

**TECHNICAL MEMORANDUM**

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Holland & Knight

From: Robert B. Schiesel, P.E.
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Date: June 14, 2013

Subject: Curtis Properties Stage 1 PUD – Supplemental Transportation Information

Introduction

This memorandum contains a review of the transportation site elements of the Curtis Properties Stage 1 Planned Unit Development (PUD) application. The purpose of this memorandum is to supplement the Transportation Impact Study (TIS) on file for the project, dated March 27, 2008. As the application is for Stage 1 approvals only, this document focuses on 'Master Plan' level transportation elements of the site plans, such as internal roadways, sidewalks and site circulation, and does not contain specific details for each building, which will be presented in their subsequent Stage 2 applications.

The Curtis Properties development is a vibrant, urban mixed use project around 1.5 million square feet in size, focused around the intersection of W Street with Martin Luther King Jr Ave (MLK Avenue), SW. Figure 1 contains a summary of the program development.

Summary

This memorandum contains the following findings and conclusions:

- The transportation elements of the site were planned based on a new roadway hierarchy of internal streets. In order to make the hierarchy work, the Applicant is proposing widening W Street, increasing its right-of-way to accommodate on-street parking, wider sidewalks, and two-way traffic.
- Site access for parking garages and loading areas is based on this hierarchy, with each building placing its vehicular access on the street adjacent to it with the most vehicular-nature. No curb cuts are proposed on W Street or MLK Jr., Ave. The curb cuts on Shannon Place are designed to be as minimal in size as practical to avoid disruption to the pedestrian space.
- The amount of loading docks within the site plan is appropriate to handle anticipated demand. The docks will be supplemented with proposed loading/unloading zones in front of building lobbies to handle general deliveries, such as FedEx and UPS vans, as well as taxis.
- Trucks can safely maneuver to and from the docks using the internal street network, using only DDOT designated truck routes to reach the site.

- The amount of parking proposed is adequate to accommodate all site generated demand, without oversupplying parking and encouraging driving as a mode.
- In order to accommodate truck maneuvers, the proposed loading/unloading zones at building lobbies, and two-way traffic on narrow streets, the Applicant is proposing changes to the curbside management on streets adjacent to its buildings.
- Occupancy counts of on-street parking in the site location and surrounding area show that demand for on-street parking is fairly low. Although this is the case, this memo recommends that DDOT and the local community consider changes to on-street parking restrictions as it is possible that the new retail and office developments planned along the MLK Jr. Ave and Good Hope Road corridors could spread demand for on-street parking . Any changes to parking regulations would not be opposed by the Applicant, because all Curtis Properties generated parking demand is expected to be accommodated with on-site off-street parking.
- The pedestrian experience within the site boundaries will be greatly enhanced. Not only will the site widen sidewalks at many streets adjacent to its buildings, but also a significant number of existing curb cuts will be removed.
- Bicycle parking will be provided throughout the project. Although details on each specific building's internal bicycle parking will be determined at the Stage 2 PUD application, the Applicant has designated 17 locations for external bike racks throughout the site plan.
- Cyclists will likely use Shannon Place as an alternative to MLK Jr. Ave., to both reach destinations within the Curtis Properties development, and to pass through to other destinations such as the Anacostia Metrorail Station. As proposed, Shannon Place will likely be a bicycle-friendly street, as it will have approximately 11-foot traffic lanes and slow speeds. Alternatively, Shannon Place can be restriped to include bicycle lanes, at the cost of removing all on-street parking and loading/unloading zones. The Applicant is fine with either plan, and has presented both concepts for DDOTs review.

Background

This PUD, Zoning Commission case 08-07, was originally submitted several years ago and stalled for several reasons including the downturn in the economy. The TIS on file (from March 2008), was scoped with the District Department of Transportation (DDOT) to the then-current standards and submitted into the record. DDOT has since revised their TIS standards, and the Applicant realizes that the study on file may not be adequate under existing standards.

In order to determine the best way to move forward, the Applicant met with DDOT on May 22, 2013. There were two main topics discussed:

1. Traffic Impacts

Although the 2008 TIS was performed several years ago, the overall traffic impacts of the Curtis Properties development have been thoroughly analyzed in several studies including the original PUD TIS as well as studies for the South Capitol Street EIS, the 11th Street Bridges project, St. Elizabeth's campus, and the planned streetcar system. All of studies accounted for the redevelopment of the Curtis Properties. Thus, the overall impacts of adding this amount of development to the site have been studied and incorporated into the District's infrastructure plans for the area.

Since the project's traffic impacts have been thoroughly studied, DDOT and the Applicant agreed that an update to the 2008 TIS was not necessary at this time, but rather that during the Stage 2 process an updated TIS meeting current DDOT standards will be required. The updated study will help determine more localized impacts of the project and will help identify any operational or slight infrastructure changes needed to accommodate the new vehicular patterns generated by the first phase of project development.

2. Site Plan Review

The TIS on file does not contain a significant amount of information on site circulation, loading, parking, internal roadway hierarchy, curbside management, and other site plan transportation elements. DDOT requested that for these items, the Applicant supplement the TIS on file with additional documentation addressing their concerns, and demonstrating that the site will work at a Master Plan level. This memorandum is the result of that conversation.

Internal Roadway Hierarchy

The basis for the transportation elements of the Curtis Properties PUD is an internal roadway hierarchy. The project's design team assembled a hierarchy to help define which internal roadways should be pedestrian-oriented and which should accommodate curb cuts, building loading docks, and other elements. The hierarchy, shown on Figure 2, consists of three types of roads:

1. Pedestrian-Oriented: W Street and a portion of V Street fall into this category, which will be designed to have a significant amount of ground floor retail and no vehicular access points breaking up the retail or degrading the pedestrian experience. As described below, the widening of W Street's right-of-way was done in part to enhance its pedestrian facilities, including sidewalk width, and to provide a buffer via on-street parking.
2. Balanced: Shannon Place and U Street are designated as balanced roadways within the project. They are expected to accommodate all modes of travel, and as such will have loading docks and vehicular parking curb cuts. Where possible these curb cuts will be combined and minimized to reduce their impact to the pedestrian environment. Cyclists will also likely use this roadway to access the site and as an east-west route to avoid the future streetcar tracks proposed along MLK Avenue.
3. Vehicle-Oriented: Although not typical in the District, this project envisions designing some streets to be highly vehicular-oriented to serve back-of-house activities. Because of their location away from building entrances, Railroad Avenue adjacent to Building 4 and V Street adjacent to Building 5 are proposed to be designated in this category. Vehicle-Oriented streets are included for two main reasons: (1) to send a clear message to pedestrians to not walk towards the edge of the site bordering the railroad property, and (2) to provide a place to provide vehicular loading and parking access without impacting the pedestrian facilities on Shannon Place. No pedestrian door/entryways to lobbies are located on these segments, and furthermore the site plan does not propose sidewalks along these roadways to discourage their use by pedestrians.

Some roadway adjustments are proposed in the plan to accommodate this hierarchy and site circulation plan. The main proposal is to widen W Street to provide enhanced sidewalks and on-street parking while maintaining two-way traffic. Additionally, V Street will be reconstructed and there are two slight changes to alleys within the site. Figure 3 summarizes the roadway changes.

