

TECHNICAL MEMORANDUM

To: Andrea Gourdine
Douglas Development

From: Jim Watson, PTP
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Date: June 9, 2015

Subject: 11th & K Street Hotel Comprehensive Transportation Review (CTR)

INTRODUCTION

This memorandum presents a Comprehensive Transportation Review (CTR) of the 11th and K Street Hotel development located at 1011 K Street in the northwest quadrant of Washington, D.C. The hotel is being developed by Douglas Development and will be operated by TPG Hospitality. Figure 1 identifies the regional site location within the District. The site is currently occupied by a parking lot and abandoned row houses and will be redeveloped into a hotel comprising of approximately 200 hotel rooms and 4,000 square feet (sf) of ground floor retail space which is anticipated to be a restaurant. No parking will be supplied on-site. All loading will take place on the north side of the site via an alley accessed from 10th Street, 11th Street, and Massachusetts Avenue.

The hotel proposed for this site will be unique for the Washington D.C. metro area. Similar to other hotels that have been constructed in cities like New York, London, Amsterdam, and Tokyo, the 11th and K Street Hotel will feature micro hotel rooms which will provide approximately 150-200 sf in space in each room. In comparison, the average hotel room ranges from 300 to 400 sf. The hotel will be designed and marketed toward shorter-term (approximately 48-hour) guests that typically arrive in the Washington D.C. area via intercity bus, rail, or air. The site is located within walking distance of the McPherson Square, Mount Vernon Square, Metro Center, and Gallery Place-Chinatown Metro Stations which offers direct access to Union Station and Reagan National Airport and connections to Dulles International Airport and Baltimore Washington International Airport as well as many other locations throughout the metropolitan Washington D.C. area.

This review included an evaluation of nearby on-street parking and parking garages where parking may be available if needed for guests and a Transportation Demand Management (TDM) plan to increase the use of non-vehicular travel modes to and from the site. In addition, a review of the surrounding transportation infrastructure and loading aspects of the project has been included as well. The following conclusions were made regarding the 11th and K Street Hotel development:

- The site is surrounded by an extensive existing network of transit, bicycle, and pedestrian facilities that result in an adequate environment for safe and effective non-auto transportation;
- Based on the site location near ample transit services, the surrounding mixed-use walkable location, the anticipated hotel guests, and a TDM plan, no on-site parking will be necessary to supply the site;
- Based on an estimation of loading activity for the development, it was determined that the amount of loading activity expected to take place at the site will be adequately served by the off-street loading area provided in the building; and

- A TDM plan for the development will include the implementation of a TDM coordinator, on-site services, a marketing program, transportation incentives, bicycle amenities, and ride-matching/ridesharing programs.

EXISTING CONDITIONS

This section provides a review of the existing transit, bicycle, and pedestrian facilities in the vicinity of the site. The site is served by several public transportation sources, including Metrorail, Metrobus, and the DC Circulator bus system. The project site is also served by a pedestrian network consisting of sidewalks and crosswalks along the streets surrounding the project site. Additionally, the site is served by an on-street bicycle network, consisting of bike lanes, cycle tracks, and signed bicycle routes.

Transit

Local transit services that provide access to the 11th and K Street Hotel development site include Metrorail, Metrobus, and the DC Circulator. These services are operated by the Washington Metropolitan Area Transit Authority (WMATA) and DDOT. WMATA operates Metrorail, the nation's second largest heavy rail transit system, as well as Metrobus, the nation's fifth largest bus network. DDOT and WMATA collaborate to operate the DC Circulator, a system of bus lines that provide frequent service and low fares throughout the city.

The nearest Metrorail stations are McPherson Square, with its eastern portal located approximately 1,700 feet (or approximately four (4) blocks) from the proposed development at the corner of 14th and I "Eye" Streets, and Metro Center, with its northern portal located approximately 1,900 feet (or approximately four (4) blocks) from the proposed development at the corner of 12th and G Streets. The Metro Center station is a multimodal transportation hub on Metrorail's Orange, Blue, Silver, and Red Lines. The Orange and Silver Lines connect the study area from the Prince Georges County, MD to the east, extending downtown through L'Enfant Plaza, before ending in Fairfax County, VA (Vienna and Wiehle Reston East, respectively) via Arlington County, VA to the west. The Blue Line connects the study area from Prince Georges County, MD (Shady Grove) to the east, extending downtown through L'Enfant Plaza, before ending in Springfield, VA via Reagan National Airport and Alexandria to the southwest. The Red Line connects the study area from the city of Gaithersburg, MD (Shady Grove) to the northwest, extending through Dupont Circle and Union Station, before ending in Glenmont, MD to the north. Additional access is provided approximately 2,200 feet from the site (or also approximately four (4) blocks) at the Gallery Place-Chinatown station (Red, Green, and Yellow Lines) at the corner of 9th and G Streets and at the Mount Vernon Square station (Green and Yellow lines) at the corner of 7th and M Streets.

Trains run frequently during the weekday morning and afternoon peak hours between 5:00 AM to 9:30 AM and 3:00 PM to 7:00 PM. All lines run approximately every 12 minutes during the weekday midday hours from 9:30 AM to 3:00 PM and every 12 to 20 minutes during the weekday off-peak periods and on weekends. Metrorail generally closes at approximately midnight on weekdays and 3:00 AM on weekends. The access provided from Metro Center and Gallery Place-Chinatown offers direct service from the site to Reagan National Airport and Union Station. Connecting access is also available to Dulles International Airport (via the Silver Line from Metro Center and McPherson Square to Wiehle Reston East) and Baltimore Washington International Airport (via rail connections at Union Station or bus from Greenbelt).

June 9, 2015

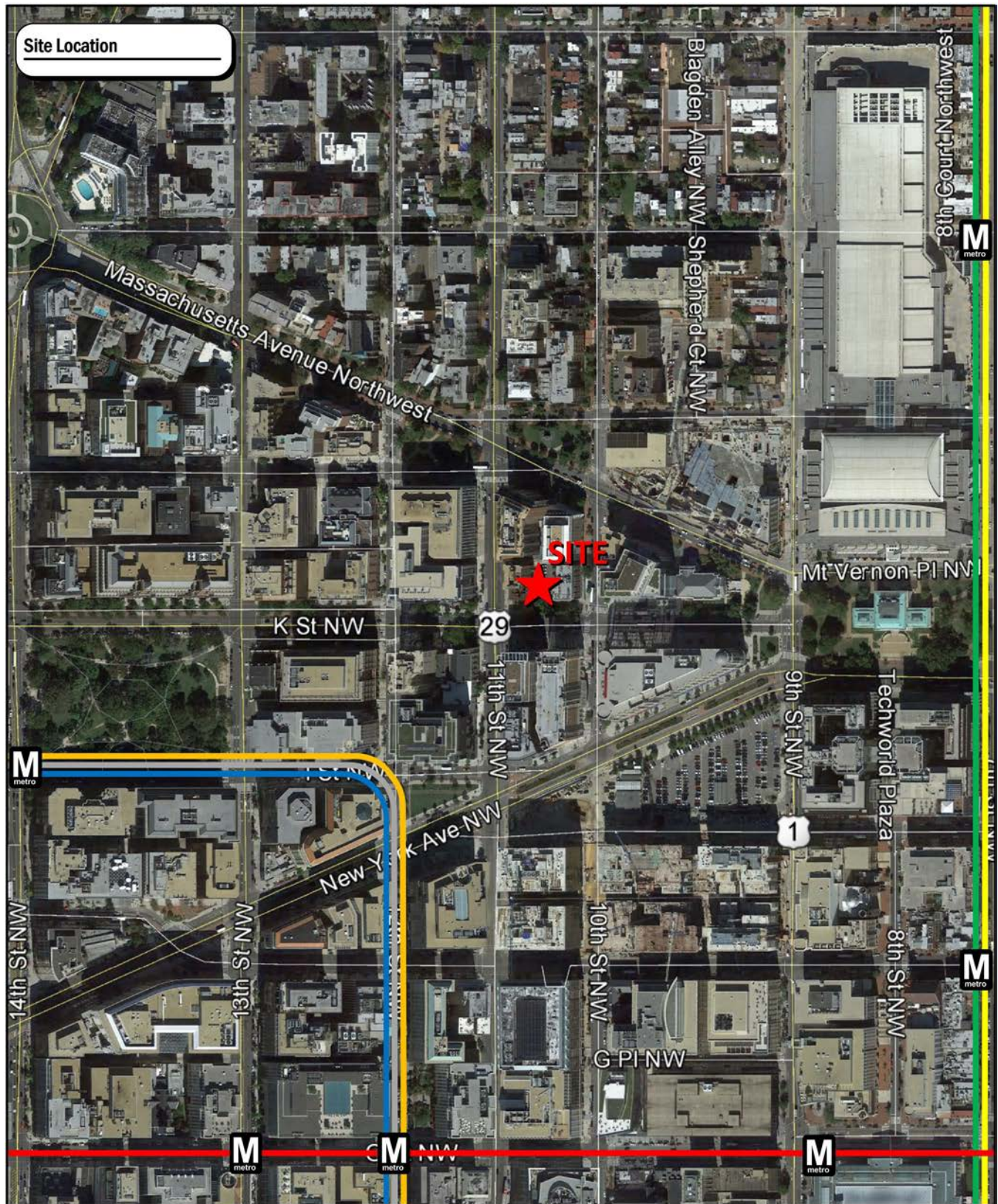


Figure 1: Site Location

June 9, 2015

Sixteen (16) Metrobus routes and two (2) DC Circulator routes operate within walking distance of the site. The nearest MetroBus stop is located adjacent to the site at the northeast corner of the intersection of 11th Street and K Street, serving the 64 and G8 lines. A second bus stop is located directly across K Street from the site serving the D4 and 7Y Metrobus lines as well as the DC Circulator. Table 1 shows a summary of the bus route information for the lines that serve the study area, including service hours and the headways. Figure 2 illustrates the existing rail and bus service.

