GOROVE / SLADE

1140 Connecticut Avenue NW
Suite 600
Washington, DC 20036
202.296.8625

TECHNICAL MEMORANDUM

To:	Jim Steman	McCaffery Interests
	Don Capobres	Grosvenor
CC:	Jeff Utz	Goulston & Storrs
From:	Emily J. Dalphy Robert B. Schiesel, P.E. Daniel B. VanPelt, P.E., PTOE	
Date:	June 25, 2013	
Subject:	Square 701 Modification Application, Zoning Commission Case No. 12-05A	

INTRODUCTION

This memorandum presents a transportation assessment performed for the Square 701 Modification Application, summarizing the potential impacts of the modified Square 701 Development, based on the conclusions drawn in the *Transportation Impact Study* for the original Square 701 Development.

Gorove/Slade performed a Transportation Impact Study (TIS) dated August 7, 2012, for the proposed Square 701 Development in conjunction with the Zoning Commission Design Review and Special Exception and Variance Relief – Proposed Modification of Capitol Gateway Overlay District Review (Zoning Commission Case No. 12-05). The Applicant (Ballpark Square LLC) is requesting a modification to the Square 701 Development approved by Zoning Commission Order No. 12-05 to allow for the reorientation of the residential component. The redesign of the residential building changes the building's appearance along First Street, SE and slightly increases the number of residential units, among other small changes. The hotel, office, and retail components of the development remain unchanged. Figure 1 provides an overview of the project's development program.

The proposed Square 701 Development will replace an existing surface parking lot, which is accessed by two curb cuts along 1st Street SE. Two additional curb cuts are located on M Street SE, although they are not used. A total of 25 metered on-street parking spaces (assuming 20 feet per car) are located on the edges of the site. Figure 2 identifies the existing curb cuts and on-street parking surrounding the site.

Overall, the modification will have little to no impact on the surrounding roadway network when compared to the approved plan. While the redesign of the Residential building slightly shifts the site access locations, the vehicular site access and loading access will remain along Cushing Place, limiting the influence of loading maneuvers in the public space. Additionally, the increase in Residential units will have a negligible impact on the capacity analysis contained in the original TIS. **Thus, the conclusions from the TIS are still valid; the modified plan will have no detrimental impact to the surrounding transportation network.**

