charging for parking supply, representing approximately one (1) electric charging station per 50 vehicle parking spaces. The Applicant proposes to meet this recommendation.

### **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 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.

DDOT also requires applicants account for regional growth. 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 use of an appropriate growth rate to accurately account for background growth.

### 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.

A total of 203 vehicle parking spaces are proposed for the site across three (3) levels of below-grade parking. This is in excess of the 126 vehicle parking spaces required by zoning, including 99 spaces for residential uses and 27 for retail uses. It is anticipated the Applicant will dedicate one (1) floor to residential uses and two (2) levels to retail uses.

DDOT has concerns with the overall high level of parking provision to be provided within the Union Market area. As shown in Table 1 below, over 700 spaces in excess of the required number of parking spaces are proposed as part of PUDs involving Edens. Note that Table 1 does not account for parking proposed as part of other PUDs in Union Market, which also exceed minimum parking requirements. The Applicant's justification for the high parking provision is to provide parking reservoirs to serve properties in the Market's "spine" (between Neal Place, Morse Street, 4<sup>th</sup> Street, and 5<sup>th</sup> Street) that are small and may not have the ability to provide the parking needed to serve those sites and to replace street parking spaces lost to the reconfiguration of the ROWs within the Market from perpendicular parking to parallel parking. High levels of parking provision, however, serve to induce additional vehicle trips whereas constrained and properly managed parking can encourage a more balanced mix of travel options that include transit, walking, biking, and driving. Providing excess parking is likely to result in high automobile mode splits for the Market, leading to congestion within and adjacent to the Market as discussed in the Analysis section. High vehicle volumes can detract from the vision for high transit, bike, and pedestrian activity as laid out in various District policies and documents like the Florida Avenue Market Small Area Plan, Comprehensive Plan, moveDC, and the Sustainable DC Plan. DDOT notes that the Applicant has assumed an auto-mode split commensurate with the level of parking provision and that the vehicle traffic projections in the CTR reasonably account for the high level of parking.



**Table 1 Parking at Edens-Involved PUDs**

Development	Req'd Parking Spaces	Proposed/Approved Parking Spaces (max)	# of Additional Spaces Provided	% of Req'd Space Provided
Gateway Market	85	215	130	253%
Angelika	301	475	174	158%
Shapiro South*	178	430	252	242%
Shapiro North**	58	135	77	233%
500 Penn Street	126	203	77	161%
<b>TOTAL</b>	<b>748</b>	<b>1458</b>	<b>710</b>	<b>195%</b>
*As modified by ZC Case No. 14-07A				
**As modified by ZC Case No. 14-07B				

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, availability and cost of parking, among many others.

The Applicant provided trip generation estimates utilizing the Institute of Transportation Engineers (ITE) Trip Generation Manual 9<sup>th</sup> Edition and the assumed mode split to convert base vehicular trips to base person trips using average auto occupancy data and then back to vehicular trips. The Applicant utilized the following ITE land uses in their trip generation estimation:

- Residential: Apartment (Code 220)
- Retail: Shopping Center (Code 820)

DDOT generally finds the use of ITE codes appropriate, but notes the lack of dependable information on trip generation in urban contexts. Thus, the methodology was supplemented to account for the urban nature of the site and to split the trips into the appropriate mode. Mode split assumptions used in the subject analysis were informed by the building location and program. The Applicant developed the following mode split assumptions:

- Residential – 50% auto, 50% non-auto (40% transit, 3% bike, and 7% walk)
- Retail – 70% auto, 30% non-auto (25% transit, 1% bike, and 4% walk)

These mode splits are achievable based on the expected behavior of residents in the area, but must be supported by commensurate TDM and infrastructure facilities investment. Failure to provide a robust TDM plan and infrastructure improvements could result in higher auto usage and impacts to the network.

