

TECHNICAL MEMORANDUM

To: Earle C. Horton, III
1031 4th Street, LLC

From: Jim Watson, PTP
Erwin N. Andres, P.E.

Date: April 28, 2014

Subject: 1031 4th Street, NW Parking and Loading Management Plan

INTRODUCTION

This memorandum outlines the parking and loading aspects of the 1031 4th Street, NW development located in the northeast quadrant of Washington, DC in Ward 6. Figure 1 identifies the regional site location within the District. The site is currently occupied by a vacant surface parking lot and three raw structures and will be redeveloped into a mixed-use development comprising of approximately 6,052 square feet of ground floor retail and 124 residential units. Twenty-five parking (25) spaces will be supplied on-site with a proposed driveway with access directly on the east side of 4th Street, NW.

All residential loading will take place curbside in front of the building along 4th Street, NW. A parking and loading management plan has been developed to best serve the nature of the site. This includes an analysis of comparable development in addition to an on-street parking analysis to determine the existing parking utilization in the neighborhood. This was augmented by an aggressive Transportation Demand Management (TDM) plan to promote the use of non-vehicular travel modes to and from the site.

The following conclusions were made regarding the 1031 4th Street, NW development:

- The site is surrounded by an 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 an analysis of comparable residential sites, and coupled with an aggressive TDM plan, it is likely that the parking supplied by the development will be adequate to serve the needs of residents.
- On-street parking is moderately utilized in the vicinity of the site with a peak of 91 percent utilization during the Friday peak period at 8:00 PM. Despite the heavily utilized on-street parking, the development will not cause any detrimental impacts to on-street parking conditions given the availability and proximity to transit and nearby amenities, the presence of several nearby off-street parking facilities, and the implementation of a comprehensive TDM program.
- Based on an analysis of comparable residential units and 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 an on-street loading zone 30 feet in length.
- An aggressive TDM plan for the development will include the provision of a TMC, on-site services, a marketing program, transportation incentives, bicycle amenities, and ride-matching/ridesharing programs.

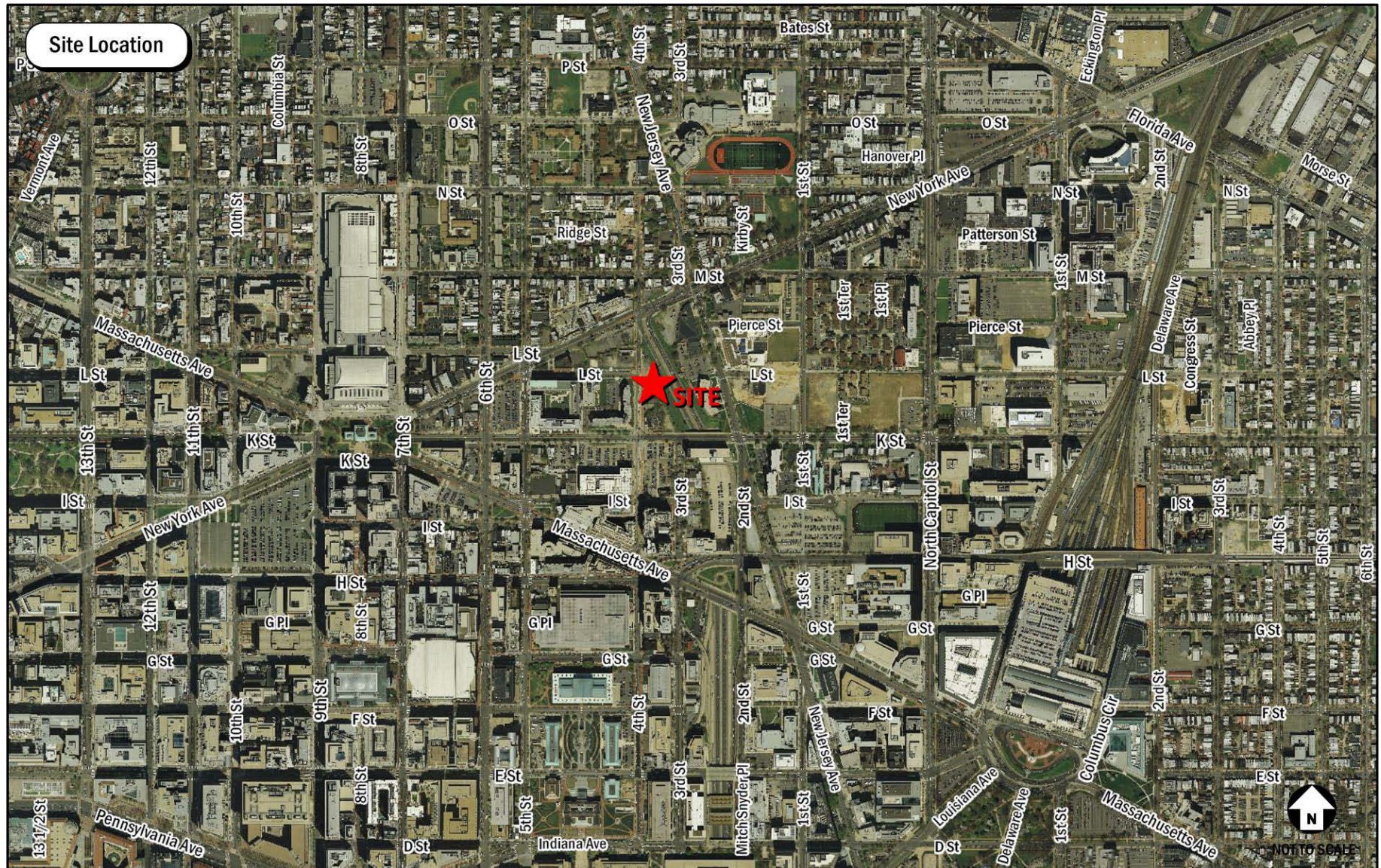


Figure 1: Site Location

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 public transportation, primarily consisting of Metrorail and Metrobus. 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 and from the 1031 4th Street, NW development site primarily include Metrorail, and Metrobus routes. These services are operated by the Washington Metropolitan Area Transit Authority (WMATA). WMATA operates Metrorail, the nation's second largest heavy rail transit system, as well as Metrobus, the fifth largest bus network in the nation.