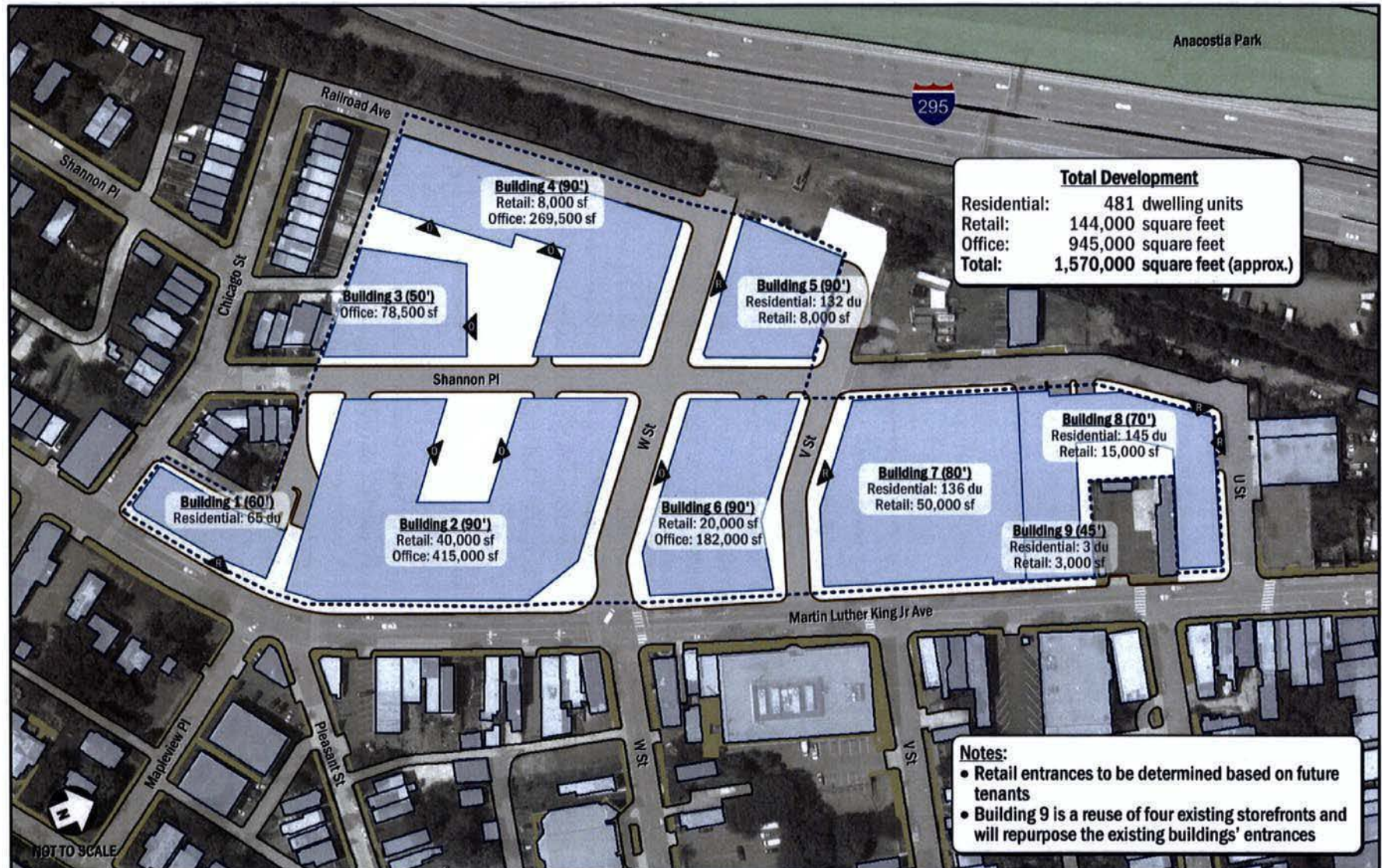


Figure 1: Summary of Program

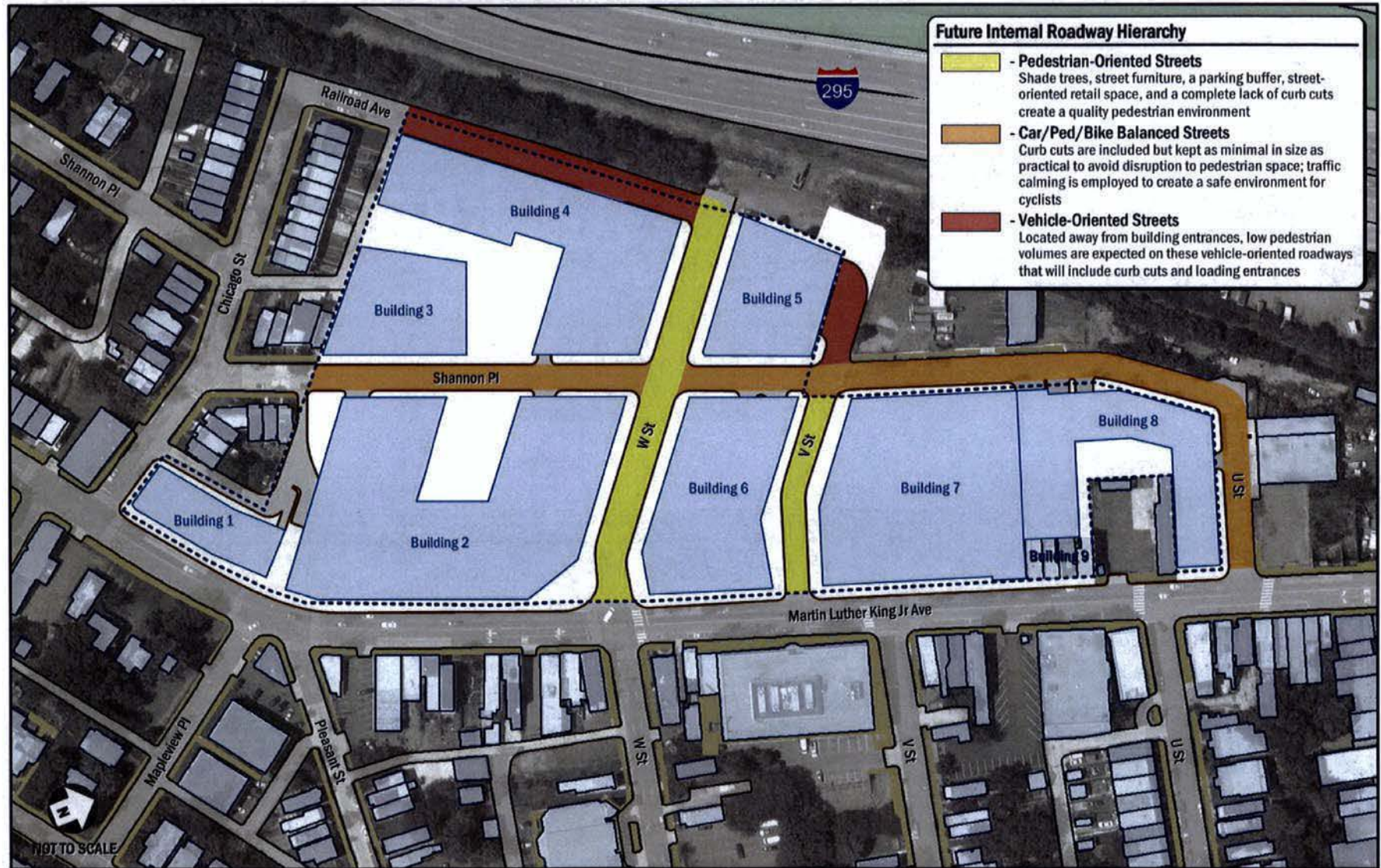


Figure 2: Roadway Hierarchy

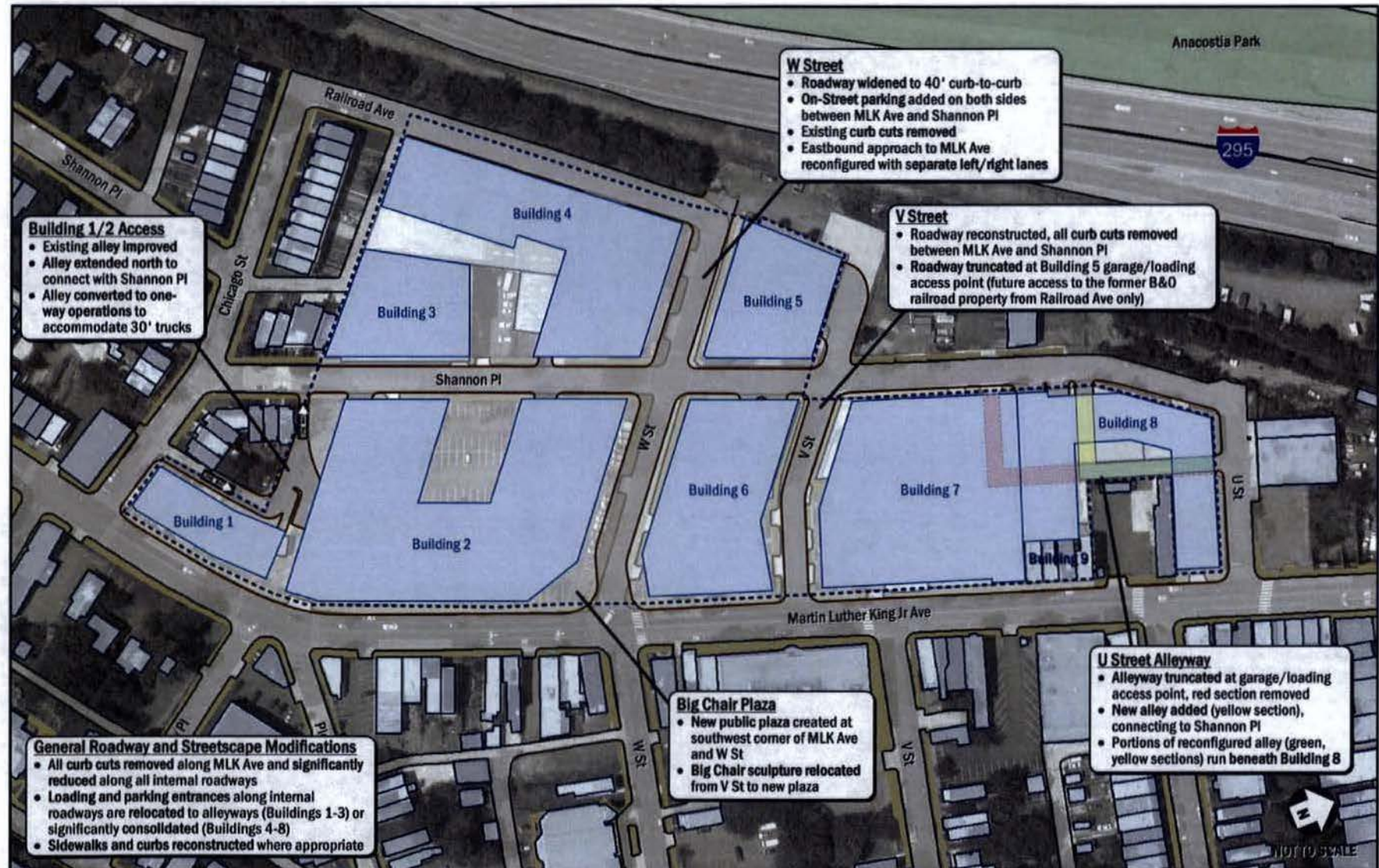


Figure 3: Schematic Diagram of Proposed Roadway Changes

Vehicular Site Access

The site's vehicular access plan is built on the hierarchy discussed above. There are no curb cuts on the pedestrian-oriented streets. Most off-street parking and loading dock access is from Shannon Place and the vehicular-oriented streets, with some access via alleys. Many existing curb cuts will be closed as part of the project, including several along MLK Avenue. This includes one within the intersection of MLK Avenue with Maplevue Place and Pleasant Street, and one within the intersection of MLK Avenue and V Street. These curb cut removals will not only increase the quality of the pedestrian environment along MLK Avenue but will also simplify the vehicular circulation at these two intersections.