Based on the trip generation and mode split assumptions discussed above, 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
<b>Proposed Development</b>							
302 DU Apartment (LUC 220)	Total Trips	30	122	152	120	64	184
	Non-auto Trips	15	61	76	60	32	92
	Transit	12	49	61	48	26	74
	Bicycle	1	4	5	4	2	6
	Pedestrian	2	8	10	8	4	12
	Vehicle Trips	15	61	76	60	32	92
23,660 SF Retail (LUC 820)	Total Trips	40	25	65	109	119	228
	Non-auto Trips	12	7	19	33	36	69
	Transit	10	6	16	27	30	57
	Bicycle	-	-	-	1	1	2
	Pedestrian	2	1	3	5	5	10
	Vehicle Trips	28	18	46	76	83	159
Total Proposed Development	Total Trips	70	147	217	229	183	412
	Non-auto Trips	27	68	95	93	68	161
	Transit	22	55	77	75	56	131
	Bicycle	1	4	5	5	3	8
	Pedestrian	4	9	13	13	9	22
	Vehicle Trips	43	79	122	136	115	251

Figure 2 Multi-Modal Trip Generation (Source: CTR)

Background Transportation Improvements

Background transportation improvements are future changes to the transportation network that expected to be in place by the time the development is complete. The Applicant and DDOT coordinated to determine an appropriate list of background improvements to be assumed for the future. The changes include the conversion of 4<sup>th</sup> Street and 5<sup>th</sup> Street to two-way operations to facilitate circulation within the Market. 4<sup>th</sup> Street is being converted to two-way circulation as part of ZC Case No. 14-07. In the event that 5<sup>th</sup> Street has not been converted to two-way operations by the time the subject development is complete, the Applicant should implement this change so that the analysis completed in the CTR is consistent with the assumed road network.

Trip Distribution

Trip distribution refers to how site traffic travels to and from the site and determines the number of trips expected to be routed through each study area intersection. The Applicant and DDOT coordinated to determine appropriate assumptions for anticipated trip distribution as shown in Figure 3. The ability to influence trip routing decisions through wayfinding may be appropriate as a means to mitigate impacts at impacted study area intersections. Appropriate routing interventions are discussed in the Mitigations section.

Roadway	Direction	Residential	Retail
Florida Avenue	To/from East	20%	15%
	To/from West	30%	15%
New York Avenue	To/from North	10%	5%
	To/from South	10%	10%
Brentwood Parkway	To/from North	0%	15%
5 <sup>th</sup> Street	To/from South	10%	15%
6 <sup>th</sup> Street	From North	20%	25%
4 <sup>th</sup> Street	To South	20%	25%

Figure 3 Trip Distribution (Source: CTR)

Study Area and Data Collection

The Applicant in conjunction with DDOT identified 13 intersections where detailed vehicle, bicycle, and pedestrian counts would be conducted 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 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.

Traffic counts were performed on Wednesday, April 26, 2017 when DC Public Schools and Gallaudet University were in session. DDOT agrees with the time frame and collection date.

**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

Analysis provided by the Applicant shows that nine (9) intersections within the study area operate under failing conditions as measured by Level of Service (LOS) as a result of the action. The action is expected to significantly impact the following intersections:

- Penn Street & 4<sup>th</sup> Street NE
- Penn Street & 5<sup>th</sup> Street NE
- Penn Street & 6<sup>th</sup> Street/Brentwood Parkway NE
- 4<sup>th</sup> Street & Morse Street NE
- 5<sup>th</sup> Street & Morse Street NE
- 6<sup>th</sup> Street & Morse Street NE
- Florida Avenue & 4<sup>th</sup> Street NE
- Florida Avenue & 5<sup>th</sup> Street NE
- Florida Avenue & 6<sup>th</sup> Street NE

In addition, a queue analysis identified queuing impacts at the Penn Street & 4<sup>th</sup> Street NE where queuing in the westbound approach exceeds available queue space in the AM and PM peaks hours.

The vehicle capacity and queuing analyses reveal a constrained network in the vicinity of the site. Given the significant amount of development in the vicinity, a large number of new vehicle trips are assumed to be added to the area. The addition of trips from the subject property contributes to those background trips and exacerbates conditions at intersections negatively impacted by background developments. As discussed in the Travel Assumptions section, the provision of a third parking garage level accelerates impacts by generating additional vehicle trips in an already congested study area.