The nearest Metrorail station is Mount Vernon Square/7th Street-Convention Center Station, located less than half a mile away from the proposed development. This station is a multimodal transportation hub that serves both Metrorail's Green and Yellow Lines. The Green and Yellow Lines connect the study area from the city of Greenbelt, MD to the north, extending downtown through Chinatown/Gallery Place and L'Enfant Plaza, before ending in Alexandria, VA (Huntington station) and Suitland, MD (Branch Avenue station) to the south. 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. Green and Yellow Line trains 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.

Numerous Metrobus routes operate along K Street, New York Avenue and New Jersey Avenue within walking distance of the site. 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.

Table 1: Bus Route Information

Route Number	Route Name	Service Hours	Headway	Distance to Nearest Stop
D4	Ivy City-Franklin Square Line	Weekdays: 4:15 am – 1:05 am Saturdays: 4:45 am – 1:05 am Sundays: 5:15 am – 1:05 am	Peak Hours: 15-20 minutes Off-Peak Hours: 30 minutes Weekends: 30 minutes	450 feet (2 minutes)
P6	Anacostia-Eckington Line	Weekdays: 5:00 am – 2:00 am Saturdays: 5:30 am – 2:00 am Sundays: 6:30 am – 12:30 am	Peak Hours: 15 minutes Off-Peak Hours: 30 minutes Weekends: 30 minutes	700 feet (3 minutes)
96	East Capitol St-Cardozo Line	Monday-Saturday: 5:00 am – 3:00 am Sundays: 5:00 am – 1:30 am	Peak Hours: 15-20 minutes Off-Peak Hours: 30-40 minutes Weekends: 30 minutes	1,000 feet (4 minutes)

Bicycle Facilities

An inventory of the bicycle facilities found throughout the study area is provided in Figure 3. In the vicinity of the site, there are north-south bike lanes along 5th Street and 7th Street. There is less east-west connectivity near the site; however, parts of K Street directly adjacent to the site have designated bike lanes or sharrows, and there is an eastbound cycle track along L Street between 22nd Street and 12th Street. Additionally, a cycle track along M Street is currently under construction.

In addition, the Capital Bikeshare program has placed over 200 bike share stations across Washington, DC, Arlington and Alexandria, VA, and most recently Montgomery County, MD with more than 1,800 bicycles provided. Capital 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. Capital Bikeshare has three existing bike share locations near the site. The nearest one is located 3 blocks from the site at the northwest corner of K Street and 5th Street NW. The additional stations are located at the intersections of 5th Street /Massachusetts Avenue and 3rd Street/New Jersey Avenue.

Pedestrian Facilities

The roadways in the immediate vicinity of the proposed development provide excellent 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. Adequate crosswalks with ladder striping and pedestrian countdown signals are present at the study area's signalized intersections for all crossing movements.

