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Exhibit C



WELLS + ASSOCIATES

# 4000 Wisconsin Avenue Comprehensive Transportation Review

March 2017



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## INTRODUCTION

### Overview

This report presents a Comprehensive Transportation Review (CTR) conducted in conjunction with the Large Tract Review application filed by Donohoe Acquisitions, LLC (herein referred to as the Applicant). The proposed mixed-use redevelopment is located at 4000 Wisconsin Avenue in northwest Washington, DC (Square 1823, Lot 9) and is zoned MU-5A. The subject site is bordered by Upton Street to the north, Wisconsin Avenue to the east, the Fannie Mae driveway to the south, and Glover Archbold Park to the west. The site location is shown on Figure 1.

The site currently is occupied with approximately 404,547 SF of office, 40,998 SF of retail, a 37,916 SF health club, and a conference center (which was originally a 2,070-seat cinema). Approximately 1,035 parking spaces are currently provided with access via two existing curb cuts on Upton Street. Access to the loading facilities currently is provided via a third curb cut on Upton Street, which requires back-in loading. One curb cut on Wisconsin Avenue also provides vehicular access to the site.

The proposed redevelopment will be constructed as a matter-of-right and is subject to Large Tract Review procedures. Approximately 716 residential units, a 60,200 SF grocery store, a 49,388 SF health club, and 22,598 SF of general retail space are proposed with the redevelopment.<sup>1</sup> The proposed site plan is shown on Figure 2. The existing parking supply would be reduced to approximately 900 parking spaces and the loading facilities would be reconfigured to facilitate front-in/front-out loading. In conjunction with the proposed project, the existing curb cut on Wisconsin Avenue would be closed.

The purpose of this report is to:

- Evaluate existing traffic operational and safety conditions,
- Evaluate future traffic conditions without the proposed project,
- Evaluate future traffic conditions with the proposed project,
- Identify existing mode choice alternatives,
- Identify any traffic operational impacts associated with the proposed project,
- Evaluate the appropriateness of the proposed parking areas,
- Evaluate effectiveness of the proposed loading facilities, and
- Recommend transportation improvements (including roadway, operational, and demand management strategies) to mitigate the impact of the project and promote the safe and efficient flow of vehicular and pedestrian traffic associated with the proposed redevelopment.

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<sup>1</sup> The total square footage for the grocery store, health club, and general retail space is 132,186 SF. The square footage has been updated since the analysis was conducted. Current plans show 126,917 SF for retail uses.

## Study Scope

In order to assess the impacts of the proposed development on the surrounding roadway network, the Applicant commissioned this comprehensive transportation review. The scope of the study and proposed methodologies were presented to the District Department of Transportation (DDOT) prior to beginning the study. As DDOT is still completing its review, the most recent version of the scoping document is included in Appendix A.

The study area was selected based on those roadway segments that potentially could be impacted by the proposed project. The following intersections were identified for detailed analysis:

- Wisconsin Avenue/Van Ness Street,
- Wisconsin Avenue/Upton Street,
- Wisconsin Avenue/Fannie Mae Driveway/Post Office Driveway/Sidwell Driveway,
- Wisconsin Avenue/Rodman Street/Sidwell Driveway,
- Wisconsin Avenue/Quebec Street,
- Wisconsin Avenue/Porter Street,
- Van Ness Street/Nebraska Avenue,
- Van Ness Street/40<sup>th</sup> Place,
- Upton Street/40<sup>th</sup> Place, and
- Upton Street/Site Driveways.

## EXISTING TRANSPORTATION FACILITIES

### Roadway Network

General details regarding the surrounding roadway segments, including functional classification, average daily traffic volume (ADT), and speed limit are summarized in Table 1. All roadways in the study area operate as two-way streets.



Table 1  
Roadway Segment Details

Roadway	Functional Classification	Average Daily Traffic* (vehicles per day)	Speed Limit (miles per hour)
Wisconsin Avenue	Principal Arterial	31,500	30
Van Ness Street	Collector	3,700	25
Upton Street	Local	N/A	25
Rodman Street	Local	N/A	25 <sup>†</sup>
Quebec Street	Local	N/A	25 <sup>‡</sup>
Porter Street	Minor Arterial / Collector <sup>§</sup>	N/A	25 <sup>†</sup>
Nebraska Avenue	Principal Arterial	18,000	30 <sup>  </sup>
40 <sup>th</sup> Place	Private	N/A	25 <sup>†</sup>

\* The ADT volume is based on DDOT historical traffic volume data collected in 2013, which are the most recent data available.  
<sup>†</sup> Speed limit unposted in the study area; assumed to be 25 mph.  
<sup>‡</sup> A 15 mph School Speed Limit When Children are Present is posted for traffic.  
<sup>§</sup> Porter Street is a minor arterial west of the study area and a collector east of the study area.  
<sup>||</sup> A 15 mph Sped Limit When Children Are Present is posted for northbound and southbound traffic near Van Ness Street.

## Non-Auto Transportation Facilities

### Public Transportation Facilities and Services

The subject site is well served by public transportation, including both bus and Metrorail, as shown on Figure 3. The subject site is just over ½ mile from the Tenleytown – AU Metro Station, which provides access to the Metro Red line. Riders can transfer to the Blue, Orange, and Silver lines at the Metro Center Metro Station or to the Green and Yellow lines at the Gallery Place-Chinatown Metro Station. The minimum and maximum headways for the Red Line are summarized in Table 2.

The site also is within a ¼ mile radius of bus stops serving nine Metrobus routes (30N, 30S, 31, 33, 96, H3, H4, D32, and W47). One bus stop is located directly in front of the subject site on the west side of Wisconsin Avenue. The minimum, maximum, and average headways for the WMATA routes are provided in Table 3.

Table 2  
Metrorail Headways (in minutes)

Headway*	AM Rush 5:00 AM – 9:30 AM	Midday 9:30 AM – 3:00 PM	PM Rush 3:00 PM – 7:00 PM	Evening 7:00 PM – 9:30 PM	Late Night 9:30 PM – Close	Weekend Open – 9:30 PM	Weekend 9:30 PM – Close
<b>RED LINE (TENLEYTOWN - AU STATION)</b>							
<b>Min</b>	0:03	0:12	0:03	0:06	0:15	0:12	0:15
<b>Max</b>	0:03	0:12	0:03	0:10	0:18	0:15	0:15
* Headways presented represent headways in both directions.							

Table 3  
Metrobus Headways (in minutes)

HEADWAY	NORTHBOUND/WESTBOUND			SOUTHBOUND/EASTBOUND		
	AM Peak Period 7:00 AM – 10:00 AM	Midday Period 10:00 AM – 4:00 PM	PM Peak Period 4:00 PM – 7:00 PM	AM Peak Period 7:00 AM – 10:00 AM	Midday Period 10:00 AM – 4:00 PM	PM Peak Period 4:00 PM – 7:00 PM
<b>FRIENDSHIP HEIGHTS – SOUTHEAST LINE (30N, 30S)</b>						
Min	0:30	0:27	0:31	0:25	0:07	0:30
Max	0:38	0:35	0:34	0:32	0:55	0:35
Avg	0:32	0:30	0:32	0:29	0:29	0:32
<b>WISCONSIN AVENUE LINE (31, 33)</b>						
Min	0:10	0:08	0:04	0:05	0:08	0:08
Max	0:20	0:22	0:16	0:15	0:22	0:21
Avg	0:14	0:15	0:08	0:08	0:14	0:14
<b>EAST CAPITOL ST – CARDOZO LINE (96)</b>						
Min	0:19	0:18	0:21	0:20	0:21	0:21
Max	0:27	0:27	0:24	0:24	0:24	0:21
Avg	0:21	0:24	0:21	0:22	0:23	0:21
<b>CROSTOWN LINE (H3, H4)</b>						
Min	0:04	0:20	0:14	0:10	0:06	0:06
Max	0:18	0:33	0:18	0:32	0:32	0:22
Avg	0:08	0:31	0:15	0:21	0:24	0:12