Due to growth of population, jobs, and retail in several neighborhoods in the District and the potential for growth in other neighborhoods, the District's transportation infrastructure is proposed to be augmented by the reestablishment of streetcar service in the District and the implementation of limited-stop bus service along major corridors in the vicinity of the proposed development, including K Street along the project's frontage as is outlined in the *DC's Transit Future System Plan* report published by DDOT in April 2010.

Table 1: Bus Route Information

Route Number	Route Name	Service Hours	Headway
7Y	Lincolnia-North Fairlington Line	Monday - Friday: 5:30 am – 9:30 am Monday - Friday: 3:00 pm – 6:30 pm	10 – 15 min
64	Ft. Totten-Petworth Line	Weekdays: 5:30 am – 2:00 am Weekends: 5:30 am – 1:30 am	10 to 30 min
79	Georgia Avenue Limited Line	Monday – Saturday: 6:00 am – 7:50 pm	6-15 minutes
80	North Capitol Street Line	Weekdays: 4:30 am – 2:00 am Weekends: 5:00 am – 1:00 am	10 - 30 min
D3/D4	Ivy City-Franklin Square/Dupont Circle Line	Weekdays: 4:15 am – 1:05 am Saturdays: 4:45 am – 1:05 am Sundays: 5:15 am – 1:05 am	15 – 30 min
42	Mount Pleasant Line	Mon - Sat: 4:30 am – 3:30 am Sunday: 4:30 am – 2:00 am	10 – 30 min
D1	Glover Park-Federal Triangle Line	Monday - Saturday: 7:45 am – 9:45 am Monday - Saturday: 4:45 pm – 7:15 pm	10 – 15 min
D6	Sibley Hospital-Stadium Armory Line	Weekdays: 4:30 am – 2:15 am Saturdays: 5:00 am – 2:00 am Sundays: 5:30 am – 1:00 am	10 - 30 min
S2/S4	16 th Street Line	Weekdays: 4:45 am – 3:00 am Saturdays: 4:45 am – 3:00 am Sundays: 5:00 am – 2:00 am	10 - 30 min
54	14 th Street Line	Weekdays: 4:30 am – 3:15 am Saturdays: 4:30 am – 3:00 am Sundays: 4:30 am – 2:00 am	10 - 30 min
G8	Rhode Island Avenue Line	Weekdays: 5:00 am – 1:30 am Weekends: 5:30 am – 1:00 am	15 – 30 min
63	Takoma-Petworth Line	Mon – Fri: 5:00 am – 9:00 am Mon – Fri: 3:00 pm – 7:00 pm	10-15 min
X2	Benning Road-H Street Line	Mon – Sat: 4:15 am – 3:00 am Sunday: 4:15 am – 2:30 am	15 – 30 min
X9	Benning Road-H Street Limited	Weekdays: 6:15 am – 9:00 am 3:30 pm – 6:30 pm	15 minutes
DC Circulator	Union Station-Georgetown Line	Sunday – Thursday: 7:00 am - 12:00 am Friday and Saturday: 7:00 am - 3:30 am	10 minutes

Route Number	Route Name	Service Hours	Headway
DC Circulator	Woodley Park-Adams Morgan-McPherson Square Line	Sunday – Thursday: 7:00 am - 12:00 am Friday and Saturday: 7:00 am - 3:30 am	10 minutes

Bicycle Facilities

Based on DDOT's June 911 Bicycle Map, the bicycling conditions around the proposed development are primarily good on the nearby streets as shown in Figure 3. All of the streets in the vicinity of the site, except H Street and portions of 9th and M Streets, provide either on-street bike lanes or feature good or fair cycling conditions. Cycle tracks closest to the site are located on L Street, 10th Street, and 11th Street.

In addition, the Capital Bikeshare program has placed over 200 bike share stations across Washington, DC, Arlington, VA, Alexandria, VA, and Montgomery County, MD with more than 1,800 bicycles provided. Capitol Bikeshare has plans to expand the system and potential new station locations have been identified throughout the study area. Figure 3 identifies existing station locations in the study area. Capitol Bikeshare currently has one existing bike share locations adjacent to the site at the corner of 11th and K Streets (that is proposed to be relocated further on the block to the east along K Street). Five (5) other bike share locations are located within walking distance of the site at 7th and M Streets, 11th and M Streets, 12th and L Streets, 13th Street and New York Avenue, and 8th and H Streets.

Pedestrian Facilities

The roadways in the immediate vicinity of the proposed development provide satisfactory pedestrian facilities and connectivity throughout the area. Wide, continuous sidewalks line all of the study area's roadways with crosswalks linking segments at intersections within the study area. Moreover, the presence of on-street parking along the streets within the study area acts as a barrier between the sidewalk and the traveled way.

Adequate crosswalks and pedestrian countdown signals are present near the site at the two signalized intersections of K Street and 10th Street and 11th Street for all crossing movements as well as paths to and from the nearby Metro stations. The site has a walkscore of 95 out of 100 (a "walker's paradise") based on its location in a mixed-use area within close proximity of the Convention Center, the Verizon Center, numerous restaurants and bars, and shopping destinations.

Car Sharing

Three car-sharing companies serve the District: Zipcar, Enterprise CarShare, and Car2Go. All three services are private companies that provide registered users access to a variety of automobiles. Zipcar and Enterprise CarShare have locations near the project site. Table 2 lists the car-sharing locations in the vicinity of the project and shows that 33 carsharing vehicles are available within a short (1/4 mile) walk of the site with many others slightly farther within a half mile. It should be noted that five Zipcars currently are parked on the parking lot that occupies the existing site that are not included in the car share vehicles available located below.

Car-sharing is also provided by Car2Go, which provides point-to-point car sharing. Unlike Zipcar, Hertz 24/7, and Enterprise CarShare, which require two-way trips, Car2Go can be used for one-way rentals. Car2Go currently has a fleet of vehicles located throughout the District. Car2Go vehicles may park in any non-restricted Metered curbside parking space or Residential Parking Permit location in any zone throughout the defined "Home Area". Members do not have to pay the

meter or pay stations. Car2Go does not have permanent designated spaces for their vehicles; however availability is tracked through their website, which provides an additional option for car-sharing patrons.

Table 2: Car Share Locations and Vehicles

Carshare Location	Number of Vehicles
Zipcar	
Embassy Suites (900 10 th Street)	5 Vehicles
CityCenterDC (870 9 th Street)	5 Vehicles
8 th & H Street	4 Vehicles
ZenApollo (1234 Massachusetts Avenue)	1 Vehicle
6 th & New York Avenue	8 Vehicles
Enterprise CarShare	
1009 K Street	2 Vehicles
900 New York Avenue	4 Vehicles
ZenApollo (1234 Massachusetts Avenue)	4 Vehicles
Total Number of Car Share Vehicles in Study Area	33 Vehicles

On-Street Parking Availability in Site Vicinity

On-Street Parking Inventory

An on-street parking inventory and occupancy study was conducted to determine the availability of existing on-street parking within the vicinity of the proposed hotel site. This study found that on-street spaces were available in the general vicinity of the site during the busiest time of the week. While little demand for street parking is expected with this site, the on-street spaces that are available would be sufficient to accommodate any vehicle trips that may park on-street. Public parking is also available for a fee in parking garages in close proximity to the site. These garages along with the on-street availability would provide more than enough capacity to handle any additional parking demand that may occur.