Figure 4 displays the site access and curb cut plan. The following is a summary by building:

- **Building 1**
Building 1 has access via a one-way alley entered from Chicago Street and exiting onto Shannon Place. A single loading dock (accommodating trucks up to 30') and a parking garage entrance are located off of the alley.
- **Building 2**
Building 2 is a large building, with two towers that will likely act as separate buildings. Thus, two access points are provided that will serve both parking and loading. Each curb cut will be a maximum of 25' wide, and the loading berth (for trucks up to 30') will be located off the garage parking ramp, internal to the building. These loading docks will accommodate head-in/head-out maneuvering onto Shannon Place, which is preferred in a high pedestrian environment. Although this style of internal dock will use more ground floor space adjacent to Shannon Place relative to alternatives, the benefit of providing a better pedestrian environment on Shannon Place outweighed this drawback, as there will be no loss of ground-floor retail as it is envisioned facing MLK Avenue and W Street on this building.
- **Buildings 3 & 4**
Buildings 3 and 4 will share access, including one curb cut on Shannon Place accessing the parking garage, and a shared loading facility accessed from Railroad Avenue. Three loading docks accommodating trucks up to 30' in size will be provided at the shared loading facility, which will use back-in/head-out maneuvers. Although back-in maneuvers are proposed, there will not be any detrimental impact to pedestrians because none are expected to use this section of Railroad Avenue.
- **Building 5**
Building 5 has vehicular access at the end of V Street, where it dead-ends into the railroad property. The access was placed here, on a vehicular-oriented street, in order to avoid impacts to the pedestrian environment on W Street and Shannon Place. There are no pedestrians expected to walk on this section of V Street because it is a dead-end and the main building entrances will be along W Street and Shannon Place. In order to accommodate this plan, the loading dock does have back-in/head-out maneuvers; however, there will not be any detrimental impact to pedestrians because none are expected to use this section of V Street.
- **Building 6**
The vehicular access for Building 6 is located on Shannon Place, with the loading dock and parking garage curb cuts located side-by-side. These curb cuts will not meet District standards for spacing from intersections, as the distance between W Street and V Street in this block is short. Although aware of this, the design team decided that

this was the best location for the curb cuts because of alternatives using W or V Street would conflict with the roadway hierarchy described above, which designates the segments of W and V Streets adjacent to the building as pedestrian-oriented streets. In addition, the loading dock does use back-in/head-out maneuvers, as the small footprint of the building precludes any head-in/head-out maneuver as providing internal turnaround space would significantly impact the ground floor of the plan by eliminating a large amount of ground floor retail.

▪ **Buildings 7 & 8**

Building 7 and 8 share a common vehicular access point, located on Shannon Place in the area expected to have the least amount of pedestrian activity based on retail and building lobby front door locations. One curb cut serves the shared parking garage for the two buildings

The Building 7 loading dock, the largest on the project, contains two docks that can accommodate trucks up to 55' as well as one dock accommodating trucks up to 30' in length. This amount of loading is provided to accommodate a planned grocery store within the building. The loading docks here also use back-in/head-out maneuvers instead of the preferred head-in/head-out maneuvers. This is because the project design team could not develop an alternative that did not disrupt the ground floor to the extent that would preclude a grocery store. The need for 55' loading docks and accommodating trucks turning around internal to the site would take up too much ground-floor space room and would eliminate a grocery store from the plan.

From a transportation perspective, providing a retail plan that could accommodate a grocery store on site was considered more important than being able to maneuver trucks head-in/head-out of the loading docks. This is because a grocery store on site indirectly leads to an enhanced multi-modal environment by providing access to a grocery store within walking distance of the site's residents and walking/cycling distance of the surrounding neighborhood. The provision of a grocery store can have significant impact in decreasing local driving trips by replacing them with walking trips and encouraging more residents on site to not own cars.

Loading operations at Building 8 will be conducted in the relocated alleyway underneath the portion of Building 8 parallel to Shannon Place. Due to the relatively small size of the Building, this will provide adequate loading for this residential-only building.

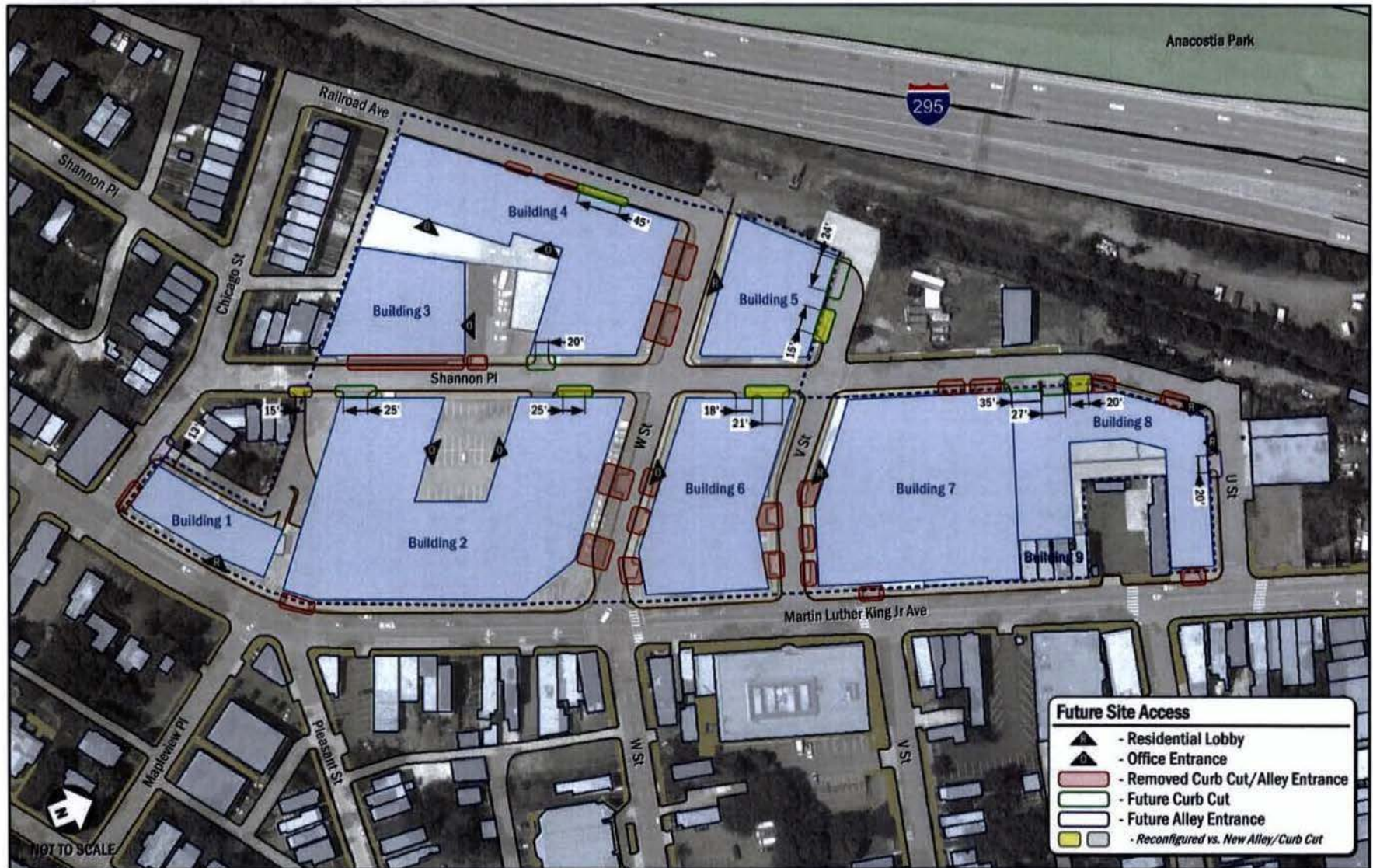


Figure 4: Site Access and Curb Cuts

Truck Frequency and Routing

In order to determine if the amount of loading is appropriate for each building, Gorove/Slade estimated the amount of deliveries using information provided by building management sources for existing office/residential buildings, retail experts, and grocery store operators. Table 1 shows a summary of the estimated loading/delivery activity expected and the loading accommodations provided, for a typical week.

Table 1: Loading Frequency and Accommodations

Parcel	Trips per Week			Provided
	Van/UPS Truck	30' Truck	55' Truck	
1	3	2	0	1 dock @ 30'
2	51	14	0	2 docks @ 30', plus loading/unloading zone curbside
3 + 4	33	6	0	3 docks @ 30', plus loading/unloading zone curbside
5	23	11	0	1 dock @ 30', plus loading/unloading zone curbside
6	34	9	0	1 dock @ 30', plus loading/unloading zone curbside
7	9	120	42	2 docks @ 55', plus 1 dock @ 30', plus loading/unloading zone curbside
8	36	12	0	Truck loading/unloading zone located in alley adjacent to building
9	2	2	0	None provided, trucks will use alley adjacent to Building 8 or loading zone adjacent to Building 7 and wheel deliveries to Building 9

For this project, instead of basing the amount of loading facilities provided on zoning regulations, the loading provided was tailored to meet the anticipated demand. This was done to minimize the amount of space dedicated to trucks, which in turn minimizes potential detrimental impacts to pedestrian facilities through a reduction of curb cut widths. In addition, since the zoning regulations were written, the use of large trucks (over 30' in length) for residential, office, and ground-floor retail deliveries has become a rare event. Thus, the grocery store building is the only building in the plan to have docks that accommodate trucks larger than 55'. Residents and office tenants of the other buildings will be told that they cannot schedule deliveries with trucks larger than 55'. In the rare event that a truck larger than 30' needs to deliver to a building other than Building 7, spaces will be reserved for these trucks curbside. This operational solution is preferred over providing docks that can accommodate 55' trucks because those docks would eliminate some ground floor space and would necessitate larger curb cuts and radii, all of which would be detrimental to the pedestrian environment. The pedestrian environment is given priority here because there will be a large amount of pedestrians using the site every day, whereas trucks over 30' delivering items to buildings other than Building 7 will be a rare event.

The routing of trucks to and from the site is not complicated, as MLK Avenue is designated as a primary truck delivery route by DDOT. Trucks will enter the site from MLK Avenue to reach the loading facilities for each building they serve, as shown on Figure 5. Generally, trucks are routed down W Street due to its larger cross-section created during the redevelopment program. Trucks will be able to make all of the turns and maneuvers necessary to reach the loading docks for each parcel. Paths that have been verified to handle trucks up to 55' in length to access Building 7 are also designated on Figure 5. The Technical Appendix following this memorandum contains detailed truck maneuvering diagrams.