Table 3 (continued)  
 Metrobus Headways (in minutes)

HEADWAY	NORTHBOUND/WESTBOUND			SOUTHBOUND/EASTBOUND		
	AM Peak Period	Midday Period	PM Peak Period	AM Peak Period	Midday Period	PM Peak Period
	7:00 AM – 10:00 AM	10:00 AM – 4:00 PM	4:00 PM – 7:00 PM	7:00 AM – 10:00 AM	10:00 AM – 4:00 PM	4:00 PM – 7:00 PM
<b>DEAL MIDDLE SCHOOL LINE (D32)*</b>						
Min	N/A	N/A	N/A	N/A	N/A	N/A
Max	N/A	N/A	N/A	N/A	N/A	N/A
Avg	N/A	N/A	N/A	N/A	N/A	N/A
<b>WILSON HIGH SCHOOL LINE (W47)†</b>						
Min	N/A	N/A	N/A	N/A	N/A	N/A
Max	N/A	N/A	N/A	N/A	N/A	N/A
Avg	N/A	N/A	N/A	N/A	N/A	N/A
* One bus runs during the AM Peak and one bus runs during the PM Peak.						
† One bus runs during the PM Peak.						

**Pedestrian Facilities**

The District of Columbia Pedestrian Master Plan (the Pedestrian Plan) strives to make Washington, DC safer and more walkable by improving sidewalks, roadway crossings, and the quality of the pedestrian environment as well as by ensuring that the District’s policies and procedures support walking.

The Pedestrian Plan provides an overview of existing pedestrian conditions, recommends new pedestrian projects and programs, establishes performance measures, and provides a plan for implementation through 2018. As part of the Pedestrian Plan, eight priority corridors (one in each ward) were identified based on areas of heavy pedestrian traffic and deficient walking conditions. The priority corridor in Ward 3 is Wisconsin Avenue NW between Western Avenue NW and Woodley Road NW, which falls within the study area. Within the study area, the Pedestrian Plan call for construction of curb extensions, reconstruction or replacement of ADA ramps, installation of high visibility crosswalks and/or restriping of existing crosswalks, construction of sidewalks to “fill in” gaps, reconstruction of sidewalks in disrepair, and removal of bus stops. Excerpts from the Pedestrian Master Plan, which include more details of the recommendations within the study area, are included in Appendix B. Field observations in the study area indicate that many of the recommendations have been made.

A summary of the pedestrian facilities at each of the study intersections is presented in Table 4. Pedestrian facilities and likely walking routes to the Metro Station and nearest bus stops within a ¼ mile of the site are shown on Figure 4. Figure 4 also shows pedestrian activity and deficiency according to the Pedestrian Master Plan.

Table 4  
Pedestrian Inventory by Intersection

Intersection	Pedestrian Heads/ Countdown	Type of Crosswalks	One Ramp/ Crosswalk	Tactile Warning Strip
Wisconsin Avenue/Van Ness Street (Signalized)	Yes	All Legs – High Visibility	Yes	Yes
Wisconsin Avenue/Upton Street (Signalized)	Yes	All Legs – Standard	Yes	Yes
Wisconsin Avenue/ Fannie Mae Driveway/Post Office Driveway/Sidwell Driveway (Signalized)	Yes Note 1	North and South Legs– Standard Note 2	Yes Note 3	Yes Note 3
Wisconsin Avenue/ Rodman Street/Sidwell Driveway (Signalized)	Yes Note 4	North and South Legs – High Visibility East Leg – Standard Note 5	Yes Note 6	Yes Note 6
Wisconsin Avenue/Quebec Street (Unsignalized)	N/A	West Legs – Standard Note 7	No	Yes Note 8
Wisconsin Avenue/Porter Street (Signalized)	Yes	All Legs – High Visibility	Yes	Yes
Van Ness Street/Nebraska Avenue (Signalized)	Yes	All Legs - Standard	No Note 9	Yes Note 9
Van Ness Street/40 <sup>th</sup> Place (Unsignalized)	N/A	West and South Legs – High Visibility Note 10	No Note 11	No Note 11
Upton Street/40 <sup>th</sup> Place (Unsignalized)	N/A	None Note 12	No Note 13	No Note 13

1. Pedestrian heads are only in the direction of the northern and southern crosswalks.
2. Crosswalks are only along the northern and southern legs.
3. Tactile warning strips and ramps are only present on the northern and southern legs.
4. Pedestrian countdown heads are only present on the northern, southern, and western legs.
5. Crosswalks are only present on the northern, and southern, and western legs.
6. Tactile warning strips and ramps are only present on the northern, southern, and western legs.
7. Only the western leg has a crosswalk.
8. Tactile warning strips and ramps are only present on the western leg of the intersection.
9. Ramps with tactile warning strips are present only on the eastern leg of the intersection. Single ramps without tactile warning strips are present on the northwest and southwest corners. One ramp on the southeast corner does not have tactile warning strips.
10. Crosswalks are only present on the western and southern legs.
11. Single ramps without tactile warning strips are present on the northwest, southwest and southeast corners.
12. Crosswalks are not present at each leg of the intersection.
13. A single ramp without tactile warning strips is present on northeast corner.

## Bicycle Facilities

The District of Columbia Bicycle Master Plan (the Bicycle Plan) seeks to create a more bicycle-friendly city by establishing high-quality bicycle facilities and programs that are safe and convenient.

The Bicycle Plan provides bicycle levels of service (BLOS) for roadways in the District where bicycles share the road with vehicles. The Bicycle Plan also reports the number of bicycle crashes that occurred between 2000 and 2002.

Finally, the Bicycle Plan identifies areas and corridors that are barriers to cyclists. These barriers include “freeways, railroad and highway grade separations, neighborhoods with heavy traffic, and other impediments to bicycle travel.” No such barriers exist in the vicinity of the site.

Bicycle facilities and likely biking routes to the Metro Station and nearest bus stops within one mile of the site are shown on Figure 5. Figure 5 also shows the BLOS for roadways in the study area and the reported bicycle crashes in the study area, per the Bicycle Plan.

Dedicated bicycle lanes are present on north side of Van Ness Street between Wisconsin Avenue and Nebraska Avenue. East of 38<sup>th</sup> Street, sharrows are painted on the north and south sides of Van Ness Street.

## Capital Bikeshare

Capital Bikeshare is an automated bicycle rental or bicycle sharing program that provides approximately 3,700 bicycles at 440 stations across Washington, DC, Arlington, VA, Alexandria, VA, Montgomery County, MD, and Fairfax County, VA.

Membership, which is required to use Capital Bikeshare, includes five options for joining: single trip (\$2), 24 hours (\$8), three days (\$17), 30 days (\$28), or one year (\$85). During WMATA’s SafeTrack Initiative, Capital Bikeshare is piloting a single trip fare for \$2. Under any membership option, the first 30 minutes of use are free; users then are charged a usage fee for each additional 30-minute period. Bicycles can be returned to any station with an available dock.

As shown on Figure 3, the closest Bikeshare station is located within just two blocks from the site at 39<sup>th</sup> Street/Veazey Street. This station includes 14 docks.

The District of Columbia Capital Bikeshare Development Plan outlines a system-wide expansion plan including 99 new Bikeshare stations by the end of 2018 and 21 existing stations to be expanded by the end of 2017. In the vicinity of the site, the nearest new Bikeshare station is identified on Wisconsin Avenue south of Macomb Street and is slated for completion in 2018.

## Car Sharing Services

Three car-sharing providers currently operate in the District. Zipcar requires a \$25 application fee and members can choose from three plans: occasional driving plan - \$70 per year (pay as you go based on the standard hourly or daily rate), monthly plan - \$7 per month (pay as you go based on the standard hourly or daily rate), extra value - \$50 per month, \$75 per month (1 month rollover), \$125 per month (2 month rollover), and \$250 per month (2 month rollover) (after using up the monthly cash, pay as you go based on a discounted hourly or daily rate). Cars must be returned to the same designated parking spaces from which they were picked up. One Zipcar is located within ½ mile of the site at AU College of Law, as shown on Figure 3.

