
Traffic Impact Study

1711 Florida Avenue

Washington, DC

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Prepared for:

1711 Florida Avenue Properties, LLC

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Transportation Planners and Engineers

ZONING COMMISSION
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INTRODUCTION

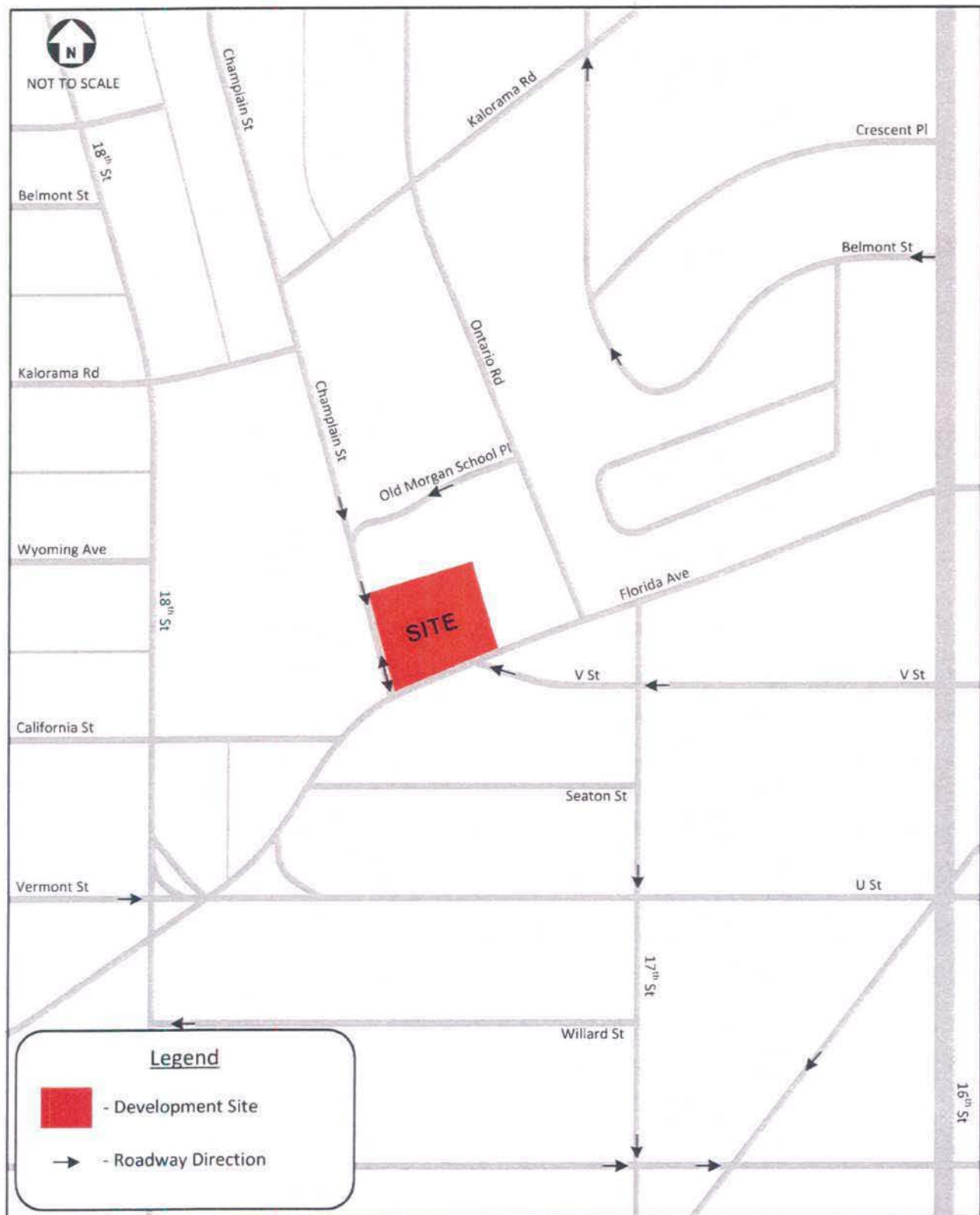
This report presents the findings of a Traffic Impact Study (TIS) conducted for 1711 Florida Avenue NW in support of its Planned Unit Development (PUD) application. The proposed site plan consists of a mixed-use development (commercial and residential uses) located in Ward 1 in northwest Washington, DC. Figure 1 identifies the site location within Washington, DC. The site currently contains a neighborhood serving parking facility ground floor retail space and 2nd floor office space.

The proposed redevelopment of the site consists of a mix of neighborhood serving commercial and residential uses and parking. The development will contain approximately 6,415 square feet of ground level neighborhood serving commercial space and up to 130 apartment units. In order to accommodate this development, a portion of the top levels of the existing parking garage structure will be removed and replaced with apartments and common areas associated with apartments for a total of 7 levels. Site access for the proposed development will be provided from Champlain Street and Florida Avenue via existing curb cuts that will accommodate loading access and parking garage access. The site will be served by approximately 95 vehicular parking spaces, including 3 tandem spaces.

Gorove/Slade Associates, Inc. undertook the following steps while preparing the final study:

- Analyzed the existing transportation network, including roadways, transit, and pedestrian and bicycle facilities;
- Performed field reconnaissance to obtain information on existing transportation facilities and operations;
- Performed field reconnaissance of existing roadway and intersection geometrics, traffic controls, speed limits, and operations;
- Observed traffic conditions during the morning and afternoon peak periods on a typical weekday;
- Conducted peak hour turning movement counts at study intersections;
- Investigated background developments located in the vicinity of the project site;
- Described and quantified the impacts of other background developments and infrastructure changes on the future transportation network;
- Detailed the transportation elements of the proposed development, including pedestrian and vehicular access;
- Calculated the trip generation for the proposed development based on the Institute of Transportation Engineers' (ITE) Trip Generation, 8th Edition;
- Forecasted future traffic volumes with and without the proposed development;
- Estimated the difference in peak hour traffic with and without the proposed development;
- Calculated future levels of service at the study intersections with and without the proposed development;
- Calculated current and future parking demands for the site;
- Provide recommendations for reducing traffic and parking demand as part of a Transportation Management Plan (TMP)
- Recommended mitigation measures, if necessary, based on the future transportation analysis.

Sources of data for this study include traffic counts and observations conducted by Gorove/Slade, plans from Bonstra-Haresign, studies by WMATA and ITE, and the files/library of Gorove/Slade.



EXISTING SITE REVIEW

The existing conditions of the study area of the site location are reviewed and analyzed to determine if any existing areas of concern or opportunity exist within the transportation network. A review of the existing conditions also establishes a point of reference for the analysis of the future scenarios.

Site Location & Major Transportation Features

The proposed development is located at 1711 Florida Avenue, NW. Figure 1 shows a map of the site location. Regional transit, truck and private vehicle access to the site are provided along 18th Street, Florida Avenue and 16th Street. 16th Street is a principal arterial, while 18th Street and Florida Avenue are minor arterials. The remaining area roadways are all local roadways that carry little regional traffic. Connectivity in the vicinity of the site is primarily provided by Florida Avenue connecting to the major arteries traveling south into the business district and north towards Maryland. These arterials provide local site access for vehicle traffic as well as cyclists and pedestrians.

Regional transit access is generally provided by Metrobus and MetroExpress bus service with connectivity to Metrorail service. The various bus services serving the areas near the site provide access to the U Street/African-American Civil War Memorial/Cardozo Metrorail station to the east and the Dupont Circle Metrorail station to the south in addition to several other major business and commercial center. The DC Circulator also serves the site near the intersection of 18th Street and Columbia Road, approximately 1,800 feet to the north. The U Street/African-American Civil War Memorial/Cardozo station serves the Green and Yellow Lines while the Dupont Circle station serves the Red Line. Each station is approximately 3,300 feet from the site.

Local access to the site is provided along the arterials mentioned as well as local streets that operate north/south and east/west in the study area. The site is bound by private and public developments to the east, utility and public school uses to the north, Champlain Street to the west and Florida Avenue to the south. North of Kalorama Road, Champlain Street is two-way. South of Kalorama Road, Champlain Street is one-way southbound. At the southernmost driveway of the site along Champlain Street, the street converts back to a two-way roadway in order to provide access into the existing parking garage from Florida Avenue. The distance between the driveway and Florida Avenue is approximately 75 feet.

Pedestrian access is provided along all study area streets and no gaps in the sidewalk network have been identified. All of the crossings at the signalized intersection of Florida Avenue and Champlain Street have curb ramps and ladder crosswalks. This intersection also has pedestrian countdown timers for all movements. The remaining unsignalized intersections considered in this study have crosswalks along the minor streets with curb ramps.

Bicycle mobility in the study area is primarily accommodated along signed bike routes, such as V Street, 15th Street and a portion of Champlain Street. V Street provides access to the east to other major thoroughfares through the city while also connecting with existing signed bike routes. Fifteenth Street and Champlain Street provide north and south access while also connecting to several other bike lanes. The District Department of Transportation (DDOT) has found that good and fair and cycling conditions exist on these and other less utilized roadways within a close proximity to the site¹. Figure 2 depicts the intersections selected as part of this analysis.

¹ DDOT District of Columbia Bicycle Map, March 2010

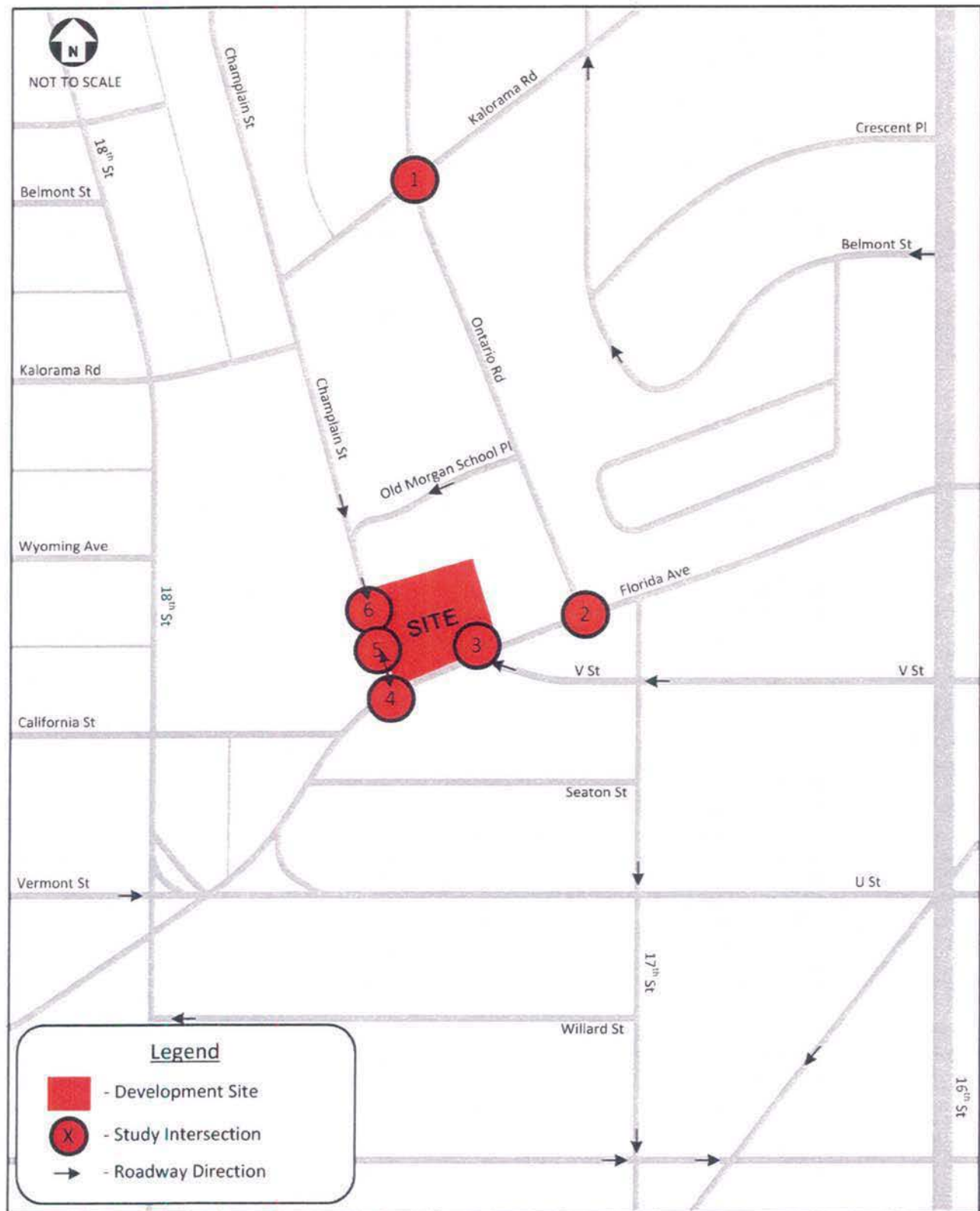


Figure 2: Study Intersections

Roadways

As stated previously, the site is accessible via arterials and local streets. Figure 2 shows the roadway network hierarchy and the annual daily traffic volumes for the roadways in the vicinity of the proposed development.

The immediate study area of the proposed development has several key local access roads. These include the following:

- **Florida Avenue**

Florida Avenue has a four-lane cross-section with two travel lanes and parallel parking on both sides of the street. In the vicinity of the site it runs east-west. This roadway is classified as a minor arterial on the District Roadway Functional Classification System and serves an Average Daily Traffic (ADT) volume of 6,600 vehicles west of 16th Street. Parking is permitted on various sections of the roadway. The posted speed limit is 25 miles per hour (mph).

- **Champlain Street**

Champlain Street is a two-lane roadway with sections that operate as two way and others that operate as one way. The street operates as one way in the southbound directions between Kalorama Road in the north to the edge of one of the existing 1711 Florida Avenue site driveways. Through all sections, parallel parking is permitted on one side of the street. This roadway is classified as a local road on the District Roadway Functional Classification System. The posted speed limit is 15 mph.

- **Ontario Road**

Ontario Road has a four-lane cross-section with parallel parking along the east and west curb lanes. It is a two-way north and south roadway in the study area. This roadway is classified as a local roadway on the District Roadway Functional Classification System. The posted speed limit is 15 mph.