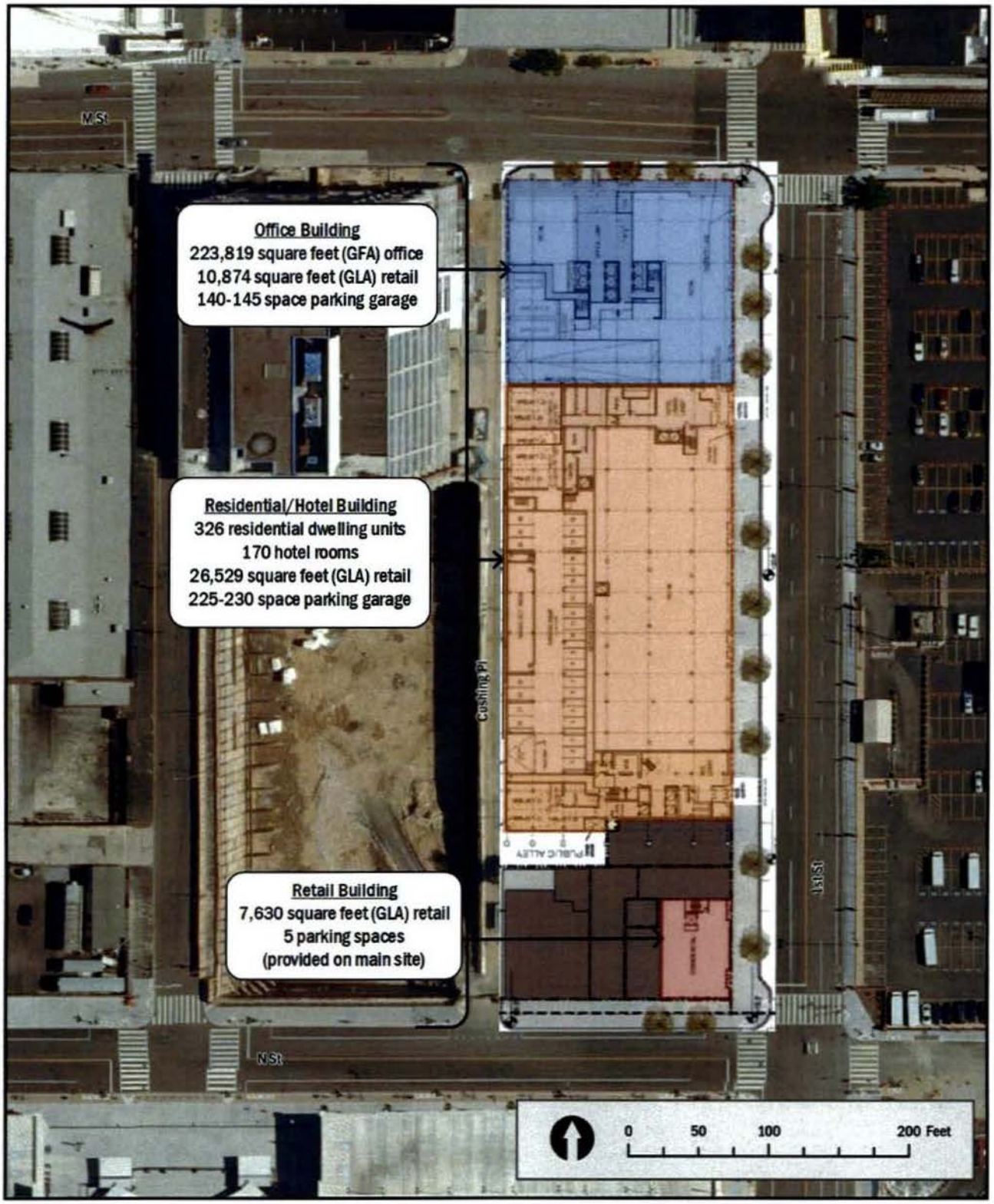

Figure 1: Summary of Development Program

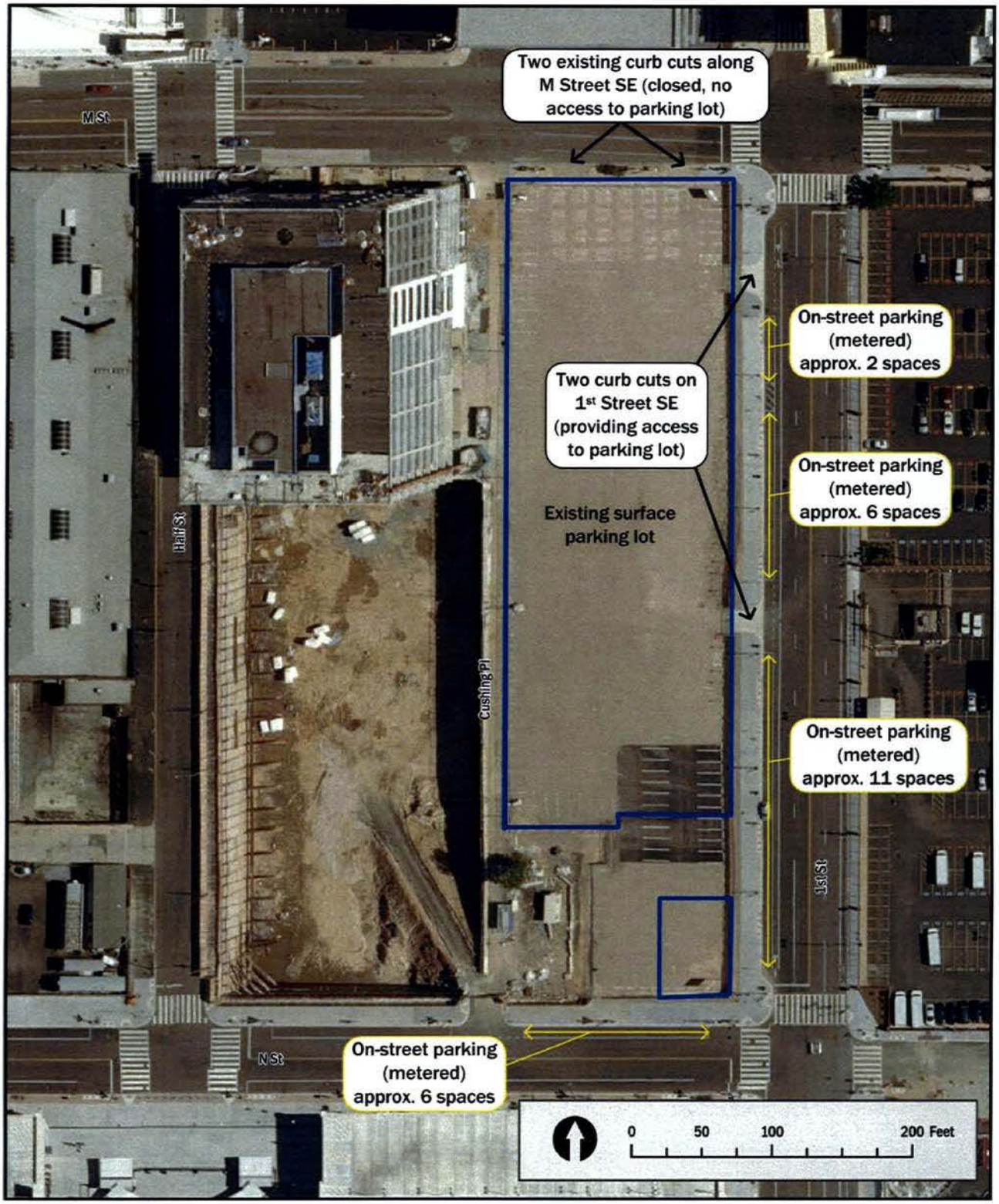

Figure 2: Existing Site Condition

SITE ACCESS AND CIRCULATION

This section outlines the on-site transportation features of the modification to the Square 701 Development. It supplements the information provided in the site plan package that accompanied the application.

The vehicular site access plan has changed slightly in the proposed modification. All vehicular access to the site will still be located along Cushing Place, which is an alley currently constructed between Half Street and 1st Street. The project will still reduce the number of curb cuts on the block from four to zero (vehicular access points off an alley are not considered curb cuts). The two underground parking structures and three service areas are all located on Cushing Place.

Table 1 shows the required loading according to Section 2201.1 of the Zoning Regulations, as well as the proposed loading provided. The amount of loading and request for variance have not been changed in the modified application. Three loading areas will service the project, as noted on Figure 3. The amount of loading facilities contained within the development will be able to accommodate the expected truck activity. All loading will be accessed from Cushing Place.

Table 1: Loading Tabulations

Land Use	Loading Docks		Loading Platforms	