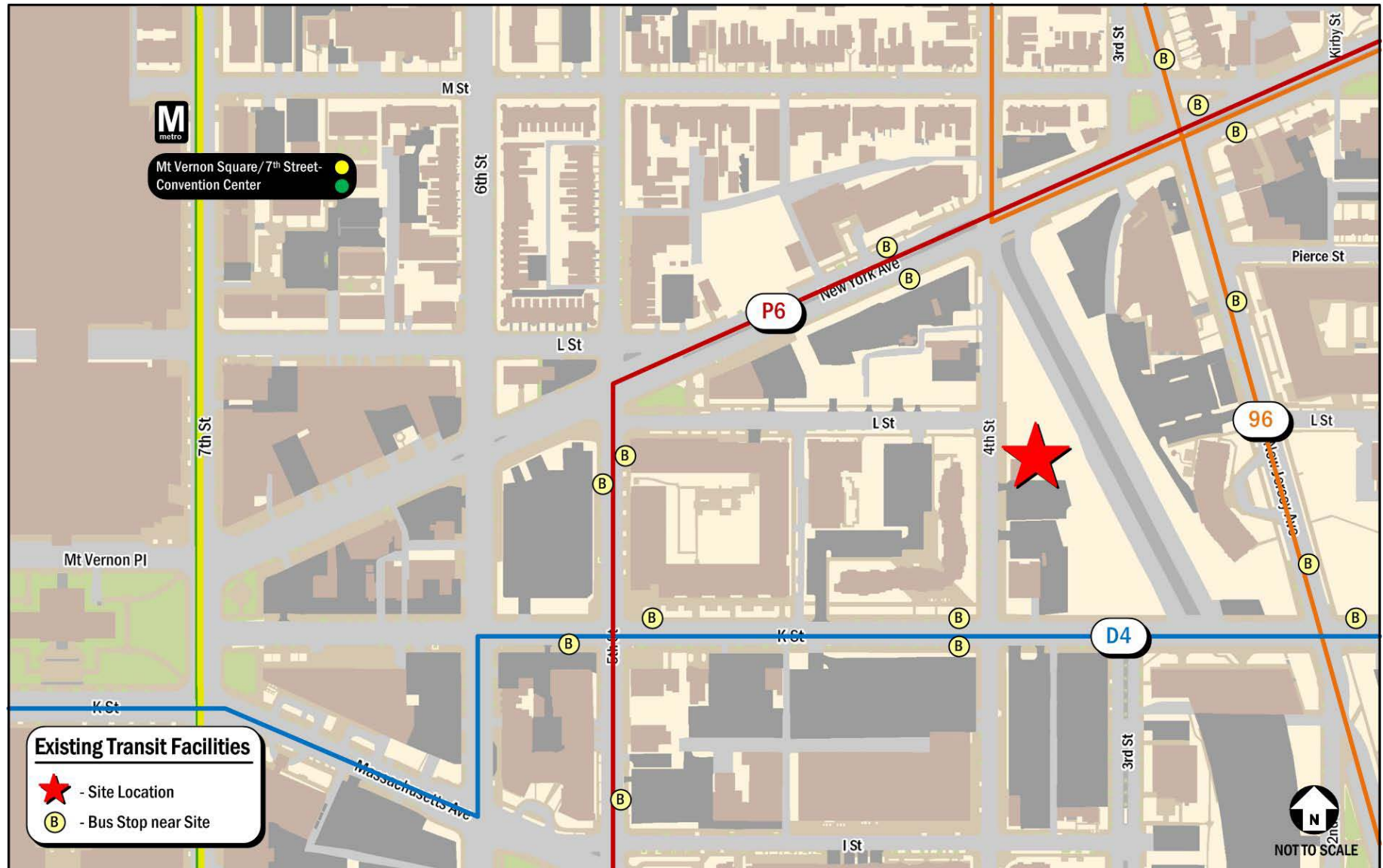


Figure 2: Existing Transit Service

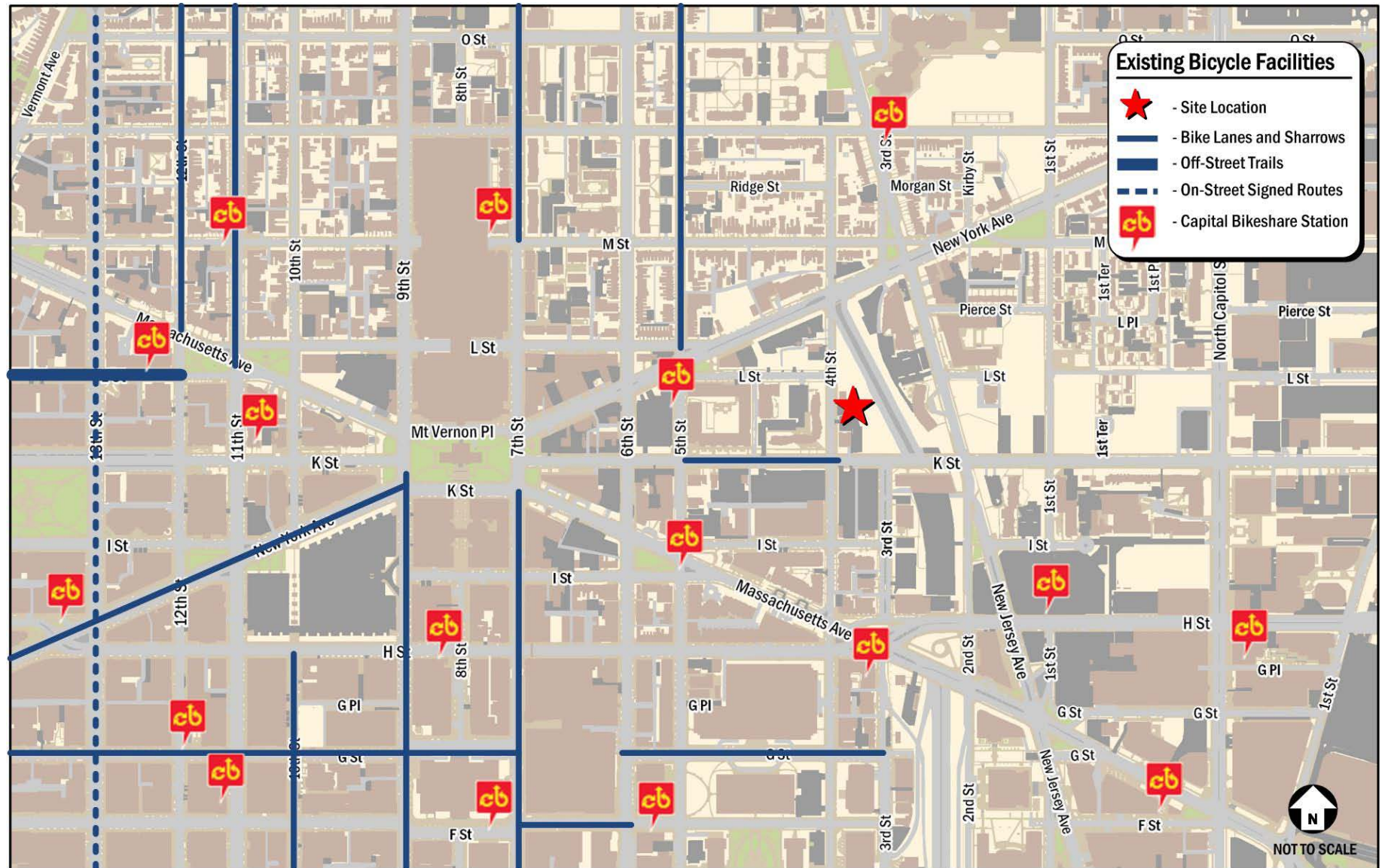


Figure 3: Existing Bicycle Facilities

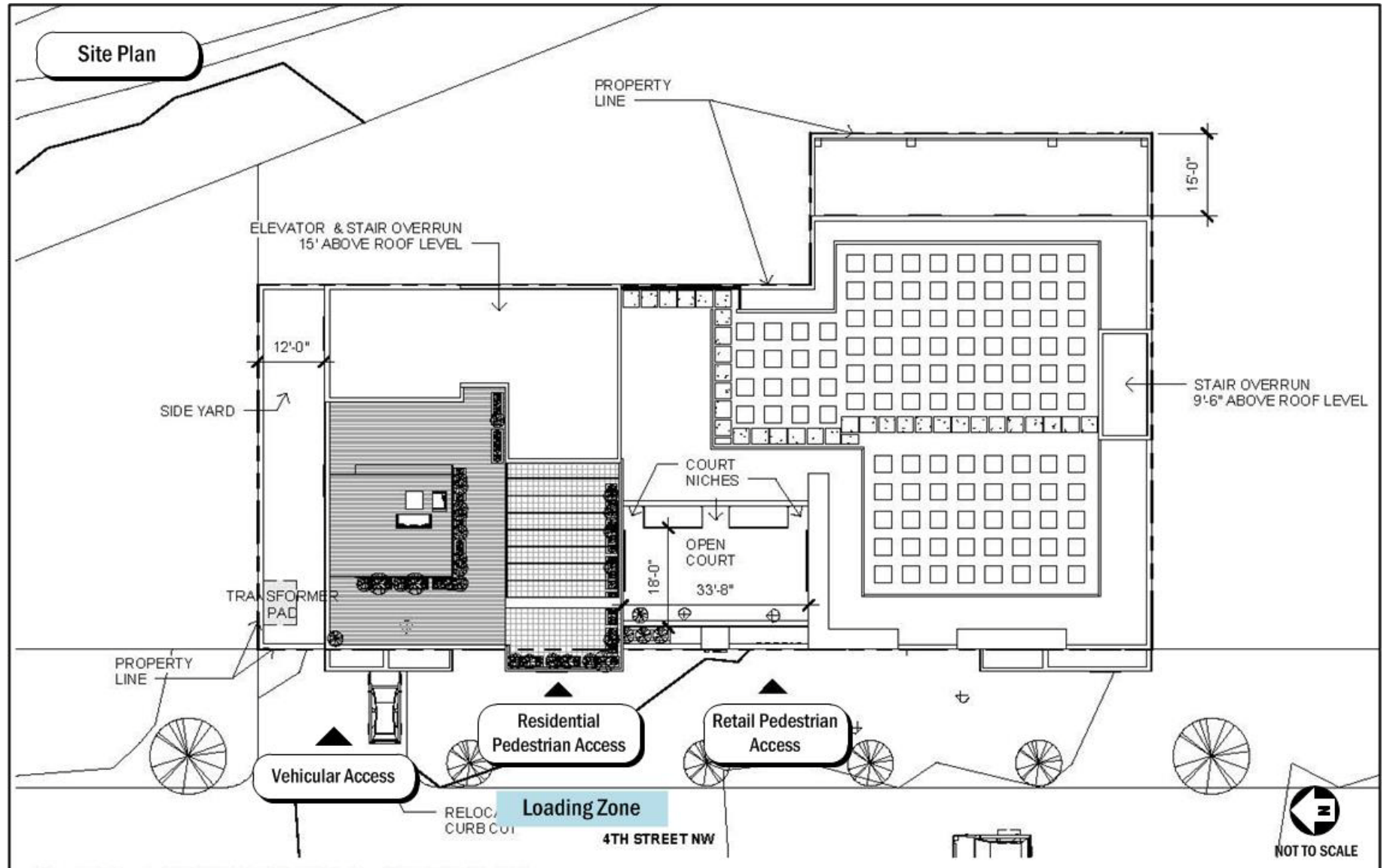


Figure 4: Site Plan

DESIGN REVIEW

This section provides an overview of the transportation features of the proposed 1031 4th Street, NW development. The development program consists of a mixed-use development including approximately 6,052 SF of ground-floor retail space and 124 residential units. The 25 on-site parking spaces will be accessed via a new driveway along 4th Street NW. Figure 4 displays the access strategies for the site including parking access, pedestrian access, and loading areas

Site Access and Internal Circulation

Site Access

The primary pedestrian access for residents will be located on 4th Street NW. The 25 on-site parking spaces will be accessed via a new driveway along 4th Street NW given that there is no existing alley system serving the site.

Parking

As mentioned previously, the project will provide 25 parking spaces on-site. According to the current zoning regulations and based upon the existing zoning of the site location, the development is required to provide one parking space for each four dwelling units, which is equivalent to 31 parking spaces. Due to the size of the retail establishment, the retail use generates a parking requirement of 4 parking spaces. Based on these requirements, the site would be required to provide a total of 35 parking spaces.

Under section 1901.5 of the new DRAFT zoning regulations, the parking requirement would be 1 space for every 3 units in excess of 4 units, which would be equal to 42 parking spaces. Additionally, under the new section 1902.1, this parking requirement of 42 spaces would be eligible for a 50% reduction for any site located within ½ mile of an existing Metrorail station. Given that the site is approximately 0.30 miles from the Mount Vernon Square Metro Station, this 50% transit reduction can be applied. As a result, the parking requirement for the residential component would be 21 spaces. The parking requirement for the retail component for 6,052 square feet of retail would result in 4 parking spaces. Under the new draft zoning regulations, the project would be required to provide 25 spaces, which would be met with the proposed parking supply of the project.

Although the development does not meet current zoning requirements, the development would meet the proposed zoning requirements that are currently being considered by the District of Columbia Zoning Commission. In addition, the 25 parking spaces are projected to adequately serve the demands of the site due to the following various considerations:

- The site is served by 3 Metrobus routes within a quarter-mile walking distance.