- **V Street**

V Street has a three-lane cross-section with parking along the north and south curb lanes. It is one-way westbound and runs east-west through the study area. This roadway is classified as a local road on the District Roadway Functional Classification System and serves an ADT volume of 3,500 vehicles west of 16th Street. The posted speed limit is 15 mph.

- **Kalorama Road**

Kalorama Road has a four-lane cross-section with parallel parking along the east and west curb lanes. It is a two-way east and west roadway running from Champlain Street to 16th Street. This roadway is classified as a local road on the District Roadway Functional Classification System and serves an ADT volume of 4,500 vehicles east of Ontario Road. The posted speed limit is 15 mph.

Figure 4 depicts the existing traffic controls and lane use configurations in the field today.

Car-Sharing

Car-sharing is provided in DC and the vicinity of the study area by Zipcar. Zipcar is a private company that allows registered users to reserve cars for a minimum of 30 minutes or for longer periods up to several days and provides individual access to

variety automobiles for trips made easier by car. The closest car-sharing vehicles are at the intersection of 18th Street and California Street, which is approximately 500 feet from the site.

Transit

The Washington Metropolitan Area Transit Authority (WMATA) operates the second largest heavy rail transit system (Metrorail) and the fifth largest bus network (Metrobus) in the United States². Metrorail and Metrobus services connect the site with other District neighborhoods and the Washington-Metropolitan region. The site is primarily serviced by Metrobus and MetroExpress bus service along 18th Street, 16th Street and U Street, which are all within walking distance of the site. There are two Metrorail stations that are both approximately 3,300 feet from the site. These are the U Street/African American Civil War Memorial/Cardozo station and the Dupont Circle station. The U Street/African American Civil War Memorial/Cardozo station is a multimodal transportation hub on the Metrorail Green and Yellow Lines, while the Dupont Circle station serves the Red Line. Both stations have good bike and pedestrian connectivity, though improvements are possible. Several of the bus Lines in the vicinity of the site serve these Metrorail stations. In addition to the various Metrorail and Metrobus options available within easy access from the site, DC Circulator also provides service near the development. The circulator has a regularly scheduled pick up at the intersection of 18th Street and Columbia Road that operates on a continual loop from Woodley Park and Adams Morgan to McPherson Square.

The Green and Yellow Lines connect the study area with Fort Totten and Greenbelt to the north, and downtown Chinatown/Gallery Place, and L'Enfant Plaza to the south as well as Maryland and Virginia. In Virginia, the Yellow Line stops at Washington Reagan International Airport. Trains run frequently during the morning and afternoon peak hours. Trains run approximately every 5-6 minutes during weekday non-peak hour, every 10-15 minutes on weekday evenings after 7:00 pm and 6-15 minutes on the weekends. The Red Line connects the area with Shady Grove, Bethesda and White Flint to the north and west and Metro Center, Union Station and Glenmont to the north and east. Trains run on a similar schedule as those anticipated on the Green and Yellow Lines.

Metrobus service is more accessible to the site as there are several Lines located within a walking distance of between approximately 500 to 1,000 feet. The routes serving this area connect the site to the Metrorail system and with various locations throughout the downtown business core. Table 1 shows a summary of the bus route information for the Lines that serve the site vicinity, including service hours and the headways. Figure 5 shows the existing bus service.

In addition to bus and rail ridership, a Capital Bikeshare (CaBi) station is located at 16th Street and U Street, approximately 1,200 feet away from the site. The CaBi bike share system operates similarly to the Zipcar system in use throughout the city. Individuals pay for registration to utilize the system and when needed travel to a local CaBi station and obtain a bicycle for their use to make a trip. Upon arriving at their destination, the bike is stored at a new CaBi station.

A major initiative for the District of Columbia is the addition of the DC Streetcar. The streetcar will make traveling through the District of Columbia significantly easier for all persons including those residing within the residential component of the site and visiting the retail areas previously not easily accessible by bus or metro will now be easily accessible. The Woodley Park/Adams Morgan to Congress Heights Line will travel along both 18th and U Streets in very close proximity to the site. This route has been depicted in Figure 5.

² American Public Transportation Association Ridership Report for the fourth quarter of 2009

Table 1: Bus Route Information

Route Number	Route Name	Service Hours	Headway
90, 92, 93	U Street – Garfield Line	24-hour service	10-30 minutes for each route
96	East Capitol Street – Cardozo Line	Weekdays and Saturday 5:00 am-3:00 am Sundays 5:00 am-1:30 am	10-20 minutes for weekdays and Saturday 30 minutes for Sunday
L2	Connecticut Avenue Line	Weekdays 5:00 am-1:00 am Weekends 6:00 am-1:30 am	15-30 minutes on weekdays 20-30 minutes on weekends
S1	16 th Street-Potomac Park Line	Weekdays 5:45-10:00 am, 4:00-7:45 pm	15 minutes
S2, S4	16 th Street Line	24-hour service	5-30 minutes on weekdays 15-60 minutes on weekends
S9 Metro Express	16 th Street Express	Weekdays 6:30-10:30 am, 3:00-7:30pm	10 minutes
X3	Benning Road Line	Weekdays 6:00-9:30 am, 3:30-7:00 pm	15-25 minutes
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	10-30 minutes



Figure 3: Roadway Classification and Average Daily Traffic

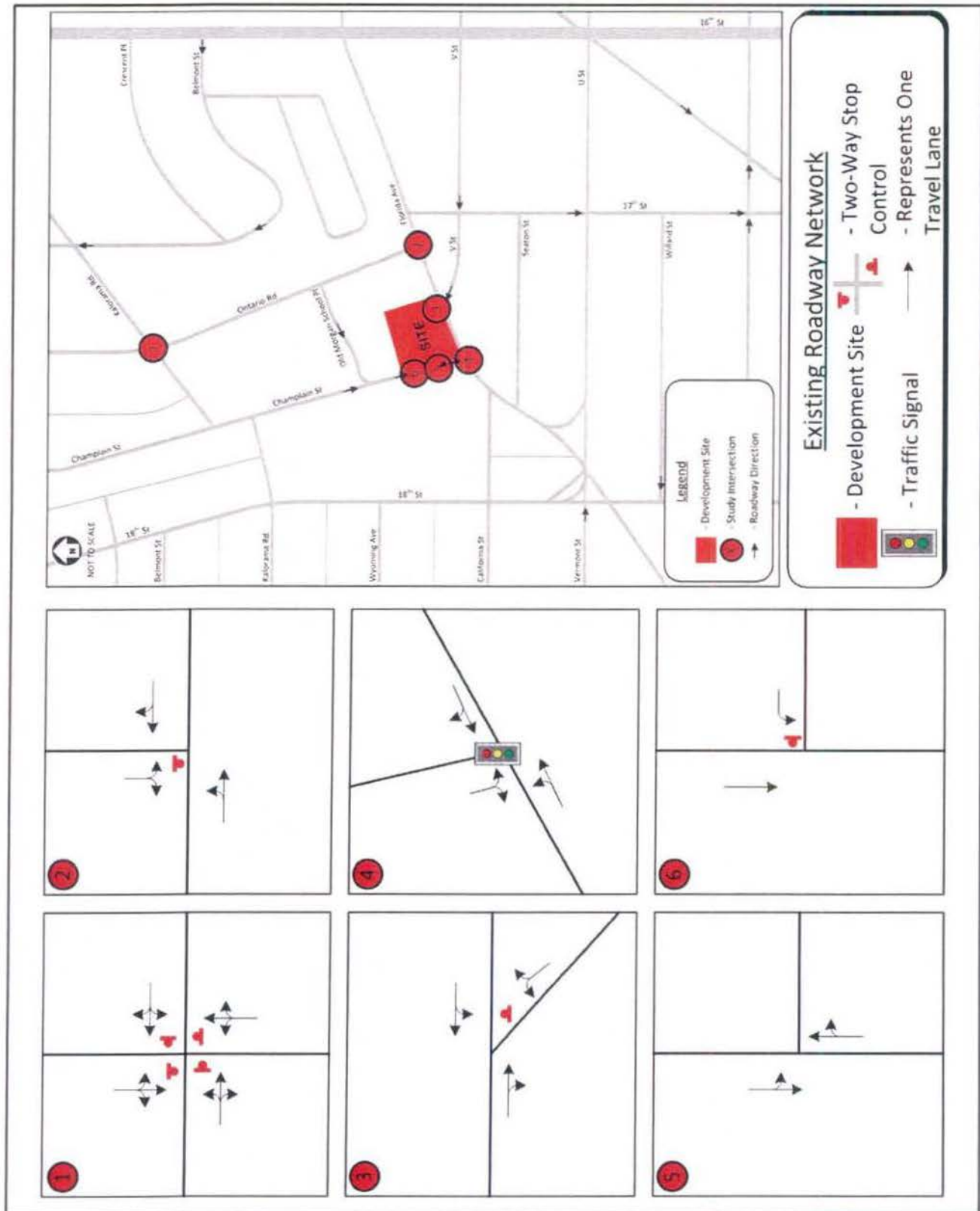


Figure 4: Existing Traffic Controls and Lane Configurations

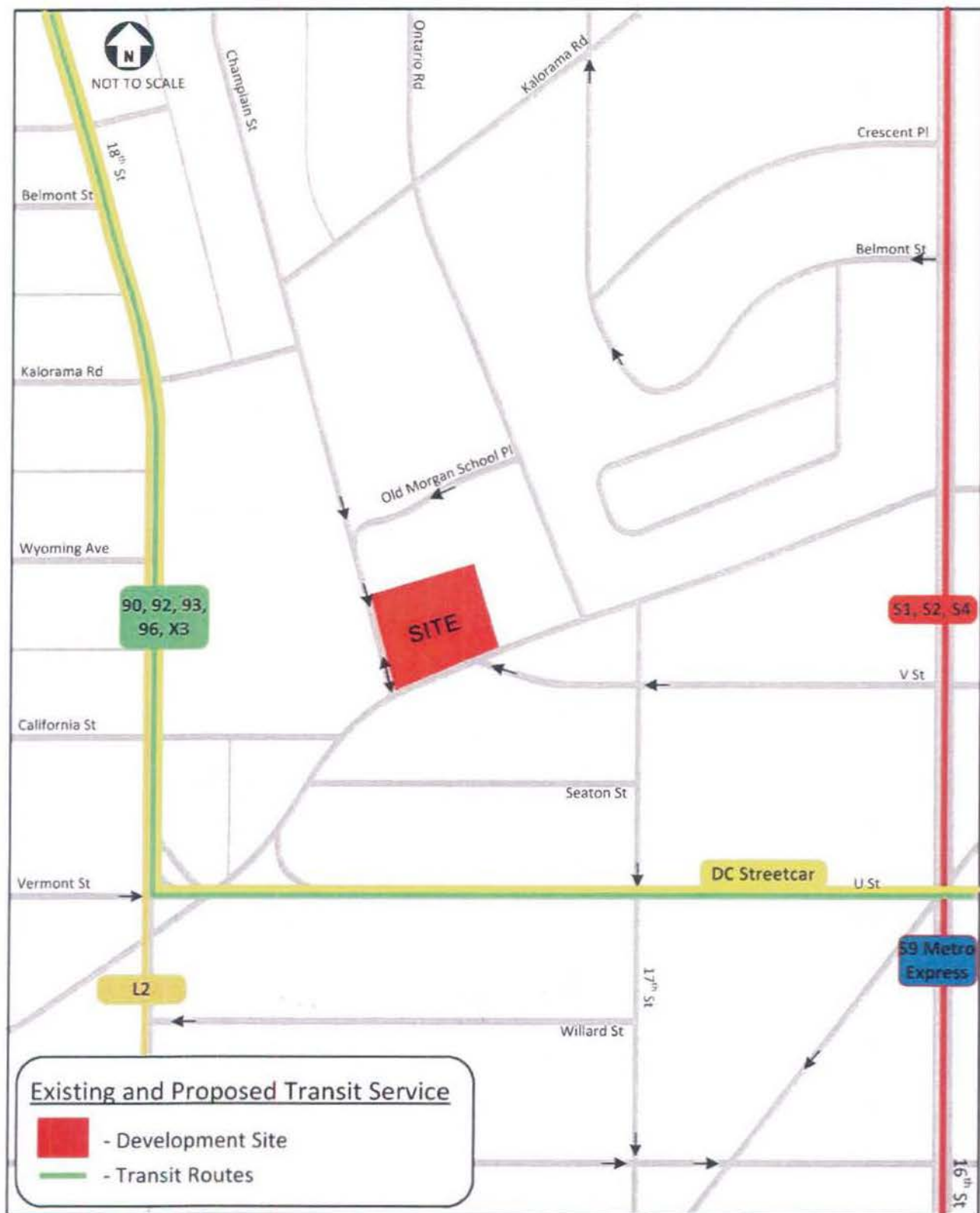


Figure 5: Existing and Proposed Transit Service

Bicycle Facilities

This section provides an inventory and review of the existing bicycle access routes and deficiencies. Figure 4 illustrates bicycle facilities in the study area. Bicyclists have access to on-street bike lanes, signed bike routes and local and residential streets within the study area that facilitate and encourage cycling. The site is directly served by local streets that accommodate cycling and Florida Avenue which links the site to on-street bike lanes or signed bike routes that connect with a city wide bicycle network. Both the local roads and main arterials within the study area provide fair to good cycling conditions.

Some bicycle parking was observed in the study area though most cyclists typically use street signs, parking meters or similar objects to secure their bicycles. This indicates that there is demand for additional bicycle parking facilities in the study area. While the need for additional parking for bicycle facilities is needed, most cycling appeared to originate outside of the general study area. As previously mentioned, a CaBi station has been installed at 16th Street and U Street southeast of the site. This location in combination with two others in close proximity to the site during the month of March 2011 contributed nearly 10,000 bicycle trips. The existing and proposed bicycle facilities in the site vicinity can be found on Figure 6 and Figure 7, respectively.

Pedestrian Facilities

This section provides an inventory of the existing site access facilities and deficiencies. Overall, the pedestrian facilities within the study area provide a good walking environment. Pedestrian access to the site is provided along all adjacent streets, including Florida Avenue, Champlain Street, and Ontario Road. Sidewalks, crosswalks and curb ramps are provided along the length of Florida Avenue in the study area. Pedestrian activity within the study area occurs along transit access routes, around transit stops, at commercial nodes along and, to a lesser extent, between residential neighborhoods and the site. Nearly all streets in the study area have adequate sidewalks, planted buffers between sidewalks and the curb, and on-street parking that provides additional buffer between pedestrians and vehicular traffic.