The Applicant explored several improvements to mitigate impacts. Table 2 below summarizes the proposed mitigations for each of the impacted intersections and provides DDOT’s evaluation for each intersection, which is further explained in the Mitigations section.

Table 2 Proposed Mitigations

<b>Intersection</b>	<b>Proposed Mitigation</b>	<b>DDOT Evaluation/Response</b>
Penn Street/4 <sup>th</sup> Street	Signalization	DDOT agrees
Penn Street/ 5 <sup>th</sup> Street	Removal of parking for a turn lane was studied but rejected by the Applicant	Strengthen TDM plan to address unmitigated intersection
Penn Street/6 <sup>th</sup> Street/Brentwood Parkway	Signal retiming	Strengthen TDM plan to address unmitigated intersection
Morse Street/4 <sup>th</sup> Street	No mitigations proposed	Strengthen TDM plan to address unmitigated intersection
Morse Street/5 <sup>th</sup> Street	No physical or operational improvements feasible; pursue TDM instead	Strengthen TDM plan to address unmitigated intersection
Morse Street/6 <sup>th</sup> Street	No physical or operational improvements feasible; pursue TDM instead	Strengthen TDM plan to address unmitigated intersection
Florida Avenue/6 <sup>th</sup> Street	No physical or operational improvements feasible; pursue TDM instead	Strengthen TDM plan to address unmitigated intersection
Florida Avenue/6 <sup>th</sup> Street	No mitigations proposed	Strengthen TDM plan to address unmitigated intersection
Florida Avenue/4 <sup>th</sup> Street	Evaluated a southbound overlap phase requiring the removal of parking but did not commit to this mitigation	Commit to implementing the southbound overlapping phase, subject to DDOT approval at permitting

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.

The site is overall well-served by high quality transit. The site is located approximately 0.6 miles (10-12 minute walk) from the NoMa-Gallaudet U Metro station, which services the Red Line.

The site is well-served by high-frequency bus routes. No bus stops are currently located within the interior of the Market, but several exist along the perimeter on Florida Avenue that serve the U Street-Garfield Line (Routes 90 and 92) and the Benning Road Line (Route X3).

The U Street-Garfield Line provides frequent service with peak hour headways less than 10 minutes. The closest bus stops are at 5<sup>th</sup> Street/Florida Avenue.

WMATA's analysis of bus load factors revealed overcrowding conditions on the 90 Line. A recent study of the route recommended a WMATA Express route for this line in the future. Funding for the expanded bus service has not been identified.

While the site is well-served by transit, no transit options serve the site directly. Transit riders must walk to/from the site and the rail station or bus stop. Ensuring adequate pedestrian facilities to connect site visitors with transit options is critical for making transit accessible and realizing the anticipated mode splits.

#### Pedestrian Facilities

The Applicant's inventory of the pedestrian infrastructure in the vicinity identified significant substandard pedestrian facilities exist in the Market. Developments in the Market (ZC 06-40C, ZC 14-07, and 14-12, 15-24, 15-24A, 15-27, and 16-05) will upgrade the pedestrian facilities on 4<sup>th</sup> Street between Florida Avenue and Penn Street, the south side of Neal Place between 4<sup>th</sup> Street and 5<sup>th</sup> Street, 5<sup>th</sup> Street and 6<sup>th</sup> Street between Morse Street and Penn Street, the north side of Morse Street between 5<sup>th</sup> Street and 6<sup>th</sup> Street, and along the private 3<sup>rd</sup> Street, Morse Street, and Neal Place. Deficiencies along Florida Avenue will be repaired as part of ZC 06-40C, ZC 15-01, ZC 15-22 and the Florida Avenue Multimodal Study implementation.

