

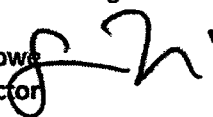
GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION



d. Policy, Planning and Sustainability Administration

MEMORANDUM

TO: Sara Bardin
Director, Office of Zoning

FROM: Samuel Zimbabwe 
Associate Director

DATE: June 24, 2015

SUBJECT: ZC Case No. 15-11 – Square 700, Lots 43 and 866 – One M Street, SE

PROJECT SUMMARY

Square 700 Trust, LLC (the “Applicant”) requests an area variance from the street wall setback requirements and special exception approval for the penthouse not meeting the required setback to allow the construction of a new office building with ground floor retail pursuant to the Capitol Gateway (CG) Overlay (11 DCMR §§1607 and 1610) located at One M Street, SE (Square 700, Lots 43 and 866). The Applicant is concurrently pursuing an application for an adjacent residential property and has submitted a Comprehensive Transportation Review (CTR) that analyzed the transportation impacts of both projects. These two projects consist of a total of:

- 115,858 square feet of office space;
- 4,851 square feet of retail;
- 165 dwelling units;
- 228 vehicular parking spaces (127 spaces for the office and retail building and 101 spaces for the residential building); and
- 12 long-term bicycle parking spaces for the office building.

SUMMARY OF DDOT REVIEW

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. DDOT finds:

Site Design

- The missing sidewalk link on the west side of Van Street to M Street will be completed;
- Loading and parking access is proposed to occur from three new curb cuts on Van Street;
- Truck access will utilize backing movements in public space;
- The garage intake/vent at the corner of South Capitol Street and M Street impacts the ability to plant an additional tree within the setback area; and
- Long-term bicycle parking facilities are missing from garage plans.

Travel Assumptions

- The site is well served by both Metrorail and Metrobus;
- The proposed long-term bicycle parking spaces is insufficient for a project of this scale;
- The action is expected to generate a high number of new vehicle and transit trips; and
- Vehicle trips could increase if office and retail tenants are permitted to park in the residential parking garage.

Analysis

- The Applicant utilized sound methodology to perform the analysis;
- Existing transit service should have capacity to accommodate future demand;
- The action is projected to impact three intersections (South Capitol Street/M Street, Van Street Street/M Street, and South Capitol Street/N Street);
- Future analyses show significant delay for vehicles exiting Van Street at M Street due to northbound left turns;
- The proposed loading management plan insufficiently addresses potential conflicts with pedestrians and vehicles from back-in maneuvers, particularly during ballpark event; and
- The Transportation Demand Management (TDM) measures are not sufficiently robust to reduce the expected impacts to the transportation network.

Mitigations

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

- Amend the TDM plan to include the following:
 - Install a minimum of 48 long-term secure bicycle parking spaces for access by office and retail employees or install a Capitol Bikeshare station and fund its first year of operations;
 - Install a minimum of six short-term bicycle parking spaces (three racks) within the building setback or public space near the office and retail entrances;
 - Provide showers and lockers to encourage bicycling among office and retail employees;
 - Prohibit office and retail employees and retail customers from parking in the residential parking garage;
- Restrict northbound left turns on Van Street at M Street and install signage for a right-turn in, right-turn out (RIRO); and
- Amend the loading management plan to include the following:
 - All tenants will be required to schedule deliveries that utilize the loading dock (any loading operation conducted using a truck 20' in length or larger);

- The dock manager will schedule deliveries to ensure that the docks' capacity is not exceeded. In the event that an unscheduled delivery vehicle arrives while the dock is full, that driver will be directed to return at a later time; and
- A flagger will be present whenever a vehicle is entering or exiting the loading dock to ensure pedestrian, bicycle, and vehicle safety with truck back-in and exiting maneuvers.