	Required	*Provided*	*Required*	*Provided*
Site A				
Residential	1 55-foot 1 20-foot	1 30-foot* 1 20-foot	1 @ 200 SF	1 @ 200 SF
Hotel	1 30-foot 1 20-foot	1 30-foot 1 20-foot	1 @ 100 SF	1 @ 100 SF
Retail	1 20-foot 1 55-foot 1 30-foot	2 30-foot* 1 20-foot	1 @ 100 SF 1 @ 200 SF	1 @ 100 SF 1 @ 200 SF
Site B				
Office	3 30-foot 1 20-foot	3 30-foot 1 20-foot	3 @ 100 SF	3 @ 100 SF
Site C				
Retail	1 30-foot 1 20-foot	None*	1 @ 100 SF	None*

** Variance requested*

Figure 4 shows the site access plan for the Square 701 modification, as well as the approved access plan. The following changes to the site access plan are proposed:

- The vehicular site access point for the Residential and Hotel garage has moved from the northern to the southern side of the building.
- The Residential and Retail loading docks have been split. The Residential loading dock will remain on the southern side of the building, but the Retail loading access will be provide on the northern side of the building.
- The loading facilities for the Hotel and Office uses have not been modified. However, the loading facilities for the Hotel use are now adjacent to those provided for the Retail uses.
- Pick-up and drop-off activity for the Hotel and Residential lobbies will remain along 1st Street SE. However, the location of the Residential lobby has been relocated from the center of the building to the southern side of the building.