Car2Go requires a one-time \$5 application fee. Once registered, a member card is issued, which enables members to access an available car. Car2Go members can choose from two plans: smart fortwo - \$0.32 per minute/\$15 per hour/\$59 per day, and Mercedes-Benz CLA & GLA - \$0.45 per minute/\$19 per hour/\$79 per day. No reservation is required and car usage is charged by the minute, with hourly and daily maximum fees. Unlike Zipcar, a Car2Go vehicle does not have to be returned to its original location. A Car2Go vehicle can be parked in any unrestricted curbside parking space, in any metered/paystation curbside parking space (without paying meter/paystation fees), or in any residential permit parking space. Car2Go currently has 500 vehicles in the District.

Enterprise CarShare requires one-time \$25 application fee and \$40 annual membership fee. Cars can be reserved by the hour or day (hourly and daily fees are charged per usage). In the District, cars must be returned to their original location.

## EXISTING CONDITIONS ANALYSIS

### Traffic Volumes

For study intersections on Wisconsin Avenue, existing vehicular turning movement, bicycle, and pedestrian counts were conducted on Thursday, May 21, 2015, from 7:00 AM to 10:00 AM and from 3:00 PM to 7:00 PM. Counts were also conducted on Wednesday, October 28, 2015 and Thursday, October 29, 2015.

As these Wisconsin Avenue volumes were used in the preparation of the traffic impact analysis for the Sidwell Friends School redevelopment, the baseline volumes are consistent with previous studies recently conducted in the area. The peak hour volumes were grown to the year 2017 assuming one percent regional growth, which is also consistent with the analysis conducted for the Sidwell Friends School redevelopment.

For other study intersections not located along Wisconsin Avenue, vehicular turning movement, bicycle, and pedestrian counts were conducted on Wednesday, February 8, 2017,

from 7:00 AM to 10:00 AM and from 3:00 PM to 7:00 PM. Regional growth was not added to these volumes for existing conditions.

Existing vehicular peak hour traffic volumes are shown on Figure 6. Pedestrian volumes are shown on Figure 7. Traffic count data are included in Appendix C.

## Capacity Analysis

Capacity/level of service (LOS) analyses were conducted at the study intersections based on the existing lane use and traffic control shown on Figure 8, existing traffic volumes shown on Figure 6, existing pedestrian volumes shown on Figure 7, and existing traffic signal timings obtained from DDOT, included in Appendix D.

Synchro software (Version 9) was used to evaluate levels of service at the study intersections during the peak hours. Synchro is a macroscopic model used to evaluate the effects of changing intersection geometrics, traffic demands, traffic control, and/or traffic signal settings and to optimize traffic signal timings. The levels of service reported were taken from the Highway Capacity Manual 2000 (HCM) reports generated by Synchro<sup>2</sup>. Level of service descriptions are included in Appendix E.

The results of the analyses are summarized in Table 5. Capacity analysis worksheets are included in Appendix F.

As shown in Table 5, under existing conditions, three of the signalized study intersections operate at an overall level of service E or F. The following is a summary of the various intersections that currently operate at an overall LOS E or LOS F:

- Wisconsin Avenue/Upton Street – LOS F during the AM peak hour;
- Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway –LOS E during the PM peak hour; and
- Van Ness Street/Nebraska Avenue – LOS E during the PM peak hour.

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<sup>2</sup> Highway Capacity Manual 2010 methodology could be used at some intersections, but several atypical intersections in the study area cannot be analyzed with the 2010 methodology. For the sake of consistency, the 2000 methodology was used to analyze all signalized intersections. For unsignalized intersections, HCM 2010 methodology was used for All-Way and Two-Way Stop Control intersections.

Table 5  
Level of Service Summary

Approach	Existing Conditions		Background Conditions		Total Future Conditions	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>1. Wisconsin Avenue/Van Ness Street</b>						
EBL	D	E (62.1)	D	E (72.4)	D	F (120.3)
EBTR	D	E (56.4)	D	E (66.4)	E (61.4)	E (64.7)
WBL	E (70.5)	D	F (89.1)	E (78.2)	F (102.9)	F (97.4)
WBTR	F (80.3)	F (106.7)	F (108.3)	F (124.9)	F (87.8)	F (134.2)
NBLTR	B	B	B	B	B	B
SBLTR	B	C	B	C	B	C
<b>Overall</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>D</b>	<b>C</b>	<b>D</b>
<b>2. Wisconsin Avenue/Upton Street</b>						
EBL	D	D	D	D	D	D
EBR	C	C	C	C	D	C
WBR	D	C	D	C	D	C
NBLT	F (241.7)	C	F (262.2)	D	F (124.3)	E (68.7)
NBR	B		A		A	
SBTR	B	B	B	B	B	C
<b>Overall</b>	<b>F (112.4)</b>	<b>C</b>	<b>F (119.7)</b>	<b>D</b>	<b>E (58.5)</b>	<b>D</b>
<b>3. Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway</b>						
EBLTR	D	E (71.5)	D	D	D	D
WBLTR	E (66.6)	F (982.6)	E (62.5)	F (93.4)	E (62.5)	F (93.4)
NBLTR	C	B	C	B	C	B
SBLTR	A	A	A	A	B	A
SWLR	D	D	E (56.1)	D	E (56.1)	D
<b>Overall</b>	<b>B</b>	<b>E (73.9)</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>C</b>
<b>4. Wisconsin Avenue/Rodman Street/Sidwell Driveway</b>						
EBLTR	F (100.3)	D	F (109.2)	D	F (109.2)	D
WBLTR	E (59.7)	D	E (64.3)	D	E (64.3)	D
NBLTR	A	A	A	A	A	A
SBLTR	B	A	B	B	B	B
<b>Overall</b>	<b>C</b>	<b>A</b>	<b>C</b>	<b>A</b>	<b>C</b>	<b>B</b>
<b>5. Wisconsin Avenue/Quebec Street</b>						
WBLR	A	C	B	C	C	C
NBTR	A	A	A	A	A	A
SBLT	A	A	A	A	A	A
[x.x] = unsignalized intersection control delay in sec/veh (x.x) = signalized intersection control delay in sec/veh						



Table 5 (continued)  
Level of Service Summary

Approach	Existing Conditions		Background Conditions		Total Future Conditions	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>6. Wisconsin Avenue/Porter Street</b>						
EBLTR	D	D	D	D	D	D
WBLTR	F (136.2)	F (108.9)	F (141.8)	F (119.8)	F (134.0)	F (144.2)
NBLTR	B	B	B	B	B	B
SBLTR	B	B	C	B	D	B
<b>Overall</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>C</b>	<b>D</b>	<b>C</b>
<b>7. Van Ness Street/Nebraska Avenue</b>						
EBLTR	E (60.7)	C	F (85.7)	D	D	D
WBL	D	F (168.2)	E (69.1)	F (209.0)	D	F (124.8)
WBTR	B	D	B	D	C	D
NBLTR	D	C	E (69.3)	D	D	D
SBLTR	B	E (63.6)	B	F (181.7)	B	F (181.7)
<b>Overall</b>	<b>C</b>	<b>E (56.6)</b>	<b>D</b>	<b>F (103.0)</b>	<b>C</b>	<b>F (94.6)</b>
<b>8. Van Ness Street/40<sup>th</sup> Place</b>						
EBLTR	A	A	A	A	A	A
WBLTR	A	A	A	A	A	A
NBLTR	D	F (135.2)	E (39.5)	F (237.3)	D	F (117.4)
SBLTR	B	C	B	C	B	C
<b>9. Upton Street/40<sup>th</sup> Place</b>						
WBLR	A	A	A	B	A	B
NBTR	A	A	A	A	A	A
SBLT	B	A	B	A	A	A
<b>Overall</b>	<b>B</b>	<b>A</b>	<b>B</b>	<b>A</b>	<b>A</b>	<b>B</b>
<b>10. Upton Street/Site Driveways</b>						
EBTR	A	A	A	A	A	A
WBLT	A	A	A	A	A	A
NBLR	B	B	B	B	B	B
[x.x] = unsignalized intersection control delay in sec/veh (x.x) = signalized intersection control delay in sec/veh						

### Queue Analysis

A queue analysis was conducted for existing conditions. Synchro was used to conduct the analyses, using the 95<sup>th</sup> percentile queue lengths. The results are summarized in Table 6. Queue reports are provided in Appendix F.