- The future Union Station to Georgetown Streetcar line is currently planned along K Street, which is one block away from the site.
- Capital Bikeshare has three existing bike share locations near the site. One is 3 blocks from the site at the northwest corner of K Street and 5th Street NW. The additional stations are located at the intersections of 5th Street and Massachusetts Avenue and at 3rd Street and New Jersey Avenue.
- The applicant will incorporate bicycle parking into the site. The design of these spaces will reflect similar dimensions as currently incorporated in other developments throughout the District. The number of long-term spaces provided will exceed the bicycle parking requirements as stated within the DC zoning ordinance.

- The site area has an excellent walkability score of 95 as calculated by WalkScore.com. This categorizes the site and the surrounding areas as a “walker’s paradise”.

Given the urban nature of the site and its proximity to many non-auto modes of transportation, the site will adequately serve the vehicular needs of the development.

Additional supporting data has been obtained through a review of parking supply and demand at four other comparable properties, which contain a significant mix of studios and small one-bedrooms. Data collected from these transit-oriented properties, demonstrate that off-site parking is utilized at a ratio of 0.16 spaces per unit for the 322 studio units in the study. The 1031 4th Street, NW property will provide 124 units and provide 25 parking spaces, which is equivalent to a 0.20 parking ratio, which is consistent with the range of parking supply for comparable apartment buildings in Table 2.

Given these ratios, it is anticipated that the applicants proposed off-street parking of 25 residential parking spaces (0.20 spaces per unit) for the approximately 124-unit development will adequately support the demands of the site.

Table 2: Comparable Site Parking Supply

Property	STUDIO UNITS			SMALL 1 BEDROOM UNITS		
	Units	Rented Spaces	Spaces per Unit Ratio	Units	Rented Spaces	Spaces per Unit Ratio
Hamilton House, 1255 New Hampshire Ave, NW	210.00	30.00	0.14	N/A	N/A	N/A
M Street. 1112 M Street, NW	84.00	17.00	0.20	N/A	N/A	N/A
Preston, 1743 P Street, NW	9.00	0.00	0.00	4.00	0.00	0.00
Sutton Plaza, 1230 13th Street, NW	19.00	3.00	0.16	137.00	27.00	0.20
Total	322.00	50.00		141.00	27.00	
Average Spaces per Unit Ratio		0.16			0.19	

1031 4th Street NW	Total Units:	124
	Spaces:	25
	Spaces per Unit Ratio:	0.20

On-Street Parking

This section presents the findings of an on-street parking study, including full inventory of available parking spaces and a parking occupancy count within walking distance of the proposed development. The purpose of these counts was to determine the amount of parking supply and demand on streets within a walking distance of the site and to identify and trends or patterns associated with this parking demand.