The following elements were considered as part of the parking study:

- An inventory of all on-street parking spaces within a roughly two-block radius of the site
- An inventory of the available (vacant) on-street parking
- Parking time availability and parking limitations within a roughly two-block radius of the site.

Parking Restrictions

An inventory of on-street parking restrictions along study area roadways was conducted to determine the availability of commercial street parking in the site vicinity. Street parking restrictions were grouped into different categories for simplicity: Resident Permit Parking (RPP) available for Zone 2 residents only, Resident Permit Parking (RPP) available for Zone 2 residents with free two hour parking for all others, metered parking with peak time restrictions, unrestricted street parking, and some other parking such as taxi and loading zones. As shown on Figure 4, the majority of street parking in the immediate site vicinity is metered and Zone 2 residential parking is primarily offered north of the site. There are approximately 517 on-street parking spaces within the study area. Peak period parking restrictions reduce this supply to approximately 381 parking spaces during the morning and afternoon peak commuter hours.

On-Street Parking Occupancy

The parking occupancy for on-street parking was collected for a typical weekday as recommended by DDOT. The date and hours of the survey are listed below:

- Thursday, May 7 - 5:00 pm to 9:00 pm

Table 3 and Table 4 summarize the available parking inventory and usage on a typical weekday. The maximum number of available spaces in the study area is 517. Parking in the study area is divided between Residential Permit Parking (RPP) zones that allow non-residents to park for up to 2 hours until 8:30 PM, RPP zones for residents only, and metered spaces.

Based on the occupancy data collected, the peak parking occupancy occurred during the 7:00 pm hour when 387 parking spaces were occupied (or 75 percent), leaving 130 parking spaces available. It should be noted that the 5:00 pm hour saw 336 parking spaces occupied (with 45 parking spaces available), representing an overall occupancy of 88 percent due to the reduction in the number of parking spaces available during the peak commuter hours. Parking utilization remained generally high throughout the study period and occupancies were generally similar to that in the surrounding neighborhoods surrounding the site. However, certain blocks were noted to consistently have available parking, such as along the south side of N Street between 9th and 10th Streets as well as on 9th Street along the project's frontage.

Table 3: Peak On-Street Parking Availability

	5PM	6PM	7PM	8PM	9PM
Occupied Spaces	336	333	387	383	325
Available Spaces	<u>45</u>	<u>48</u>	<u>130</u>	<u>134</u>	<u>192</u>
Total Spaces	381	381	517	517	517
Utilization	88%	87%	75%	74%	63%

Table 4: Peak Hour Inventory and Occupancy Summary

Space Type	Spaces Available	Peak Period (7-8 PM)		
		Occupancy	Availability	Utilization
RPP	90	87	3	97%
Metered	357	263	94	74%
Unrestricted	32	16	16	50%
Other	38	21	17	55%
All On-Street Spaces	517	387	130	75%

Off-Street Parking

An evaluation of the off-street parking availability was also included in the survey of parking near the site. Given the site's excellent access to numerous modes of transportation, minimal vehicular parking is anticipated to be necessary. However, in the event that additional parking should be needed for residents or employees, parking will be available in nearby parking garages. An assessment of nearby parking facilities revealed available off-street parking near the site in parking garages within three to four blocks that could absorb any additional parking needs of the development. These are depicted on Figure 6.