As shown in Table 6, the following lane groups have 95<sup>th</sup> percentile queues that exceed the available storage under existing conditions:

- Wisconsin Avenue/Van Ness Street – eastbound through/right, westbound through/right, northbound, and southbound approach;
- Wisconsin Avenue/Upton Street – northbound left/through and southbound through/right;
- Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway – westbound, northbound, and southbound approach;
- Wisconsin Avenue/Rodman Street/Sidwell Driveway – eastbound and westbound approaches;
- Wisconsin Avenue/Porter Street – westbound and southbound approaches;
- Van Ness Street/Nebraska Avenue – eastbound approach, westbound left, westbound through/right, northbound, and southbound approach; and
- Van Ness/40<sup>th</sup> Place – northbound approach.

Queues that extend to adjacent intersections are typical in urban environments where intersections are closely spaced.

Table 6  
Synchro 95<sup>th</sup> Percentile Queue Summary (in feet)

Approach	Available Storage <sup>†</sup>	Existing Conditions		Background Conditions		Total Future Conditions	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>1. Wisconsin Avenue/Van Ness Street</b>							
EBL	100	40	87	37	92	68	139
EBTR	210	266	302	246	349	337	347
WBL	600	135	95	154	134	163	161
WBTR	105	408	487	472	520	427	536
NBLTR	290	225	317	269	324	280	275
SBLTR	215	304	358	335	416	322	477
<b>2. Wisconsin Avenue/Upton Street</b>							
EBL	210/435	27	167	29	175	62	117
EBR	210	129	138	134	152	224	115
WBR	455	0	0	30	0	34	0
NBLT	295	900	135	952	223	780	246
NBR	95	4		0		0	
SBTR	280	228	287	265	426	248	476
<sup>†</sup> All distances measured to nearest intersection or end of turn lane, as appropriate. Where two storage lengths are given, the first is the distance to the driveway, the second is the distance to the nearest intersection.							

Table 6 (continued)  
Synchro 95<sup>th</sup> Percentile Queue Summary (in feet)

Approach	Available Storage <sup>†</sup>	Existing Conditions		Background Conditions		Total Future Conditions	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>3. Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway</b>							
EBLTR	520	21	150	21	156	21	156
WBLTR	345	84	347	138	302	138	302
NBLTR	565	657	365	570	388	483	415
SBLT	300	600	113	575	143	620	129
SBR	170						
SWLR	75	0	12	0	17	0	17
<b>4. Wisconsin Avenue/Rodman Street/Sidwell Driveway</b>							
EBLTR	100	222	92	231	95	231	95
WBLTR	95	122	77	133	80	133	80
NBLTR	490	130	34	120	36	110	46
SBLTR	565	534	138	594	172	615	166
<b>5. Wisconsin Avenue/Quebec Street</b>							
WBLR	440	0	18	8	10	13	13
NBTR	265	0	0	0	0	0	0
SBLT	490	8	28	8	35	8	38
<b>6. Wisconsin Avenue/Porter Street</b>							
EBLTR	220	137	72	142	75	138	75
WBLTR	310	385	407	390	426	381	463
NBLTR	385	277	201	305	223	251	238
SBLTR	265	332	217	493	230	643	218
<b>7. Van Ness Street/Nebraska Avenue</b>							
EBLTR	100	451	150	538	172	354	182
WBL	245	94	369	100	386	110	272
WBTR	100	78	306	90	333	114	254
NBLTR	210	524	551	614	636	546	644
SBLTR	280/465	234	824	263	1109	262	1110
<b>8. Van Ness Street/40<sup>th</sup> Place</b>							
EBLTR	145/590	3	0	3	0	3	0
WBLTR	20/185	8	0	8	0	5	5
NBLTR	120/290	30	350	43	495	60	263
SBLTR	25	3	15	3	18	3	23

<sup>†</sup> All distances measured to nearest intersection or end of turn lane, as appropriate. Where two storage lengths are given, the first is the distance to the driveway, the second is the distance to the nearest intersection.

Table 6 (continued)  
Synchro 95<sup>th</sup> Percentile Queue Summary (in feet)

Approach	Available Storage <sup>†</sup>	Existing Conditions		Background Conditions		Total Future Conditions	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>9. Upton Street/40<sup>th</sup> Place</b>							
WBLR	190/420	15	28	15	35	13	45
NBTR	140	0	38	0	40	10	15
SBLT	45/290	75	18	88	20	28	30
<b>10. Upton Street/Site Driveways</b>							
EBTR	190	0	0	0	0	0	0
WBLT	210	13	3	15	3	3	10
NBLR	25	3	25	3	28	13	15
† All distances measured to nearest intersection or end of turn lane, as appropriate. Where two storage lengths are given, the first is the distance to the driveway, the second is the distance to the nearest intersection.							

## Safety Analysis

Crash data at the study intersections were obtained from DDOT. The information provided by DDOT included the total number of crashes over the latest three years of available data (i.e. 2012, 2013, and 2014) at each intersection and was further categorized by type of crash. Based on the data, Table 7 shows the overall intersection crash rates at each of the study intersections.

As shown in Table 7, the crash rates at the Wisconsin Avenue/Van Ness Street, Wisconsin Avenue/Upton Street, and Wisconsin Avenue/Porter Street intersections are above 1.0, which is considered high by DDOT.

Table 7  
Crash Data Summary

Intersection	Type of Control	No. of Crashes (3 Years)	ADT (veh/day)	Crash Rate (MEV)
Wisconsin Avenue/Van Ness Street	Signal	36	35,460	1.18
Wisconsin Avenue/Upton Street	Signal	64	30,490	1.92
Wisconsin Avenue/Rodman Street/Sidwell Driveway	Signal	22	24,890	0.81
Wisconsin Avenue/Quebec Street	One-way Stop	12	23,010	0.48
Wisconsin Avenue/Porter Street	Signal	31	24,580	1.15
Van Ness Street/Nebraska Avenue	Signal	11	23,810	0.42
Van Ness Street/40 <sup>th</sup> Place	One-way Stop	3	10,100	0.27
Upton Street/40 <sup>th</sup> Place	All-way Stop	0	5,290	0.00

### Wisconsin Avenue/Van Ness Street

A review of the crash types at the Wisconsin Avenue/Van Ness Street intersection reveals that the majority of the crashes at the intersection involved side swipe collisions (28 percent). Other crashes making up a significant portion of collisions included rear end collisions (20 percent) and left turn collisions (13 percent). There were five crashes involving pedestrians (11 percent) and one crash involving bicycles (two percent) at the intersection.

In addition, the majority of crashes occurred under clear weather conditions (85 percent) and during the day time (85 percent). Given the high number of side swipe collisions, the narrow width of Van Ness Street, and the provision of on-street parking on the north side of Van Ness Street, the presence of on-street parking may contribute to the high crash rate at the intersection. However, in order to make recommendations to improve safety, details regarding the crash history, primarily direction of travel, would need to be needed.

### Wisconsin Avenue/Upton Street

A review of the crash types at the Wisconsin Avenue/Upton Street intersection reveals that the majority of the crashes at the intersection involved rear end collisions (28 percent) and side swiped collisions (25 percent). There were six crashes involving pedestrians (nine percent) and one crash involving bicycles (two percent) at the intersection.