Within close proximity to the site, all adjacent pedestrian crossings (ADA ramps, crosswalks, etc.) are in substandard condition. As part of the public space permitting process, the Applicant will be required to improve all adjacent crossings to current standards, including installing ADA ramps adjacent to the site, all receiving ramps on the opposite side of the street, and all crosswalks.

While not specifically addressed in the CTR, there are three (3) substandard pedestrian facilities in close proximity to the site:

- Sidewalk gap on Penn Street – there is currently an approximately 125 foot gap in the sidewalk network along the north side of Penn Street starting from the eastern edge of the subject site. Within this gap is a substandard north-south pedestrian crossing at 5<sup>th</sup> Street NE that is missing ADA-compliant curb ramps on both sides of the street.
- Sidewalk Gap on 4<sup>th</sup> Street – there is currently an approximately 275 foot gap on the west side of 4<sup>th</sup> Street from New York Avenue to the property housing a PNC Bank branch. Within this span, there is a substandard east-west pedestrian crossing of 4<sup>th</sup> Street at Penn Street.
- Substandard mid-block crossing on Penn Street – there is currently a substandard and unwarranted mid-block north-south pedestrian crossing on Penn Street between 4<sup>th</sup> Street NE and 5<sup>th</sup> Street NE.

### Bicycle Facilities

The District of Columbia is committed to enhance 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.

The site is located in close proximity to an existing two-way cycle track on the east side of 6<sup>th</sup> Street north of Florida Avenue. A two-way cycletrack on 4<sup>th</sup> Street south between Morse Street and Florida Avenue and a southbound bicycle lane on 4<sup>th</sup> Street south of Florida Avenue provide additional north-south connectivity. There are additional bicycle facilities on M Street, 4<sup>th</sup> Street, and 6<sup>th</sup> Street in close proximity to the site, which will enhance bicycle connections to the Metropolitan Branch Trail and other bicycle facilities within the vicinity. Currently, the closest Capital Bikeshare station is a 21-dock station located at 6th Street & Neal Place intersection. ZC Case No. 15-27 will provide a 19-dock station along Morse Street west of 4<sup>th</sup> Street as PUD condition.

The Applicant proposes 103 long-term bicycle parking spaces, which meets District code. In addition, 22 short-term spaces are proposed, which meets zoning requirements. Preliminary public space plans show the short-term spaces located on Penn Street in close proximity to primary building entrances consistent with best practices. Final location and design of the short-term spaces will be determined during public space permitting. The exact locations and layout of short-term bicycle facilities are expected to meet DDOT standards and be consistent with streetscape guidelines for the area.

### 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 sight 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 seven (7) intersections within the study area that have a crash rate of 1.0 Million Entering Vehicles (MEV) or higher.

The intersections of Florida Avenue & 3<sup>rd</sup> Street and Florida Avenue & 5<sup>th</sup> Street are included within the Florida Avenue improvements currently in the design phase and will be targeted for safety improvements. Converting 4<sup>th</sup> Street and 5<sup>th</sup> Street north of Morse Street to two-way operations will enhance safety of the Morse Street & 4<sup>th</sup> Street, Morse Street & 5<sup>th</sup> Street, Neal Place & 4<sup>th</sup> Street, and Neal Place & 5<sup>th</sup> Street intersections by enhancing pavement markings and creating more predictable travel behaviors. No improvements are currently planned for the New York Avenue & 4<sup>th</sup> Street intersection. Pedestrian safety at this intersection could be enhanced with the installation of a high-visibility crosswalk.