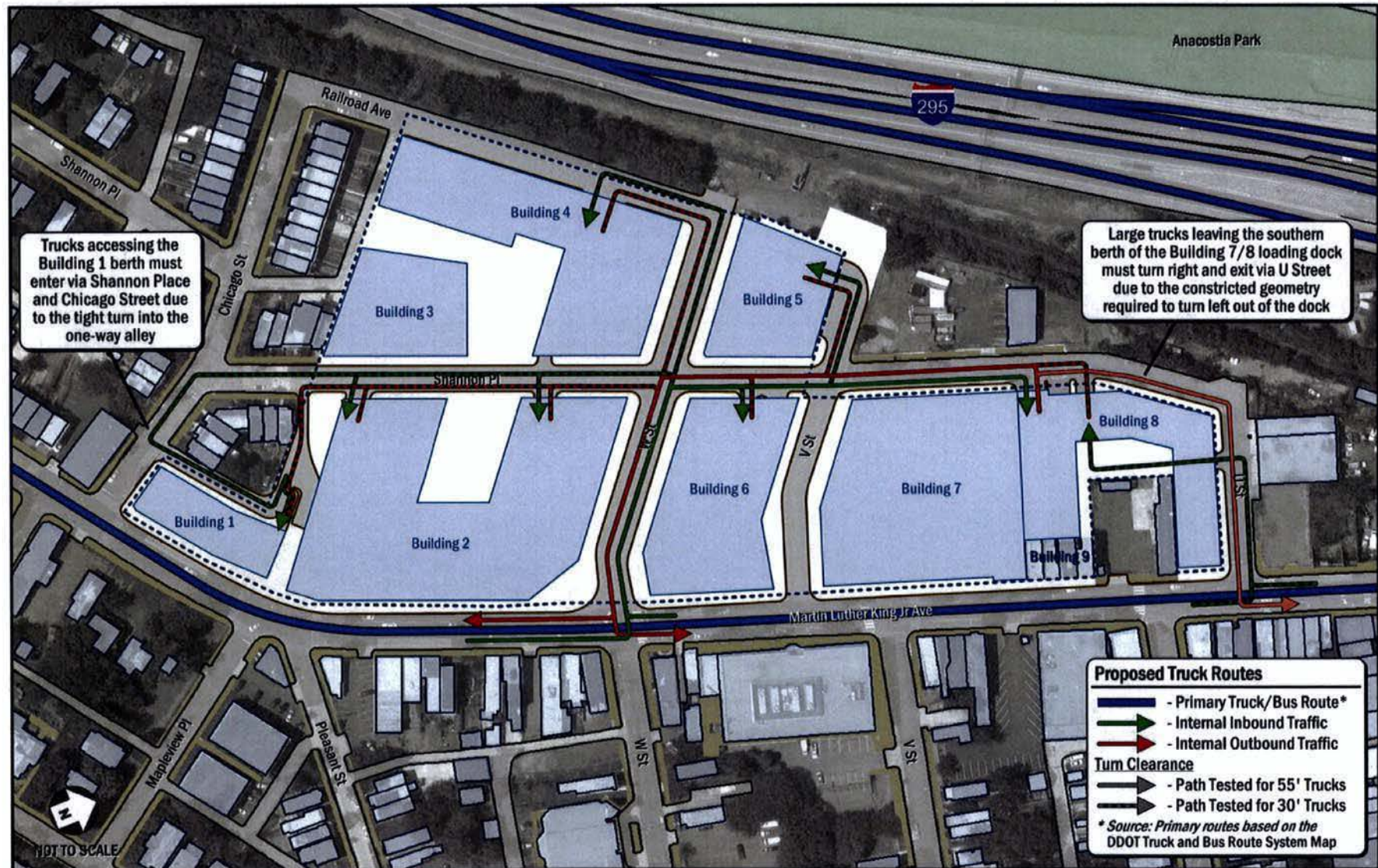


Figure 5: Truck Routing

Parking

The Curtis Properties PUD includes construction of 1,471 off-street parking spaces, distributed within the buildings as shown on Table 2 and Figure 7, below. The existing uses at the site are served by several surface parking lots totaling 311 spaces, which will be removed as part of the construction. Thus, the total net increase on off-street parking is 1,160 spaces.

Table 2: Summary of Off-Street Parking

Building		Land Use			
		Residential (units)	Retail (kSF)	Grocery Store (kSF)	Office (kSF)
1	Program	65	0	0	0
	Parking Spaces	33	---	---	---
	Ratio	0.47	---	---	---
2	Program	0	40	0	415
	Parking Spaces	---	40	---	485
	Ratio	---	1.00	---	1.17
3 + 4	Program	0	8	0	348
	Parking Spaces	---	8	---	339
	Ratio	---	1.00	---	1.03
5	Program	132	8	0	0
	Parking Spaces	67	8	---	---
	Ratio	0.51	1.00	---	---
6	Program	0	20	0	182
	Parking Spaces	---	20	---	90
	Ratio	---	1.00	---	0.49
7	Program	136	0	50	0
	Parking Spaces	107	---	150	---
	Ratio	0.79	---	3.00	---
8	Program	145	15	0	0
	Parking Spaces	109	15	---	---
	Ratio	0.75	1.00	---	---
9	Program	3	3	0	0
	Parking Spaces	0	0	---	---
	Ratio	0.00	0.00	---	---
Total	Program	481	94	50	945
	Parking Spaces	316	91	150	914
	Ratio	0.66	0.97	3.00	0.97

The amount of parking provided on site is appropriate in that it provides enough supply for all future demand to be accommodated on site while not providing a surplus of parking that would encourage driving as a mode. This conclusion was derived by examining the parking ratios provided. Although the exact breakdown of parking per building is not known at this time, Gorove/Slade derived the ratios for mixed-use buildings by assuming that general retail would be parked at a ratio of 1 space per thousand square feet, and the grocery store at 3 spaces per thousand square feet. The resulting parking ratios are similar to other new developments within the District. The average residential supply of 0.66 spaces for every dwelling unit and the average office parking ratio of 0.97 spaces per thousand square feet, while slightly larger than what is observed in downtown, is very appropriate for the location in Anacostia, and remains significantly less than a comparable suburban development (for comparison purposes, a suburban development would target a residential ratio of 1.5 to 2.0 spaces per dwelling unit and 2.5-3.0 spaces for each thousand square feet of office space).

The parking ratios by building do vary from the average across the entire site, but stay relatively close to the average ratio with the exception of the office space in Building 6, which has a parking ratio of 0.49 spaces per thousand square feet. It is anticipated that the parking supply will be shared between the Curtis Properties buildings.

Curbside Management

Development of the Curtis Properties project will require some operational changes to the curbside management of streets that pass through the development. This is in addition to the infrastructure changes discussed above. These changes are necessary because the internal roadways, notably Shannon Place, are narrow two-way roadways with parking on both sides, and when the streets are fully parked it can be difficult for cars to pass each other. This is not a current issue because cars are not often parked on both sides of the street from lack of demand, or because the significant number of existing curb cuts restricts parking. Because several parking garage and loading docks located along these narrow cross-sections, this Applicant is proposing changing the curbside management on some of the roadways. In addition, the Applicant is also requesting that some space be reserved outside of building lobbies to accommodate pick-up/drop-off activity such as taxicabs and UPS/FedEx deliveries. Figure 6 and Figure 7 show a before/after of the curbside management at the project site.

Even after closing many of the existing site's numerous curb cuts, the amount of on-street parking available within the site will be reduced from 159 to 126 spaces. This decrease is due to the implementation of standard setbacks at all intersections as set forth in the 2009 DDOT *Design and Engineering Manual* as well as the removal of parking on one side of Shannon Place, V Street, and U Street to allow for comfortable two-way traffic on these 30' wide roadways. Parking will be permitted on both sides of W Street, as its 40' width allows for two parking lanes and two travel lanes, as well as Shannon Place and Chicago Street south of the site to indicate that these are low-speed residential neighborhoods.

For the sake of comparison, the space counts shown in Figure 6 and Figure 7 assume 22' parallel parking spaces in the event that DDOT decides to implement metered parking in the main commercial district of Anacostia in the future. If unrestricted 2-hour limit parking is maintained in the future as it currently exists on site, the amount of available on-street parking will increase as the average spacing of parallel-parked vehicles in the District is significantly less than 22' in high-use areas.