In addition, the majority of crashes occurred under clear weather conditions (80 percent) and during the day time (67 percent). Based on conversations with DDOT, an evaluation of this intersection is being conducted to better understand the higher crash rate at this location. Based on our understanding, DDOT's study of the intersection is not yet complete.

### Wisconsin Avenue/Porter Street

A review of the crash types at the Wisconsin Avenue/Porter Street intersection reveals that the majority of the crashes at the intersection were side swipe collisions (23 percent). Other crashes making up a significant portion of collisions included rear end collisions (16 percent) and left turn collisions (16 percent). There were two crashes involving pedestrians (seven percent) and no crashes involving bicycles at the intersection.

In addition, a number of crashes occurred under rain/snow weather conditions (26 percent) and during the day time (61 percent). In order to make recommendations to improve safety, details regarding the crash history, primarily direction of travel, would need to be needed.

## FUTURE BACKGROUND CONDITIONS

### Traffic Volumes

#### Overview

In order to forecast year 2021 background traffic volumes in the study area without the proposed redevelopment, increases in traffic associated with growth outside the immediate site vicinity (regional growth) and increases in traffic associated with planned or approved but not yet constructed developments in the study area (pipeline developments) were considered.

#### Regional Growth

In order to account for potential increases in traffic associated with regional growth and developments outside of the study area, a growth rate was applied to existing traffic volumes. DDOT's historical average daily traffic (ADT) volume maps were examined to determine an appropriate growth rate for the study area. The historical ADTs indicate that traffic volumes in the study area generally have a growth rate less than one percent per year. Therefore, a growth rate of one percent per year, compounded annually over four years (2017 to 2021), conservatively was applied to the existing vehicular volumes shown on Figure 6. The resulting 2021 volumes with regional growth are shown on Figure 9.

#### Pipeline Developments

Seven other developments that are planned in and around the study area were identified and considered in forecasting background traffic growth for the 2021 study year (see Figure 10 for locations). A summary of each pipeline development is provided below.

##### 4700 Wisconsin Avenue (Steak and Eggs)

The current Steak and Eggs located at 4700 Wisconsin Avenue will be redeveloped to a mixed-use development featuring approximately 16 residential dwelling units and 3,724 SF of retail. Half of the proposed retail use will be occupied by the existing Steak and Eggs restaurant. The proposed redevelopment received approval from the Board of Zoning Adjustment in October 2014. It is anticipated construction will be completed by 2021.

Trip generation for the redevelopment was determined using the Institute of Transportation Engineers' (ITE) Trip Generation and applying an 89 percent non-auto mode split, as was presented in the 4700 Wisconsin Avenue Parking Statement prepared by Gorove/Slade, dated October 2014. Square footage for the retail trip generation was calculated using only the square footage of the new retail uses on the site. The redevelopment will generate an estimated 3 AM peak hour vehicle trips and 7 PM peak hour vehicle trips. Given the low trip generation profile and considerable distance from the site, trips for this pipeline

development were not explicitly included in the pipeline forecasts. The conservative regional growth applied to the existing vehicular volumes would account for this nominal increase in traffic.

#### 4614 Wisconsin Avenue

The 4614 Wisconsin Avenue mixed-use development will feature approximately 60 residential dwelling units and 14,000 SF of retail space. The proposed redevelopment received approval from the Zoning Commission in February 2013.

Site trip assignments for the redevelopment were taken from the 4600 Wisconsin Ave Transportation and Parking Assessment Report, prepared by O.R. George & Associates, dated September 2012. According to the study, the development will generate an estimated 10 AM peak hour vehicle trips and 39 PM peak hour vehicle trips.

#### Washington College of Law

The 2011 American University Campus Plan includes the relocation of the Washington College of Law to the Tenleytown Campus. In addition to the relocation, 400 – 500 parking spaces will be added with the Washington College of Law. The 2011 American University Campus Plan including the relocation of the Washington College of Law was approved by the Zoning Commission in May 2012. Classes were planned to begin at the College's new location in January 2016. As some counts were conducted in 2015 before the intended opening, pipeline trip assignments for this development were still included in the background traffic forecasts.

Site trip assignments for the redevelopment were taken from the American University 2011 Campus Plan Transportation Technical Analysis prepared by Gorove/Slade, dated March 2011.

#### Cathedral Commons

The Cathedral Commons mixed-use development contains approximately 146 residential dwelling units and 136,484 SF of commercial/retail space. The proposed redevelopment came online in Spring of 2015. However, the redevelopment was not fully leased at the time counts were conducted. The residential occupancy rate was approximately 80 percent and the commercial/retail occupancy rate was approximately 89 percent

Site trip assignments for the redevelopment were taken from the Wisconsin Avenue Giant Transportation Impact Study prepared by Wells + Associates, dated May 2008. Residential and retail/commercial site trips were added to the network proportional to the respective occupancy rates.

Georgetown Day School

The Georgetown Day School Planned Unit Development proposed to consolidate the Lower, Middle, and High School divisions and contain approximately 280 residential dwelling units, 13,000 SF of grocery, and 15,700 SF of retail. As the project has not yet been approved and the development program may change, the background trips associated with this pipeline development have not been finalized. Therefore, trips associated with this project cannot be explicitly included in the background analysis at this time.

Sidwell Friends School

The Sidwell Friends School redevelopment will consolidate the Lower, Middle, and High School divisions on one contiguous campus off Wisconsin Avenue. The project was approved by the Board of Zoning Adjustment in March 2016. A number of transportation and operational improvements were recommended in conjunction with the proposed project, including the relocation of the Middle School pick-up/drop-off from 37<sup>th</sup> Street to a new area off Wisconsin Avenue.

Site trip assignments for the redevelopment were taken from the Sidwell Friends School Revised Comprehensive Transportation Review prepared by Wells + Associates, dated February 2016. Any improvements proposed with the project were included in the analyses.

3900 Wisconsin Avenue

With Fannie Mae’s impending relocation from their current headquarters at 3900 Wisconsin Avenue, the site is likely to be redeveloped in the future. Roadside Development currently is evaluating proposed redevelopment options for the site; however, the development program for the project has not been finalized. Since the development program for the site still is in flux and since the project is at least four months behind the 4000 Wisconsin Avenue redevelopment, the project cannot be explicitly included in the background analysis at this time. However, trips from this redevelopment are at least partially accounted for since existing traffic generated by Fannie Mae is imbedded in the existing traffic counts and will be included in the background traffic forecasts. Based on driveway counts, Fannie Mae currently generates 131 AM peak hour vehicle trips and 136 PM peak hour vehicle trips, as shown on Table 8 below.

Table 8  
Fannie Mae Existing Trip Generation

Peak Hour	In	Out	Total*
AM Peak Hour	122	9	131
PM Peak Hour	15	111	136

\* An additional access on the southwest corner of the site at 39<sup>th</sup> Street is open to vehicular traffic during the peak periods only to allow additional garage access/egress. Counts have not yet been conducted at this access location and are therefore not included in the existing trip generation.



## Combined Pipeline Developments

Details for each of the pipeline developments and trip assignments are included in Appendix G. The traffic associated with the pipeline developments combined is shown at each of the study intersections on Figure 11.

## **Background Forecasts**

Background 2021 traffic forecasts (without the proposed redevelopment) were developed by combining the existing traffic volumes grown to the year 2021 (shown on Figure 9) with the pipeline traffic volumes shown on Figure 11. The resulting 2021 background traffic forecasts are shown on Figure 12.

## **Capacity Analysis**

Capacity/level of service (LOS) analyses were conducted at the study intersections based on the existing lane use and traffic control shown on Figure 8, future background traffic forecasts shown on Figure 12, and existing DDOT traffic signal timings<sup>3</sup>.