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:

- 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. Careful attention should be paid to pedestrian and bicycle connections along the site's perimeter and adjacent infrastructure;
- Relocation of the garage intake/vent at the corner of South Capitol Street and M Street to the building face, in line with the utility vaults, in order to plant an additional tree;
- Zoning required 55 long-term secure bicycle parking spaces for the residential building located within the garage;
- Required short-term bicycle parking spaces to be located at main building entrances, either within the building setback or public space, for the office/retail and residential buildings;
- An updated Comprehensive Transportation Review (CTR) as a part of the zoning may be required Overlay Review application for the residential building; and
- DDOT is planning a major project on South Capitol Street. Construction schedules and access may need to be coordinated.

TRANSPORTATION ANALYSIS

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

The review of the analysis is divided into four categories: site design, travel assumptions, analysis, and mitigations. The following review provided by DDOT evaluates the Applicant's 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 Applicant proposes all vehicular access to the site on Van Street, which is a short local roadway between Half Street SE and South Capitol Street that connects M and N Streets. As shown in Figure 1, three curb cuts are proposed to provide vehicular access to the site. The northernmost curb cut will serve as the loading access for the office and retail building, the middle curb cut will serve as the parking access for the office and retail building, and the southernmost curb cut will serve as the parking and loading access for the residential building.

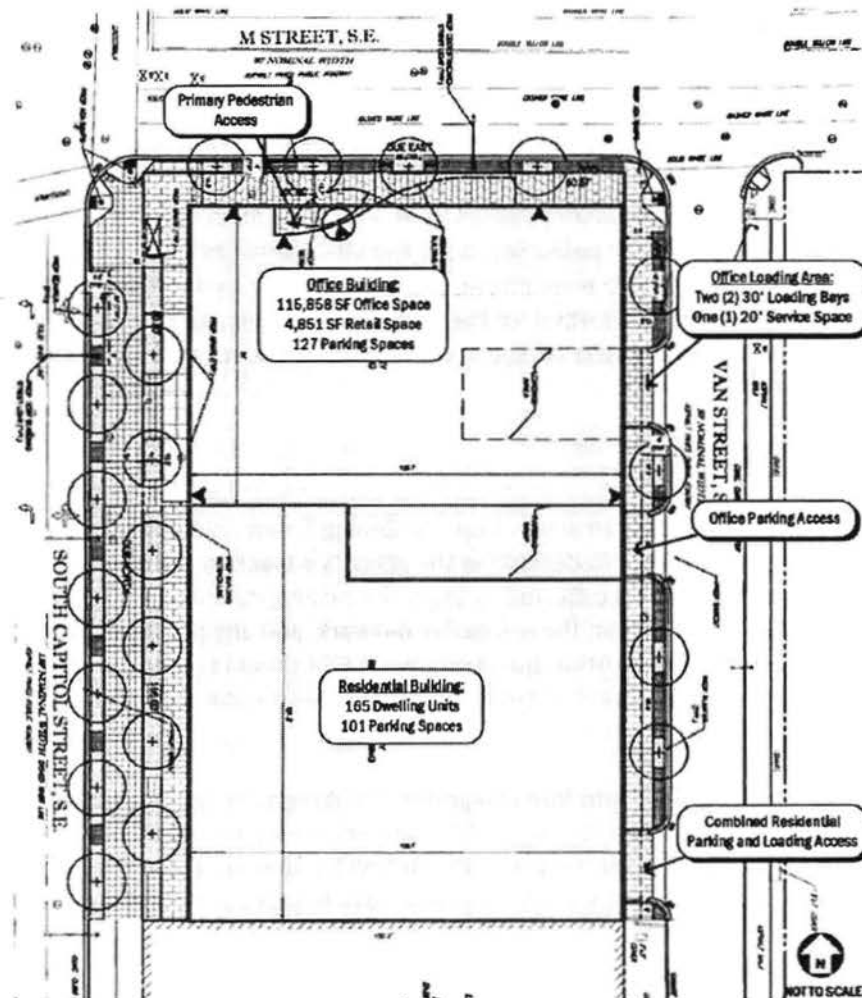


Figure 1 Site Design and Access (Source: Grove/Slade Associates)

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 proposes providing the zoning requirements for loading and delivery space for the office and retail building – two 30-foot loading bays and one 20-foot service and delivery space. However, due to size constraints of the site, the Applicant is not able to accommodate all truck turning maneuvers on-site.