While no bus stops exist along the study roadways, bus stops in the vicinity serve bus routes that provide local and express service between the study area and destinations to the north and south. Pedestrians access these bus stops along the local pedestrian network at the site and within the residential neighborhoods located adjacent to the site. Florida Avenue is the primary commercial corridor within the study area along with 18th Street to the west. There is pedestrian activity between transit stops and residential areas and Florida Avenue throughout the day.

All crossings at signalized intersections have curb ramps with ladder striped crosswalks and pedestrian countdown signals. The unsignalized intersections with Florida Avenue do not permit crossing of Florida Avenue, therefore crosswalks are not provided at those intersections. Existing pedestrian volumes are shown on Figure 8.



Figure 6: Existing Bicycle Conditions (DDOT Bike Map March 2009)

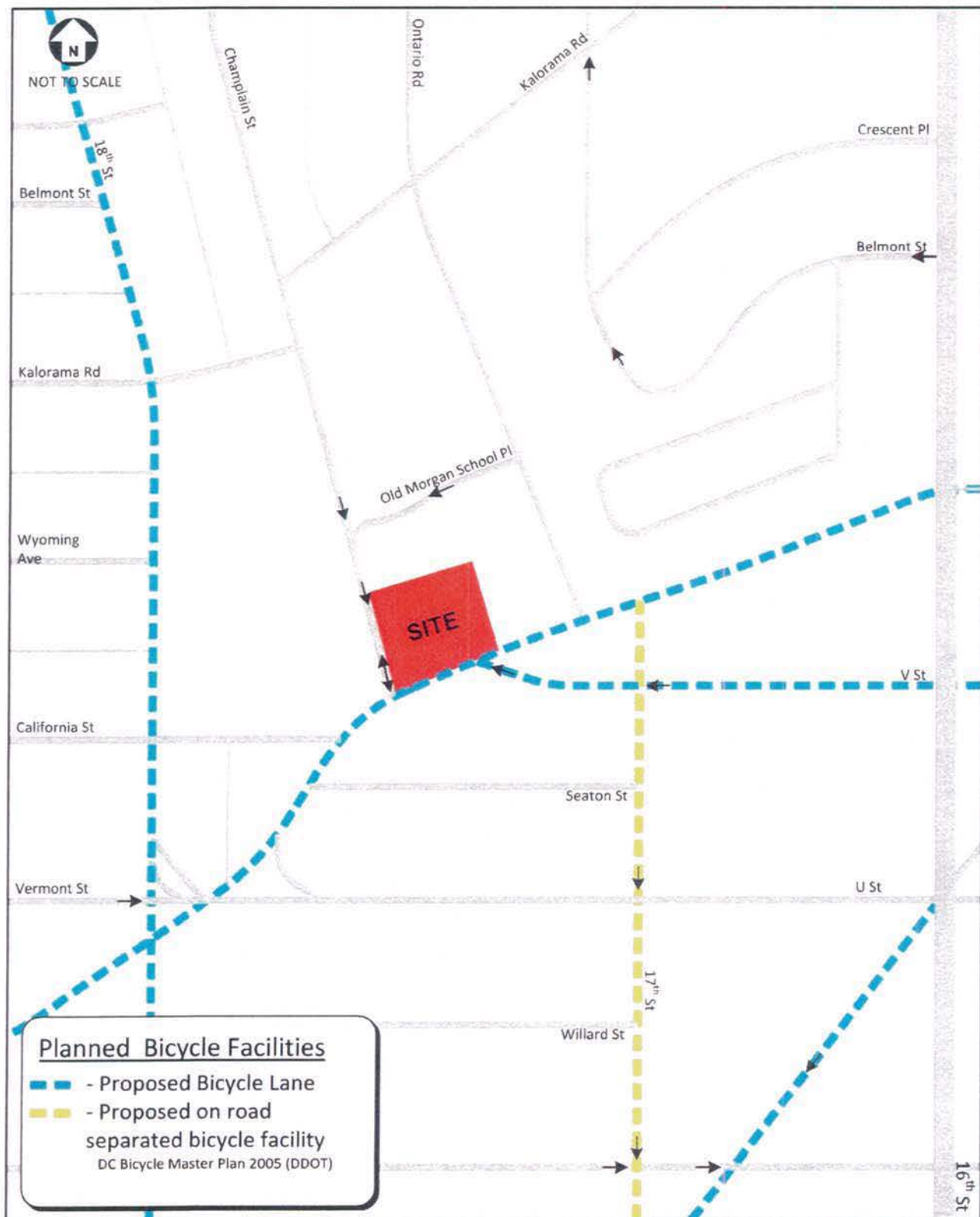


Figure 7: Proposed Bicycle Conditions (DDOT Bike Map April 2005)

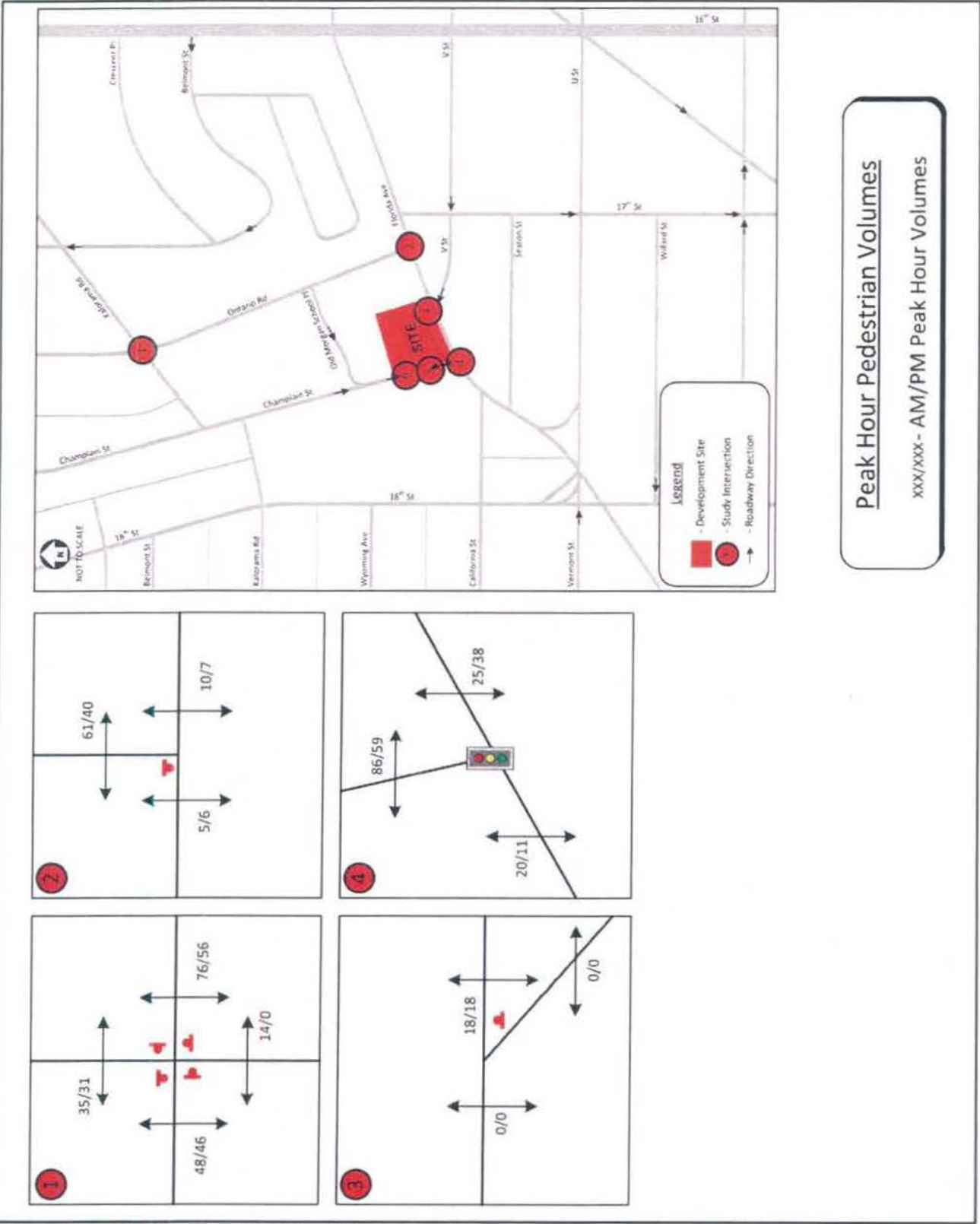


Figure 8: Existing Pedestrian Peak Hour Volumes

BACKGROUND DEVELOPMENTS AND GROWTH

Background Developments

As part of future conditions without the proposed 1711 Florida Avenue development, other area developments that have previously been approved, but not yet constructed were considered as these would impact the area roadways. There are a total of four (4) developments in the vicinity of the site which are expected to impact these roads and are shown on Figure 7. The trip generation for each of these sites was calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 8th Edition. An additional reduction for non-auto modes was applied to each of the sites due to their proximity to Metrobus and Metrorail. The mode split percentage was developed using the WMATA's *Ridership Survey* as guidance. Through the report, regression equations were provided for various land uses in close proximity to Metrorail and other mass transit facilities. These equations calculated the approximate percentage of persons who would utilize non-auto modes of transportation to access the site. By studying the mode split assumptions based on WMATA, observations of existing traffic, and the type and density of surrounding land uses, an overall percent reduction of site trips were removed from each site. By applying the mode share reductions, the total number of trips expected to be generated by the background development can be found in Table 2.

Table 2: Background Development Trip Generation

Development	Land Use	Size	Units	AM Peak			PM Peak		
				In	Out	Total	In	Out	Total
2251 Sherman Avenue	Residential	300	DU	30	121	151	119	64	183
	80%	<i>Non-Auto Reduction</i>		<u>-24</u>	<u>-97</u>	<u>-121</u>	<u>-95</u>	<u>-51</u>	<u>-146</u>
	Total Trips			6	24	30	24	13	37
Cardozo Court Condominiums	Residential	15	DU	2	9	11	17	9	26
	80%	<i>Non-Auto Reduction</i>		<u>-1</u>	<u>-7</u>	<u>-8</u>	<u>-14</u>	<u>-7</u>	<u>-21</u>
	Total Trips			1	2	3	3	2	5
Aventura	Residential	6	DU	1	6	7	14	7	21
	80%	<i>Non-Auto Reduction</i>		<u>0</u>	<u>-5</u>	<u>-5</u>	<u>-11</u>	<u>-6</u>	<u>-17</u>
	Total Trips			1	1	2	3	1	4
Atlantic Towers	Residential	781	DU	77	309	386	291	156	447
	80%	<i>Non-Auto Reduction</i>		<u>-62</u>	<u>-247</u>	<u>-309</u>	<u>-233</u>	<u>-125</u>	<u>-358</u>
	Retail	33,000	SF	49	31	80	148	155	303
	80%	<i>Non-Auto Reduction</i>		<u>-39</u>	<u>-25</u>	<u>-64</u>	<u>-118</u>	<u>-124</u>	<u>-242</u>
	Total Trips			25	68	93	88	62	150
Overall Total				33	95	128	118	78	196

The trips associated with the background developments were distributed to the surround road network based on their location and existing travel patterns. Based on this information, the traffic associated with these developments can be found in Figure 10.

Background Growth

In addition to background developments, traffic generated by inherent growth on the roadways within the study area must be accounted for in the traffic projections. While growth is typical of most developments, it was determined that along Florida Avenue over the last several years, zero ambient growth has been realized. Therefore, zero growth was applied to the study network.