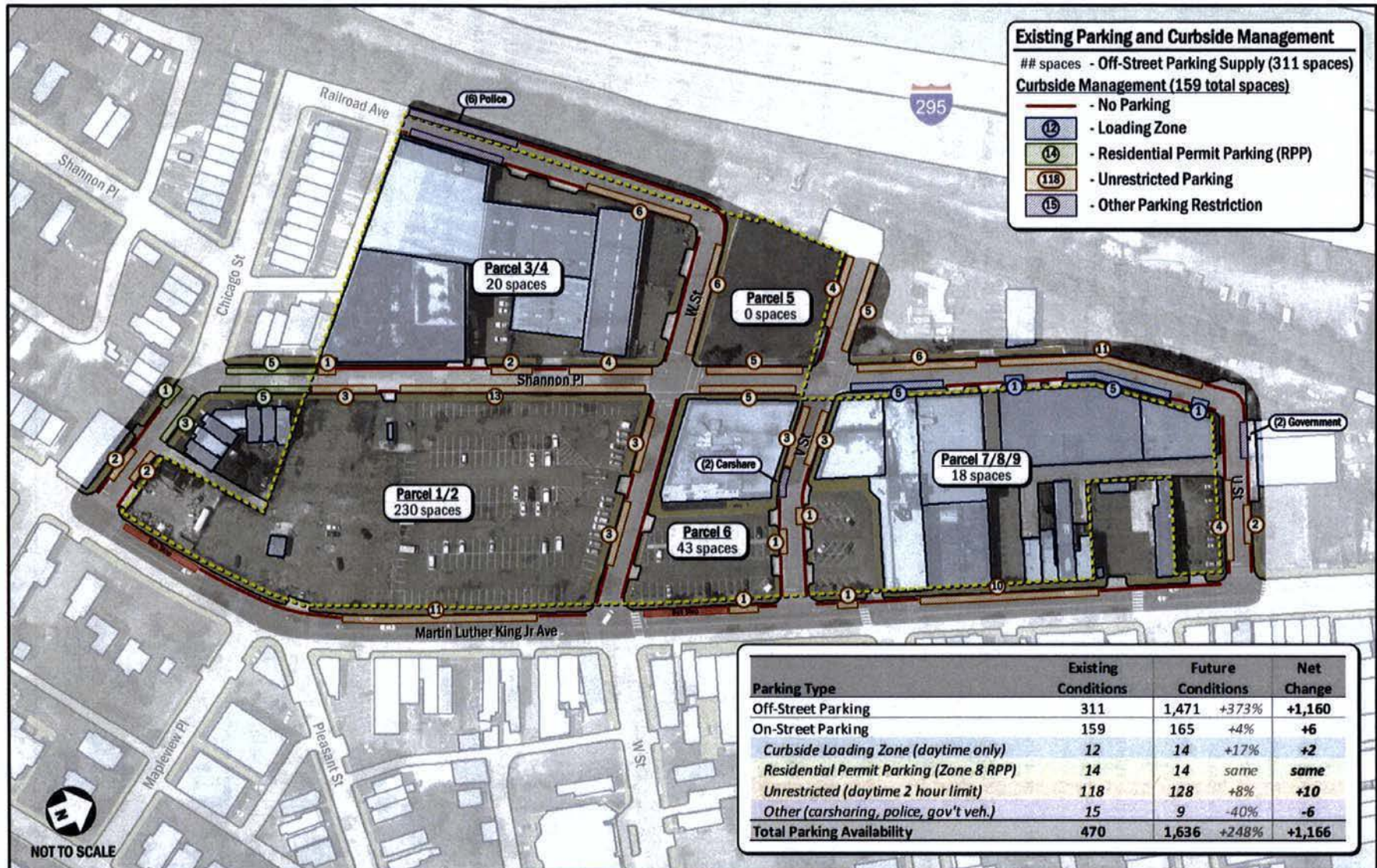


Figure 6: Existing Parking and Curbside Management

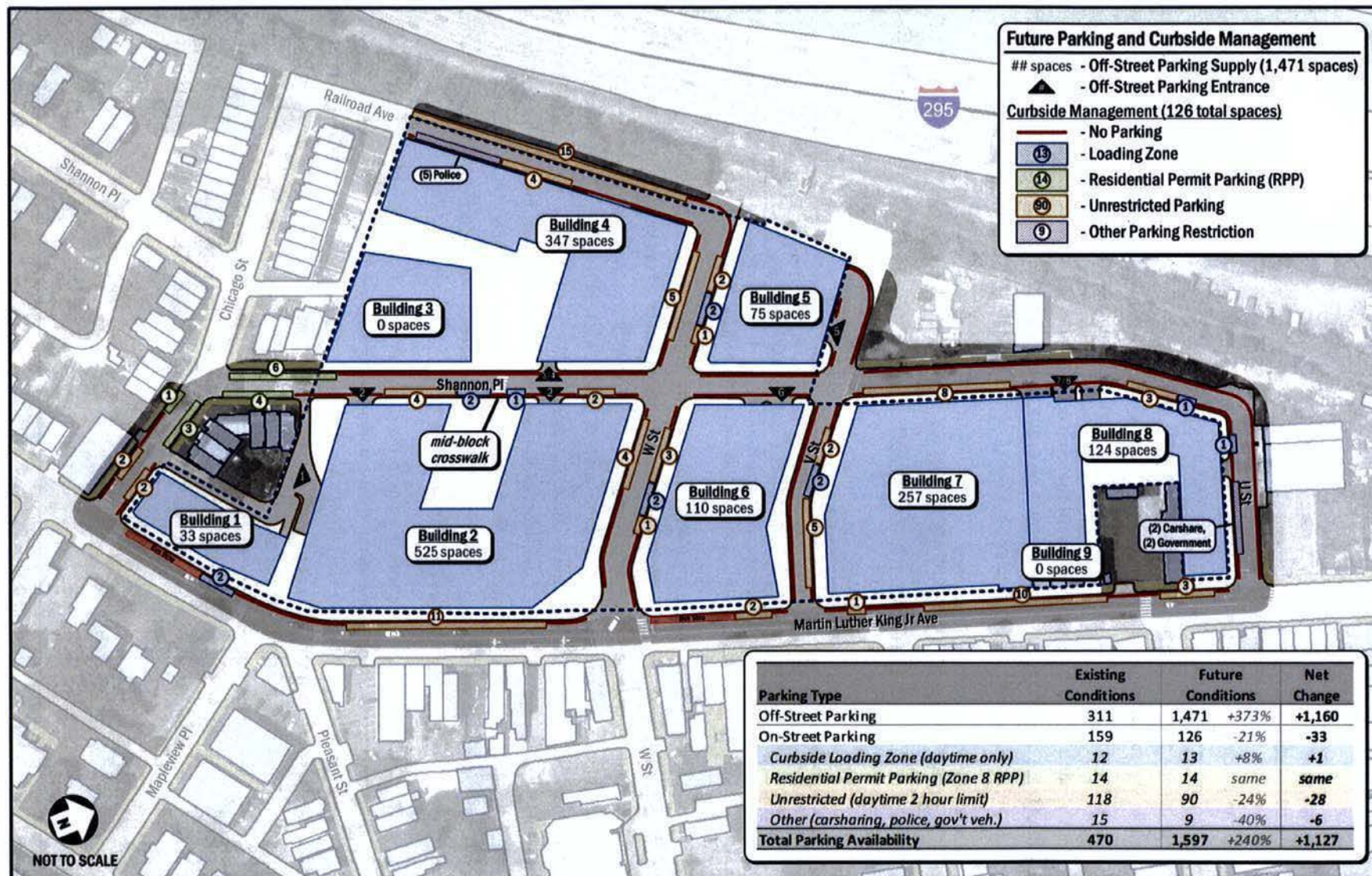


Figure 7: Future Parking and Curbside Management

On-Street Parking

As described above this memorandum concludes that the parking supply for the Curtis Properties development is appropriate and can accommodate all demand within its own off-street parking supply. Even if that is the case, there is a chance for a development of this size to generate on-street parking impacts, most typically from drivers parking on-street because on street parking is free and more efficient than using the parking garage. This section of the document categorizes on-street parking in the surrounding area, reviews current supply and demand, and recommends changes that could be made prior to the opening of the Curtis Properties development to help minimize impacts.

The scope of this analysis was a 0.25 mile walk from the project boundaries, as shown in Figure 8. An inventory and occupancy count of these block-faces was performed on June 6, 2013. A detailed summary of the parking counts is attached to this memorandum; Table 3 summarizes the counts.

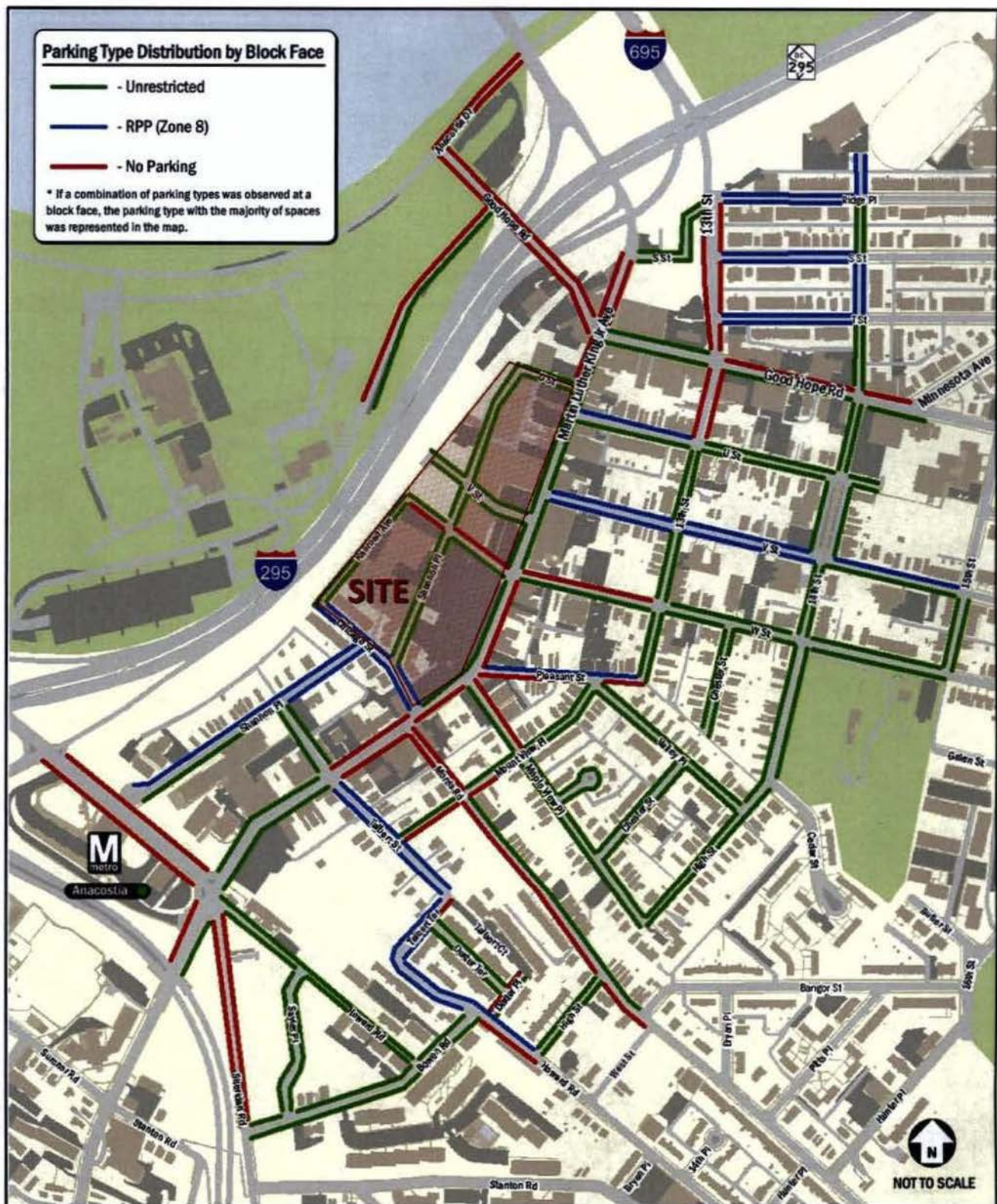
Table 3: Summary of On-Street Parking Occupancy