Intersection	Type of Control	No. of Crashes* (3 Years)	ADT# (veh/day)	Crash Rate (MEV)
New York Avenue/4 <sup>th</sup> Street	Signal	78	41,860	1.70
Penn Street/4 <sup>th</sup> Street	Two-way Stop	1	7,070	0.13
Penn Street/5 <sup>th</sup> Street	One-way Stop	5	5,420	0.84
Penn Street/6 <sup>th</sup> Street/Brentwood Parkway	Signal	14	16,870	0.76
Neal Place/4 <sup>th</sup> Street	One-way Stop	23	3,810	5.51
Neal Place/5 <sup>th</sup> Street	One-way Stop	10	3,240	2.82
Morse Street/4 <sup>th</sup> Street	Two-way Stop	42	5,070	7.57
Morse Street/5 <sup>th</sup> Street	Two-way Stop	8	3,670	1.99
Morse Street/6 <sup>th</sup> Street	One-way Stop	4	14,170	0.26
Florida Avenue/6 <sup>th</sup> Street	Signal	23	25,540	0.82
Florida Avenue/5 <sup>th</sup> Street	Signal	29	15,750	1.68
Florida Avenue/4 <sup>th</sup> Street	Signal	16	17,020	0.86
Florida Avenue/3 <sup>rd</sup> Street	Signal	41	15,350	2.44

Note:  
 \* 2013-2015 traffic accident data was provided by DDOT.  
 # Intersection ADT is determined by assuming that ADT equates to 10% of Weekday AM/PM peak hour volumes, whichever is higher.

Figure 4 Crash Analysis (Source: CTR)

**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, Signal, and Operational Improvements

Physical improvements (i.e. striping changes, turn lanes, traffic signals, additional lanes, etc.) are occasionally needed in order to accommodate site-generated traffic.

The Applicant proposes to signalize the Penn Street/4<sup>th</sup> Street intersection, which DDOT finds appropriate. The Applicant’s CTR identifies challenges with signalizing this intersection given the close proximity to the New York Avenue/4<sup>th</sup> Street intersection, the limited queue space between New York

Avenue/4<sup>th</sup> Street and Penn Street/4<sup>th</sup> Street, and the configuration of the Penn Street/4<sup>th</sup> Street intersection given the alley serving as an additional intersection leg. Through additional coordination between the Applicant and DDOT after the CTR was reviewed, signalization of this intersection was determined to be the most appropriate mitigation for this intersection. It is highly likely that the northbound left movement at the Penn Street/4<sup>th</sup> Street will need to be restricted at least during peak periods in order to make the intersection work. Final design of the signal will be determined at permitting.

Signalization of this intersection was identified as a mitigation for ZC Case No. 15-24/15-24A. That PUD is required to contribute \$150,000 toward the signal and install the signal at the earlier of Parcel 4's Certificate of Occupancy or the collection of sufficient funds to cover signal installation. DDOT finds it appropriate that the subject PUD commit to unilaterally installing the signal given the anticipated project completion in advance of ZC Case No. 15-24/15-24A.

The Applicant explored southbound overlap phase at 4<sup>th</sup> Street & Florida Avenue requiring the removal of parking but did not commit to this mitigation. The Applicant should commit to implementing this mitigation subject to DDOT approval at permitting. Implementing the overlap phase would likely require a signal modification and changes to the existing two-way cycle track on the west side of 4<sup>th</sup> Street between Florida Avenue and Morse Street to eliminate conflicting bicycle and vehicle movements. Any changes at this intersection would need to be coordinated with DDOT's ongoing Florida Avenue NE corridor improvements.

The Applicant's analysis assumed the two-way conversion of 5<sup>th</sup> Street between Morse Street and Penn Street. In the event that this two-way conversion has not been implemented by other developments in the vicinity, the Applicant should implement this change so that the future network matches the CTR assumptions.

#### Wayfinding

As noted above, wayfinding can be used as a way to influence trip routing decisions thereby distributing trips away from impacted intersections. The intersections of New York Avenue & 4<sup>th</sup> Street and 4<sup>th</sup> Street & Penn Street are particularly important impacted intersections because delays at these intersections have the potential to impact the New York Avenue arterial. As such, signage within the subject building and in the public space should encourage entry and egress into Union Market using Brentwood Parkway rather than the New York Avenue & 4<sup>th</sup> Street intersection. This mitigation was identified as a responsibility of ZC Case No. 14-12. In the event that wayfinding signage is not installed, the subject project should install this signage.

#### Transportation Demand Management

As part of all major development review cases, DDOT requires the Applicant to produce a comprehensive 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.