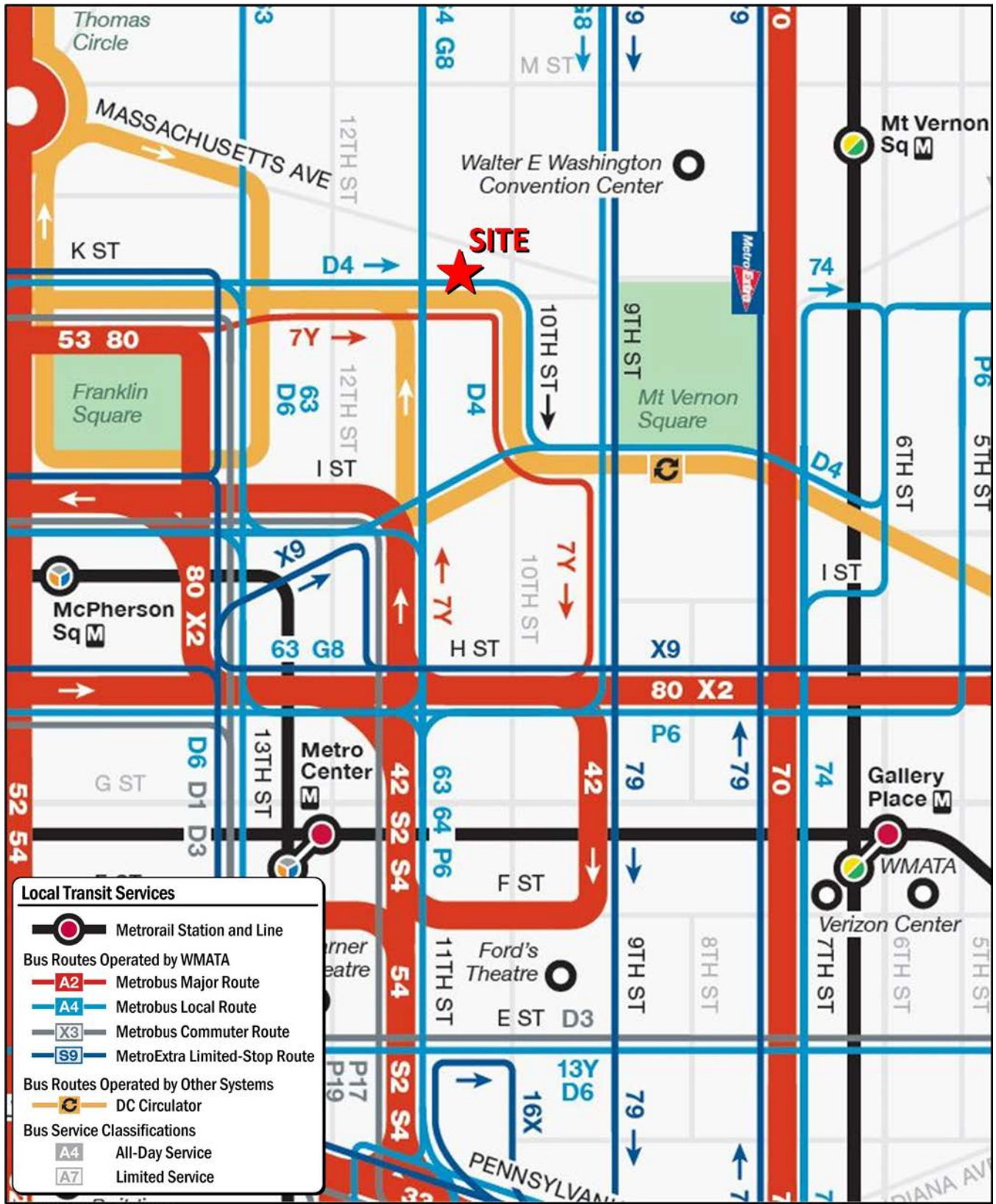


Figure 2: Existing Transit Service



Figure 3: Existing Bicycle Facilities

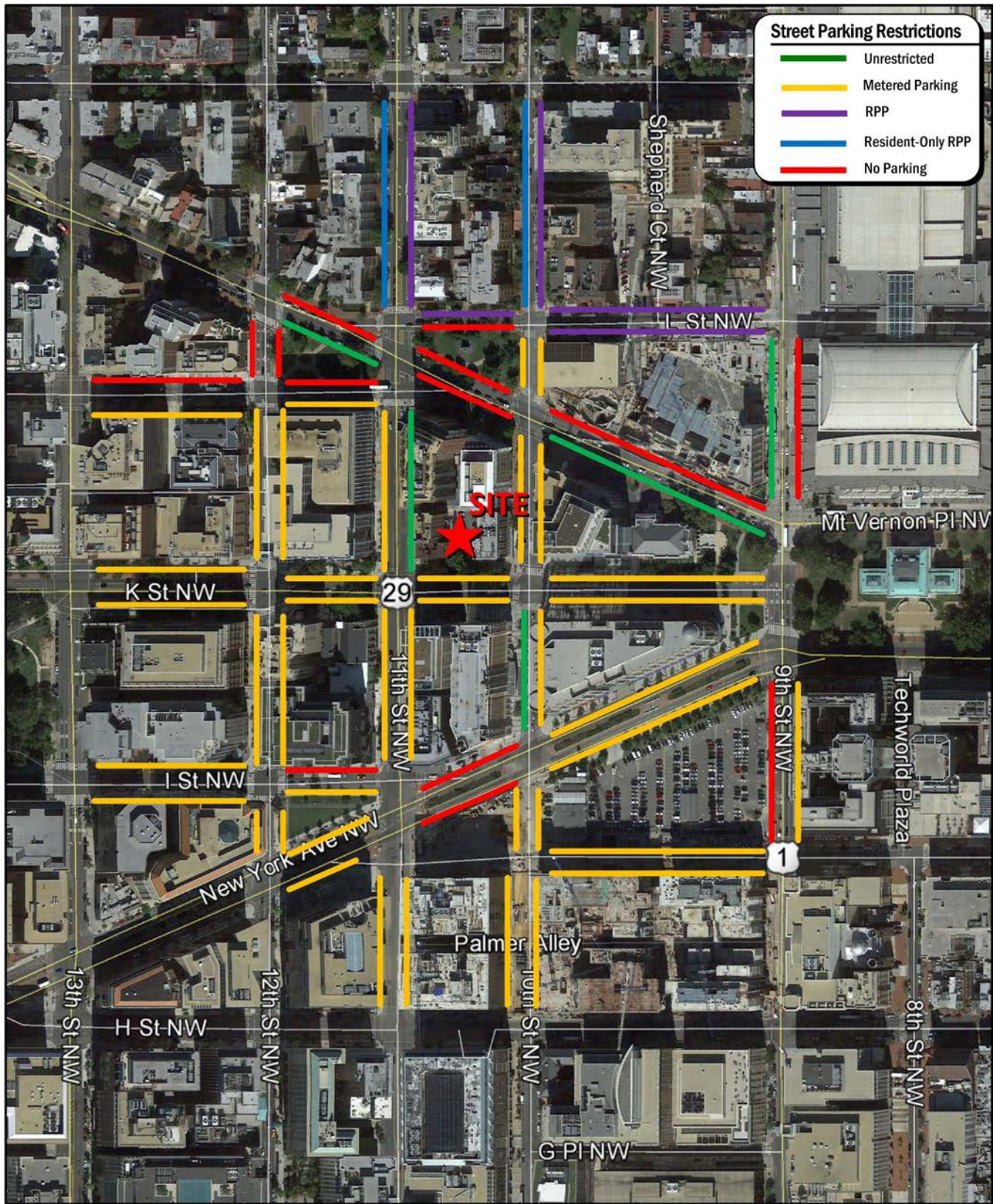


Figure 4: Parking Restrictions

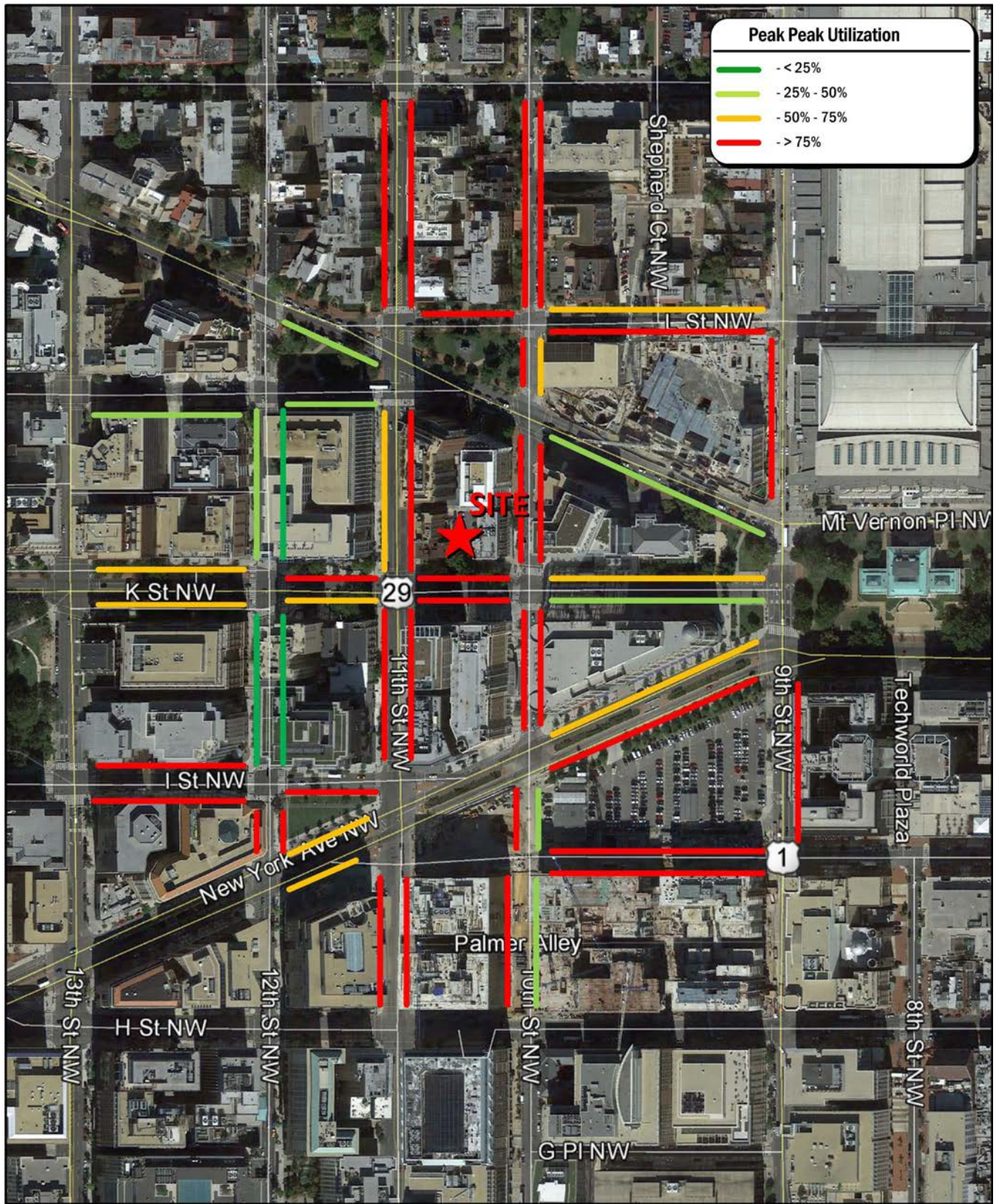


Figure 5: Parking Occupancy

June 9, 2015

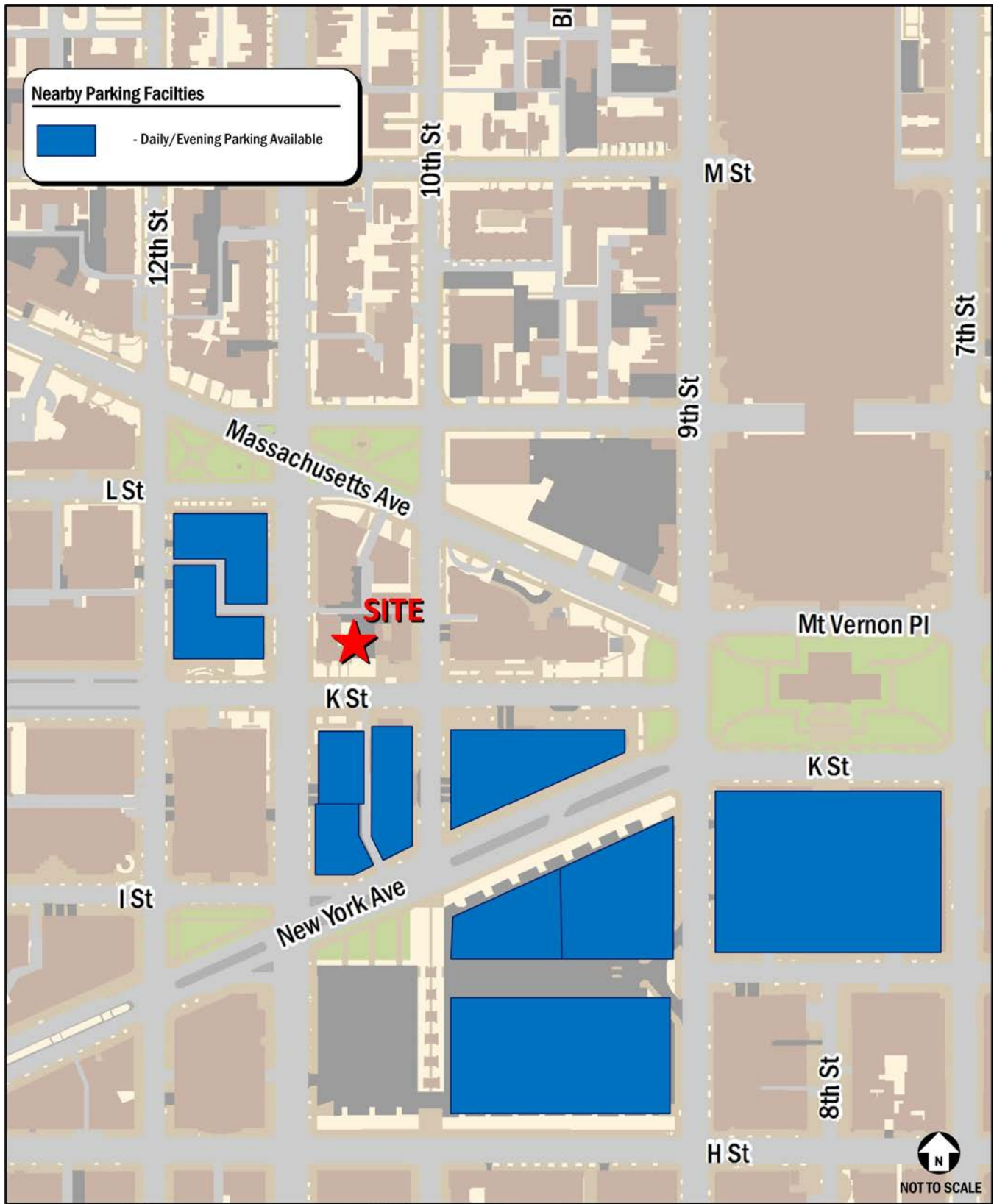


Figure 6: Nearby Off-Street Parking Facilities

DESIGN REVIEW

This section provides an overview of the transportation features of the proposed K Street hotel development. The development program consists of 200-room hotel with 4,000 square feet of ground floor retail space which is anticipated to be a restaurant. The hotel is being developed by Douglas Development and will be operated by TPG Hospitality. As mentioned previously, the hotel proposed for this site will be unique for the Washington D.C. metro area. Similar to other hotels that have been constructed in cities like New York, London, Amsterdam, and Tokyo, the 11th and K Street Hotel will feature micro hotel rooms which will provide approximately 150-200 sf in space in each room. In comparison, the average hotel room ranges from 300 to 400 sf. The hotel will be designed and marketed toward shorter-term (approximately 48-hour) guests that typically arrive in the Washington D.C. area via intercity bus, rail, or air. Due to this and the limited space on the site, parking will not be provided on-site. Loading will take place in the rear of the building via an alley connecting to 10th Street, 11th Street, and Massachusetts Avenue. Figure 4 displays the access strategies for the site including pedestrian access and loading areas.

Trip Generation

Vehicle trips were calculated for the site to determine whether the site would generate enough trips to warrant a full review of the traffic impacts of the development based on DDOT's CTR guidelines. As shown in Table 4 below, the site is anticipated to generate very few vehicular trips. Trips were calculated based on ITE Trip Generation rates for Hotel (LU 310). Typically, this land use includes the use of on-site restaurants for hotel guests; however, to maintain a conservative analysis, the approximately 4,000 square feet of restaurant space were analyzed separately using ITE Trip Generation rates for Quality Restaurant (LU 931).

No local mode split information was available for this unique hotel use. As such, mode splits for the site were conservatively determined using data from the WMATA Development-Related Ridership Survey (2005) to develop the auto/non-auto mode split for the hotel. Since the hotel is located within the core of the Central Business District and is in close proximity to both the McPherson Square and Mount Vernon/Convention Center Metro stations, the Embassy Suites Chevy Chase located at the Friendship Heights Metro station was considered to be the closest example available in the WMATA study with a mode split of 25 percent auto, 38 percent transit, and 36 percent walk/bike. Using this as a basis for the mode split assumption, a mode split of 25 percent auto, 45 percent transit, 10 percent walk, and 20 percent bike was applied to the hotel trip generation. For the restaurant use, the U Street Main Street data from the WMATA study was deemed most comparable with a 19 percent auto, 56 percent transit, and 25 percent walk/bike mode split. Based on this as a basis and in an effort to provide a comparable mode split to the hotel since the restaurant will be linked to the hotel, a conservative mode split of 25 percent auto, 55 percent transit, 5 percent bike, and 15 percent walk was applied to the restaurant trip generation. A summary of the modal split assumptions is shown below on Table 5.