Space Type	Afternoon (2pm)			Evening (8pm)		
	Inventory	Occupancy	Utilization	Inventory	Occupancy	Utilization
Residential Permit Parking (RPP)	415	186	45%	415	184	44%
Unrestricted	1223	444	36%	1280	418	33%
Other	8	4	50%	8	1	13%
All On-Street Spaces	1646	634	39%	1703	603	35%
<i>Redevelopment Area (Figure 6)</i>	<i>159*</i>	<i>116</i>	<i>73%</i>	<i>159*</i>	<i>27</i>	<i>17%</i>

** Note: Parking inventory calculations for the Redevelopment Area assume 22'-long on-street parking spaces to be consistent with the Curbside Management section of this report, above. All other calculations utilize the observed practical on-street inventory.*

Based on the counts, the demand for on-street parking throughout the entire study area is fairly low. Even if the scope of the occupancy study is narrowed to only the redevelopment area, those block faces shown on Figure 6, over one quarter of all parking spaces remain available during the afternoon peak hour. This indicates that at present an average block within the area to be redeveloped currently has 1-3 available parking spaces even during the afternoon period when office employee parking demand is at its peak. With the addition of dedicated off-street spaces for the office, residential, grocery, and retail components of the proposed Curtis site, most of the vehicles currently parking on-street that are generated by the existing office buildings should be relocated to the increased off-street parking supply in future conditions. Therefore, the future on-street spaces will see less long-term demand and will be able to more effectively serve short term parking demand from office visitors and the site's street-level retail shops.

Although spillover parking demand is not anticipated due to the provision of adequate on- and off-street parking supply, this memorandum recommends that DDOT and the local community consider expanding the residential permit parking (RPP) program to additional residential blocks west of MLK Avenue. Blocks that currently feature RPP restrictions are shown on Figure 9. As there is currently no metered parking anywhere in Ward 8 and nearly all non-RPP on-street parking spaces are inherently unrestricted, it is possible that the new retail and office developments that are being added along the MLK Avenue and Good Hope Road commercial corridors could spread demand for on-street parking onto nearby residential streets. Therefore, as historic Anacostia continues to redevelop, DDOT should consider strengthening its protection of residential parking off these commercial roadways to maintain the characteristics of these residential blocks.



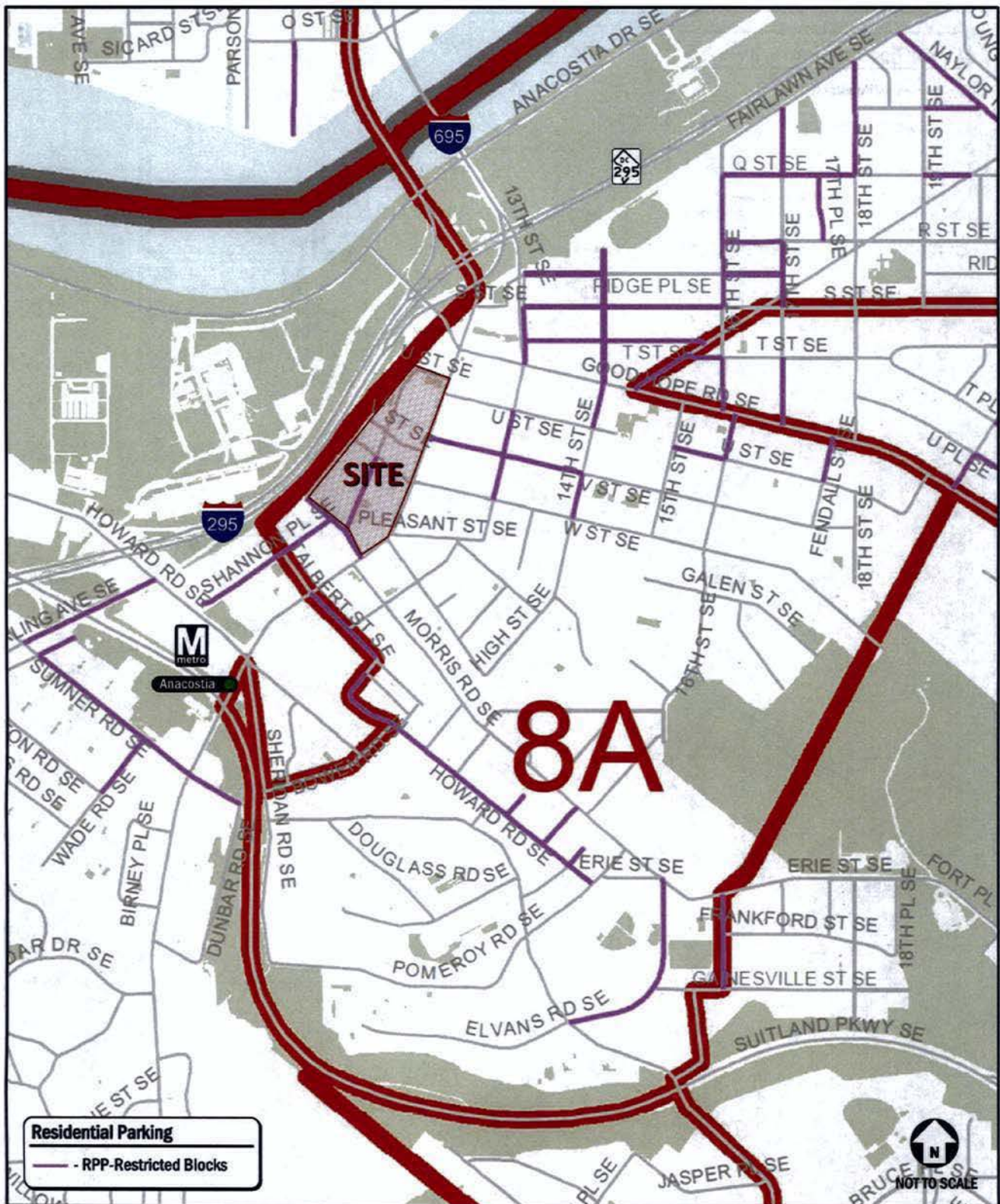


Figure 9: Residential Permit Parking Blocks

Pedestrian Facilities

The Curtis Properties PUD will improve the pedestrian and sidewalk accommodations on site. In addition to eliminating many curb cuts that exist today, notably some along MLK Avenue, the proposed PUD also widens the sidewalk in some locations. As stated above some of the existing roadways are narrow, including their associated sidewalks, which does not leave much room for improving pedestrian pathways throughout the Curtis site. An additional constraint is the presence of historical buildings that will remain on site, which the site plan had to design around. Even with these restrictions, some improvements are proposed, made possible by increasing building setbacks along MLK Avenue, V Street, and Shannon Place and by dedicating additional roadway width to DDOT along W Street. A comparison of existing to proposed conditions is shown on Figure 10 and Figure 11.

Bicycle Facilities

The Curtis Properties development will likely generate a significant amount of bicycling demand, given its location near several District bicycle facilities, such as the Anacostia Riverwalk Trail, and how several major destinations will be within cycling distance. Bicycle parking and showers for commuters will be provided in all of the office buildings, as will storage rooms for bicycle parking in the residential buildings. The exact plans and amounts of spaces will be determined in the Stage 2 PUDs for each building. Outdoors, several locations for bicycle racks are proposed in the plan. Figure 12 identifies these locations.

MLK Avenue is designated an on-street signed route per DDOT's bicycle map. While this is the case, with the addition of streetcar tracks to the street it is likely that other routes parallel to MLK Avenue will experience higher cyclist demand. Thus, Gorove/Slade anticipates that cyclists will want to use Shannon Place through the Curtis Properties, both to access the bicycle racks and parking within the development and to pass through to other destinations east and west of the site. With this in mind, it may be appropriate to designate Shannon Place as a signed route, and/or to add sharrows to the lane markings along Shannon Place, in conjunction with the curbside management changes described above.

An alternative would be to add bicycle lanes to Shannon Place. This would further enhance the bicycle network within the site, although it may not be necessary given the low traffic volumes and low travel speeds that are projected along Shannon Place. A drawback to this concept would be the loss of direct access to building lobbies from Shannon Place for cars picking-up/dropping-off passengers or packages. In light of these conditions, cyclists will likely feel comfortable on Shannon Place without bicycle lanes due to the traffic-calming effects that the streets' narrow cross-sections will create. Figure 13 shows this concept and the impact to the proposed curbside management.

The Applicant recognizes that DDOT has the authority to operate the streets as they choose, and is presenting the two curbside management plans (with and without bike lanes) as the Applicant's preference. Both plans work with the proposed development, and the Applicant is willing to coordinate with DDOT on implementing whatever plan is agreed upon.