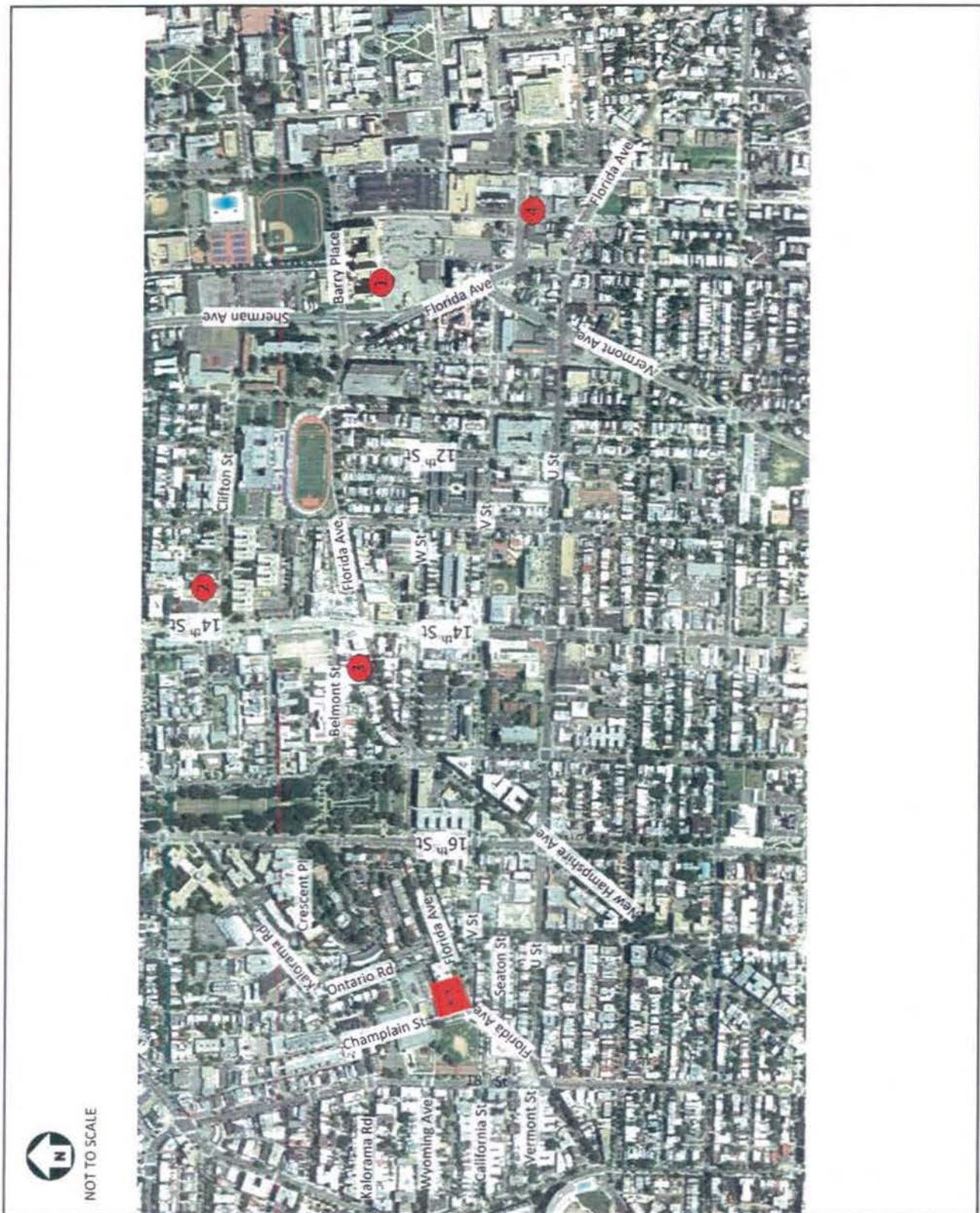


Figure 9: Background Development Locations

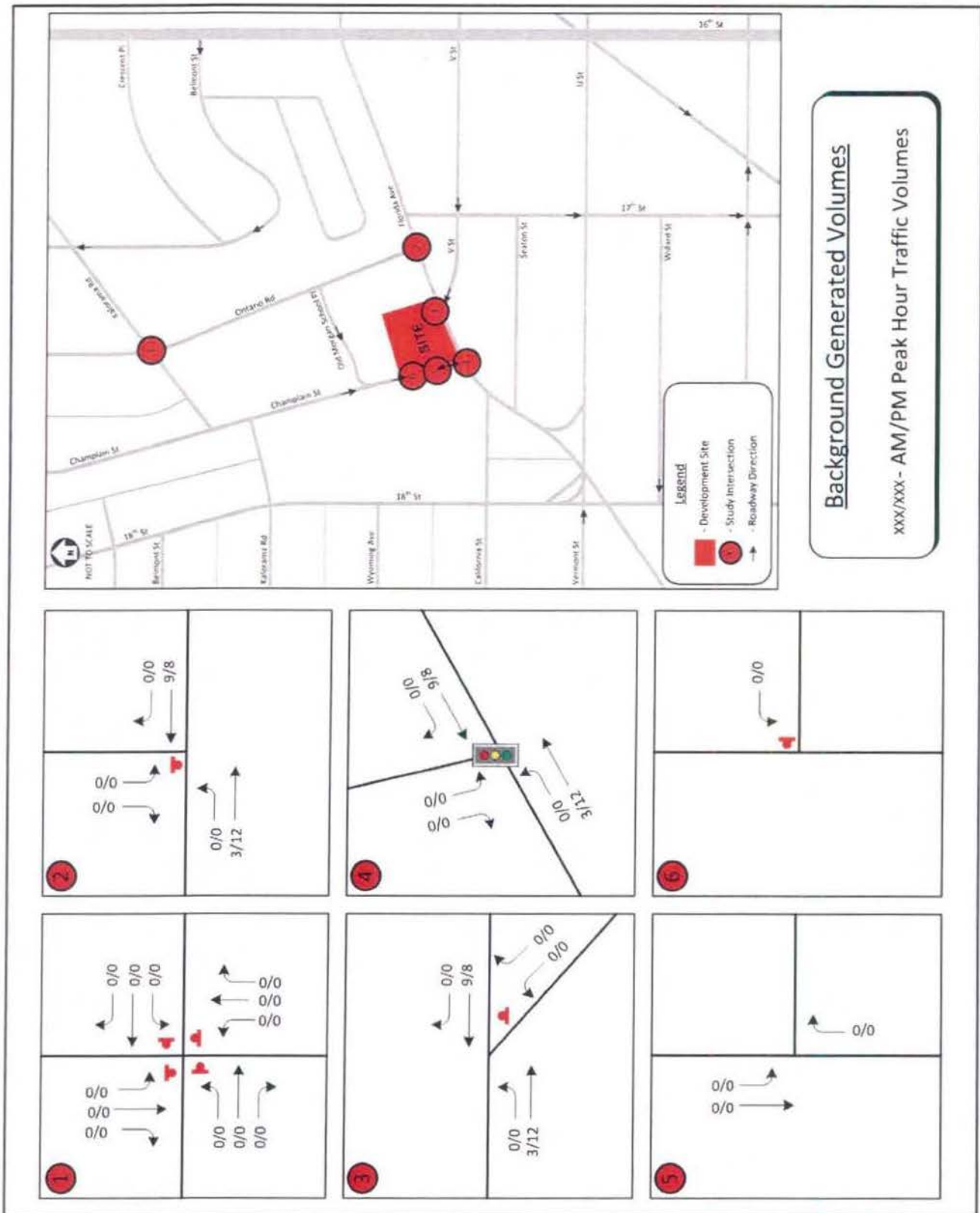


Figure 10: Background Development Peak Hour Traffic Volumes

DESCRIPTION OF PROPOSED DEVELOPMENT

Site Plan & Development Program

The proposed redevelopment of 1711 Florida Avenue consists of a mix of neighborhood serving commercial and residential uses. The development will contain approximately:

- 6,415 square feet or more of ground level commercial space; and
- 130 apartment units.

The existing ground floor retail is anticipated to be renovated with the redevelopment of the site while a portion of the existing parking garage is to be removed with the inclusion of the proposed residential space. This residential space will be constructed in six (6) levels above the renovated commercial space and parking garage.

Curb Cuts and On-Street Parking

Vehicular access for the proposed redevelopment will be provided from Champlain Street via two existing curb cuts. As shown on Figure 11, these two curb cuts will provide access for both residents and commercial patrons. The southernmost access point along Champlain Street will operate as a two-way driveway for all development traffic. The northernmost access point will serve as an exit only to residents of the site. In addition to these driveways, a third existing curb cut will remain on Florida Avenue for loading and delivery vehicles. This curb cut is located along Florida Avenue at the easternmost boundary of the site and would operate as an exit only for delivery vehicles, which will be required to turn right only onto Florida Avenue. Access for entry into the property for loading and delivery vehicles will be provided via the southern access point along Champlain Street.

All of the existing on-street parking adjacent to the site is unmetered with 2-hour restrictions between 7:00 AM and 8:30 PM. In addition to this, several locations along Champlain Street restrict parking between the hours of 7:00 – 8:30 AM on school days. With the proposed development, the number of on-street spaces adjacent to the site is maintained.

Parking

As stated previously, parking will be provided for the neighborhood serving commercial and residential uses via the Champlain Street curb cuts. Approximately 95 spaces, including 3 tandem will be provided for residential and commercial uses. These parking spaces will be located within the existing garage. Per the zoning requirements of the District of Columbia, the site would be required to provide 43 spaces for the proposed residential and 5 for the renovated commercial space for a total of 48 required spaces. The proposed parking supply of 95 parking spaces represents a supply that is 47 spaces more than the zoning requirement. These additional parking spaces will be used to supplement local demand for parking from the community.

Loading Access

Loading access will be accommodated within the parking garage in a designated area next to the existing curb cut along Florida Avenue. It was agreed upon with the developer and the District Department of Transportation (DDOT) that this loading area serves vehicles that are no larger than a standard 30-foot SU-30 box truck (SU-30).

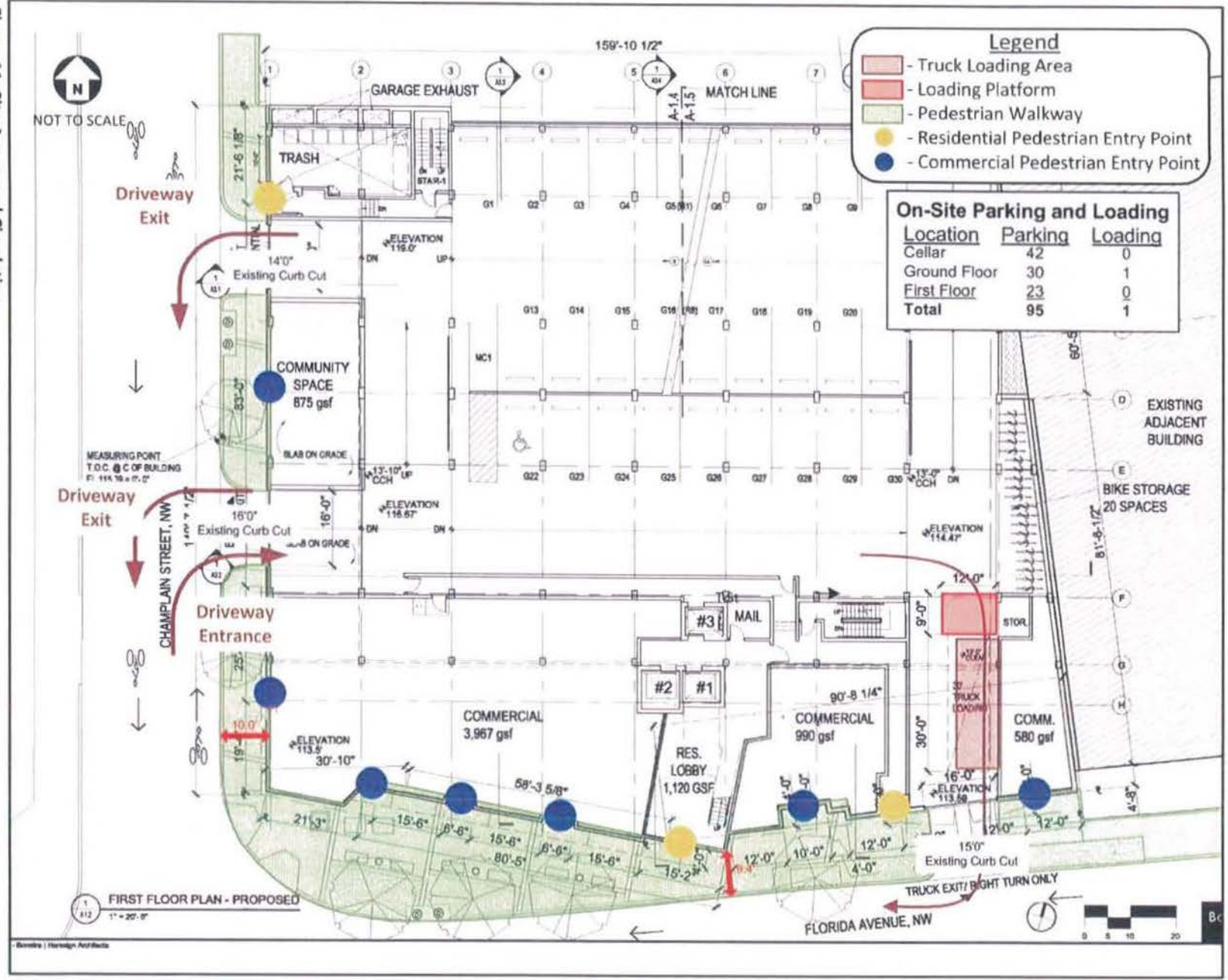


Figure 11: Site Access and Circulation

Trip Generation & Assignment

Traditionally, trip generation for a proposed development is calculated based on the methodology outlined in the Institute of Transportation Engineers' (ITE) *Trip Generation*, 8th Edition. For this report, 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 summarizes the methodology that was used in this study.

First, ITE *Trip Generation* was used to develop base vehicular-trip rates, not accounting for reductions due to mode split. Second, the vehicle-trips were converted to person-trips by assuming average vehicle occupancy of 1.1 persons per vehicle. Table 3 shows the base number of trips generated by the proposed development.

Table 3: Base Vehicle- and Person-Trip Generation

Table of Data Vehicle and Person Trip Generation												
Land Use			Size			Trip Generation						
						AM Peak Hour			PM Peak Hour			Weekday Total
						In	Out	Total	In	Out	Total	
Vehicle Trips												
Commercial	6,415	Square Feet	18	12	30	49	52	101	1,139			
Residential: Mid-Rise Apartment	130	Dwelling Units	13	54	67	58	31	89	912			
Total Vehicle-Trips			31	66	97	107	83	190	2,051			
Person-Trips												
Commercial	1.1	Persons/Vehicle	20	13	33	54	57	111	1,253			
Residential: Mid-Rise Apartment	1.1	Persons/Vehicle	14	59	74	64	34	98	1,003			
Total Person-Trips			34	72	107	118	91	209	2,256			

Third, the trips were split into each mode: transit (consisting of both Metrorail and Metrobus), walking, biking, and vehicle. Each land use was analyzed by mode separately in order to account for varying mode splits. The mode split percentages were developed using the WMATA's *Ridership Survey* as guidance.

The mode split assumptions were based on the patterns and general findings from that document, observations of existing traffic, and the type and density of surrounding land uses. Some assumptions included:

- Commercial uses would generate a lot of local demand from Ward 1 neighborhoods. Thus, they have the highest assumed percentage of walking and biking trips.
- Residential based trips would be the most likely to use public transit, since they will be regular users that will be able to figure out and take advantage of the various routes and schedules.

Table 4 summarizes the mode split assumptions.

Table 4: Mode Split Assumptions

Land Use	Mode Split			
	Transit	Walk	Bike	Vehicle
Commercial	55%	15%	10%	20%
Residential	50%	20%	10%	20%

In addition, the persons-trips calculated for the vehicle mode were converted back to vehicle trips using the 1.1 persons per vehicle occupancy assumption. Table 4 shows the resulting calculations by mode.