The level of service results for the 2021 background conditions without the 4000 Wisconsin Avenue redevelopment are presented in Appendix H and summarized in Table 5. As shown in Table 5, under background conditions, many of the study intersections will experience an increase in delay as a result of the background traffic growth and the pipeline projects.

The Van Ness Street/Nebraska Avenue intersection would drop from an overall LOS E to an overall LOS F during the PM peak hour. As shown in Table 5, a number of lane groups at the study intersections also would operate at a LOS E or LOS F during the AM and PM peak hours under background conditions.

## **Queue Analysis**

A queue analysis was conducted for 2021 conditions without the 4000 Wisconsin Avenue redevelopment. Synchro was used to conduct the analyses, using the 95<sup>th</sup> percentile queue lengths. The results are summarized in Table 6. Queue reports are provided in Appendix H.

As shown in Table 6, the 95<sup>th</sup> percentile queues at several study intersections will increase under background conditions.

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<sup>3</sup> Note phasing changes were recommended at the Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway intersection as part of the Sidwell Friends School Revised Comprehensive Transportation Review. These phasing changes were modeled under background and total future conditions.

## SITE ANALYSIS

### Overview

Donohoe Acquisitions, LLC proposes to redevelop the subject property (4000 Wisconsin Avenue NW) with a mixed-use residential and retail project. The site is located on Square 1823, Lot 9 and is zoned MU-5A. The existing site currently is occupied with approximately 404,547 SF of office, 40,998 SF of retail, a 37,916 SF health club, and a conference center (which was originally a 2,070-seat cinema). The proposed redevelopment would raze the existing building from ground level up (below grade space will be retained) to accommodate a new building containing approximately 716 residential units, a 60,200 SF grocery store, a 49,388 SF health club, and 22,598 SF of general retail space.

### Site Access and Circulation

#### Vehicular Access

Parking access to the site currently is provided via two curb cuts on Upton Street. Loading access is provided via a third curb cut on Upton Street, which provides back-in/front-out loading accommodations. One curb cut on Wisconsin Avenue currently provides access to a motor court with short-term visitor parking.

Under the proposed redevelopment, the two curb cuts that currently provide parking access will be reused. The curb cut for loading access will be shifted approximately 70 feet to the west to accommodate a redesigned loading area that will accommodate front-in/front-out maneuvers. The curb cut on Wisconsin Avenue will be eliminated.

The existing and proposed vehicular circulation patterns for the site are shown on Figures 13A-D.

#### Pedestrian and Bicycle Access

Pedestrians will access to the residential component of the project via two lobby locations on Upton Street. Secondary access to the residential component will be provided on the southern side of the site, along the private roadway. Retail access will be provided along both Upton Street and Wisconsin Avenue. Figures 13B through 13D illustrate the pedestrian circulation for the project.

Access to the long-term bicycle parking is available via the garage entrances and can be accessed from the elevators in the easternmost residential lobby and the elevators that provide access to the Wisconsin Avenue retail.

## Trip Generation Analysis

### Overview

The total number of trips generated by the proposed redevelopment would be comprised of vehicular trips, pedestrian trips, bicycle trips, and transit trips.

### Total Trips

#### Existing Development

The total number of net new trips anticipated to be generated by the proposed redevelopment was estimated based on the Institute of Transportation Engineer's (ITE's) Trip Generation Manual. To estimate the number of trips currently generated by the site, Land Use Code (LUC) 710 (General Office), LUC 820 (Retail), and LUC 492 (Health/Fitness Club) were used with the occupied square footage as the independent variable. Note that trips were not estimated for the conference center in the lower level since the conference center is used by Fannie Mae, which is located next door. The analysis conservatively assumes that the conference center does not generate any additional vehicle trips beyond that which currently is generated by Fannie Mae. The trip generation for the existing development is summarized in Table 9.

#### Proposed Redevelopment

To estimate the number of trips anticipated to be generated by the new uses on site, LUC 220 (Apartment), LUC 492 (Health/Fitness Club), LUC 850 (Supermarket), and LUC 820 (Retail) were used. The number of dwelling units was used as the independent variable for the residential component, while square footage was used as the independent variable for the remaining uses. The trip generation for the proposed development is summarized in Table 10.

Table 9  
Site Trip Generation Summary – Existing Uses

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
<b>General Office (LUC 710) – 404,547 SF occupied space<sup>1</sup></b>						
Total Trips <sup>2</sup>	515	70	585	90	442	532
<i>Non-auto Trips (20%)<sup>3</sup></i>	103	14	117	18	88	106
<i>Transit (15%)</i>	78	11	89	14	66	80
<i>Bicycle (2%)</i>	10	1	11	1	9	10
<i>Pedestrian (3%)</i>	15	2	17	3	13	16
Vehicle Trips	412	56	468	72	354	426
<b>Retail (LUC 820) – 40,998 SF occupied space</b>						
Total Trips <sup>2</sup>	56	34	90	158	172	330
<i>Non-auto Trips (40%)<sup>3</sup></i>	22	14	36	63	69	132
<i>Transit (25%)</i>	14	9	23	39	43	82
<i>Bicycle (5%)</i>	3	2	5	8	9	17
<i>Pedestrian (10%)</i>	5	3	8	16	17	33
<i>Pass-by Trips (17%/34%)<sup>4</sup></i>	6	3	9	32	35	67
Vehicle Trips	28	17	45	63	68	131
<b>Health/Fitness Club (LUC 492) – 37,916 SF occupied space</b>						
Total Trips <sup>2</sup>	27	26	53	75	57	132
<i>Non-auto Trips (40%)<sup>3</sup></i>	11	10	21	30	23	53
<i>Transit (25%)</i>	7	6	13	19	14	33
<i>Bicycle (5%)</i>	1	1	2	4	3	7
<i>Pedestrian (10%)</i>	3	3	6	7	6	13
<i>Pass-by Trips (17%/34%)<sup>4</sup></i>	3	3	6	15	12	27
Vehicle Trips	13	13	26	30	22	52
<b>Total Existing Uses</b>						
Total Trips	598	130	728	323	671	994
<i>Non-auto Trips</i>	136	38	174	111	180	291
<i>Transit</i>	99	26	125	72	123	195
<i>Bicycle</i>	14	4	18	13	21	34
<i>Pedestrian</i>	23	8	31	26	36	62
<i>Pass-by Trips</i>	9	6	15	47	47	94
Vehicle Trips	453	86	539	165	444	609
<sup>1</sup> Conference center SF (originally a 2,070-seat cinema) not included as the conference center is used by the adjacent Fannie Mae site and the majority of trips to the conference center are likely to be non-auto. <sup>2</sup> Trips generated using ITE's <a href="#">Trip Generation Manual</a> , 9 <sup>th</sup> Edition. <sup>3</sup> Non-auto mode splits based on the <a href="#">2005 WMATA Ridership Survey</a> . <sup>4</sup> Pass-by rates taken from ITE <a href="#">Trip Generation Handbook</a> , 3 <sup>rd</sup> Edition. AM pass-by rate assumed to be half of PM rate. Rates shown (17%/34%) are for AM/PM peak hours.						