Figure 10: Existing Pedestrian Facilities

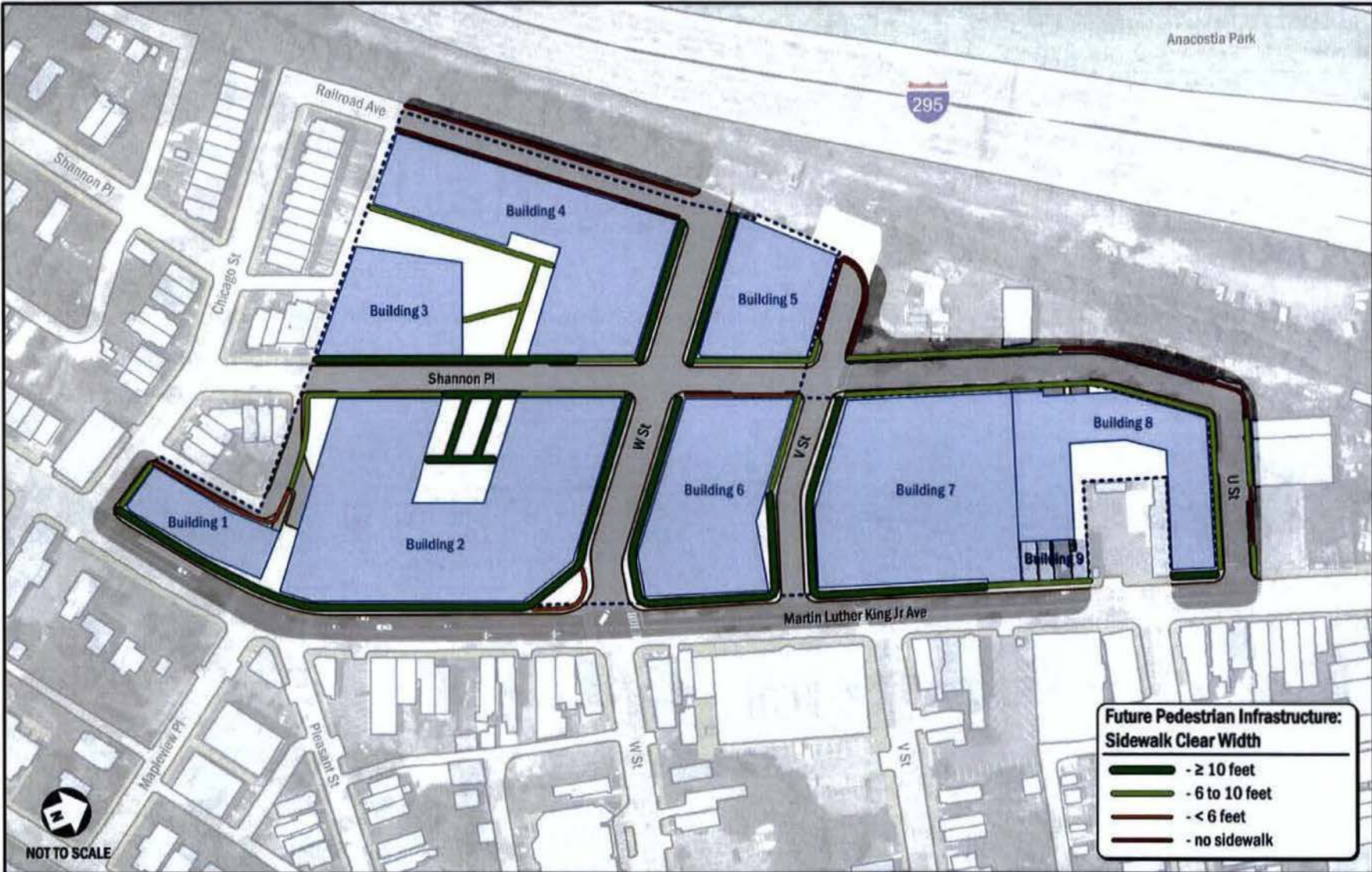


Figure 11: Proposed Pedestrian Facilities



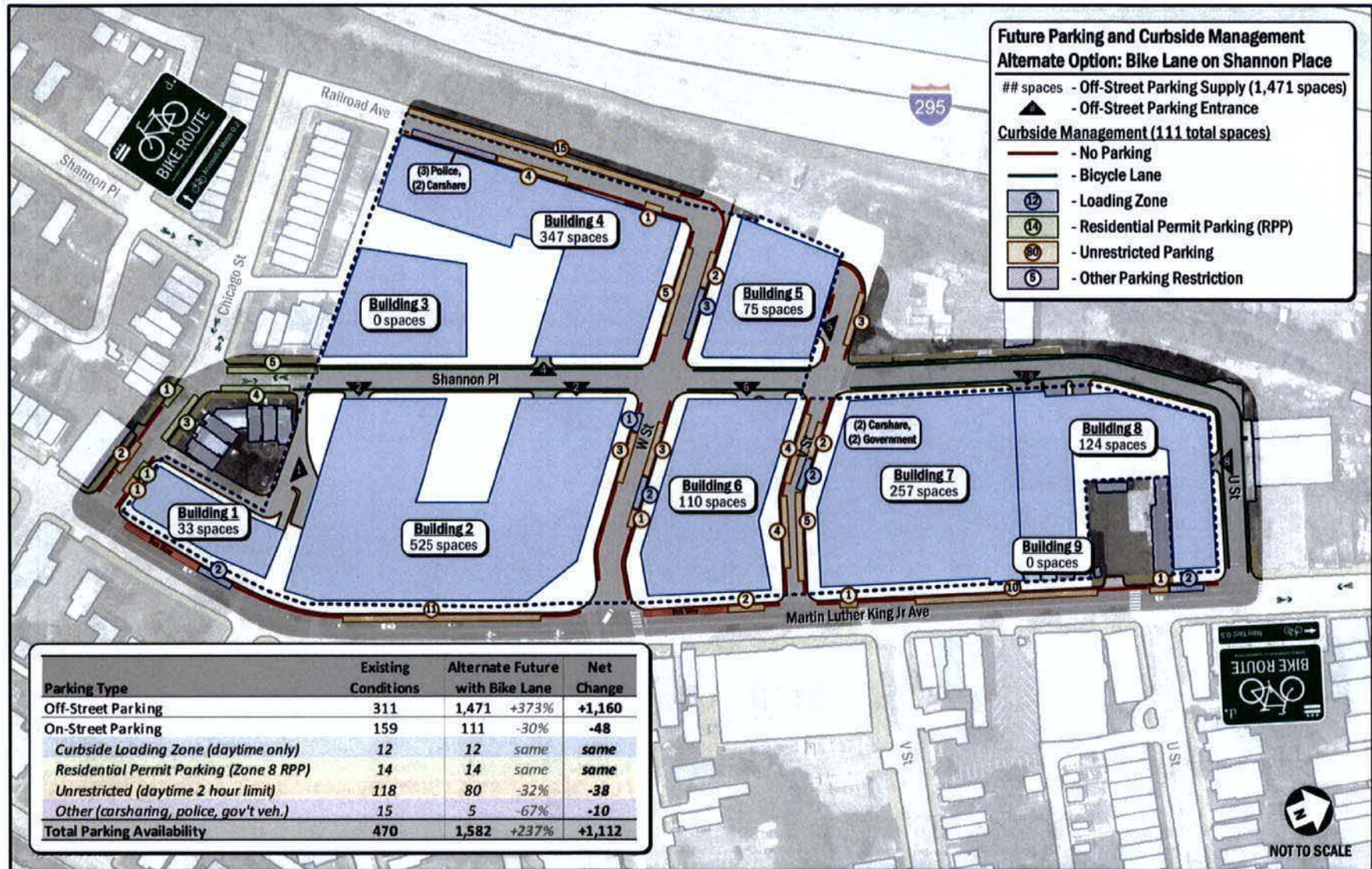


Figure 13: Alternate Curbside Management Plan with Shannon Place Bike Lanes

Technical Attachments

- (1) On-Street Parking Inventory & Occupancy
- (2) Loading Dock Turning Movement Diagrams