Parking Inventory and Occupancy Counts

The on-street parking study was conducted across an area considered to be within walking distance of the proposed development. A map showing the study area block faces is shown in Figure 5. An inventory of available on-street parking facilities was conducted that included tabulating the number of parking spaces by block face and identifying any relevant parking restrictions. A total of 146 parking spaces were inventoried within the study area. Of these, 18 are non-metered, 22 are Zone 2 & Zone 6 Residential Permit Parking (RPP) spaces, and 106 metered spaces. Figure 6 shows a breakdown of the most predominant parking type by block face for the study area.

Parking occupancy data was collected on Friday, March 28, 2014 from 5:00 PM to 8:00 PM. Table 3 gives a summary of the utilization percentages for every half-hour during the entire study period. The number of available spaces decreases from 5:00 PM to 8:00 PM, as many of the metered spaces within the study area become available as free parking after 6:30 PM.

It was determined that the Friday parking peak occurs at 8:00 PM with a parking utilization of 91 percent. Table 4 gives a summary of the inventory and occupancy results for the peak hour. Figure 7 shows the parking utilization during the weekday evening peak.

Table 3: Utilization Percentages Every Half-Hour

	5:00 PM	5:30 PM	6:00 PM	6:30 PM	7:00 PM	7:30 PM	8:00 PM	8:00 PM
Occupancy	94	97	114	116	129	132	133	133
Total Spaces	146	146	146	146	146	146	146	146
Utilization	64%	66%	78%	79%	88%	90%	91%	91%

Table 4: Peak Hour Inventory and Occupancy Summary

Space Type	Existing Number of Spaces	Peak Period	
	Friday Evening Peak at 8:00 PM	Occupancy	Utilization
RPP	22	22	100%
Metered	106	107	101%
Non-Metered	18	4	22%
All On-Street Spaces	146	133	91%

Generally, parking utilization gradually increases from 5:00 PM to 8:00 PM, with many of the spaces occupied in the vicinity of the site. The availability of parking near the site becomes more limited after 6:30 PM, when many of the metered parking spaces in the area are not enforced after 6:30 PM, indicating that people are coming home and parking for the night in the metered spaces. This contributes to an anomaly that the metered spaces are actually utilized at a higher rate than under metered conditions with more vehicles utilizing the curb space after 6:30 PM than meters exist, particularly along K and L Streets between 4th and 5th Streets. Many of the parking spaces surrounding the area are highly utilized; however, there is still a large amount of unrestricted parking available on the north side of K Street, between 2nd and 3rd Street along the bridge that spans across I-395 below.

Off-Street Parking

The site is not served by an alley network. As a result, all parking access is provided via a proposed driveway along 4th Street NW directly in front of the subject property on the east side of 4th Street, as shown on Figure 4. The proposed access to the parking garage serving the site replaces an existing driveway that currently provides access to an existing surface parking lot that will be removed with the redevelopment of the site. The proposed development will provide 25 parking spaces in one underground level underneath the proposed residential building.