Union Market is expected to experience a significant amount of new development that will add a substantial number of new vehicle parking spaces and therefore vehicle trips. The road network in the vicinity is at a saturation point where vehicle impacts cannot be addressed through infrastructure improvements or physical improvements. Rather, impacts must be addressed through lowering parking rates or aggressive TDM plans.

The TDM plan for Option 1 includes the following measures:

- Designate a Transportation Management Coordinator responsible for organizing and marketing the TDM plan and who will act as a point of contact with DDOT;
- Provide TDM materials on the property management website;
- Install a transit information screen in a common, shared space within the building;
- Meet long-term and short-term bicycle parking space requirements;
- Provide a bicycle repair station in the parking garage;
- Host an annual bicycle training event;
- Fund a new Capital Bikeshare Station within ¼ mile of the project, including the cost of installation plus the operating cost for the first year;
- Offer an annual Capital Bikeshare membership to each new residential unit for a period of three (3) years (*Note: A minimum 19-dock station will be required by DDOT*);
- Offer a \$50 SmarTrip card to each new residential unit for a period of three (3) years;
- Reserve two (2) spaces in the garage for a car sharing service, subject to demand from a service provider. If no car sharing service provider opts to use the spaces in the garage within one year of certificate of occupancy, a one-time car-sharing credit of \$50 will be offered to each new residential unit for a period of two (2) years;
- Unbundle parking costs from leasing apartments or purchasing condos;

Of note, the TDM plan includes several elements that are requirements of the public space permitting process and are not considered TDM measures:

- Construct new sidewalk on Penn Street, along the frontage of the project, completing the missing link just east of the public alley.
- Install new crosswalks on the south, east, and north legs of the 4th Street/Penn Street/Public Alley intersection and install ADA compliant curb ramps for all crosswalks, if not completed by others at the time of certificate of occupancy.

Overall, the TDM plan includes many strong elements but is insufficient to address the unmitigated seven (7) unmitigated intersections. Accordingly, the following measures should be added to the TDM plan:

- Supply 10 shopping carts for tenants to use for daily errands.
- Charge market-rate costs for retail parking;
- Offer an annual Capital Bikeshare membership to each residential unit for a period of five (5) years;

### Pedestrian Improvements

As noted in the Analysis section, there are several sidewalk gaps and substandard pedestrian facilities in the vicinity of the site that are not proposed to be improved by other PUDs.

The Applicant's TDM plan includes the following language: "Construct the missing sidewalk along the south side of Penn Street between New York Avenue and 4th Street." It is not clear what area is proposed for improvement since Penn Street does not intersect with New York Avenue. This mitigation should be clarified.

The following improvements should be made as a condition of PUD approval to complete the pedestrian network in the vicinity of the site:

- Sidewalk gap on Penn Street – Install approximately 125 feet of sidewalk along the north side of Penn Street starting from the eastern edge of the subject site and improve any substandard pedestrian crossings in this stretch.
- Sidewalk Gap on 4th Street – Install approximately 275 feet of sidewalk on the west side of 4th Street from New York Avenue to the property housing a PNC Bank branch and improve any substandard pedestrian crossings in this stretch.
- Mid-block crossing on Penn Street – Remove the existing substandard and unwarranted mid-block north-south pedestrian crossing on Penn Street between 4th Street NE and 5th Street NE.
- High-visibility crosswalk at NY/4th – Install a high-visibility crosswalk in this location to improve pedestrian safety.

### Site Access

As noted above, the neighboring property does not have alley access and would require a curb cut to serve that site as part of a future PUD. To facilitate site access for the property to the east, the Applicant should provide an access easement on the subject site's driveway to provide direct access between the neighboring property and the alley, thus allowing site access to be accommodated consistent with DDOT standards. This connection could at a minimum serve as loading access for the neighboring property. Additional capacity analysis at the Penn Street/4<sup>th</sup> Street/alley intersection as part of the future PUD would be required to determine appropriate vehicle access.

JS:jr