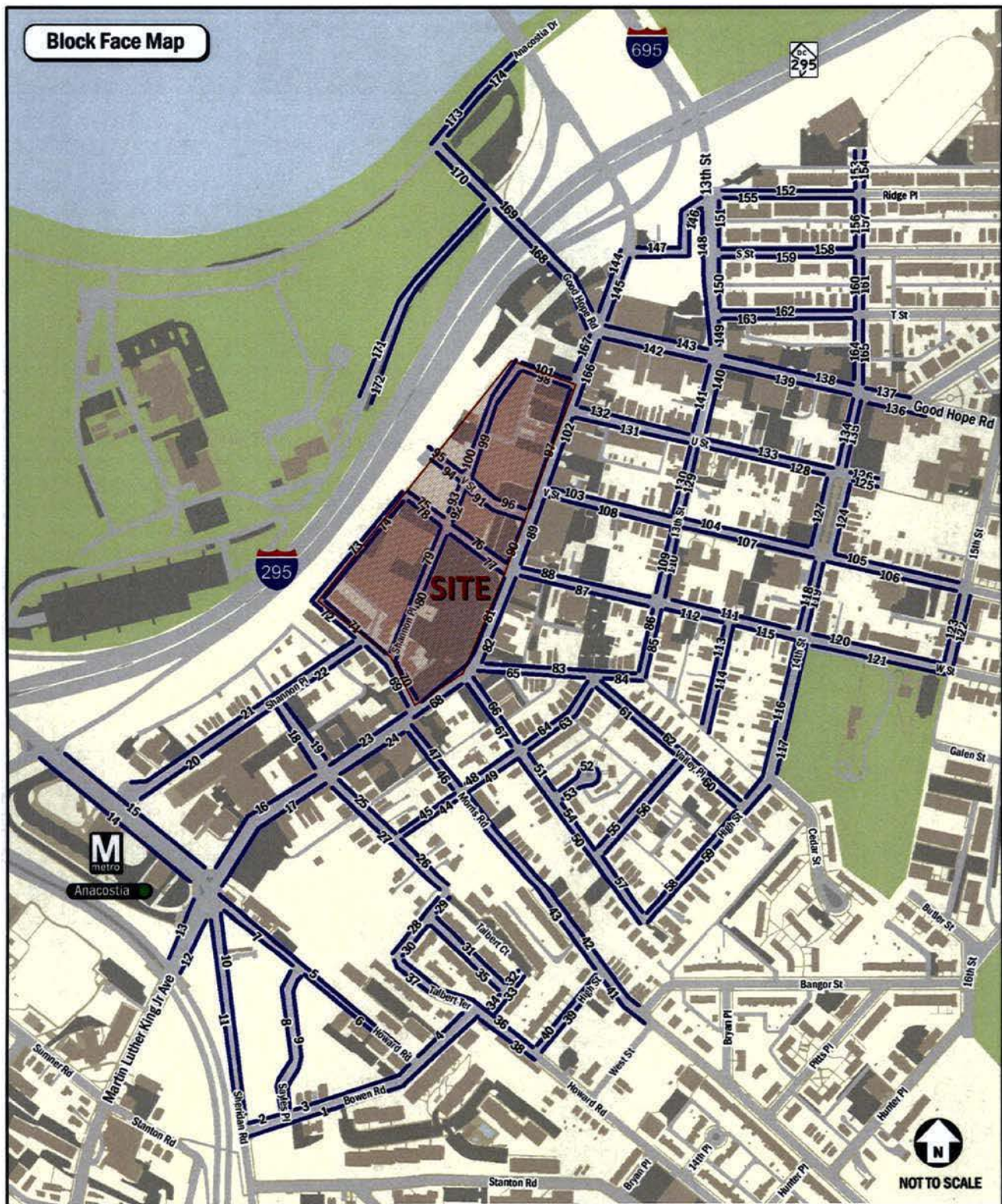


Figure 14: Parking Inventory Block Face Key

Parking Occupancy Counts (Thursday, June 6, 2013)								
Blockface	Estimated Inventory					Restriction	Occupancy	
	Unres	Metered	RPP	Other	Total		2 PM	8PM
1	43				43		9	4
2	3				3		3	2
3	19				19		3	6
4	10				10		6	2
5	0				0	No Parking	0	0
6	20				20		10	8
7	16				16		7	12
8	22				22		6	11
9	24				24		12	4
10	0				0	No Parking	0	0
11	0				0	No Parking	0	0
12	10				10	No Stopping 7:00 - 9:30 AM	0	0
13	0				0	No Parking	0	0
14	0				0	No Parking	0	0
15	0				0	No Parking	0	0
16	7				7	1-Hr Parking 9:30 AM - 4:00 PM, No Stopping 4:00 - 6:30 PM	6	6
17	11				11	1-Hr Parking 9:30 AM - 4:00 PM, No Stopping 7:00 - 9:30 AM	10	11
18	10				10		11	4
19	10				10		9	0
20	26				26	No Parking 8:00 AM - 4:00 PM on School Days	0	1
21			40		40	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	20	16
22			14		14	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	8	0
23	0				0	No Parking	0	0
24	0				0	No Parking	0	1
25			12		12	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	5	7
26			5		5	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	0	0
27			19		19	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	8	5
28 and 37			12		12	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	19	12
29					0	No Parking	0	0
30			5		5	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	10	5
31	16				16		12	10

Parking Occupancy Counts (Thursday, June 6, 2013)								
Blockface	Estimated Inventory					Restriction	Occupancy	
	Unres	Metered	RPP	Other	Total		2 PM	8PM
32	0				0	No standing or parking	0	0
33	14				14	Front-in parking, not parallel	11	11
34	0				0	No standing or parking	0	0
35	16				16		12	10
36			13		13	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	0	0
38					0	No Parking	4	3
39	14				14		4	8
40	14				14		7	9
41					0	No Parking	0	0
42	28				28		12	14
43					0	No Parking	0	0
44					0	No Parking	0	0
45	11				11		3	3
46					0	No Parking	0	0
47					0	No Parking	0	0
48	8				8	50-foot weekday loading zone	4	0
49					0	No Parking	0	1
50	33				33		6	7
51	6				6		2	2
52	11				11		8	6
53	3				3		7	7
54	10				10		1	2
55	17				17		2	4
56	18				18		8	8
57	11				11		2	5
58	19				19		2	5
59	27				27		4	7
60	11				11		4	5
61	13				13		4	6
62	31				31		9	15
63	14				14		5	5
64	15				15		2	6
65					0	No Parking	0	0
66					0	No Parking	0	0
67	10				10		5	3
68					0	2-Hr Parking 9:30 AM - 4:00 PM, No Stopping 7:00 - 9:30 AM	0	0

Parking Occupancy Counts (Thursday, June 6, 2013)								
Blockface	Estimated Inventory					Restriction	Occupancy	
	Unres	Metered	RPP	Other	Total		2 PM	8PM
69	2		6		8	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	5	1
70	2		2		4	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	4	2
71			12		12	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	6	4
72			8		8	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	7	3
73	6				6	1-Hr Parking 7:00 AM - 6:30 PM	1	0
74	6		4	3	10	1-Hr Parking 7:00 AM - 6:30 PM; 3 police department spaces; 2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	3	0
75	8				8		6	0
76					0	No Parking	0	0
77	8				8		6	0
78					0	No Parking	2	0
79			4		4	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	8	2
80			6		6	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	13	4
81	12				12	2-Hr Parking 9:30 AM - 4:30 PM, No Stopping 4:00 - 6:30 PM	5	7
82					0	No Parking	0	0
83			13		13	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	2	6
84					0	No Parking	0	0
85	5				5		2	8
86	5				5		3	3
87	14				14	No standing or parking 7:00 AM - 6:30 PM	0	10
88					0	No parking	0	0
89	10				10	2-Hr Parking 7:00 AM - 6:30 PM	7	3
90	2				2	1-Hr Parking 9:30 AM - 4:00 PM, No Stopping 4:00 - 6:30 PM	1	0
91	5			2	5	+ 2 Carshare spots	6	3
92	5				5		3	0
93	5				5		0	0
94	10				10		5	0
95	24				24		9	0
96	4				4		4	1
97	12				12	2-Hr Parking 9:00 AM - 4:00 PM	7	0

Parking Occupancy Counts (Thursday, June 6, 2013)								
Blockface	Estimated Inventory					Restriction	Occupancy	
	Unres	Metered	RPP	Other	Total		2 PM	8PM
98	4				4	1-Hr Parking 7:00 AM - 6:30 PM	2	0
99	15				15	Commercial Loading Zone	2	0
100	19				19		8	3
101	5				5	Government Vehicle Parking (2), 1-Hr Parking 7:00 AM - 6:30 PM (3)	4	0
102	10				10	30-Min Parking 7:00 AM - 6:30 PM (1), Commercial Loading Zone (1), 1-Hr Parking 7:00 AM - 6:30 PM (8)	5	1
103			17		17	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	12	7
104			16		16		2	5
105			14		14		1	2
106	17				17	No Parking 8:00 AM - 4:00 PM on School Days	0	3
107			11		11	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	1	6
108			18		18	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	13	4
109	8				8	No Standing or Parking 7:00 - 9:30 AM and 4:00 - 6:30 PM	1	3
110	5				5	No Standing or Parking 7:00 - 9:30 AM and 4:00 - 6:30 PM	0	3
111	21				21		1	5
112	8				8		3	4
113	17				17		8	7
114	14				14		5	5
115	8				8		2	4
116	25				25		6	9
117	22				22		3	5
118	5				5		3	3
119	4				4	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	1	2
120	21				21		5	8
121	18				18		0	0
122	8				8		3	3
123	9				9		3	5
124	10				10		4	7
125	3				3		Closed	Closed
126	2				2		Closed	Closed
127	9				9		5	0

Parking Occupancy Counts (Thursday, June 6, 2013)								
Blockface	Estimated Inventory					Restriction	Occupancy	
	Unres	Metered	RPP	Other	Total		2 PM	8PM
128	20				20		12	12
129	9				9	No Standing or Parking 7:00 - 9:30 AM	0	3
130	10				10		1	2
131	14				14	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	9	8
132	2		13		15	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	9	10
133	18				18		7	10
134	9				9		2	0
135	9				9		0	0
136	4				4	No Standing or Parking 4:00 - 6:30 PM	0	0
137					0	No Parking	0	0
138					0	No Parking	2	0
139	10				10	1-Hr Parking 7:00 AM - 4:00 PM, No Standing or Parking 4:00 - 6:30 PM	2	5
140					0	No Parking, No Standing or Parking 4:00 - 6:30 PM	0	0
141					0	No Parking, No Standing or Parking 4:00 - 6:30 PM	0	0
142	8				8	1-Hr Parking 7:00 AM - 4:00 PM, No Standing or Parking 4:00 - 6:30 PM	4	11
143	5				5	2-Hr Parking 7:00 AM - 4:00 PM, No Standing or Parking 4:00 - 6:30 PM	0	0
144					0	No Parking	0	0
145					0	No Parking	0	0
146	18				18		Closed	Closed
147	16				16		Closed	Closed
148					0	No Parking	1	1
149					0	No Parking	0	0
150					0	No Parking	0	4
151					0	No Parking	0	2
152	7		13		20	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	6	13
153			1		1	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	0	0
154			4		4	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	1	1

Parking Occupancy Counts (Thursday, June 6, 2013)								
Blockface	Estimated Inventory					Restriction	Occupancy	
	Unres	Metered	RPP	Other	Total		2 PM	8PM
155	4		18		22	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	9	13
156	8				8		4	2
157	8				8		2	1
158			21		21	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	8	14
159			22		22	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	12	19
160			5		5	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	2	5
161			8		8	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	5	2
162			22		22	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	9	14
163			21		21	2-Hr Parking 7:00 AM - 8:30 PM, Zone 8	7	15
164	6				6		3	2
165	8				8	1-Hr Parking 7:00 AM - 6:30 PM	2	3
166	6				6	2-Hr Parking 7:00 AM - 6:30 PM	2	3
167					0	No Parking	0	0
168					0	No Parking	0	0
169					0	No Parking	8	1
170					0	No Parking	0	0
171	0				0	No Parking	0	0
172	57				57		5	0
173					0	No Parking	0	0
174					0	No Parking	0	0