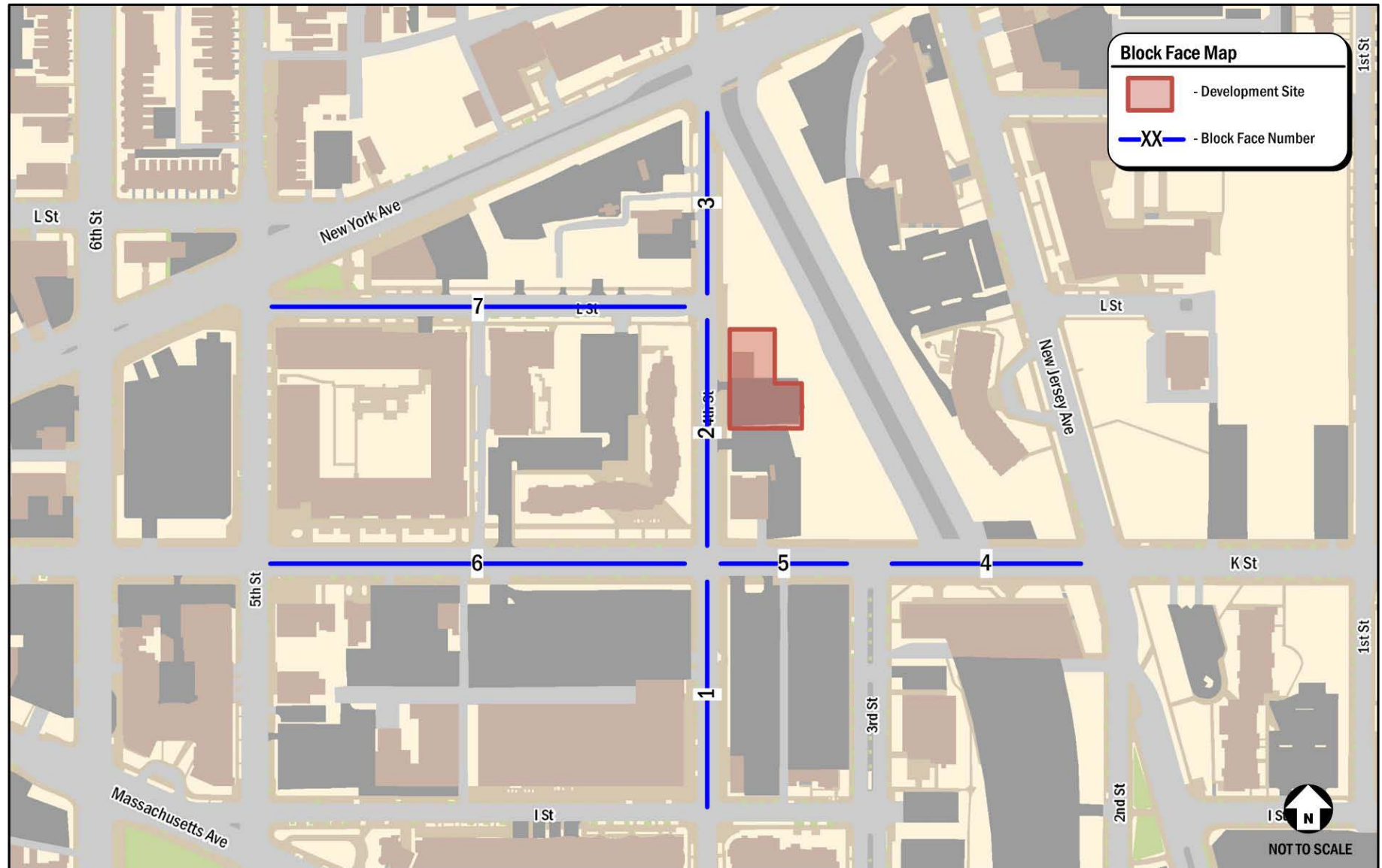


Figure 5: Block Face Map

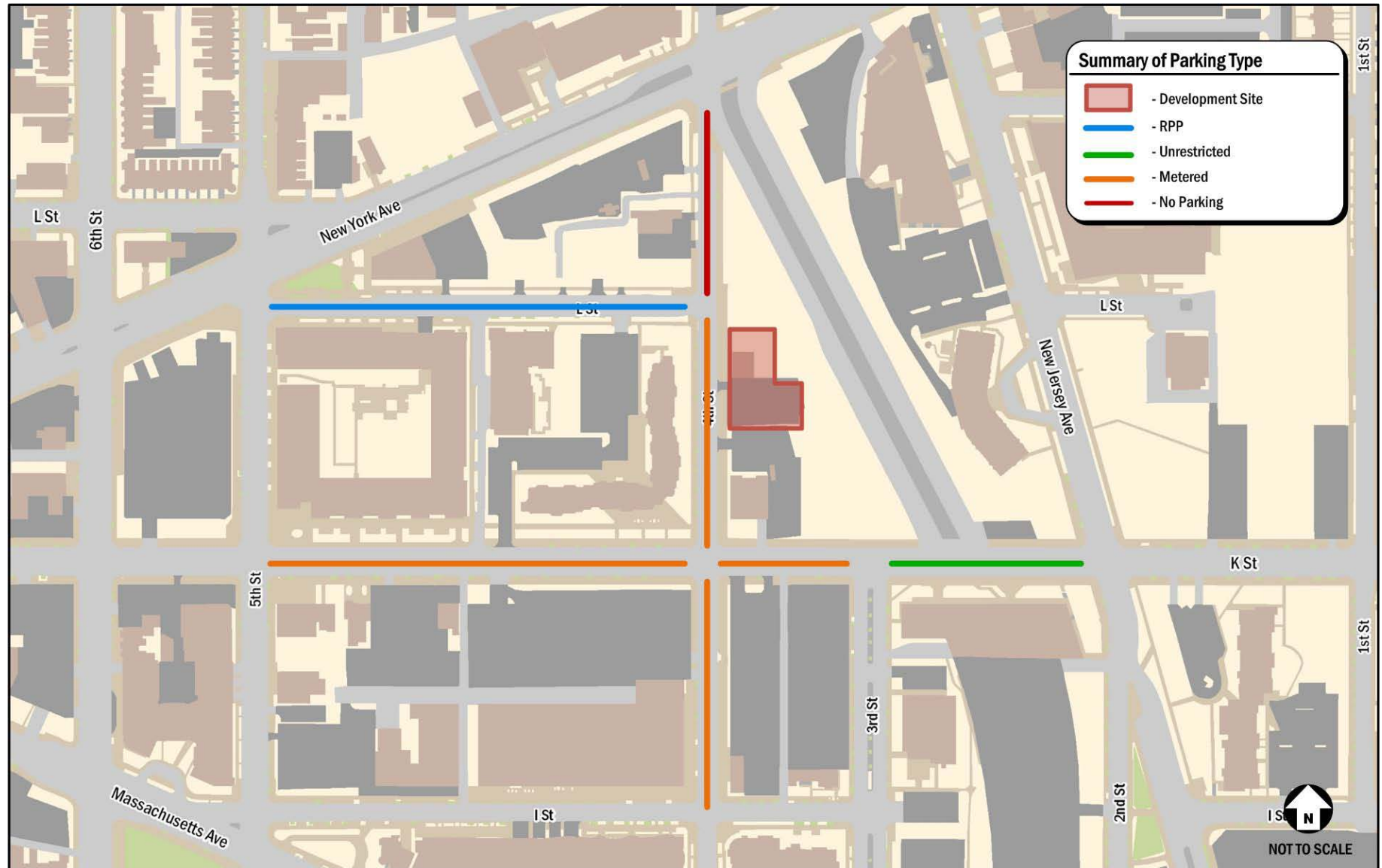


Figure 6: Summary of Parking Type

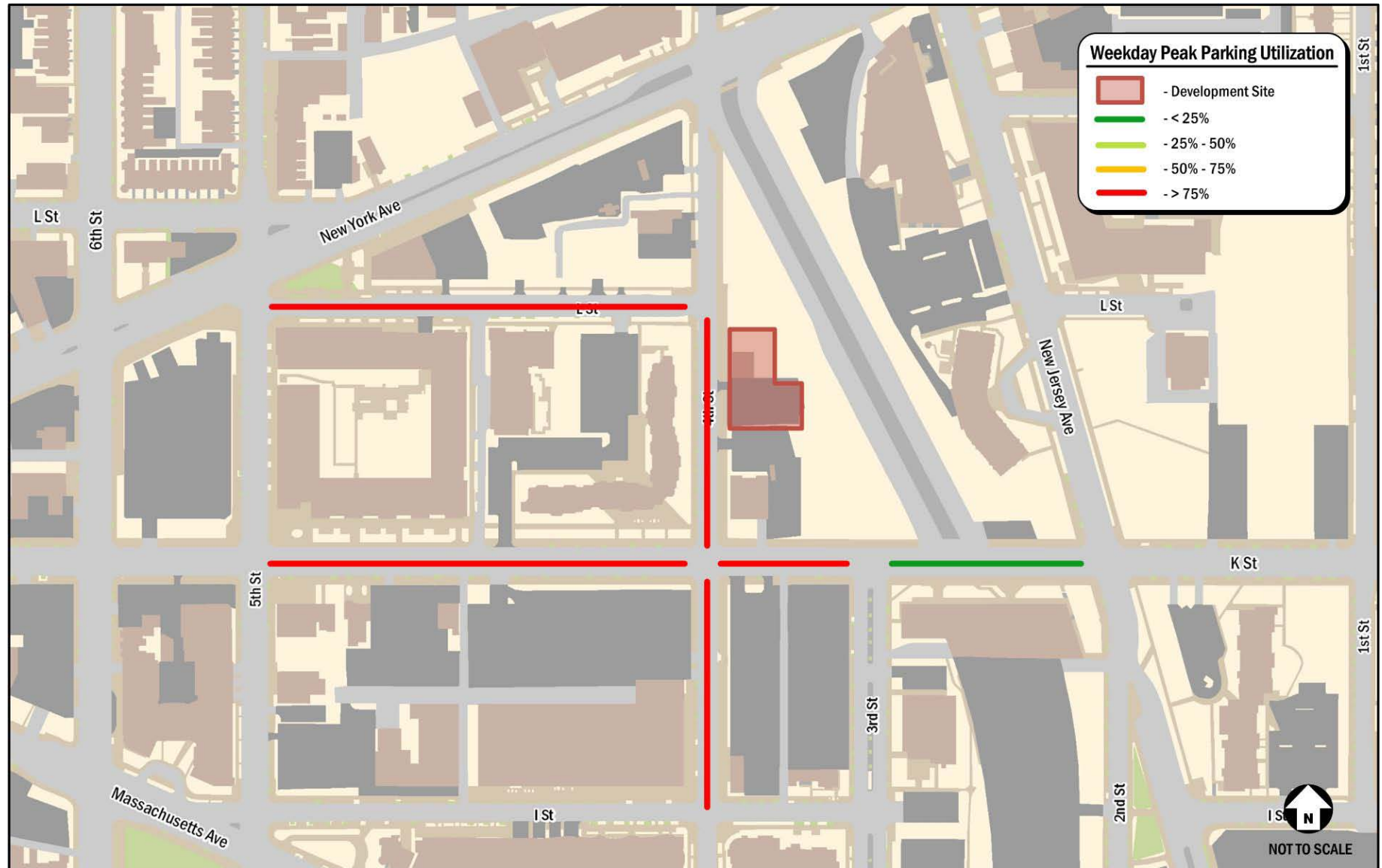


Figure 7: Weekday Peak Parking Utilization

In addition to the on-street spaces that could be available to residents and guests, there are several significantly large off-street parking facilities that can be used. Figure 8 presents potential off-street parking facilities that can be used by residents and visitors within close proximity of the development, in the event that those persons drive to the site. These facilities can provide up to approximately 800 spaces to the general public. Given the site's proximity to transit, the spectrum of alternative commuting modes available in this neighborhood, and the implementation of an aggressive TDM program, the vehicular demand at the site will be minimized. Any needs for overflow parking can easily be accommodated by any on-street parking that would be available and any parking within the six nearby off-street parking facilities that provide up to 800 parking spaces to the general public.

Loading

The site plan presented in Figure 4 indicates that there will be no loading facilities provided on-site due to the constrained nature of the development parcel. Therefore, it will be necessary for loading activity for the site to take place on-street. The plan proposes a 30 foot curbside loading area that would be available for loading during the day, but can be used as on-street parking in the evenings, as shown on Figure 4. This curbside loading area provides relief for zoning requirement of a 55-foot loading berth.

The number of truck trips generated by a project of this scale is relatively low. Based on previous studies, rental apartments have an average turnover of 18 months, with two trucks expected per turnover (one move-out and one move-in). Based on this assumption for a 124-unit apartment building, there will