Table 10  
Site Trip Generation Summary – Proposed Uses

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
<b>Apartment (LUC 220) – 700 DU<sup>4</sup></b>						
Total Trips <sup>1</sup>	69	278	347	262	141	403
<i>Non-auto Trips (55%)<sup>2</sup></i>	<i>38</i>	<i>153</i>	<i>191</i>	<i>144</i>	<i>78</i>	<i>222</i>
<i>Transit (40%)</i>	<i>28</i>	<i>111</i>	<i>139</i>	<i>105</i>	<i>57</i>	<i>162</i>
<i>Bicycle (5%)</i>	<i>3</i>	<i>14</i>	<i>17</i>	<i>13</i>	<i>7</i>	<i>20</i>
<i>Pedestrian (10%)</i>	<i>7</i>	<i>28</i>	<i>35</i>	<i>26</i>	<i>14</i>	<i>40</i>
Vehicle Trips	31	125	156	118	63	181
<b>Retail (LUC 820) – 22,598 SF</b>						
Total Trips <sup>1</sup>	39	24	63	106	115	221
<i>Non-auto Trips (40%)<sup>2</sup></i>	<i>16</i>	<i>10</i>	<i>26</i>	<i>42</i>	<i>46</i>	<i>88</i>
<i>Transit (25%)</i>	<i>10</i>	<i>6</i>	<i>16</i>	<i>26</i>	<i>29</i>	<i>55</i>
<i>Bicycle (5%)</i>	<i>2</i>	<i>1</i>	<i>3</i>	<i>5</i>	<i>6</i>	<i>11</i>
<i>Pedestrian (10%)</i>	<i>4</i>	<i>3</i>	<i>7</i>	<i>11</i>	<i>11</i>	<i>22</i>
<i>Pass-by Trips (17%/34%)<sup>3</sup></i>	<i>4</i>	<i>2</i>	<i>6</i>	<i>22</i>	<i>24</i>	<i>46</i>
Vehicle Trips	19	12	31	42	45	87
<b>Supermarket (LUC 850) – 60,200 SF</b>						
Total Trips <sup>1</sup>	127	78	205	273	262	535
<i>Non-auto Trips (40%)<sup>2</sup></i>	<i>51</i>	<i>31</i>	<i>82</i>	<i>109</i>	<i>105</i>	<i>214</i>
<i>Transit (25%)</i>	<i>45</i>	<i>27</i>	<i>72</i>	<i>95</i>	<i>92</i>	<i>187</i>
<i>Bicycle (5%)</i>	<i>1</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>3</i>	<i>6</i>
<i>Pedestrian (10%)</i>	<i>5</i>	<i>3</i>	<i>8</i>	<i>11</i>	<i>10</i>	<i>21</i>
<i>Pass-by Trips (17%/34%)<sup>3</sup></i>	<i>13</i>	<i>8</i>	<i>21</i>	<i>56</i>	<i>53</i>	<i>109</i>
Vehicle Trips	63	39	102	108	104	212
<p><sup>1</sup> Trips generated using ITE's <a href="#">Trip Generation Manual</a>, 9<sup>th</sup> Edition.</p> <p><sup>2</sup> Non-auto mode splits based on the <a href="#">2005 WMATA Ridership Survey</a> and Census data (for the residential use).</p> <p><sup>3</sup> Pass-by rates taken from ITE <a href="#">Trip Generation Handbook</a>, 3<sup>rd</sup> Edition. AM pass-by rate assumed to be half of PM rate. Rates shown (17%/34%) are for AM/PM peak hours.</p> <p><sup>4</sup> At the time the analyses contained herein were conducted, 700 units were proposed. Since that time, plans have been refined and 716 residential units are now proposed. The increase in vehicular trip generation due to the additional 16 units would be de minimis (i.e. four additional vehicle trips during the AM peak hour and four additional vehicle trips during the PM peak hour).</p>						

Table 10 (continued)  
 Site Trip Generation Summary – Proposed Uses

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
<b>Health/Fitness Club (LUC 492) – 49,388 SF</b>						
Total Trips <sup>1</sup>	35	35	70	97	73	170
<i>Non-auto Trips (40%)<sup>2</sup></i>	14	14	28	39	29	68
<i>Transit (25%)</i>	9	9	18	24	18	42
<i>Bicycle (5%)</i>	2	2	4	5	4	9
<i>Pedestrian (10%)</i>	3	3	6	10	7	17
<i>Pass-by Trips (17%/34%)<sup>3</sup></i>	4	4	8	20	15	35
Vehicle Trips	17	17	34	38	29	67
<b>Total Proposed Uses</b>						
Total Trips	270	415	685	738	591	1,329
<i>Non-auto Trips</i>	119	208	327	334	258	592
<i>Transit</i>	92	153	245	250	196	446
<i>Bicycle</i>	8	18	26	26	20	46
<i>Pedestrian</i>	19	37	56	58	42	100
<i>Pass-by Trips</i>	21	14	35	98	92	190
Vehicle Trips	130	193	323	306	241	547
<sup>1</sup> Trips generated using ITE's <u>Trip Generation Manual</u> , 9 <sup>th</sup> Edition. <sup>2</sup> Non-auto mode splits based on the <u>2005 WMATA Ridership Survey</u> and Census data (for the residential use). <sup>3</sup> Pass-by rates taken from ITE <u>Trip Generation Handbook</u> , 3 <sup>rd</sup> Edition. AM pass-by rate assumed to be half of PM rate. Rates shown (17%/34%) are for AM/PM peak hours. <sup>4</sup> At the time the analyses contained herein were conducted, 700 units were proposed. Since that time, plans have been refined and 716 residential units are now proposed. The increase in vehicular trip generation due to the additional 16 units would be de minimis (i.e. four additional vehicle trips during the AM peak hour and four additional vehicle trips during the PM peak hour).						

**Non-Auto Mode Split**

A portion of the trips generated by the existing development are made via non-auto modes of transportation. The percentage of site-generated trips that use non-auto modes of transportation is dependent on the proximity of the site to transit stops, the walkability of the surrounding area, and the degree to which the use of non-auto modes is encouraged, such as by implementation of a transportation demand management (TDM) program.

To estimate the office non-auto mode split, the 2005 WMATA Ridership Survey equations (based on distance to metro) were used. Approximately 14 percent of employees would be expected to use transit currently. To account for additional walkers and bikers, the non-auto mode split was conservatively assumed to be 20 percent for the office component.

To estimate the non-auto mode split for the retail uses, the 2005 WMATA Ridership Survey equations (based on distance to metro) were used. The WMATA Ridership data indicates

approximately 10 percent of trips would be made via transit. A 40 percent mode split was assumed to account for walking and bicycling and the neighborhood-serving nature of the retail.

Based on these mode split estimates, the existing development is estimated to generate 174 AM peak hour trips and 291 PM peak hour trips by non-auto modes of transportation. The non-auto trips will be comprised on transit, pedestrian, and bicycle trips. The estimates for the specific modes were based on data contained in the 2005 WMATA Ridership Survey.

### Proposed Redevelopment

Like the existing development, a portion of the trips generated by the proposed redevelopment would be made via non-auto modes of transportation.

According to US Census data, approximately 48 percent of residents in the vicinity of the site take public transportation, walk, or bike to work. Another six percent carpool and six percent work at home. Therefore, it is anticipated that the non-auto mode split for the proposed residential component would be 55 percent.

Consistent with the non-auto mode split assumptions for the existing development, the proposed retail uses were assumed to have a non-auto mode split of 40 percent.

Based on these mode split estimates, the proposed uses are expected to generate 327 AM peak hour trips and 592 PM peak hour trips by non-auto modes of transportation.

The non-auto trips will be comprised on transit, pedestrian, and bicycle trips. The estimates for the specific modes were based on data contained in US Census data and the 2005 WMATA Ridership Survey.

## **Pass-by Trips**

### Existing Development

A portion of the trips generated by retail and service uses are made by vehicles already using the adjacent streets to reach a different destination but stop at the site in passing. This type of trip is called a pass-by trip, and is defined by Trip Generation Manual as a trip in which the retail or service destination is the secondary part of a primary trip, such as a work-to-shopping-to-home trip. An example of a pass-by trip would be one in which a driver stops at the retail or service uses on his/her way home from work. Pass-by rates were obtained from the ITE Trip Generation Handbook, 9<sup>th</sup> Edition. Since no AM pass-by rates were provided, the AM peak hour pass-by rate was assumed to be half of the PM peak hour pass-by rate.

Pass-by trips are estimated to account for 15 AM peak hour vehicle trips and 94 PM peak hour vehicle trips generated by the current development.

Proposed Redevelopment

Like the existing development, a portion of the trips generated by the proposed redevelopment would be pass-by trips.