Since loading cannot be accessed through an alley and back-up maneuvers will occur in the public realm, the Applicant has proposed the following loading management plan:

- A loading dock manager will be designated by the building management (duties may be part of other duties assigned to the individual). He or she will coordinate with vendors and tenants to schedule deliveries to the loading dock, for 30 foot trucks only (i.e., not delivery vans).
- All deliveries will be permitted between 7:00 AM and 4:00 PM, seven days per week, except when events occur at Nationals Park. Deliveries cannot be scheduled for the period between two hours when an event begins and one hour after an event is completed, including during the event itself.
- Trucks using the loading dock will not be allowed to idle and must follow all District guidelines for heavy vehicle operation including but not limited to DCMR 20 – Chapter 9, Section 900 (Engine Idling), the regulations set forth in DDOT's Freight Management and Commercial Vehicle Operations document, and the primary access routes listed in the DDOT Truck and Bus Route Map (godcgo.com/truckandbusmap).

With the high traffic volumes associated with Ballpark events, the closure of N Street and Half Street to vehicular traffic, and DDOT's requested right-in, right-out (RIRO) configuration at M Street and Van Street, loading activities on this Square will further create conflicts with vehicles and pedestrians and exacerbate traffic conditions during such events. DDOT finds that deliveries should not be scheduled within three hours of a Ballpark event.

In order to support back-up maneuvers in the public realm, the following conditions are necessary:

- All tenants will be required to schedule deliveries that utilize the loading dock (any loading operation conducted using a truck 20' in length or larger);
- The dock manager will schedule deliveries such that the dock's capacity is not exceeded. In the event that an unscheduled delivery vehicle arrives while the dock is full, that driver will be directed to return at a later time when a berth will be available so as to compromise safety or impede street or intersection function; and
- A flagger will be present whenever a vehicle is entering or exiting the loading dock to ensure pedestrian, bicycle, and vehicle safety with truck back-in and exiting maneuvers.

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.

DDOT expects the Applicant to design and build the streetscape surrounding the property to current DDOT standards. As shown in the current plans, the proposed garage intake/vent at the corner of South Capitol Street and M Street prevents an additional tree from being planted and should be relocated to the building face, in line with the utility vaults. Additionally, a new curb ramp at southeast corner of M Street and Van Street is necessary to align with the existing crosswalk and bring the curb ramp up to current standards.

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* 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.

Final design of the public space will be determined during DDOT's public space permitting process. DDOT notes the importance of maximizing the width of sidewalks along the perimeter of the site to accommodate pedestrian and bicycle activity.

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.

Changes in Land Use Context

DDOT has undertaken two distinct efforts to evaluate and modify the transportation infrastructure along South Capitol Street and M Street SE/SW. The analysis produced for these studies evaluated the potential impacts of future land uses along with proposed changes to the transportation infrastructure. The studies concluded that the transportation network can accommodate anticipated growth, but will be at capacity.

The transportation improvement projects recommended from these studies provide a framework to help mitigate some levels of congestion and enhance mobility along these two major corridors. Below are brief descriptions of these corridor-wide studies and recommended projects.

- 1) **South Capitol Street Corridor Improvements** - The purpose of the South Capitol Street Corridor project is to improve safety, multimodal mobility, accessibility, and support economic development. This project will transform the existing corridor by rationalizing capacity, upgrading bridge structures, and modifying traffic patterns to operate more efficiently. When complete, the South Capitol Street Corridor will serve as a major urban gateway to the US Capitol and District of Columbia's Monumental Core.
- 2) **M Street, SE/SW Transportation Study** - The study identified current and future transportation challenges and needed mitigation measures within an approximately 1.7-square-mile area along M Street SE/SW, and the Southwest waterfront from 12th Street, SE to 14th Street, SW and from the Southeast/Southwest Freeway south to the Anacostia River/Washington Channel. The study analyzed

the integration of transit, bicycling and walking with motor vehicle traffic in order to best serve the neighborhoods in this burgeoning section of the City. Safety and access needs were balanced to address the travel needs of residents with those of visitors and workers who will be drawn to new retail and mixed use development planned for the area.