The resulting trip generation projections are summarized below in Table 6 with detailed trip generation noted in Table 7 for the hotel and Table 8 for the restaurant. The development is expected to generate a conservative total of 28 AM peak hour vehicular trips (17 inbound and 11 outbound) and 38 PM peak hour trips (20 inbound and 18 outbound). Note that the trip generation calculations below are considered to be conservative given that the hotel is planned to be very short walking distance to two Metro stations, is designed to accommodate guests arriving via train, intercity bus, or air, will be marketed as micro-hotel rooms, and will provide no on-site parking, as mentioned in the introduction.

Table 5: Mode Split Assumptions

Hotel Mode Split Assumptions							
Pertinent Mode Split data from other sources:							
Information Source	Mode						
	SOV	Carpool	Transit	Bike	Walk	Telecommute	Other
WMATA Ridership Survey (Embassy Suites Chevy Chase Pavilion)	25%		38%	36%		---	
Mode Split assumed in TIS:							
Information Source	Mode						
	Drive		Transit	Bike	Walk	Telecommute/Other	
Hotel Mode Split	25%		45%	10%	20%	---	
Restaurant Mode Split Assumptions							
Pertinent Mode Split data from other sources:							
Information Source	Mode						
	SOV	Carpool	Transit	Bike	Walk	Telecommute	Other
WMATA Ridership Survey (U St Main Street)	19%		56%	25%		---	
Mode Split assumed in TIS:							
Information Source	Mode						
	Drive		Transit	Bike	Walk	Telecommute/Other	
Restaurant Mode Split	25%		55%	5%	15%	---	

Table 6: Trip Generation Summary

Trip Gen Summary for Hotel						
Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	16 veh/hr	11 veh/hr	27 veh/hr	15 veh/hr	15 veh/hr	30 veh/hr
Transit	63 ppl/hr	42 ppl/hr	105 ppl/hr	61 ppl/hr	58 ppl/hr	119 ppl/hr
Bike	14 ppl/hr	10 ppl/hr	24 ppl/hr	14 ppl/hr	13 ppl/hr	27 ppl/hr
Walk	28 ppl/hr	19 ppl/hr	47 ppl/hr	27 ppl/hr	26 ppl/hr	53 ppl/hr
Trip Gen Summary for Restaurant						
Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	1 veh/hr	0 veh/hr	1 veh/hr	5 veh/hr	3 veh/hr	8 veh/hr
Transit	3 ppl/hr	1 ppl/hr	4 ppl/hr	25 ppl/hr	12 ppl/hr	37 ppl/hr
Bike	1 ppl/hr	0 ppl/hr	1 ppl/hr	3 ppl/hr	1 ppl/hr	4 ppl/hr
Walk	1 ppl/hr	0 ppl/hr	1 ppl/hr	7 ppl/hr	3 ppl/hr	10 ppl/hr
Total Trip Gen Summary						
Mode	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Auto	17 veh/hr	11 veh/hr	28 veh/hr	20 veh/hr	18 veh/hr	38 veh/hr
Transit	66 ppl/hr	43 ppl/hr	109 ppl/hr	86 ppl/hr	70 ppl/hr	156 ppl/hr
Bike	15 ppl/hr	10 ppl/hr	25 ppl/hr	17 ppl/hr	14 ppl/hr	31 ppl/hr
Walk	29 ppl/hr	19 ppl/hr	48 ppl/hr	34 ppl/hr	29 ppl/hr	63 ppl/hr

Table 7: Hotel Trip Generation

Step 1: Base trip generation using ITEs' Trip Generation								
Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Hotel	220	200 rooms	63 veh/hr	43 veh/hr	106 veh/hr	61 veh/hr	59 veh/hr	120 veh/hr
Step 2: Convert to people per hour, before applying mode splits								
Land Use	People/Car (from 2009 NHTS, Table 16)		AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Hotel	2.20 ppl/veh		139 ppl/hr	95 ppl/hr	233 ppl/hr	134 ppl/hr	130 ppl/hr	264 ppl/hr
Step 3: Split between modes, per assumed Mode Splits								
Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Hotel	Auto	25%	35 ppl/hr	24 ppl/hr	59 ppl/hr	34 ppl/hr	32 ppl/hr	66 ppl/hr
Hotel	Transit	45%	63 ppl/hr	42 ppl/hr	105 ppl/hr	61 ppl/hr	58 ppl/hr	119 ppl/hr
Hotel	Bike	10%	14 ppl/hr	10 ppl/hr	24 ppl/hr	14 ppl/hr	13 ppl/hr	27 ppl/hr
Hotel	Walk	20%	28 ppl/hr	19 ppl/hr	47 ppl/hr	27 ppl/hr	26 ppl/hr	53 ppl/hr
Step 4: Convert auto trips back to vehicles/hour								
Land Use	People/Car (from 2009 NHTS, Table 16)		AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Hotel	2.20 ppl/veh		16 veh/hr	11 veh/hr	27 veh/hr	15 veh/hr	15 veh/hr	30 veh/hr
Trip Gen Summary for Hotel								
Mode			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Auto			16 veh/hr	11 veh/hr	27 veh/hr	15 veh/hr	15 veh/hr	30 veh/hr
Transit			63 ppl/hr	42 ppl/hr	105 ppl/hr	61 ppl/hr	58 ppl/hr	119 ppl/hr
Bike			14 ppl/hr	10 ppl/hr	24 ppl/hr	14 ppl/hr	13 ppl/hr	27 ppl/hr
Walk			28 ppl/hr	19 ppl/hr	47 ppl/hr	27 ppl/hr	26 ppl/hr	53 ppl/hr