- The total amount of on-street parking surrounding the site is expected to remain at 25 spaces (assuming 20 feet per car).
- The overall number of parking spaces (370-380 spaces) provided has not been modified.

As stated previously, access to the site will remain along Cushing Place, an alley. This includes two vehicular access points to the underground parking garages and three loading areas. The size and number of site access points and loading facilities remain unchanged. The proposed rearrangement of site access points along Cushing Place will not generate a negative impact and is essentially the same as the approved plan.

DEVELOPMENT PROGRAM

This section outlines the proposed changes to the development program as a result of the redesign of the residential component. This section also summarizes the impacts of the proposed modification to the surrounding roadway network.

Development Program

As stated previously, the redesign and reorientation of the residential portion of the Square 701 Development results in a modest increase in the number of residential units. Table 2 provides a comparison of the current development program (as of May 9, 2013), the program from the prior submittal (submitted August 31, 2012), and the program analyzed in the TIS. Of note, the development program changed slightly following the submittal of the TIS. At the time of scoping with DDOT on August 7, 2012, the program analyzed in the TIS reflected the latest update provided. The program in the TIS varied slightly from the final program submitted to the Zoning Commission, but these variations did not affect the overall conclusions of the TIS.

Table 2: Development Program Comparison

Land Use	Proposed Modification (as of 06/25/13)	Prior Submittal (to the ZC on 09/04/12)	Program from TIS (from 08/07/12)
Residential	326 Dwelling Units	292 Dwelling Units	289 Dwelling Units
Retail	45,033 SF	46,467 SF	42,500 SF
Hotel	170 Rooms	170 Rooms	180 Rooms
Office	223,819 SF	223,819 SF	234,693 SF
Parking	370-380 Spaces	370-380 Spaces	370-380 Spaces

As shown in Table 2, the modification increases the number of dwelling units, while slightly decreasing the amount of on-street retail, in comparison to the prior submittal to the Zoning Commission on September 4, 2012. The number of hotel rooms, as well as the amount of office uses and parking spaces, have not changed. In comparison to the development program analyzed in the TIS from August 7, 2012, the modification presents an increase in the number of dwelling units and amount of on-street retail and a decrease in the number of hotel rooms and office. The number of parking spaces remains constant.