Table 5: Trip Generation for Proposed Development by Mode

Land-Use/Mode	Trip Generation by Mode						Daily Total
	AM Peak Hour			PM Peak Hour			
	In	Out	Total	In	Out	Total	
Transit Person-Trips							
Commercial	11	7	18	30	31	61	689
Residential	7	30	37	32	17	49	502
<i>Total New Transit Person-Trips</i>	18	37	55	62	48	110	1,191
Walking Person-Trips							
Commercial	3	2	5	8	9	17	188
Residential	3	12	15	13	7	20	201
<i>Total New Walking Person-Trips</i>	6	14	20	21	16	37	389
Bicycling Person-Trips							
Commercial	2	1	3	5	6	11	125
Residential	1	6	7	6	4	10	100
<i>Total New Bicycling Person-Trips</i>	3	7	10	11	10	21	225
Vehicle Trips							
Commercial	4	3	7	11	11	22	251
Residential	3	12	15	13	7	20	201
<i>Total New Vehicle Trips</i>	6	15	21	22	16	38	402
Total Trips*	33	73	106	116	90	206	2,207

* - Combination of person-trips and vehicle-trips

Trip Distribution

The nature of the proposed development and regional traffic patterns will be analyzed in order to determine the trip distribution for vehicles accessing the site. As stated previously, the land uses for the site have varying mode splits. In addition to this, the land uses will have different trip distributions. The trips generated by the residential land uses would be primarily concentrated on the roadways that provide regional access to the site, similar to the general office land uses. However, some trips would also originate from the local area as well. A significant number of the trips generated by the neighborhood serving commercial land uses would originate from the local area, although a majority would still utilize the roadways that provide regional access to the site because they also provide the primary local access to the areas near the site.

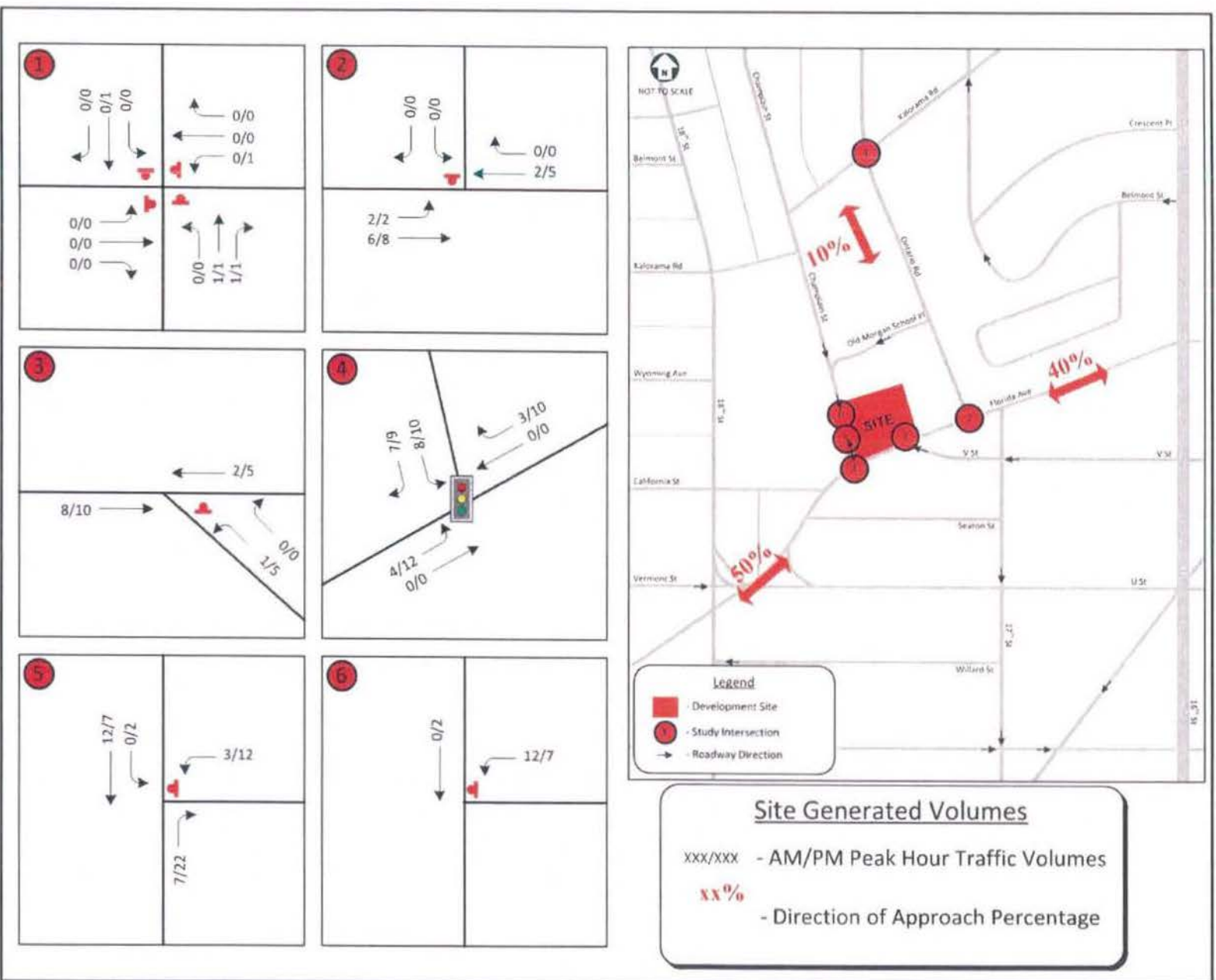


Figure 12: Site Generated Traffic Volumes

CAPACITY ANALYSIS

Intersection capacity analyses were performed for the existing conditions, future conditions without development, and future conditions with redevelopment at the intersections contained within the study area during the morning and afternoon peak hours. *Synchro, Version 7.0* was used to analyze the study intersections based on the Highway Capacity Manual (HCM) methodology.

The results of the capacity analyses are expressed in level of service (LOS) and delay (seconds per vehicle) for each approach. An average delay (of each approach) and LOS for the signalized intersections is also shown for an overall intersection LOS grade. The HCM does not give guidelines for calculating the average delay for a two-way stop-controlled intersection, as the approaches without stop signs would technically have no delay. The detailed analysis worksheets are contained in the Appendix.

Existing Conditions Capacity Analysis

Traffic Volumes

In order to determine the peak hour turning movement traffic volumes, traffic counts were performed on Wednesday, November 17, 2010 from 6:30 to 9:30 AM and from 4:00 to 7:00 PM. The existing traffic volumes for the intersections contained within the study area are shown on Figure 13. Analysis of the existing traffic data determined that morning peak hour is from 8:00 to 9:00 AM, and the afternoon peak hour is from 5:15 to 6:15 PM. The existing turning movement counts are included in the Appendix.

Capacity Analysis Results

The existing capacity analysis is based on the roadway network as shown in Figure 4 and the traffic volumes described above and shown previously on Figure 13. The results of the intersection capacity analyses are presented in Table 6.

For the purpose of this analysis, it is desirable to achieve a level of service (LOS) of "E" or better on each approach. As shown in Table 6, all study intersections currently operate at acceptable conditions, which generally confirm the field observations noted previously.

Future Conditions without Development Capacity Analysis

Traffic Volumes

The traffic volumes generated by the growth rate and nearby developments were applied to the existing (2010) traffic volumes in order to establish the future (2013) traffic volumes without the proposed developments. The traffic volumes for the future conditions without development are shown on Figure 9.

Capacity Analysis Results

The capacity analysis for the future conditions without development is based on the existing roadway network and the traffic volumes shown on Figure 14. The results of the intersection capacity analyses are presented in Table 6.

For the purpose of this analysis, it is desirable to achieve a level of service (LOS) of "E" or better on each approach. As shown, all of the study intersections are expected to continue to operate at acceptable levels of service with four (4) area background developments.

Future Conditions with Development Capacity Analysis

Traffic Volumes

The trips generated by the development of the 1711 Florida Avenue redevelopment were calculated by the methods previously discussed utilizing ITE trip generate rates and the proposed reductions.

In order to calculate the total future traffic volumes, existing site traffic that utilizes the existing parking garage must be removed from the road network. In order to determine the appropriate traffic that must be removed, the current and future parking supply was utilized. Currently, 210 parking spaces exist for the 1711 Florida Avenue site, with the proposed development a total of 46 non-resident parking spaces would be provided to the site or approximately 25% of the current supply. Therefore, 75% of the existing site traffic was removed from the network. These traffic volumes are shown on Figure 15. The traffic volumes for the total future scenario were generated by removing this existing site traffic and adding the site generated traffic volumes (as shown on Figure 12) to the 2013 future background traffic volumes. The traffic volumes for the total future scenario are shown on Figure 16.

Capacity Analysis Results

The future roadway network is based on the existing configuration of the roadways in the study area with the inclusion of the site access points previously described. The configuration of the future roadways is expected to be identical to those under current conditions with the exclusion of the southernmost site driveway along Champlain Street operating as both an in and out driveway instead of inbound only under current conditions.

The capacity analysis for the future conditions with development of 1711 Florida Avenue is based on the roadway network outlined above and the traffic volumes shown previously on Figure 16. The results of the intersection capacity analyses are presented in Table 6.

For the purpose of this analysis, it is desirable to achieve a level of service (LOS) of “E” or better for the overall intersection and individual approach grades. All study intersection LOS grades are expected to operate at acceptable levels for the total future scenario.

Capacity Analysis Findings

The capacity analysis results were as follows:

- All study area intersections operate at acceptable levels of service in the future with the proposed development. Neither the commuter-based traffic nor the local office based traffic will be negatively affected by vehicle trips generated by the 1711 Florida Avenue development.
- Pedestrian and bicycle patterns in the vicinity of the site are not expected to be effected by the redevelopment of the site and with the future ground floor commercial space will potentially benefit from the uses.
- The addition of four (4) background developments included as part of this study do not adversely affect the transportation network requiring mitigation procedures at any of the study intersections.

All study intersections are expected to operate under acceptable conditions during both the AM and PM peak periods with the proposed 1711 Florida Avenue development.

Table 6: Results of Capacity Analyses

	Existing Conditions				Future Conditions without Development				Future Conditions with Development			
	AM Peak Delay	LOS	PM Peak Delay	LOS	AM Peak Delay	LOS	PM Peak Delay	LOS	AM Peak Delay	LOS	PM Peak Delay	LOS
Kalorama Road and Ontario Road												
Eastbound	8.7	A	8.1	A	8.7	A	8.1	A	8.7	A	8.1	A
Westbound	10.8	B	8.4	A	10.8	B	8.4	A	10.7	B	8.4	A
Northbound	8.8	A	8.0	A	8.8	A	8.0	A	8.8	A	8.0	A
Southbound	8.8	A	8.1	A	8.8	A	8.1	A	8.8	A	8.1	A
Florida Avenue and Ontario Road												
Eastbound	2.3	A	2.4	A	2.3	A	2.4	A	2.3	A	2.4	A
Southbound	28.3	D	19.9	C	29.3	D	20.5	C	29.7	D	21.0	C
Florida Avenue and V Street												
Northbound	22.2	C	23.7	C	22.9	C	25.0	C	23.0	C	26.3	D
Florida Avenue and Champlain Street												
Eastbound	6.7	A	7.5	A	6.7	A	7.6	A	6.7	A	7.7	A
Westbound	8.8	A	7.4	A	8.9	A	7.5	A	8.8	A	7.6	A
Southbound	30.7	C	33.8	C	30.7	C	33.8	C	31.1	C	34.2	D
Overall	10.1	B	11.6	B	10.1	B	11.6	B	10.4	B	11.9	B
Champlain Street and Site Driveway #1												
Westbound	---	---	---	---	---	---	---	---	8.9	A	0.0	A
Southbound	0.0	A	0.0	A	0.0	A	0.5	A	0.3	A	0.0	A
Champlain Street and Site Driveway #2												
Westbound	8.9	A	8.7	A	8.9	A	8.7	A	8.8	A	0.0	A