be approximately 42 truck deliveries per year or one delivery every 8.5 days. In addition, general retail stores are expected to have 3 van-sized deliveries per week. Therefore, the site is expected to generate 4 to 5 deliveries per week, which would be managed along the curbside frontage. Trash pickup also occurs twice per week and retail and residential receptacles will be rolled to the curb from the trash rooms accessed from the side yard on the north side of the property.

In addition to compiling parking information for comparable sites to the 1031 4th Street, NW development, loading information for these same locations was also compiled, as shown in Table 5. Properties with more total residential units than the 1031 4th Street, NW development operate sufficiently utilizing either off-street or on-street loading. Therefore, it can be concluded that for a development of this size, an on-street loading area will be adequate to serve all loading operations.

Table 5: Comparable Site Loading Area Supply

Property	Total Units	Loading Location	Studio Apartment		Small 1 Bedroom Apartment	
			Average Size	Max Size	Average Size	Max Size
Hamilton House, 1255 New Hampshire Ave, NW	304	Off-Street	SU-25 or Less	SU-40 ²	N/A	N/A
M Street. 1112 M Street, NW ¹	124	Off-Street	SU-22 or Van	SU-30 ²	N/A	N/A
Preston, 1743 P Street, NW	27	On-Street	SU-20	SU-30	SU-22	SU-30
Sutton Plaza, 1230 13th Street, NW	176	On-Street	Van	SU-20 ²	SU-20	SU-22 ²

1. Most studio renters move in with personal vehicle.

2. Vehicle size used rarely throughout calendar year (10 times or less per year).

Based on the compiled information, it appears that most move-in and move-outs utilize vehicles 24 feet in length and smaller. Occasionally, vehicles up to 30 feet in length are used. The applicant has committed to encourage the residents and retail establishments to utilize vehicles 24 feet or smaller while also managing the loading operations taking place along the 4th Street frontage.