The analysis from both studies revealed that future land development projects need to achieve a reasonable vehicle trip generation in order to maintain functionality of the system. This can be equated to the level of trip generation that could be expected from providing a level of parking equivalent to the zoning minimums. As such, DDOT will be working to limit vehicle trip generation on this and future projects to ensure network functionality into the future. In order to limit vehicle trip generation for this proposed project, DDOT recommends a series of TDM measures described further in this report.

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. Seven entitled projects with an origin or destination within the study area were included 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 MWCOC's regional travel demand model. The Applicant's analysis used MWCOC's model, and Figure 2 summarizes the background growth rates used by the Applicant. DDOT agrees with the proposed growth rate.

Road & Direction	Proposed Annual Growth Rate		Total Growth between 2015 and 2018	
	AM Peak	PM Peak	AM Peak	PM Peak
South Capitol St NB	0.25%	0.32%	0.8%	1.0%
South Capitol St SB	0.77%	0.56%	2.3%	1.7%
M Street EB	0.95%	0.25%	2.9%	0.8%
M Street WB	0.25%	0.25%	0.8%	0.8%

Figure 2 Background Growth Rates (Source: Grove/Slade Associates)

Off-Street Vehicle Parking

The overall parking demand created by the development is primarily a function of land use, development square footage, and price and supply of parking spaces. However, in urban areas, other factors contribute to the demand for parking, such as the availability of high quality transit, frequency of transit service, and proximity to transit.

While this application is only for the office and retail building, the CTR evaluated the parking and transportation impacts of both buildings. 228 off-street parking spaces are proposed for the site – 127 spaces for office and retail uses and 101 spaces for residential use accessed from a separate garage on Van Street. Zoning requires a total of 125 spaces for all uses in the two buildings – 68 spaces for office, 2 spaces for retail, and 55 spaces for residential. While the total number of parking spaces has been reduced from a total of 310 parking spaces since the original proposal for this site as a part of ZC 09-22, the amount of vehicle parking remains well above the zoning requirement. In total, this represents 82% above the zoning parking requirements. This amount of parking is higher than what DDOT expects to see in this area. DDOT compared the site's parking ratios to several recent development proposals in the

area and found that other similar land uses have proposed lower parking ratios. DDOT has long articulated this concern to the Applicant, including in a letter dated November 29, 2010. DDOT continues to believe that the level of parking will encourage excessive vehicle trips.

In addition, DDOT finds that parking demand for the residential building could be lower than the proposed project anticipates. Vehicle trips could increase if office and retail tenants are permitted to park in the residential parking garage since office and retail uses generate more vehicular trips than residential uses. Such additional trips will exacerbate impacts to intersections.

Trip Generation

The Applicant provided trip generation estimates utilizing the Institute of Traffic Engineers (ITE) Trip Generation Manual. The Applicant utilized the following ITE land uses in their trip generation estimation:

- Residential: Apartment (Code 220)
- Retail: Shopping center (Code 820)
- Office: General office building (Code 710)

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 the following mode split assumptions informed by WMATA's 2005 *Development-Related Ridership Survey*, the U.S. Census data, and based on the retail mode split used for the December 2012 CTR for the site. The auto mode split for the office component was further reduced based on the proposed amount of parking.

	Office	Residential	Retail
Automobile	55%	45%	40%
Transit	39%	43%	40%
Bike	2%	4%	5%
Walk	4%	8%	15%

Figure 3 Mode Split (Source: Grove/Slade Associates)

Based on the trip generation and mode split assumptions discussed above, the Applicant predicted the following level of weekday peak hour trip generation as shown in Figure 4:

Mode	Land Use	AM Peak Hour			PM Peak Hour		
		In	Out	Total	In	Out	Total
Auto	Apartments	8 veh/hr	30 veh/hr	38 veh/hr	32 veh/hr	17 veh/hr	49 veh/hr
Auto	Retail	1 veh/hr	1 veh/hr	2 veh/hr	3 veh/hr	3 veh/hr	6 veh/hr
Auto	Office	104 veh/hr	15 veh/hr	119 veh/hr	19 veh/hr	95 veh/hr	114 veh/hr
Auto	Total	113 veh/hr	46 veh/hr	159 veh/hr	54 veh/hr	115 veh/hr	169 veh/hr
Transit	Apartments	8 ppl/hr	33 ppl/hr	41 ppl/hr	34 ppl/hr	18 ppl/hr	52 ppl/hr
Transit	Retail	2 ppl/hr	2 ppl/hr	4 ppl/hr	6 ppl/hr	7 ppl/hr	13 ppl/hr
Transit	Office	83 ppl/hr	12 ppl/hr	95 ppl/hr	16 ppl/hr	76 ppl/hr	92 ppl/hr
Transit	Total	93 ppl/hr	47 ppl/hr	140 ppl/hr	56 ppl/hr	101 ppl/hr	157 ppl/hr
Bike	Apartments	1 ppl/hr	3 ppl/hr	4 ppl/hr	3 ppl/hr	2 ppl/hr	5 ppl/hr
Bike	Retail	0 ppl/hr	0 ppl/hr	0 ppl/hr	1 ppl/hr	1 ppl/hr	2 ppl/hr
Bike	Office	4 ppl/hr	1 ppl/hr	5 ppl/hr	1 ppl/hr	4 ppl/hr	5 ppl/hr
Bike	Total	5 ppl/hr	4 ppl/hr	9 ppl/hr	5 ppl/hr	7 ppl/hr	12 ppl/hr
Walk	Apartments	2 ppl/hr	6 ppl/hr	8 ppl/hr	6 ppl/hr	4 ppl/hr	10 ppl/hr
Walk	Retail	1 ppl/hr	1 ppl/hr	2 ppl/hr	3 ppl/hr	3 ppl/hr	6 ppl/hr
Walk	Office	9 ppl/hr	1 ppl/hr	10 ppl/hr	2 ppl/hr	7 ppl/hr	9 ppl/hr
Walk	Total	12 ppl/hr	8 ppl/hr	20 ppl/hr	11 ppl/hr	14 ppl/hr	25 ppl/hr

Figure 4 Weekday Peak Hour Vehicle Trip Generation (Source: Grove/Slade Associates)

The proposed office and retail building and residential building are expected to generate a combined 159 AM and 169 PM peak hour vehicle trips, 140 AM and 157 PM peak hour transit trips, 20 AM and 25 PM peak hour pedestrian trips, and 9 AM and 12 PM peak hour bicycle trips. The office component generates the majority of vehicle trips. Trips for both buildings are combined as a means to compare trip generation for the proposed project to the original proposal for this site as a part of ZC Case No. 09-22.

Vehicular trip generation has been reduced from the original proposal for this site as a part of ZC Case No. 09-22. In DDOT's report for that zoning case, DDOT recommended a vehicle trip cap of 125 total trips in both the AM and PM peak hours in order to minimize impacts to the transportation network. That report recommended removing 100 of the 310 parking spaces and committing to a robust vehicle monitoring and TDM program to reduce peak trips. While a trip cap is no longer necessary, the vehicular trip generation of this project is still high; delay and congestion are expected as a result of this site. Therefore, mitigations are necessary.

Trip Distribution and Assignment

The Applicant assumed that trips related to each of the land uses would travel to and from different parts of the region in a manner specific to the land use. Therefore, the Applicant created unique trip distribution rates for office, retail, and residential trips. The Applicant distributed the vehicle trips throughout the study area intersections. DDOT is in agreement with the methodology used to determine trip distribution.

Study Area and Data Collection

The Applicant identified 11 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 that realize new trips. However, DDOT expects minimal to no increase in delay outside the study area as a result of the proposed action.

Counts were conducted on Thursday, May 15, 2014 and Tuesday, April 28, 2015 from 6:30 AM to 9:30 AM and from 4:00 PM to 7:00 PM, while Congress and DC Public School were in session. DDOT agrees with the time frame and collection dates.