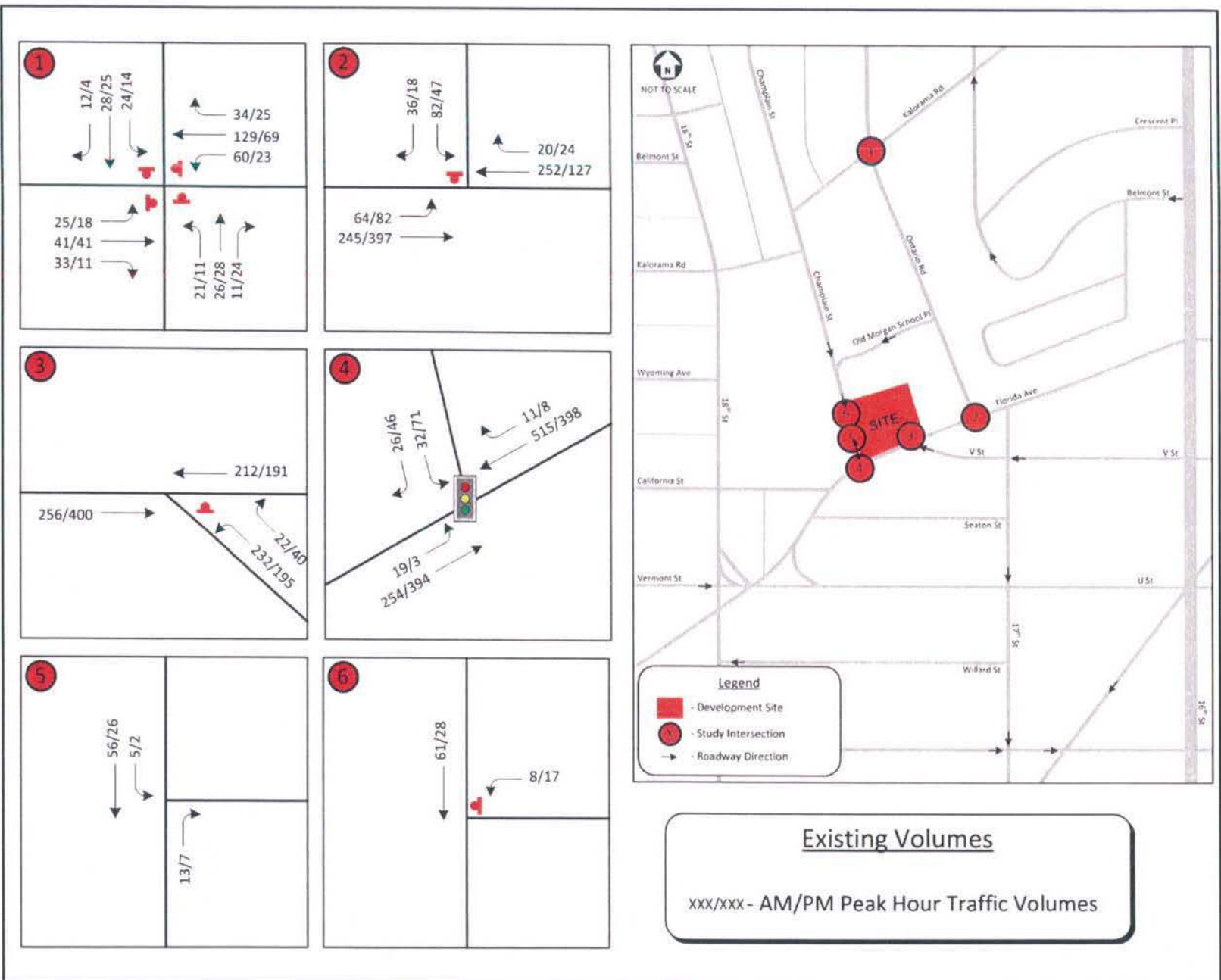
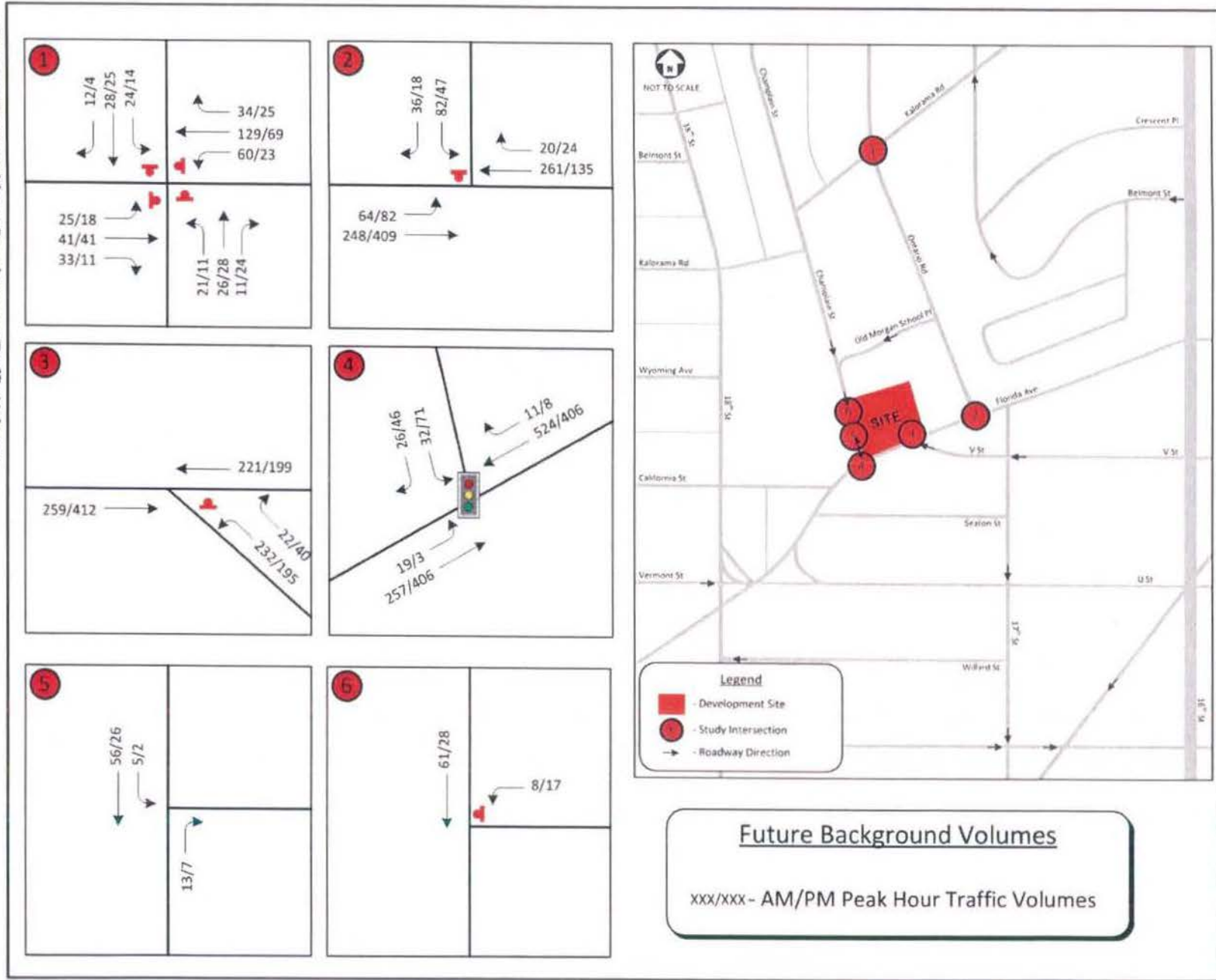


Figure 13: Existing Traffic Volumes





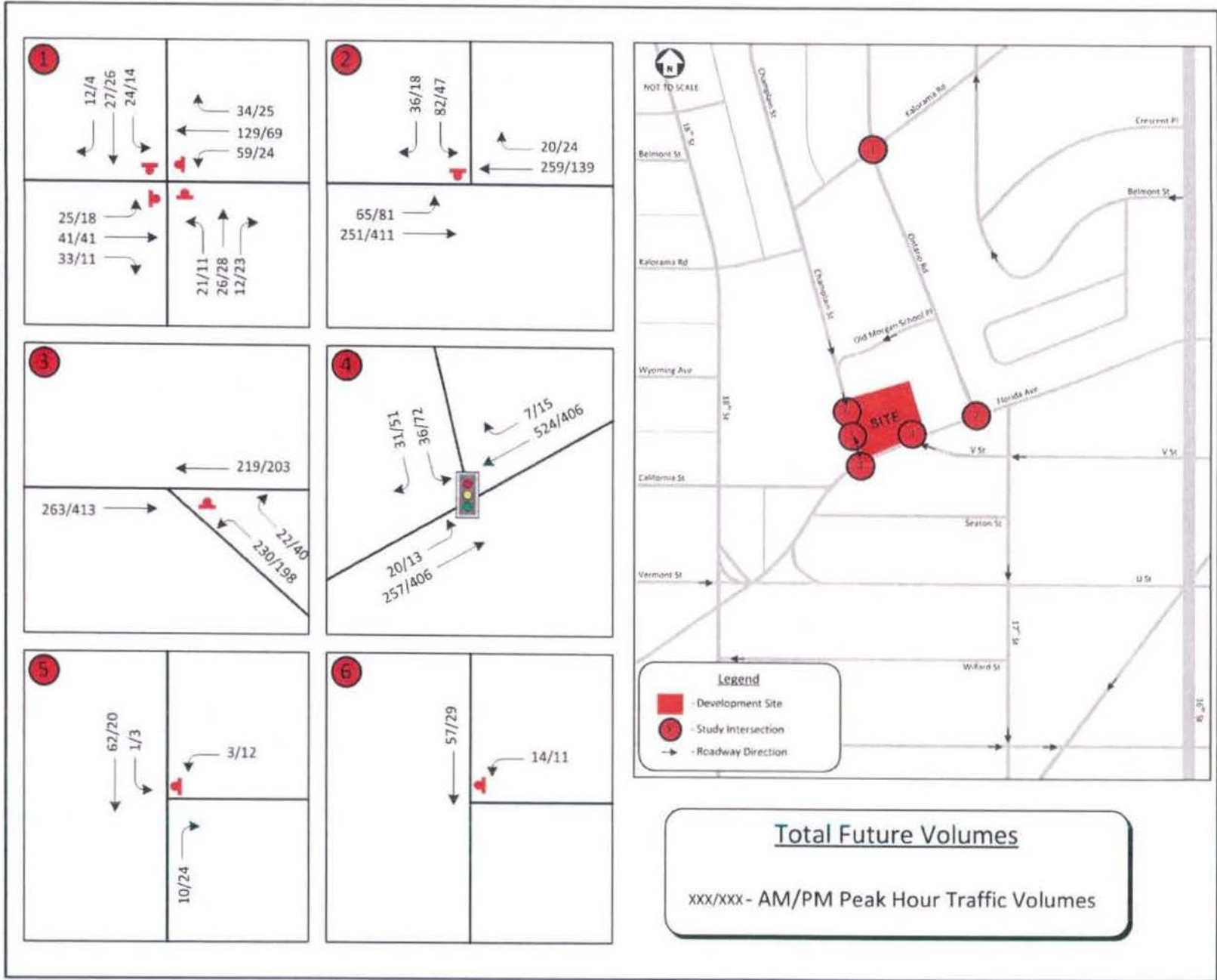


Figure 16: Future with Development Traffic Volumes

TRANSPORTATION DEMAND MANAGEMENT

The section contains a proposed set of Transportation Demand Management (TDM) strategies for the proposed 1711 Florida Avenue redevelopment. The goal of TDM strategies are to minimize the impact of site traffic on the transportation network and promote the efficient use of transportation resources. TDM strategies are specifically tailored to promote travel modes that have the least impact on the transportation network and other resources, such as the environment, and discourage those that have the greatest impact. Private vehicle congestion, parking demand, and service and loading activities are the primary transportation issues in the District, along the Florida Avenue corridor and within the neighborhood surrounding the site. To address these issues, this report recommends TDM strategies that promote walking, cycling, and transit use as well as strategies that manage and minimize the impact of site generated vehicle traffic.

The remainder of this section summarizes site features that will impact traffic patterns and recommends strategies to maximize existing transportation resources and minimize site impacts.

Site Plan TDM Strategies

This section reviews the TDM strategies directly accommodated in the physical elements of the site plan. Site location and design elements form the foundation of and influence the selection of TDM strategies. The site is situated in a mixed-use neighborhood with good walking, cycling and transit options. The roadway network of principal arterials and local roads provide for vehicle circulation and access. The neighborhood transportation features, which are described in greater detail in the Existing Conditions section, provide a broad range of travel options. The neighborhood has employment and retail options within walking and bicycling distance of the site. This may reduce site vehicle trips because retail and employment options are within comfortable walking and cycling distance.

Proposed site design elements include a mix of commercial and residential uses, vehicle and bicycle parking, service and loading facilities, a business center, site pedestrian access along both block faces, and sidewalks and pedestrian amenities consistent with District standards.

- Mixed Land-use

The site will have a mix of commercial and residential uses. The commercial uses are not finalized at this time, but will likely include retail establishments that fulfill local needs that generate local trips and attract pass-by traffic. Neighborhood retail establishments tend to generate more pedestrian and bicycle trips because walking or cycling is more convenient for nearby residents and employees than driving and parking on both legs of the trip. Pass-by trips are a part of background traffic and stop while traveling between their primary origin and destination. The site will be accessible to pedestrians and cyclists, and provide on-site parking for commercial users, reducing the number of vehicle trips and minimizing the impact of those that do drive on the available supply of neighborhood parking. The commercial uses will also reduce the number of trips generated by residents because some of their needs may be met on-site.

The residential use may allow site employees, as well as those employed in the neighborhood, to live within walking or cycling distance of their place of employment. This will reduce the number of vehicle trips generated by site residents and could contribute to a reduction of some neighborhood vehicle traffic.

- Vehicle Parking

Approximately 95 parking spaces will be provided for residential and commercial uses, located on three levels of the parking garage. The number of parking spaces will provide on-site parking for residents and those traveling to

the site for the commercial uses. On-site parking will remove the need for site traffic to use on-street and RPP spaces in the surrounding neighborhood. As part of the on-site parking provided by the 1711 Florida Avenue development, a portion of the parking stalls will be individually designated for electric car charging stations in addition to alternative low-fuel emitting vehicles.

- **Bicycle Parking**

Bicycle parking will be provided within the site and currently is intended to be located on the exterior of the building. However, details on the quantity of spaces have not been determined at the time this report was prepared. Secure and convenient parking increases the attractiveness and ease of cycling, so emphasis will be placed on providing this parking within secure areas of the site. Per the zoning requirements of the District of Columbia, the total number of bicycle parking spaces must equal or exceed 5% of the total number of private vehicle spaces provided on the site. Based on these regulations, a minimum of 5 bicycle parking spaces would be required.

- **Service and Loading Facilities**

One loading berth within the loading dock are included in the proposed development to accommodate service and loading activities. The berths will be used by both residential and commercial users. Having on-site facilities will reduce the impact of service and loading operations on adjacent street traffic and parking because they will be accommodated on-site rather than on-street.

- **Pedestrian Facilities and Amenities**

A high quality pedestrian network is essential to a vibrant, multi-modal urban neighborhood. There is a broad range of planning principles, best practices and DDOT standards that guided the design of the site's pedestrian network. The sidewalk and other pedestrian amenities are detailed in the site plan and include adequate sidewalk widths, street lights, trees, plant beds, a buffer zone between the sidewalk and roadway, and curb ramps, and ladder striped crosswalks. These design elements increases the attractiveness and ease of walking.

Operational TDM Strategies

This section summarizes the operational TDM strategies recommended for the site, which were developed based on TDM best practices and the opportunities created by the site's location and design. The recommendations promote travel modes that will have the least impact on the transportation network and discourage those that have the greatest impact.

- **Transportation Services Coordinator**

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 informational and promotional brochures to residents, visitors, patrons and employees regarding transit facilities and services, walk and bicycle facilities and linkages, ridesharing (carpool and vanpool) and car sharing.

- **Marketing Program**

The Transportation Services Coordinator 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 at an information kiosk, located in the lobby of the residential building. The marketing program should also utilize existing resources such as www.GODCGO.com, which provides transportation information and options for getting around the District.

- *Transit Incentives*

To help facilitate transit use, the first renters or purchasers of residential units will be provided a SmarTrip cards, preloaded with \$25. These cards will be included in a move-in transportation package that includes brochures for transit, bicycle and car sharing.

- *Bicycle Amenities*

The developer will encourage all alternative transportation modes including bicycling. Bicycling will be promoted with the provision of on-site bicycle parking spaces described above. The marketing program will include brochures on bicycling in the District and for Capitol Bikeshare.

- *Car Sharing*

The developer is currently in discussions with Zipcar to designate parking space for use by residents of the project and surrounding community should it be determined that service is viable at this location. The marketing program will include information on District car sharing opportunities.

- *Capital Bikeshare Membership*

To help facilitate bike ridership, the developer is currently in negotiations with Capital Bikeshare to provide a new location adjacent to the western boundary of the site for project residents and the neighboring community.

- *Parking Management*

Parking spaces for residential uses will not be bundled with units or building leases. Unbundling parking from units and leases reduces parking demand because individuals are less likely to pay for and use parking when they know the cost and there are alternative travel options. Parking fees are not set at this time but this report recommends parking rates high enough to minimize demand but not so high that they encourage drivers to use on-street metered or RPP parking.