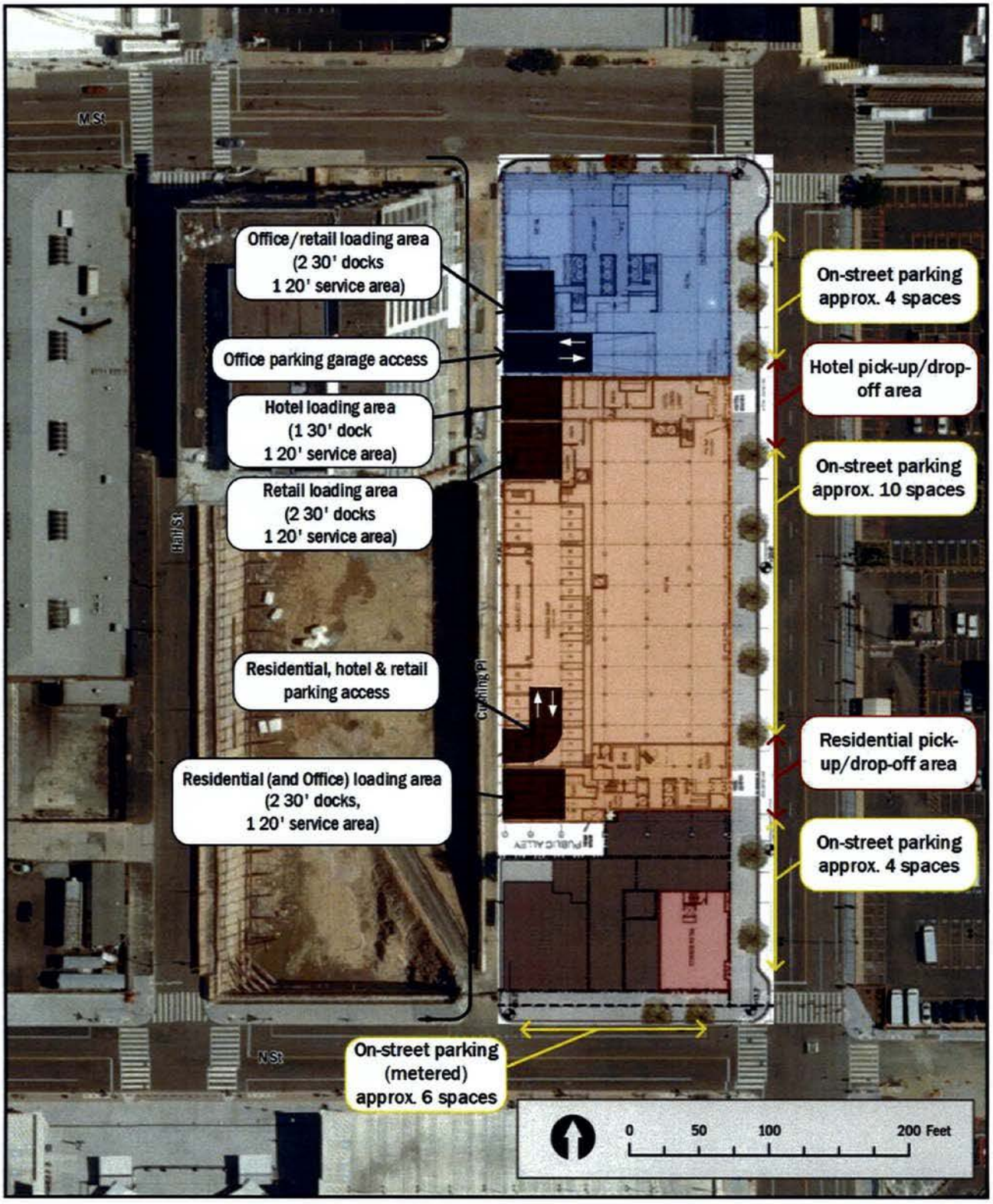

Figure 3: Modified Site Access and Circulation

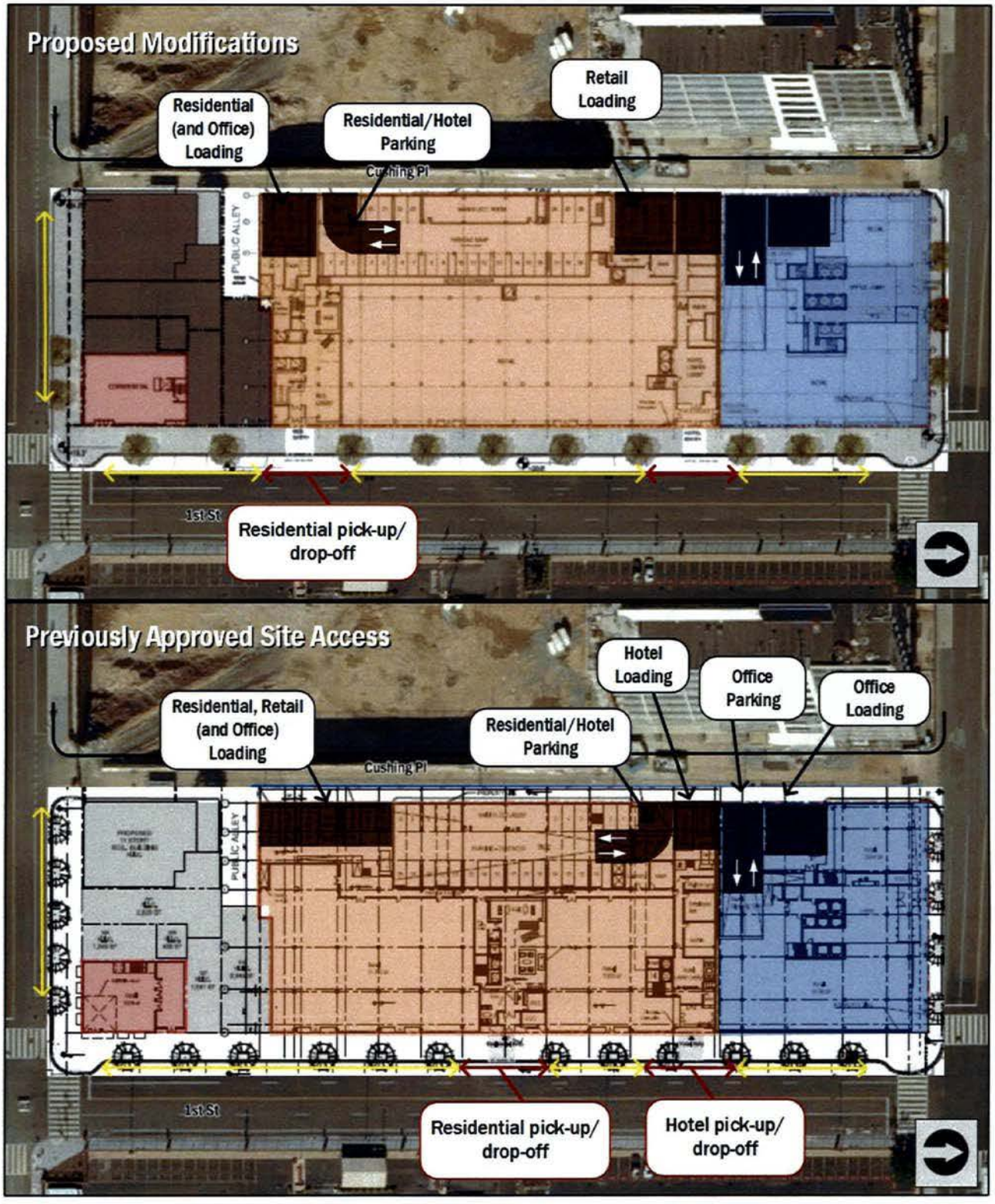

Figure 4: Comparison of Site Access and Circulation

Trip Generation Analysis

In order to analyze the impacts of the program changes, the trip generation projections are compared in this section. The trip generation projections are based on the site transportation demand analysis performed in the TIS. In summary, trip generation for a proposed development is traditionally calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 8th Edition. For the TIS and this memorandum, the methodology was supplemented to account for the urban nature of the site (*Trip Generation* provides data for non-urban, low transit use sites) and to generate trips for multiple modes. The following steps were taken to project the trip generation for the proposed Square 701 Development.

1. ITE *Trip Generation* was used to develop base vehicular-trip rates, not accounting for reductions due to mode split. The *Trip Generation Handbook*, 2nd Edition was also consulted for guidelines for estimating trip generation. The trip generation projections were based on Land Use (LU) 222 for High-Rise Apartment, LU 710 for General Office, LU 310 for Hotel, and LU 820 for Shopping Center.

2. The vehicle-trips were converted to person-trips by assuming an average vehicle occupancy of 1.1 persons per vehicle, based on the Census Data Transportation Planning Package (CTPP) 2000.

3. The trips were split into each mode: transit (consisting of both Metrorail and Metrobus/DC Circulator), walking, biking, and vehicle. The mode split for each land use was analyzed separately using survey information contained in several sources: WMATA's 2005 Development-Related Ridership Survey, WMATA's Station Site and Access Planning Manual, Commuter Connections' 2010 State of the Commute Survey Report, results from the 2000 U.S. Census, and files from Gorove/Slade's library. Table 3 summarizes the mode split assumptions.

Table 3: Mode Split Assumptions

Land Use	Mode Split			
	Vehicle	*Transit*	*Walk*	*Bike*
Residential	45%	45%	7%	3%
Retail	40%	40%	15%	5%
Hotel	55%	35%	7%	3%
Office	40%	50%	7%	3%

4. Based on the person-trips calculated and the mode-split above, the total trips by mode were calculated.

Table 4 shows a summary of the trip generation for the proposed development. In order to compare the vehicular trips, which will have the greatest impact on the roadway network, the table only shows the base number of trips projected by *Trip Generation* and the total number of vehicular trips by land use. The full trip generation is attached to this memorandum. For the purpose of this analysis, the trip generation for the proposed modification is compared to the trip generation from the previously approved TIS.