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.

Significant capacity impacts are shown at M Street and South Capitol Street northbound during the morning peak hour and M Street and Van Street during the afternoon peak hour. Additionally, queuing analysis shows queues greater than the available storage length due to site-generated traffic at N Street and South Capitol Street during the afternoon peak hour and M Street and South Capitol Street southbound during the morning and afternoon peak hours (the morning and evening 50% queue). However, no mitigation measures are proposed.

DDOT finds that operation problems South Capitol Street will be addressed by DDOT's proposed improvements for the corridor. DDOT agrees with the Applicant that an installation of a traffic signal at the intersection of Van Street and M Street will interfere with operations due to the intersections proximity to adjacent signals along M Street. Yet, analysis of right-in, right-out (RIRO) configuration at M Street and Van Street is shown to dramatically improve future LOS (improvement from LOS E to LOS B in total future conditions), without having a significant impact on adjacent intersections. The RIRO configuration would also improve vehicular and pedestrian safety at this location by reducing the number of conflicting movements. DDOT recommends configuring that intersection for RIRO movements.

Transit Service

The District and the 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. Transit is expected to be an important mode of transportation for this development.

The proposed project is approximately 250 feet from the Navy Yard Metro Station entrance and is well-served by 13 different bus lines (i.e., 74, A9, A42, A46, A48, P6, P17, P19, V7, V8, V9, W9, and W13) and the Union Station-Navy Yard Circulator route. The Circulator bus service operates with 10-minute frequency, whereas the other bus lines operate with headways in the range of approximately 5 to 30 minutes. In addition, transit accessibility to the site is excellent. An office building located in such a transit rich area of the City should achieve high transit ridership. The Applicant's review of WMATA studies shows that sufficient capacity exist to absorb the expected increase of transit trips by this development.

Pedestrian Facilities

The District is committed to enhance 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.

The Applicant performed an inventory of the pedestrian infrastructure surrounding the site. A continuous sidewalk from M Street along Van Street to the site does not currently exist. The Applicant proposes to improve the pedestrian infrastructure and streetscape in front of their site, along South Capitol Street, M Street, and Van Street. The Applicant will be required to install a streetscape plan per DDOT standards.

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.

Several dedicated bicycle lanes exist in the vicinity of the subject site along First Street SE, 4th Street SE and SW, and I Street SE and SW. In addition, the Anacostia Riverwalk Trail is located south of the subject site. As part of the South Capitol Street Corridor Improvements, South Capitol Street is envisioned as a boulevard to the US Capitol with a shared-use path.

The closest Capital Bikeshare station is located several blocks from the site at 1st Street and N Street and three additional Bikeshare stations are located within 1/2 mile from the site. One is located north of the site at 1st Street and K Street, the other two are east of the site, at M Street and New Jersey Avenue and on 3rd Street and Tingey Street.

The Applicant proposes 12 long-term bicycle parking spaces for the office and retail building. These secure spaces are not shown in the site plans. Required long-term bicycle parking spaces should be

located within the parking garage or indoor ground level. The Applicant proposes short-term bicycle parking spaces, the number and location to be worked out at a later date.

Additional bicycle parking is necessary to reduce the site generated vehicle impacts on the transportation network. DDOT recommends that the Applicant install a minimum of 48 long-term secure bicycle parking spaces for access by office and retail employees or a Capital Bikeshare station and fund its first year of operations. The provision of additional bicycle parking or a bikeshare station will accommodate demand and reduce site generated vehicle trips. Secured bicycle parking spaces should be easily accessible and visible to users. Six short-term bicycle parking spaces (three racks) should also be installed within the building setback or public space near the office and retail entrances. Additional long- and short-term bicycle parking will be required as a part of the residential building zoning overlay application. To encourage use of bicycle facilities by office and retail employees, DDOT requests the provision of showers and lockers in the office building.

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 three intersections within the study area 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, which is not uncommon at signalized intersections.