- *Ride-matching/Ridesharing Program*

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

CONCLUSIONS

This report presents the findings of a traffic impact study conducted for the 1711 Florida Avenue redevelopment as a Planned Unit Development. A review of the proposed development site found the following:

- Traffic in the study area is heavily neighborhood-based as there are few major thoroughfares in close vicinity to the site. Florida Avenue serves as a connector to some of the major thoroughfares, however as a two-lane roadway does not support heavy traffic volumes.
- The pedestrian experience was observed as adequate with sidewalks and crosswalks located along all roadways and at major intersections.
- Bicycling conditions in the study area are currently good, fair and poor. Several cyclists were observed using bicycle commuting to the immediate area as well as to other destinations. These bicyclist were seen utilizing the many bicycle lanes in the area of the site.
- Multiple area and regional commuter bus routes serve streets close to the site along 16th and 18th Streets.

The proposed redevelopment plan proposes to remove the top two levels of the existing parking structure to construct 130 apartment units and renovate the ground floor retail space to provide a total of 6,415 square feet of commercial uses. Site access for the development will be provided along Florida Avenue and Champlain Street for pedestrians and along Champlain Street for private and loading vehicles. The site will be served by approximately 95 parking spaces, with 48 spaces provided for the residential and commercial uses and the remaining 47 spaces provided for local neighborhood uses.

A capacity analysis was performed within the six (6) study area intersections; the results were as follows:

- All study area intersections operate at acceptable levels of service in the future with the proposed development. Traffic will not be negatively affected by vehicle trips generated by the 1711 Florida Avenue development.
- Pedestrian access to the site is anticipated to adequately serve the occupants and visitors of the site.
- The addition of eight (4) background developments included as part of this study do not adversely affect the transportation network requiring mitigation procedures at any of the study intersections.

With the addition of the 1711 Florida Avenue neighborhood serving commercial and residential traffic, the results indicate no intersections are projected to exceed acceptable levels of service.

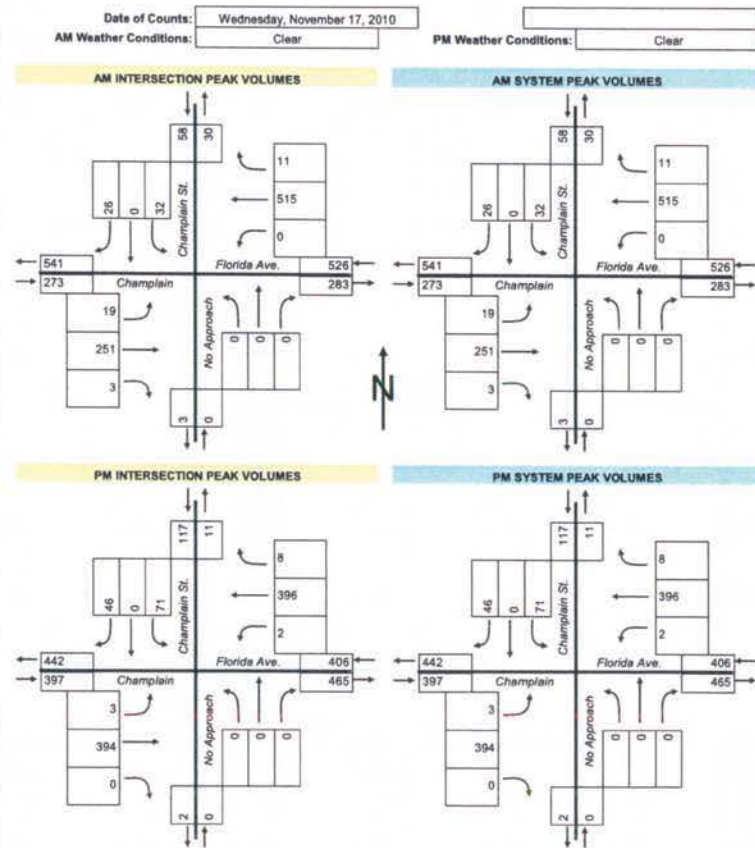
TECHNICAL APPENDIX

APPENDIX A

Peak Hour Turning Movement Counts

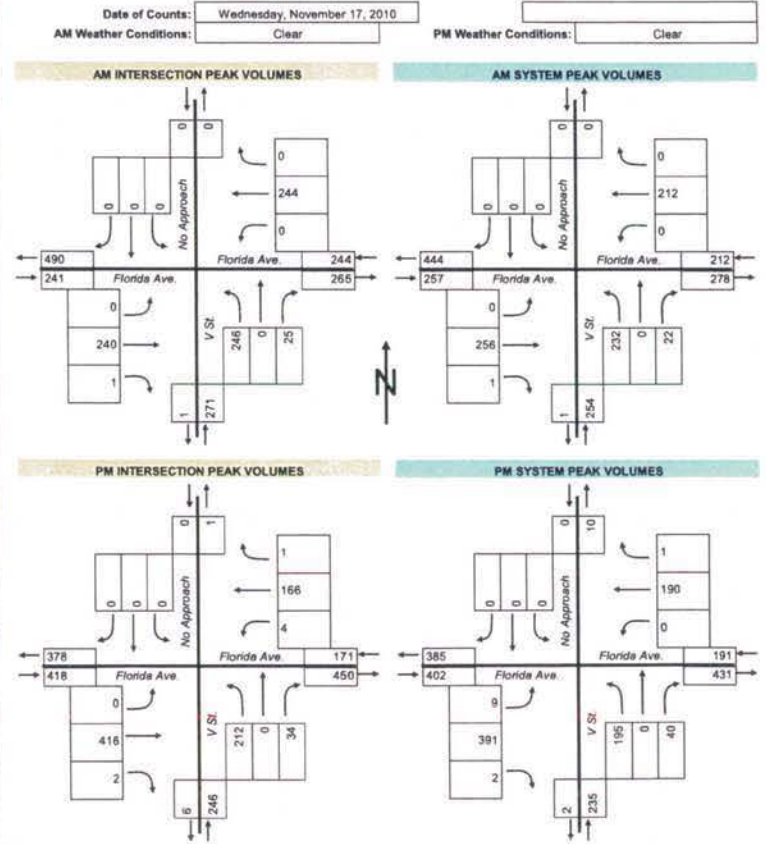
Project Name : Florida Avenue PUD
 Project # : 0
 Location : DC
 Data Source : Gorove/Slade Associates, Inc.

Intersection:		Florida Avenue at Champlain Street																			
AM PEAK	Direction: Roadway: Movement:	Southbound Champlain St.				Westbound Florida Ave.				Northbound No Approach				Eastbound Champlain							
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds				
6:30 AM	to 6:45 AM	5	0	8	2	8	42	0	16	0	0	0	2	0	21	9	4				
6:45 AM	to 7:00 AM	3	0	3	0	2	70	0	11	0	0	0	9	0	44	5	5				
7:00 AM	to 7:15 AM	4	0	7	1	2	67	0	18	0	0	0	7	0	48	1	11				
7:15 AM	to 7:30 AM	7	0	4	1	5	67	0	18	0	0	0	8	0	63	9	5				
7:30 AM	to 7:45 AM	5	0	3	5	4	87	0	18	0	0	0	5	0	73	8	7				
7:45 AM	to 8:00 AM	3	0	6	4	2	90	0	14	0	0	0	6	0	62	0	9				
8:00 AM	to 8:15 AM	7	0	10	5	1	127	0	19	0	0	0	3	0	65	5	11				
8:15 AM	to 8:30 AM	9	0	12	5	2	108	0	24	0	0	0	8	0	57	1	13				
8:30 AM	to 8:45 AM	6	0	6	4	3	138	0	23	0	0	0	8	0	63	6	9				
8:45 AM	to 9:00 AM	4	0	4	6	5	142	0	20	0	0	0	6	3	66	7	5				
9:00 AM	to 9:15 AM	4	0	5	3	4	116	0	16	0	0	0	12	0	53	3	6				
9:15 AM	to 9:30 AM	3	0	5	4	3	124	0	17	0	0	0	7	0	58	2	3				
PM PEAK	Direction: Roadway: Movement:	Southbound Champlain St.				Westbound Florida Ave.				Northbound No Approach				Eastbound Champlain							
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds				
4:00 PM	to 4:15 PM	12	0	23	6	0	64	0	10	0	0	0	10	0	62	1	5				
4:15 PM	to 4:30 PM	19	0	10	5	3	63	0	9	0	0	0	8	0	78	7	5				
4:30 PM	to 4:45 PM	22	0	14	2	3	88	0	10	0	0	0	4	0	81	0	10				
4:45 PM	to 5:00 PM	8	0	15	8	2	85	0	10	0	0	0	15	0	79	0	10				
5:00 PM	to 5:15 PM	12	0	17	1	0	83	0	19	0	0	0	21	2	90	1	7				
5:15 PM	to 5:30 PM	12	0	12	1	1	102	2	18	0	0	0	13	0	99	1	5				
5:30 PM	to 5:45 PM	17	0	24	6	2	103	0	15	0	0	0	10	0	88	0	11				
5:45 PM	to 6:00 PM	7	0	14	3	3	89	0	15	0	0	0	5	0	98	0	3				
6:00 PM	to 6:15 PM	10	0	21	1	2	102	0	11	0	0	0	10	0	109	2	8				
6:15 PM	to 6:30 PM	5	0	21	1	2	86	1	18	0	0	0	13	0	96	3	7				
6:30 PM	to 6:45 PM	7	0	19	0	4	97	0	6	0	0	0	7	0	75	1	7				
6:45 PM	to 7:00 PM	8	0	14	1	2	101	0	9	0	0	0	8	0	88	0	5				
PEAK HOURS	Direction: Roadway: Movement:	Southbound Champlain St.				Westbound Florida Ave.				Northbound No Approach				Eastbound Champlain							
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds				
AM INTERSECTION PEAK HOUR																					
8:00 AM	to 9:00 AM	26	0	32	20	11	515	0	86	0	0	0	25	3	251	19	38				
PM INTERSECTION PEAK HOUR																					
5:15 PM	to 6:15 PM	46	0	71	11	8	396	2	59	0	0	0	38	0	394	3	27				
AM SYSTEM PEAK HOUR																					
8:00 AM	to 9:00 AM	26	0	32	20	11	515	0	86	0	0	0	25	3	251	19	38				
PM SYSTEM PEAK HOUR																					
5:15 PM	to 6:15 PM	46	0	71	11	8	396	2	59	0	0	0	38	0	394	3	27				
PEAK HOUR FACOTRS		Southbound Champlain St.				Westbound Florida Ave.				Northbound No Approach				Eastbound Champlain							
AM PEAK HOUR		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach				
		0.72	0.00	0.67	0.69	0.55	0.91	0.00	0.89	0.00	0.00	0.00	#DIV/0!	0.25	0.95	0.68	0.90				
PM PEAK HOUR		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach				
		0.88	0.00	0.74	0.71	0.67	0.96	0.25	0.97	0.00	0.00	0.00	#DIV/0!	0.00	0.90	0.38	0.89				
Overall AM PEAK HOUR FACTOR		=				0.93				Overall PM PEAK HOUR FACTOR				=				0.93			
AM Period Intersection Volume:		2084				PM Period Intersection Volume:				2494											



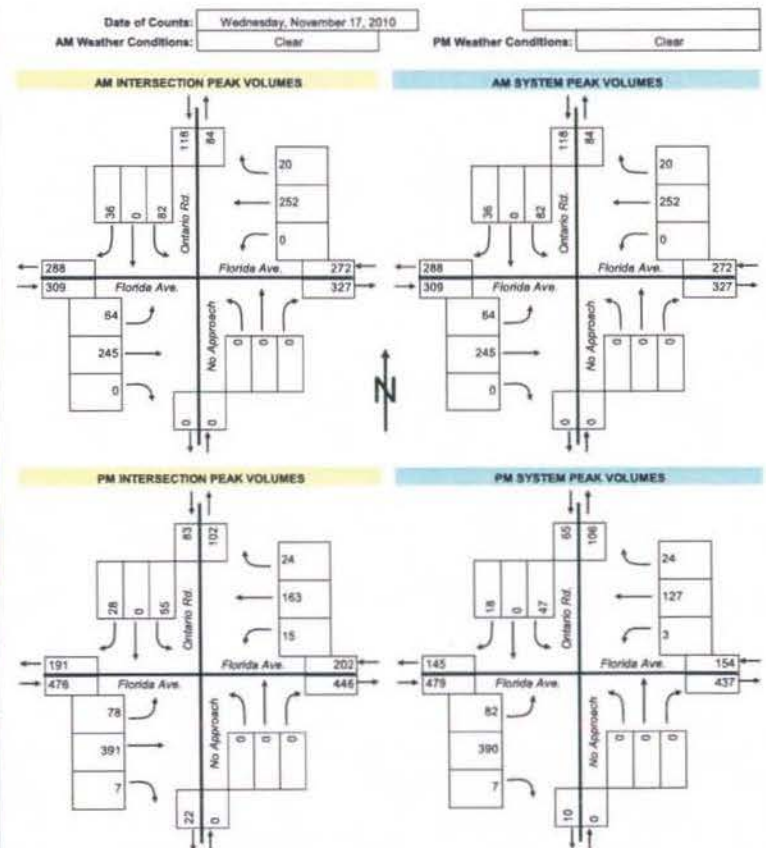
Project Name : Florida Avenue PUD
 Project # : 0
 Location : DC
 Date Source : Gorove/Shade Associates, Inc.