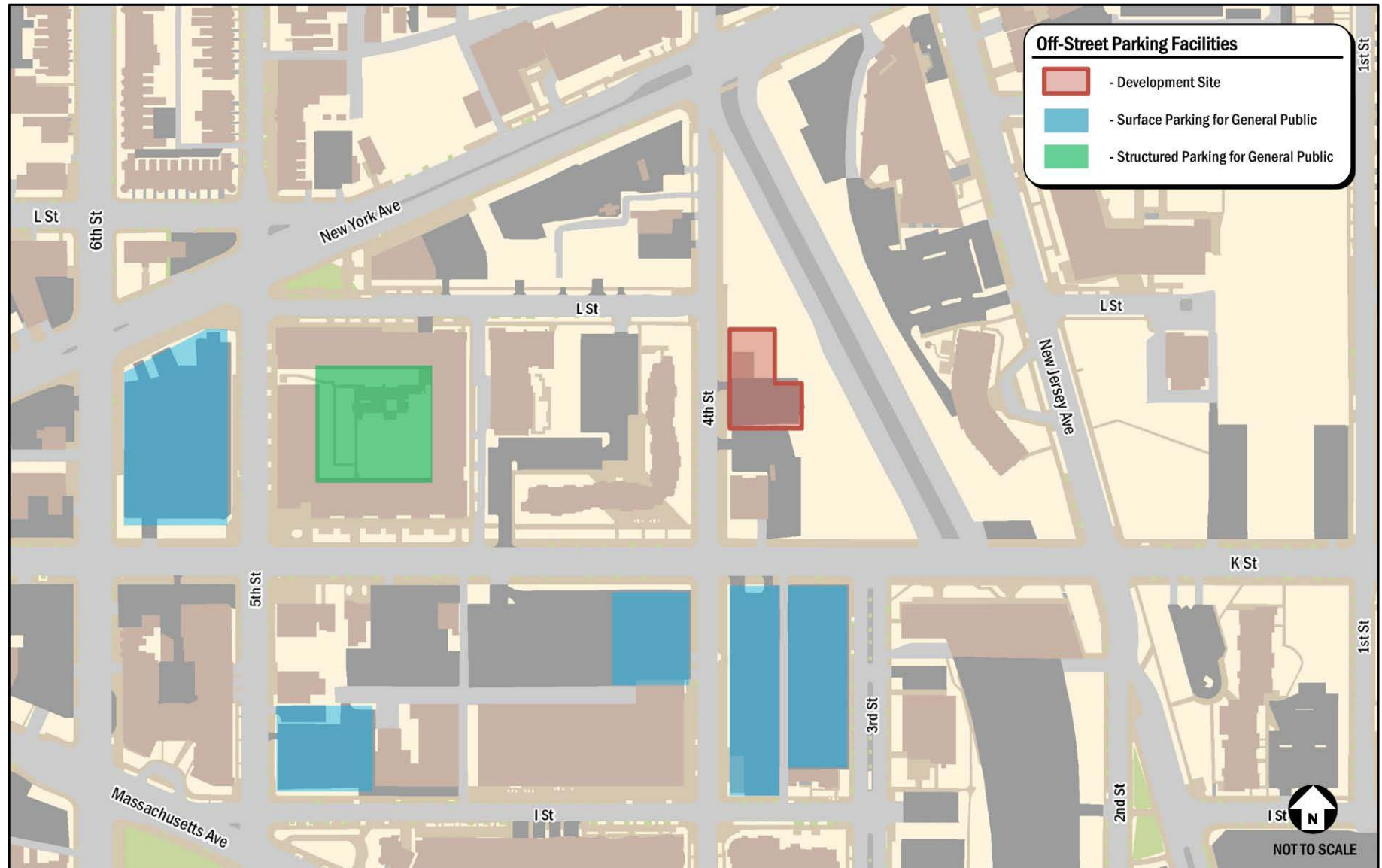


Figure 8: Location of Nearby Off-Street Parking Facilities

Bicycle Facilities

The site plan specifies that a portion of the first level will be utilized for dedicated long-term bike parking. According to the Bicycle Commuter and Parking Expansion Act of 2007, a residential building owner shall provide at least one secure bicycle parking space for each 3 residential units for all new residential buildings. Additionally, all other land uses require that the number of bicycle spaces provided shall be at least equal to five percent (5%) of the number of automobile parking required. Based on these regulations, the development would require 41 bicycle parking spaces for the 124 units in the building and 2 spaces for the retail component. This development will provide a minimum of 41 bicycle parking spaces. Short term bicycle parking along the perimeter of the development site will be provided in coordination with DDOT.

Transportation Demand Management

Transportation Demand Management (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 1031 4th Street NW 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 residents, visitors, patrons and employees regarding transit facilities and services, pedestrian and bicycle facilities and linkages, ridesharing (carpool and vanpool) and car sharing. In addition, the TMC would be responsible for ensuring that loading activities are properly coordinated and do not impede the pedestrian, bicycle, or vehicular lanes adjacent to the development. The contact information for the TMC would be provided to DDOT/Zoning Enforcement with annual contact updates.

- **On-Site Services**

A TransitScreen will be installed in the lobby to keep residents and visitors informed on all available transportation choices and provide real-time transportation updates, if necessary depending upon the status of DDOT transportation applications at the time of building delivery. 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. 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 Applicant will offer the first occupant of each residential unit with a \$50 car sharing membership, a \$100 Capital Bikeshare membership, or a \$100 SmartTrip card to help alleviate the reliance on personal vehicles. These incentives will be included in a move-in transportation package that includes brochures for transit facilities as well as bicycle and car sharing services for the first occupant of each residential unit.

- *Bicycle Amenities*

The Applicant will encourage all alternative transportation modes including bicycling. Bicycling will be promoted with the provision of on-site bicycle parking spaces as described above. The marketing program will include brochures on bicycling in the District and for Capital Bikeshare. In addition, 41 bicycle spaces will be made available on-site.

- *Ride-matching/Ridesharing Program*

Employees and residents 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.

- *Carsharing/EV Charging*

The Applicant will dedicate a space on site for car sharing services to use with right of first refusal and will make space available for Electric Vehicle charging on site.

Conclusions

This memorandum presents the findings of a parking and loading management plan for the 1031 4th Street NW development. The proposed development consists of a mix of residential and retail uses. The building will contain approximately 6,052 SF of ground floor retail and an estimated 124 apartments. The following conclusions were made regarding the 1031 4th Street, NW development:

- The site is surrounded by an 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 an analysis of comparable residential sites, and coupled with an aggressive TDM plan, it is likely that the parking supplied by the development will be adequate to serve the needs of residents.
- On-street parking is moderately utilized in the vicinity of the site with a peak of 91 percent utilization during the Friday peak period at 8:00 PM. Despite the heavily utilized on-street parking, the development will not cause any detrimental impacts to on-street parking conditions given the availability and proximity to transit and nearby amenities, the presence of several nearby off-street parking facilities, and the implementation of a comprehensive TDM program.
- Based on an analysis of comparable residential units and 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 an on-street loading zone 30 feet in length.
- An aggressive TDM plan for the development will include the provision of a TMC, on-site services, a marketing program, transportation incentives, bicycle amenities, and ride-matching/ridesharing programs.