Table 4: Trip Generation Comparison (Proposed Modification vs. Program from TIS)

Land Use	Size		Trip Generation						
			AM Peak Hour			PM Peak Hour			Weekday Total
			In	*Out*	*Total*	*In*	*Out*	*Total*	
Proposed Modification (as of May 9, 2013)									
Residential	326	Dwelling Units	25	73	98	71	46	117	1,486
45% Vehicular Trips			*11*	*33*	*44*	*33*	*20*	*53*	*669*

Land Use		Size	Trip Generation						
			AM Peak Hour			PM Peak Hour			Weekday Total
			In	*Out*	*Total*	*In*	*Out*	*Total*	
Retail	45,033	Square Feet	28	18	46	83	85	168	1,936
40% Vehicular Trips			*11*	*7*	*18*	*33*	*34*	*67*	*774*
Hotel	170	Rooms	48	31	79	53	47	100	1,150
55% Vehicular Trips			*25*	*19*	*44*	*29*	*26*	*55*	*632*
Office	223,819	Square Feet	314	43	357	56	273	326	2,482
40% Vehicular Trips			*125*	*17*	*142*	*23*	*109*	*132*	*993*
Total Vehicular Trips			**172**	**76**	**248**	**118**	**189**	**307**	**3,068**
Program from TIS (from August 7, 2012)									
Residential	289	Dwelling Units	22	65	87	64	41	105	1,344
45% Vehicular Trips			*9*	*30*	*39*	*28*	*20*	*48*	*605*
Retail	42,500	Square Feet	26	17	43	78	80	158	1,830
40% Vehicular Trips			*11*	*6*	*17*	*32*	*31*	*63*	*732*
Hotel	180	Rooms	52	33	85	56	50	106	1,238
55% Vehicular Trips			*31*	*20*	*51*	*34*	*30*	*64*	*749*
Office	234,693	Square Feet	326	45	371	58	284	342	2,574
40% Vehicular Trips			*130*	*18*	*148*	*24*	*113*	*137*	*1,029*
Total Vehicular Trips			**178**	**72**	**250**	**115**	**191**	**306**	**3,047**
Difference (Proposed Modification – Program from TIS)			**-6**	**4**	**-2**	**3**	**-2**	**1**	**21**

As shown in Table 4, the proposed modification will have a negligible impact on the vehicular trip generation. Compared to the previously approved TIS dated August 7, 2012, the proposed Square 701 Development modification will generate two fewer trips during the morning peak hour and one more trip during the afternoon peak hour.

Based on the trip generation comparison presented in Table 4, the modification would generate essentially the same amount of vehicular traffic. Therefore, the roadway capacity analysis and the resulting conclusions from the TIS remain valid for the modification.

The analyses from the TIS concluded that the Square 701 development will not have an adverse impact on the surrounding transportation network. All of the locations in the study with unacceptable levels of delay occur in scenarios with and without the development of the project -- these capacity issues will occur regardless of development. Thus, the Square 701 development will not have an adverse impact on the surrounding transportation network.

SUMMARY

As stated previously, Gorove/Slade performed a Transportation Impact Study (TIS) dated August 7, 2012, for the proposed Square 701 Development in conjunction with the Zoning Commission Design Review and Special Exception and Variance Relief – Proposed Modification of Capitol Gateway Overlay District Review (Zoning Commission Case No. 12-05). The Applicant is requesting a modification to the Square 701 Development to allow for the reorientation of the residential component. The redesign of the residential building changes the building's appearance along First Street, SE and slightly increases the number of residential units, among other small changes. The hotel, office, and retail components of the development remain unchanged.

The vehicular site access plan has changed slightly in the modification. All vehicular access to the site will still be located along Cushing Place, and the project will still reduce the number of curb cuts on the block from four to zero (vehicular access points off an alley are not considered curb cuts). The two underground parking structures and three service areas are all located on Cushing Place. The size and number of site access points and loading facilities remain unchanged. The

proposed rearrangement of site access points along Cushing Place will not generate a negative impact and is essentially the same as the approved plan.

The slight change in residential units will have a negligible impact on the vehicular trip generation. Compared to the previously approved TIS, the proposed Square 701 Development modification will generate essentially the same amount of vehicular traffic. Thus, the roadway capacity analysis and the resulting conclusions from the TIS remain valid for the modification.