The Applicant's crash data analysis does not propose mitigation measures at the intersection of South Capitol Street and M Street. However, the proposed development impacts capacity and queueing at this intersection during the AM and PM peak hours. The intersection configuration will be improved due to the South Capitol Street Corridor Improvements project.

Intersection	Rate per MEV	Right Angle	Left Turn	Right Turn	Rear End	Side Swiped	Head On	Parked	Fixed Object	Ran Off Road	Ped. Involved	Backing	Non-Collision	Under/Over Ride	Unspecified	Total
South Capitol Street & N Street	1.35	1 2%	3 6%	0 0%	33 69%	7 15%	0 0%	0 0%	0 0%	0 0%	0 0%	2 4%	0 0%	0 0%	2 4%	48
South Capitol Street & M Street	2.32		16 26%		16 26%		0 0%		2 3%		0 0%	2 3%	0 0%	0 0%	1 2%	62
N Street & Van Street, SE	2.14	0 0%	1 25%	0 0%	0 0%	0 0%	0 0%	0 0%	1 25%	0 0%	0 0%	2 50%	0 0%	0 0%	0 0%	4

Figure 5 Crash Type Breakdown (Source: Grove/Slade Associates)

DDOT is concerned about the potential for safety issues at the intersection of M Street and Van Street SE as the square develops and traffic increases. This intersection is located approximately equidistant between South Capitol Street and Half Street SE such that signalization is not possible, and DDOT is concerned about the level of traffic making left turn movements at this intersection. Left turns from M

Street to Van Street and from Van Street to M Street could lead to a potentially dangerous scenario with many trips crossing multiple travel lanes unprotected. Therefore, DDOT requests the Applicant install signage for a right-turn in, right-turn out (RIRO) configuration at M Street and Van Street.

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.

In addition to the TDM measures outlined below, DDOT proposes the following mitigations as conditions of approval:

- Restrict northbound left turns on Van Street at M Street and install signage for a right-turn in, right-turn out (RIRO); and
- Amend the loading management plan to include the following:
 - All tenants will be required to schedule deliveries that utilize the loading dock (any loading operation conducted using a truck 20' in length or larger);
 - The dock manager will schedule deliveries to ensure that the docks' capacity is not exceeded. In the event that an unscheduled delivery vehicle arrives while the dock is full, that driver will be directed to return at a later time; and
 - A flagger will be present whenever a vehicle is entering or exiting the loading dock to ensure pedestrian, bicycle, and vehicle safety with truck back-in and exiting maneuvers.

Transportation Demand Management

TDM is a set of strategies, programs, services, and physical elements that influence travel behavior by mode, frequency, time, route, or trip length in order to help achieve highly efficient and sustainable use of transportation facilities. In the District, this typically means implementing infrastructure or programs to maximize the use of mass transit, bicycle and pedestrian facilities, and reduce single occupancy vehicle trips during peak periods. The Applicant's proposed TDM measures play a role in achieving the desired and expected mode split.

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

The Applicant proposed the following TDM strategies:

- **Provide 12 long-term bicycle parking spaces for the office building;**
- **Unbundle the cost of residential parking from the cost of lease or purchase;**
- **Appoint TDM Leaders (for planning, construction, and operations) at the residential and office buildings. The TDM Leaders will work with residents in the building to distribute and market various transportation alternatives and options;**
- **Dedicate two spaces in the residential garage for car sharing services to use with right of first refusal;**
- **Provide reserved spaces in the office garage for carpools and vanpools; and**
- **Provide a public transit information screen, showing real-time information on nearby transit services, in the residential and office building lobbies.**

DDOT does not find the above TDM measures sufficiently robust to address the impacts expected from the project. DDOT recommends the following additional TDM measures in order to support the project:

- **Install a minimum of 48 long-term secure bicycle parking spaces for access by office and retail employees or install a Capitol Bikeshare station and fund its first year of operations;**
- **Install a minimum of six short-term bicycle parking spaces (three racks) within the building setback or public space near the office and retail entrances;**
- **Provide showers and lockers to encourage bicycling among office and retail employees; and**
- **Prohibit office and retail employees and retail customers from parking in the residential parking garage.**

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