Table 8: Restaurant Trip Generation

Step 1: Base trip generation using ITEs' Trip Generation								
Land Use	Land Use Code	Quantity	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Restaurant	820	4,000 sf	2 veh/hr	1 veh/hr	3 veh/hr	20 veh/hr	10 veh/hr	30 veh/hr
Step 2: Convert to people per hour, before applying mode splits								
Land Use	People/Car (from 2009 NHTS, Table 16)		AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Restaurant	2.20 ppl/veh		4 ppl/hr	2 ppl/hr	7 ppl/hr	44 ppl/hr	22 ppl/hr	66 ppl/hr
Step 3: Split between modes, per assumed Mode Splits								
Land Use	Mode	Split	AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Restaurant	Auto	25%	2 ppl/hr	0 ppl/hr	2 ppl/hr	11 ppl/hr	6 ppl/hr	17 ppl/hr
Restaurant	Transit	55%	3 ppl/hr	1 ppl/hr	4 ppl/hr	25 ppl/hr	12 ppl/hr	37 ppl/hr
Restaurant	Bike	5%	1 ppl/hr	0 ppl/hr	1 ppl/hr	3 ppl/hr	1 ppl/hr	4 ppl/hr
Restaurant	Walk	15%	1 ppl/hr	0 ppl/hr	1 ppl/hr	7 ppl/hr	3 ppl/hr	10 ppl/hr
Step 4: Convert auto trips back to vehicles/hour								
Land Use	People/Car (from 2009 NHTS, Table 16)		AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Restaurant	2.20 ppl/veh		1 veh/hr	0 veh/hr	1 veh/hr	5 veh/hr	3 veh/hr	8 veh/hr
Trip Gen Summary for Restaurant								
Mode			AM Peak Hour			PM Peak Hour		
			In	Out	Total	In	Out	Total
Auto			1 veh/hr	0 veh/hr	1 veh/hr	5 veh/hr	3 veh/hr	8 veh/hr
Transit			3 ppl/hr	1 ppl/hr	4 ppl/hr	25 ppl/hr	12 ppl/hr	37 ppl/hr
Bike			1 ppl/hr	0 ppl/hr	1 ppl/hr	3 ppl/hr	1 ppl/hr	4 ppl/hr
Walk			1 ppl/hr	0 ppl/hr	1 ppl/hr	7 ppl/hr	3 ppl/hr	10 ppl/hr

As a comparison, a variety of other different hotel product types were reviewed. The range of hotels examined as part of this exercise includes three types of hotels which were contacted to determine the vehicular use of their guests:

- The Pod 51 Hotel in New York is a very similar hotel product to the proposed hotel and provides micro-unit hotel rooms.
 - Pod 51, 230 E 51st St, New York, NY – (345 rooms) An average of 3 - 4 guests per day drive to the hotel, which is based on an interview of existing doormen at the hotel.
- The Hostelling International and Allen-Lee Hotels each provide minimal hotel room amenities at price ranges below the proposed hotel, and typically attract budget-conscious travelers. Neither of these hotels provides parking to their guests. In particular, Hostelling International is located within the same block as the proposed hotel.
 - Hostelling International, 1009 11th St. NW, Washington, DC (rooms with a mix of rooms with and without bathrooms) – No guests typically drive to the hostel, which is based on an interview with front desk staff. The hotel provides rooms geared to provide lodging with and without private bathrooms. The lack of guests driving to the hotel is likely a result of the lack of on-site parking (as stated on their website), the size and type of hotel rooms offered, and the demographic to which the hotel is catering.
 - Allen-Lee Hotel, 2224 F St. NW, Washington, DC: (86-room boutique hotel) No guests typically drive to this hotel, which is based on an interview with the current owner of the hotel, who has owned the hotel for the past 4 years. The hotel is well-served by transit and is located 3 blocks south of the Foggy Bottom Metrorail Station.
- The Quincy Hotel is a modern boutique hotel with larger sized hotel rooms with good proximity to transit and amenities and with room rates above that of the proposed hotel. It does not provide parking on-site, but includes valet parking.
 - Quincy Hotel, 1823 L St. NW, Washington, DC: (99-room full-service boutique hotel) 3,495 annual valet tickets were collected last year, which is equivalent to approximately 7.8 vehicles per day.

As a result, the 28 AM peak hour trips and 38 PM peak hour trips described previously can be considered a conservative estimate of vehicular trips that would be generated by the proposed hotel. As noted by the similar hotels described above, it could be expected as few as between three and eight guests per day would drive to the hotel.

Site Access and Internal Circulation

Site Access

There will be two pedestrian access locations for the site, with the primary hotel entrance being mid block along K Street and the primary restaurant entrance being on 11th Street near the K Street corner. While separate entrances are planned for the hotel and the retail/restaurant space, internal access between the hotel and retail/restaurant space will also be provided, since the retail space is envisioned as a restaurant that will be able to serve hotel guests. Due to the physical constraints of the site and the anticipated guest methods of travel to the site, no on-site parking is planned or is needed for this project. A TDM plan, as outlined further in this document, will be in place in order to provide and encourage alternative modes of transportation for guests, employees, and visitors. Thus, access to the site will be via the non-

vehicular transportation modes near the site or via private vehicles that can take advantage of existing off-street parking in the area.

Parking

As mentioned previously, the project will not provide any on-site parking. According to the zoning regulations set forth by the District, and based upon the existing zoning of the site location, the development is required to provide 65 parking spaces, including 60 for hotel uses and 5 for restaurant/retail uses. The site for the hotel is a small, “L” shaped lot. Due to the constraints of the lot, space is not available to provide for both adequate ramping and parking in a below grade garage to serve the hotel. Were a below grade garage proposed for this hotel, it is likely that a minimal number of parking spaces (five or less) could be provided per level. The low number of parking spaces that could be provided below grade and the space that would be necessary to accommodate ramping to reach those spaces would not be feasible to build on such a small site. Therefore, the applicant is seeking a parking variance from Section 2101.1 of the Zoning Regulations since the site cannot support on-site off-street parking, given the physical constraints and practical difficulties of the site and that the target market for the hotel is not anticipated to drive to the site.

In the event that guests were to arrive via auto, parking will be available in nearby parking garages or through valet parking offered by the hotel curbside along K Street. An assessment of nearby parking facilities revealed ample off-street parking availability near the site in several nearby parking garages and surface lots that could absorb any valet or self parking needs of hotel guests. Based on the experience of the Pod 51 Hotel in New York, which is the most closely linked product of the proposed micro-hotel and which experiences an average of 4 vehicle arrivals per day by personal vehicle, the proposed hotel could easily accommodate the expected parking demand given the numerous off-site parking facilities within close vicinity of the site. Assuming that guests would stay at the proposed 200-room hotel an average of 1.5 nights, the maximum daily parking demand would consist of the following calculation:

$(200 \text{ rooms} / 345 \text{ rooms}) \times 4 \text{ drivers} \times 1.5 \text{ nights length of stay} = 3.47 \text{ nights of guest parking required}$

Based on the experience at the Quincy Hotel in DC, a more standard style hotel which experiences an average of approximately 7.8 vehicles per day for a 99-room boutique hotel that has typical-sized rooms, the proposed hotel could also easily accommodate the expected parking demand. Factoring the number of vehicles to be consistent with 200 rooms, the estimated number of vehicles that would drive and park would be approximately 16 vehicles per day. This 16-vehicle parking demand projection for the proposed hotel represents a worst-case scenario given that the proposed hotel is significantly smaller in room size than the Quincy Hotel rooms, the proposed hotel is more centrally accessible at the Gallery Place Metrorail station, and the proposed hotel caters primarily to Millennials visiting the Nation’s capital.