Intersection:		V Street at Florida Avenue															
AM PEAK	Direction: Roadway: Movement:	Southbound				Westbound				Northbound				Eastbound			
		No Approach				Florida Ave.				V St.				Florida Ave.			
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
6:30 AM to 6:45 AM		0	0	0	0	0	19	0	0	1	0	17	0	0	13	0	0
6:45 AM to 7:00 AM		0	0	0	0	0	18	0	0	3	0	24	3	0	17	0	0
7:00 AM to 7:15 AM		0	0	0	0	0	21	0	0	0	0	31	2	0	34	0	0
7:15 AM to 7:30 AM		0	0	0	0	0	37	0	0	5	0	39	0	0	56	0	0
7:30 AM to 7:45 AM		0	0	0	2	0	33	0	0	11	0	51	1	0	45	0	0
7:45 AM to 8:00 AM		0	0	0	0	0	44	0	0	5	0	32	9	0	63	0	0
8:00 AM to 8:15 AM		0	0	0	0	0	46	0	0	8	0	47	3	0	63	0	0
8:15 AM to 8:30 AM		0	0	0	0	0	50	0	0	2	0	50	10	0	67	0	0
8:30 AM to 8:45 AM		0	0	0	0	0	45	0	0	7	0	66	4	0	56	0	0
8:45 AM to 9:00 AM		0	0	0	0	0	71	0	0	5	0	69	1	1	70	0	0
9:00 AM to 9:15 AM		0	0	0	0	0	46	0	0	4	0	59	3	0	50	0	0
9:15 AM to 9:30 AM		0	0	0	0	0	82	0	0	9	0	52	5	0	64	0	0
PM PEAK	Direction: Roadway: Movement:	Southbound				Westbound				Northbound				Eastbound			
		No Approach				Florida Ave.				V St.				Florida Ave.			
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
4:00 PM to 4:15 PM		0	0	0	0	0	26	0	0	6	0	32	2	5	70	0	0
4:15 PM to 4:30 PM		0	0	0	0	0	38	0	2	3	0	19	2	1	81	0	0
4:30 PM to 4:45 PM		0	0	0	0	0	35	0	2	14	0	22	2	0	76	0	0
4:45 PM to 5:00 PM		0	0	0	0	0	44	0	0	5	0	20	4	0	80	0	0
5:00 PM to 5:15 PM		0	0	0	0	0	27	0	0	14	0	33	2	0	73	0	0
5:15 PM to 5:30 PM		0	0	0	0	0	54	0	0	11	0	43	3	0	94	9	0
5:30 PM to 5:45 PM		0	0	0	0	1	57	0	4	10	0	52	6	0	93	0	0
5:45 PM to 6:00 PM		0	0	0	0	0	40	0	0	7	0	49	4	2	92	0	0
6:00 PM to 6:15 PM		0	0	0	0	0	39	0	0	12	0	51	5	0	112	0	0
6:15 PM to 6:30 PM		0	0	0	0	0	30	4	0	5	0	60	5	0	119	0	1
6:30 PM to 6:45 PM		0	0	0	0	0	37	0	0	4	0	64	8	4	77	0	0
6:45 PM to 7:00 PM		0	0	0	0	0	30	0	0	10	0	37	7	0	61	0	0
PEAK HOURS		Southbound				Westbound				Northbound				Eastbound			
		No Approach				Florida Ave.				V St.				Florida Ave.			
		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																	
8:30 AM to 9:30 AM		0	0	0	0	0	244	0	0	25	0	246	13	1	240	0	0
PM INTERSECTION PEAK HOUR																	
5:30 PM to 6:30 PM		0	0	0	0	1	166	4	4	34	0	212	20	2	416	0	1
AM SYSTEM PEAK HOUR																	
8:00 AM to 9:00 AM		0	0	0	0	0	212	0	0	22	0	232	18	1	256	0	0
PM SYSTEM PEAK HOUR																	
5:15 PM to 6:15 PM		0	0	0	0	1	190	0	4	40	0	195	18	2	391	9	0
PEAK HOUR FACOTRS		Southbound				Westbound				Northbound				Eastbound			
		No Approach				Florida Ave.				V St.				Florida Ave.			
		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach
AM Peak Hour		0.00	0.00	0.00	#DIV/0!	0.00	0.75	0.00	0.75	0.69	0.00	0.84	0.86	0.25	0.91	0.00	0.90
AM PEAK HOUR																	
		0.00	0.00	0.00	#DIV/0!	0.25	0.83	0.00	0.82	0.83	0.00	0.94	0.93	0.25	0.87	0.25	0.90
PM Peak Hour		0.00	0.00	0.00	#DIV/0!	0.25	0.83	0.00	0.82	0.83	0.00	0.94	0.93	0.25	0.87	0.25	0.90
Overall AM PEAK HOUR FACTOR						= 0.84											
AM Period Intersection Volume:		1708								PM Period Intersection Volume:				2094			
Overall PM PEAK HOUR FACTOR										= 0.97							



Project Name: Florida Avenue PUD
 Project #: 0
 Location: DC
 Data Source: Gorove/Slade Associates, Inc.

Source		Florida Avenue at Ontario Road															
Intersection:		Southbound Ontario Rd.				Westbound Florida Ave.				Northbound No Approach				Eastbound Florida Ave.			
Direction: Roadway: Movement:		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
5:30 AM	to 6:45 AM	4	0	5	1	3	31	0	6	0	0	1	1	0	28	3	0
6:45 AM	to 7:00 AM	4	0	7	2	6	46	0	7	0	0	0	2	0	43	6	0
7:00 AM	to 7:15 AM	3	0	8	0	5	34	0	16	0	0	0	3	0	48	10	0
7:15 AM	to 7:30 AM	2	0	12	1	4	35	0	7	0	0	0	0	0	67	7	0
7:30 AM	to 7:45 AM	4	0	9	3	5	31	0	13	0	0	0	0	0	68	15	0
7:45 AM	to 8:00 AM	5	0	12	4	4	43	0	10	0	0	0	0	0	54	18	0
8:00 AM	to 8:15 AM	10	0	12	2	6	62	0	15	0	0	0	3	0	66	18	0
8:15 AM	to 8:30 AM	8	0	11	1	4	53	0	20	0	0	0	1	0	55	17	0
8:30 AM	to 8:45 AM	9	0	40	2	3	62	0	12	0	0	0	4	0	60	18	0
8:45 AM	to 9:00 AM	9	0	19	0	7	75	0	14	0	0	0	2	0	64	11	0
9:00 AM	to 9:15 AM	6	0	7	1	5	54	0	12	0	0	0	2	0	49	10	0
9:15 AM	to 9:30 AM	7	0	13	1	6	74	0	11	0	0	0	0	0	66	13	0
PM PEAK		Southbound Ontario Rd.				Westbound Florida Ave.				Northbound No Approach				Eastbound Florida Ave.			
Direction: Roadway: Movement:		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
4:00 PM	to 4:15 PM	3	0	4	2	3	45	0	6	0	1	0	1	0	82	14	0
4:15 PM	to 4:30 PM	6	0	9	0	5	51	0	10	0	0	0	0	0	86	16	0
4:30 PM	to 4:45 PM	10	0	14	4	6	32	0	18	0	0	0	2	0	100	20	0
4:45 PM	to 5:00 PM	9	0	12	2	7	36	12	11	0	0	0	1	0	96	19	0
5:00 PM	to 5:15 PM	8	0	14	0	4	55	0	10	0	0	0	0	0	98	13	0
5:15 PM	to 5:30 PM	1	0	15	4	7	40	3	10	0	0	0	5	7	97	26	0
5:30 PM	to 5:45 PM	5	0	11	0	7	24	0	11	0	0	0	0	0	89	29	0
5:45 PM	to 6:00 PM	4	0	6	2	4	29	0	8	0	0	0	0	0	116	16	0
6:00 PM	to 6:15 PM	8	0	15	0	6	34	0	11	0	0	0	2	0	88	11	0
6:15 PM	to 6:30 PM	8	0	15	1	3	25	0	7	0	0	0	0	0	55	13	0
6:30 PM	to 6:45 PM	3	0	14	0	7	22	0	15	0	0	0	1	0	67	14	0
6:45 PM	to 7:00 PM	6	0	8	0	5	19	0	13	0	0	0	0	0	69	9	0
PEAK HOURS		Southbound Ontario Rd.				Westbound Florida Ave.				Northbound No Approach				Eastbound Florida Ave.			
Direction: Roadway: Movement:		Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
AM INTERSECTION PEAK HOUR																	
8:00 AM	to 9:00 AM	36	9	82	8	20	252	0	61	0	0	0	10	0	245	64	0
PM INTERSECTION PEAK HOUR																	
4:30 PM	to 5:30 PM	28	0	55	10	24	163	15	49	0	0	0	8	7	391	78	0
AM SYSTEM PEAK HOUR																	
8:00 AM	to 9:00 AM	36	0	82	5	20	252	0	61	0	0	0	10	0	245	64	0
PM SYSTEM PEAK HOUR																	
5:15 PM	to 6:15 PM	18	0	47	6	24	127	3	40	0	0	0	7	7	390	82	0
PEAK HOUR FACOTRS		Southbound Ontario Rd.				Westbound Florida Ave.				Northbound No Approach				Eastbound Florida Ave.			
Direction: Roadway: Movement:		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach
AM PEAK HOUR		0.90	0.00	0.51	0.66	0.71	0.84	0.00	0.83	0.00	0.00	0.00	#DIV/0!	0.00	0.93	0.89	0.92
PM PEAK HOUR		0.56	0.00	0.78	0.71	0.86	0.78	0.25	0.77	0.00	0.00	0.00	#DIV/0!	0.25	0.84	0.71	0.81
Overall AM PEAK HOUR FACTOR		= 0.91															
Overall PM PEAK HOUR FACTOR		= 0.89															
AM Period Intersection Volume:		1629															
PM Period Intersection Volume:		1950															



Project Name : Florida Avenue PUD
 Project # : 0
 Location : DC
 Data Source : Grove/Slade Associates, Inc.

Intersection:		Kalorama Road at Ontario Road															
AM PEAK		Southbound Ontario Rd.				Westbound Kalorama Rd.				Northbound Ontario Rd.				Eastbound Kalorama Rd.			
Direction:	Roadway:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
Movement:																	
6:30 AM	to 6:45 AM	0	1	3	0	3	4	4	2	0	0	0	2	4	2	0	0
6:45 AM	to 7:00 AM	3	4	1	3	0	5	5	3	1	3	1	2	4	1	4	1
7:00 AM	to 7:15 AM	2	8	2	0	2	9	5	1	1	3	0	6	3	2	2	0
7:15 AM	to 7:30 AM	3	3	2	3	2	21	7	1	0	2	1	9	3	2	1	1
7:30 AM	to 7:45 AM	7	7	4	11	2	15	6	1	2	6	2	3	1	1	2	1
7:45 AM	to 8:00 AM	3	8	8	1	2	22	10	3	1	6	2	10	4	6	1	3
8:00 AM	to 8:15 AM	2	8	8	4	6	24	12	6	2	4	6	10	8	7	6	6
8:15 AM	to 8:30 AM	3	7	7	8	10	27	9	6	3	5	7	14	7	15	6	3
8:30 AM	to 8:45 AM	3	8	6	23	12	49	15	10	3	8	5	38	13	14	4	3
8:45 AM	to 9:00 AM	4	5	3	13	6	29	24	13	3	9	3	14	5	5	9	2
9:00 AM	to 9:15 AM	3	6	4	13	14	23	8	11	3	4	1	7	5	5	3	2
9:15 AM	to 9:30 AM	3	1	2	10	10	18	10	8	5	5	3	10	7	7	5	4
PM PEAK		Southbound Ontario Rd.				Westbound Kalorama Rd.				Northbound Ontario Rd.				Eastbound Kalorama Rd.			
Direction:	Roadway:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
Movement:																	
4:00 PM	to 4:15 PM	4	4	17	0	4	12	8	2	3	5	4	27	7	12	4	0
4:15 PM	to 4:30 PM	5	3	2	2	4	20	10	0	5	4	1	9	3	9	5	3
4:30 PM	to 4:45 PM	4	3	15	1	6	15	8	6	0	4	4	9	2	7	2	1
4:45 PM	to 5:00 PM	1	4	8	2	7	17	9	7	1	4	2	16	4	10	1	0
5:00 PM	to 5:15 PM	3	6	7	1	7	30	9	11	3	8	4	14	1	14	7	0
5:15 PM	to 5:30 PM	2	8	1	7	1	17	4	6	4	7	4	21	1	7	7	0
5:30 PM	to 5:45 PM	1	5	0	13	11	20	10	3	5	5	1	16	4	7	2	0
5:45 PM	to 6:00 PM	0	6	7	10	8	16	3	12	9	5	4	12	2	14	6	0
6:00 PM	to 6:15 PM	1	6	6	16	5	16	6	10	6	11	2	7	4	13	3	0
6:15 PM	to 6:30 PM	1	4	1	7	2	13	5	8	1	3	1	6	1	8	6	0
6:30 PM	to 6:45 PM	2	6	1	17	5	11	4	4	1	6	1	6	3	9	5	2
6:45 PM	to 7:00 PM	0	7	1	14	7	20	12	3	4	5	3	9	2	9	1	0
PEAK HOURS		Southbound Ontario Rd.				Westbound Kalorama Rd.				Northbound Ontario Rd.				Eastbound Kalorama Rd.			
Direction:	Roadway:	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds	Right	Thru	Left	Peds
Movement:																	
AM INTERSECTION PEAK HOUR																	
8:00 AM	to 9:00 AM	12	28	24	48	34	129	60	35	11	26	21	76	33	41	25	14
PM INTERSECTION PEAK HOUR																	
5:00 PM	to 6:00 PM	6	25	15	31	27	83	26	32	21	25	13	63	8	42	22	0
AM SYSTEM PEAK HOUR																	
8:00 AM	to 9:00 AM	12	28	24	48	34	129	60	35	11	26	21	76	33	41	25	14
PM SYSTEM PEAK HOUR																	
5:15 PM	to 6:15 PM	4	25	14	46	25	89	23	31	24	28	11	58	11	41	18	0
PEAK HOUR FACOTRS		Southbound Ontario Rd.				Westbound Kalorama Rd.				Northbound Ontario Rd.				Eastbound Kalorama Rd.			
AM Peak Hour		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach
AM PEAK HOUR		0.75	0.88	0.75	0.89	0.71	0.66	0.63	0.73	0.92	0.72	0.75	0.91	0.63	0.66	0.59	0.80
PM Peak Hour		Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach	Right	Thru	Left	Approach
PM PEAK HOUR		0.50	0.78	0.50	0.83	0.57	0.66	0.58	0.71	0.67	0.64	0.69	0.83	0.69	0.73	0.64	0.80
Overall AM PEAK HOUR FACTOR = 0.79																	
Overall PM PEAK HOUR FACTOR = 0.92																	
AM Period Intersection Volume: 895 PM Period Intersection Volume: 856																	