In either event, available parking in the local area is able to accommodate this limited parking demand. The Applicant has been in contact with and is pursuing letters of availability of parking from parking operators to ensure the availability of parking should it be necessary.

Additionally, given site’s location within close walking distance of several Metrorail stations, the proposed development has excellent access to regional and national travel with direct access to Union Station via Circulator Bus and the Metrorail Red line, Reagan National Airport via the Metrorail Yellow Line, Dulles Airport via the Metrorail Silver Line, and BWI Airport via connections to Union Station. There are also numerous intercity bus lines that provide direct regional access from New York to Washington, DC, that include Bolt Bus, Greyhound, Megabus, Peter Pan Trailways, Washington Deluxe, and DC2NY.

As such, the hotel is projected to adequately serve the demands of the site due to the following various considerations:

- Well-situated to be served by multiple Metrorail stations within walking distance of the site.
- Served by 18 bus routes within a quarter-mile walking distance including Metrobus, Metro Express and DC Circulator routes.
- Capital Bikeshare has six existing bike share locations very near the site. One existing bike share is located adjacent to the site at the corner of 11th and K Streets (that will need to be relocated during construction of the site). Five (5) other bike share locations are located within walking distance of the site at 7th and M Streets, 11th and M Streets, 12th and L Streets, 13th Street and New York Avenue, and 8th and H Streets.
- The applicant has worked with DDOT to incorporate bicycle parking within the site. The design of these spaces will reflect similar dimensions as currently incorporated in other development throughout the District. Although no bicycle parking is required by the Zoning Regulations, bicycle parking will be made available to serve employees and guests of the development.
- The hotel will be designed and marketed toward shorter-term (approximately 48-hour) guests that typically arrive in the Washington D.C. area via intercity bus, rail, or air and, as such, will not arrive with vehicles to park on-site, as discussed previously.
- There are numerous nearby off-street parking garages and surface parking lots that could accommodate valet operations or personal vehicle parking off-site, as discussed previously.
- The site area has a walkability score of 95, a transit score of 100, and biking score of 91 as calculated by WalkScore.com, all of which are referred to as a “Walker’s/Rider’s/Biker’s Paradise”.

Given the urban nature of the site and its proximity to many non-auto modes of transportation, the design of the site with no off-street parking will adequately serve the vehicular needs of the development based on the proposed use of the site.

Bicycle Facilities

Although technically, no bicycle parking is required for this development, long-term bike parking for employees will be provided, which will include secure bike storage located in an area near the loading dock. Short term outdoor bicycle parking along the perimeter of the development site will be provided in coordination with DDOT.

Curbside Management

In order to facilitate curbside drop-off/pick-up, guest loading, and valet operations for the hotel use along K Street, a curbside management plan has been developed. The site is approximately 125 feet in width along K Street and includes five metered parking spaces within the site’s frontage. With the development of the hotel, it is proposed that the 60 feet of curbside in front of the site be designated as a drop-off/pick-up passenger loading zone 24-hours per day, seven days per week. This will accommodate approximately two to three vehicles for drop-off/pick-up, passenger loading, and valet operations. By converting the area directly in front of the hotel to a passenger loading zone, adequate space should remain for two of the five parking spaces that currently exist.

Loading

A loading variance is necessary since the Zoning Regulations require a 30 foot loading berth, a 20 foot service space, and a 100 sf loading platform. The site is planned to provide a single 30 foot loading berth and a 100 sf loading platform. 30 foot long and smaller trucks will be able to adequately navigate the partially public and partially private alley system to access the loading facilities. The number of truck trips generated by a project of this scale is relatively low. Based on input from the developer and the planned tenants, it is expected that the new project would not generate more than eight (8) truck trips per day. This includes trash, FedEx/UPS/USPS deliveries, linen deliveries, and other supplies which are anticipated to all be 30 foot long and smaller. The hotel does not plan to provide function space such as banquet facilities, so no larger truck loading will be necessary for activities typically associated with those types of uses.

Trash pickups are planned to be accommodated using bins that will be rolled from the trash room out to the trash truck in the alley for pick-up, similar to other developments throughout the District. These bins will not be left unattended and will be rolled out to meet the truck by the trash contractor and then returned to their location at the compactor in the trash room adjacent to the loading facilities.

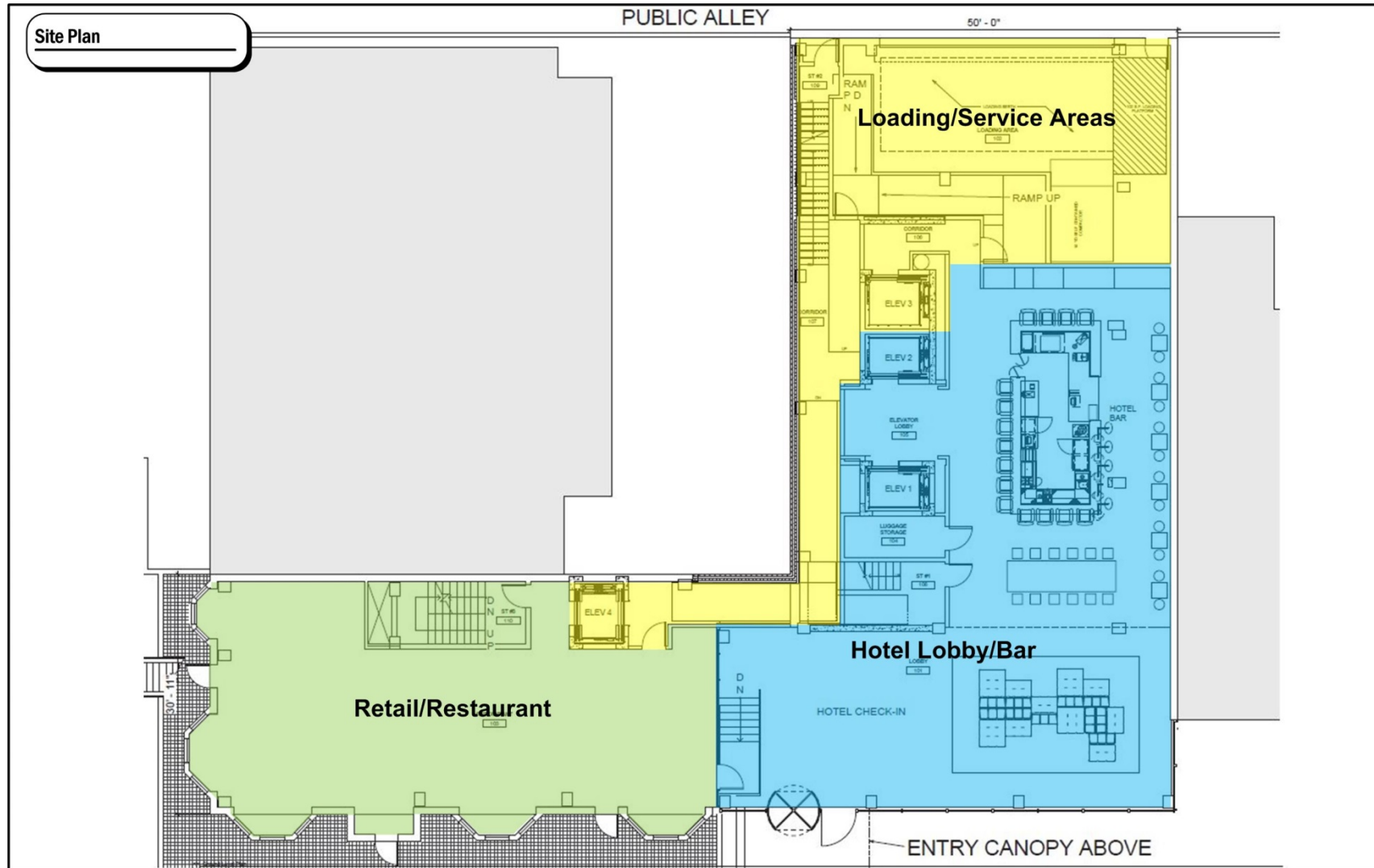


Figure 7: Site Plan

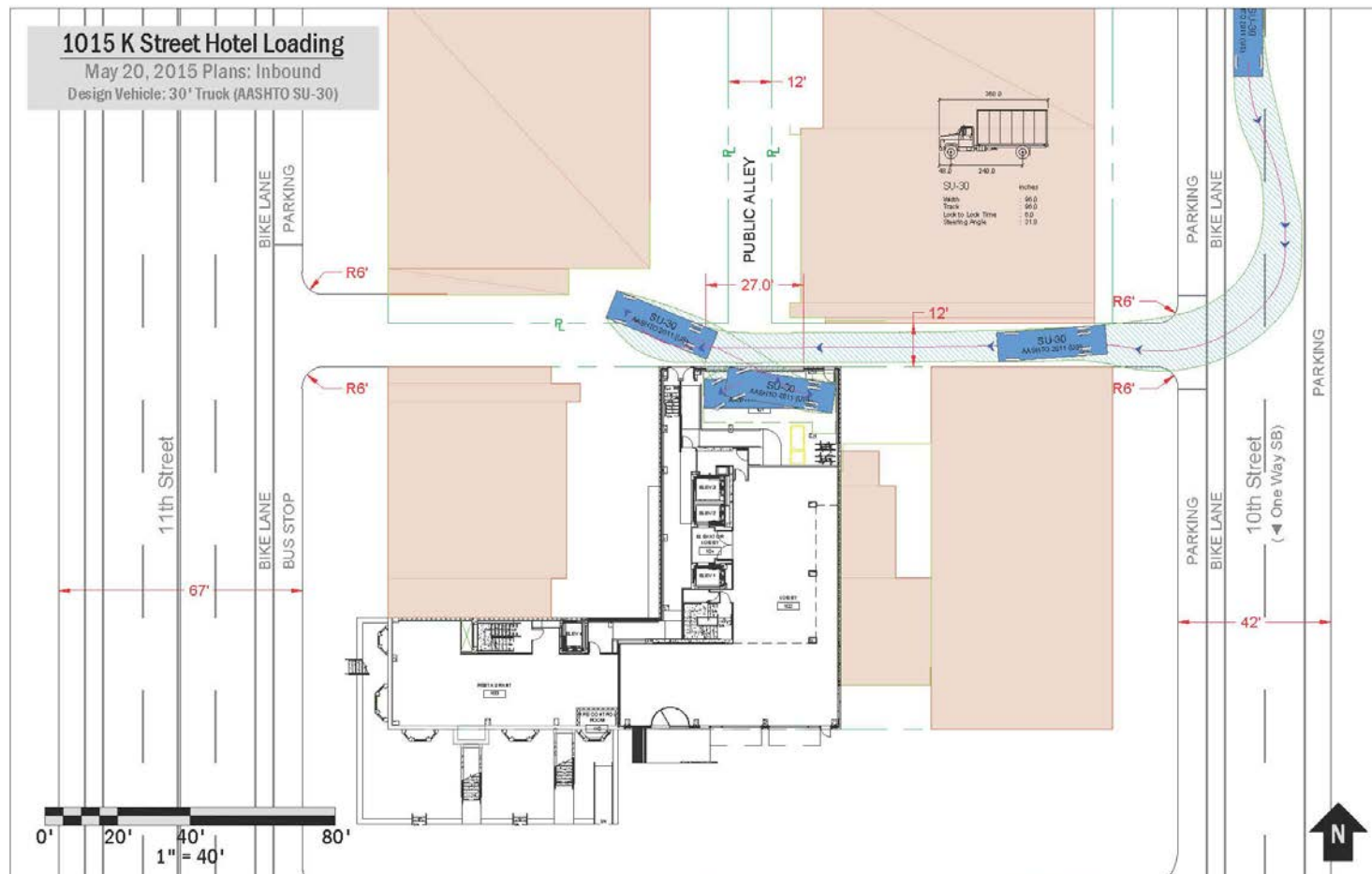


Figure 8: Inbound Truck Turning Maneuvers



Mitigation and Transportation Demand Management

Based on the experience of both the New York Pod 51 hotel, as well as the experience of local standard hotels, the parking demand that may result from the proposed hotel would be in the range of 4 parking spaces on the low end to 16 spaces on the high end. In order to mitigate this range of parking demand for the proposed hotel, a layered approach in addressing the potential parking demand has been proposed.

The first approach is to notify prospective guests on the hotel website that parking is not available on-site. The website will emphasize and encourage alternate modes given the hotel's convenient location near several Metrorail stations. These alternate modes would include regional travel options that include Union Station and the nearby airports and their connections to the hotel via commuter rail, Metrorail, intercity bus, taxi, Uber, and carshare. The website link would also provide off-site locations where hotel guests can park, in the event that they decide to drive.

This theme will also be continued in the second approach with the actual reservation confirmation with explicit statements that no parking is available on site and that the hotel encourages and emphasizes alternative modes. The reservation e-mail will provide the alternative transportation options and the locations of off-site parking facilities, in the event that they decide to drive.

The third approach would consist of providing a staff member that would greet incoming hotel guests at the front door of the hotel. This staff member would act as a doorman who will be at the hotel to direct any vehicles that arrive at the front door to the nearby local garage, ensuring that no illegal parking occurs in front of the building to impact traffic.

The last approach would be to coordinate with the local overnight parking garages to ensure that parking for the hotel users who decide to drive would be available. The Applicant has been in contact with and is pursuing letters of availability of parking from parking operators to ensure the availability of parking should it be necessary.

In addition a Transportation Demand Management (TDM) plan has been proposed for the project as well. TDM is the application of policies and strategies used to reduce travel demand or to redistribute demand to other times or spaces. TDM typically focuses on reducing the demand of single-occupancy private vehicles during peak period travel times or on shifting single-occupancy vehicular demand to off-peak periods. TDM's importance within the District is highlighted within section T-3.1 of the DC Comprehensive Plan, where it has its own dedicated section including TDM policies and actions.

Proposed TDM Plan

Based on the DDOT expectations for TDM programs, and analyzing the specific attributes of the development site, the following outlines the proposed TDM plan for the 11th and K Street Hotel development.

- ***Transportation Management Coordinator (TMC)***

Effective Transportation Management Programs (TMPs) require a coordinator to implement and manage TDM strategies. A member of the property management group would be a point of contact and would be responsible for coordinating, implementing and monitoring the TMP strategies. This would include the development and distribution of information and promotional brochures to hotel guests, visitors, patrons and employees regarding transit facilities and services, pedestrian and bicycle facilities and linkages, ridesharing (carpool and vanpool) and car sharing. The contact information for the TMC would be provided to DDOT/Zoning Enforcement with annual contact updates.

June 9, 2015

- *On-Site Services*

A TransitScreen will be installed in the lobby to keep hotel guests, visitors, and employees informed on all available transportation choices and provide real-time transportation updates. In addition, the TMC will make printed materials related to local transportation alternatives available to residents and employees upon request and at move-in for new tenants.

- *Marketing Program*

The TMC will establish a TDM marketing program that provides detailed transportation information and promotes walking, cycling, and transit. An effective marketing strategy should consist of a multi-modal access guide that provides comprehensive transportation information. This information can be compiled in a brochure for distribution and/or provided on hotel websites. The marketing program should also utilize and provide website links to CommuterConnections.com and goDCgo.com, which provide transportation information and options for getting around the District.

- *Transportation Incentives*

To help encourage non-auto transportation uses, the hotel operator will provide initial free daily Capital Bikeshare passes as a part of Capital Bikeshare's Bulk Membership program for hotels will be available upon request for hotel guests in perpetuity, not to exceed in value of \$5,000 per year.

- *Bicycle Amenities*

The hotel operator will encourage all alternative transportation modes including bicycling. Bicycling will be promoted for employees with the provision of on-site bicycle parking spaces as described above. The marketing program will include brochures and links to websites on bicycling in the District and for Capital Bikeshare. In addition, secure bicycle storage spaces will be made available for employees on-site as well as exterior temporary bicycle parking.

- *Ride-matching/Ridesharing Program*

Employees who wish to carpool will be provided detailed carpooling information as part of the marketing effort, and will be referred to other carpool matching services sponsored by the Metropolitan Washington Council of Governments.

Conclusions

This memorandum presents the findings of a Comprehensive Transportation Review for the 11th and K Street Hotel development. The proposed development consists of a 200-room hotel with retail use anticipated to be a restaurant. The development will be a unique hotel for the Washington D.C. metro area consisting of micro hotel rooms of approximately 150-200 square feet in size targeted toward a shorter-term (approximately 48-hour) guest market. The following conclusions were made regarding the 11th and K Street Hotel development:

- The site is surrounded by an extensive existing network of transit, bicycle, and pedestrian facilities that result in an adequate environment for safe and effective non-auto transportation;
- Based on the site location near ample transit services in addition to the target market of the hotel, and coupled with a TDM plan, no on-site parking will be necessary to supply the site;

June 9, 2015

- Based on an estimation of loading activity for the development, it was determined that the amount of loading activity expected to take place at the site will be adequately served by the proposed off-street loading area; and
- A TDM plan for the development will include the implementation of a TDM coordinator, on-site services, a marketing program, transportation incentives, bicycle amenities, and ride-matching/ridesharing programs.