The pass-by rates for the proposed retail uses were assumed to be the same as that assumed for the existing retail uses. Pass-by trips are expected to account for 35 AM peak hour vehicle trips and 190 PM peak hour vehicle trips generated by the proposed redevelopment.

**Net Vehicle Trips**

The number of net new vehicle trips generated by the proposed redevelopment was calculated by subtracting the existing vehicular site trips from the proposed vehicular site trips. As shown on Table 11, the proposed redevelopment would generate 216 *fewer* AM peak hour vehicle trips than current conditions (a 40 percent reduction) and 62 *fewer* PM peak hour vehicle trips than current conditions (a 10 percent reduction).

Table 11  
Site Trip Generation Summary – Net New Vehicle Trips

Land Use	AM Peak Hour			PM Peak Hour		
	In	Out	Total	In	Out	Total
Existing Vehicle Trips	453	86	539	165	444	609
Proposed Vehicle Trips	130	193	323	306	241	547
Net New Vehicle Trips	(323)	107	(216)	141	(203)	(62)

**Site Trip Distribution and Assignment**

The distribution of new peak hour vehicle trips generated by the proposed development was based on existing traffic patterns in the study area and general knowledge of commuter routes to/from the site.

The existing office and retail trips were removed from the network based on the distribution of existing counts, assuming the vast majority of office trips are routed via Wisconsin Avenue. The trip distributions shown in Table 12 were applied to the new residential and retail vehicle trips generated by the proposed development.

Removed office and retail site trips are shown on Figure 14, proposed residential site trips are shown on Figure 15, and proposed retail site trips are shown on Figures 16A (new retail trips) and 16B (pass-by retail trips). The resulting total site trips for the proposed development are shown on Figure 17.



Table 12  
Site Trip Distributions

Roadway	Direction	Residential	Retail
Wisconsin Avenue	North	20%	30%
	South	45%	30%
Van Ness Street	East	10%	10%
	West	10%	25%
Porter Road	East	15%	5%

### Proposed Parking

#### Vehicular Parking

Based on parking requirements prescribed in the 2016 Zoning Regulations (ZR16), a minimum of 404 parking spaces are required for the proposed development. A summary of the parking required and provided for each land use is provided in Table 13. As shown in Table 13, the Applicant is not seeking relief from the minimum parking requirements.

Table 13  
Parking Summary

Land Use	Existing Parking	Required Parking	Proposed Parking
Residential	1,035 spaces	1 per 3 units (in excess of four units) = (716-4)/3 237 spaces	Approximately 900 spaces (residential vs. retail split not yet determined)
Retail		1.33 per 1,000 SF in excess of 3,000 SF = 1.33*(126,917-3,000)/1,000 124 spaces	
<b>Total</b>	<b>1,035 spaces</b>	<b>361 spaces</b>	<b>900 spaces</b>

## Bicycle Parking

The development also would be required to provide long-term and short-term bicycle parking. Long-term bicycle parking is intended for use by employees and residents and must be located on the first level below grade or on the ground floor of each building. Short-term bicycle parking is intended for use by visitors to the site and should be located in public space with input from DDOT during the public space process. The required bicycle parking for the development is summarized in Table 14 below.

Table 14  
Bicycle Parking Summary

Land Use	Required Parking		Proposed Parking	
	Long-term <sup>1</sup>	Short-term	Long-term	Short-term <sup>2</sup>
Residential	1 per 3 units 716/3 = 239 long-term	1 per 20 units 716/20 = 36 short-term	239 long-term	36 short-term
Retail	1 per 10,000 SF 126,917/10,000= 13 long-term	1 per 3,500 SF 126,917/3,500= 36 short-term	13 long-term	38 short-term
<b>Total</b>	<b>252 long-term</b>	<b>72 short-term</b>	<b>252 long-term</b>	<b>72 short-term</b>

<sup>1</sup> Per ZR16 §802.2, after the first 50 bicycle spaces are provided for a use, additional spaces are required at ½ the specified ratio. However, DC law requires that residential uses provide one space per three units with no maximum.

<sup>2</sup> The exact number and location of short-term bicycle parking spaces will be finalized through the public space process.

Long-term bicycle parking for the residential use is located on the ground floor on the south side of the building. Long-term bicycle parking for the retail use is located on the first floor of the garage, adjacent to the retail elevator vestibule.

## Proposed Loading

The loading requirements for the proposed redevelopment are prescribed by the ZR16 and are summarized in Table 15.

The loading facilities are planned internal to the site on the ground level and will be accessed via Upton Street. The loading facilities have been designed to accommodate front-in/front-out maneuvers.

Diagrams showing the truck maneuvers in and out of the alley and loading areas are included in Appendix I.

Table 15  
Loading Summary

Land Use	Required Loading <sup>1</sup>	Proposed Loading
Residential	> 50 DU 1 loading berth + platform 1 service/delivery space	6 loading berths: (3 30-foot berths with 100 SF platforms; 3 55-foot berths with 200 SF platforms) 2 service/delivery spaces
Retail	> 100,000 SF of GFA 3 loading berths = platforms 1 service/delivery space	
<b>Total</b>	<b>3 loading berths + platforms</b> <b>1 service/delivery space</b>	<b>6 loading berths:</b> <b>(3 30-foot berths with 100 SF platforms;</b> <b>3 55-foot berths with 200 SF platforms)</b> <b>2 service/delivery spaces</b>
<sup>1</sup> Where two or more uses share a building or structure, the uses may share loading as long as internal access is provided from all shared uses requiring loading.		

## TOTAL FUTURE CONDITIONS

### Traffic Forecasts

Total future traffic forecasts with the proposed redevelopment were determined by combining the background volumes shown on Figure 12 with the site traffic volumes shown on Figure 17 to yield the 2021 total future traffic forecasts shown on Figure 18.

### Capacity Analysis

Capacity analyses were performed at the study intersections using the lane use and traffic controls shown on Figure 8, the total future peak hour traffic forecasts shown on Figure 18, and existing DDOT traffic signal timings<sup>4</sup>. The level of service results for the 2021 total future conditions with the proposed redevelopment are included in Appendix J and summarized in Table 5.

By comparing total future levels of service to background levels of service, the impact of the proposed development can be identified. In accordance with DDOT methodology, an impact is defined as follows:

- Degradation in approach or overall level of service to LOS E or LOS F or
- Increase in overall intersection delay by more than five seconds when compared to background conditions for intersections operating at an overall LOS E or LOS F under background conditions.

<sup>4</sup> Note phasing changes were recommended at the Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway intersection as part of the Sidwell Friends School Revised Comprehensive Transportation Review. These phasing changes were modeled under background and total future conditions.

As shown in Table 5, where overall intersection levels of service under background conditions are projected to be a LOS D or better, overall intersection levels of service under total future conditions with the proposed redevelopment also are projected to be at a LOS D or better. No intersections operating at an overall LOS E or worse are projected to experience an increase in overall intersection delay by more than five seconds when compared to background conditions.

Individual intersection lane groups are projected to maintain acceptable levels of service (LOS D or better) with four exceptions:

- Wisconsin Avenue/Van Ness Street eastbound left – drops from LOS E to LOS F during the PM peak hour;
- Wisconsin Avenue/Van Ness Street eastbound through/right – drops from LOS D to LOS E during the AM peak hour;
- Wisconsin Avenue/Van Ness Street westbound left – drops from LOS E to LOS F during the PM peak hour; and
- Wisconsin Avenue/Upton Street northbound left/through/right – drops from LOS D to LOS E during the PM peak hour.

***In some cases, intersection levels of service are expected to improve from background to total future conditions due to the removal of existing site trips.*** The following locations are expected to experience an improvement in level of service:

- Wisconsin Avenue/Upton Street overall level of service – improves from LOS F to LOS E during the AM peak hour;
- Van Ness Street/Nebraska Avenue eastbound approach – improves from LOS F to LOS D during the AM peak hour;
- Van Ness Street/Nebraska Avenue northbound approach – improves from LOS E to LOS D during the AM peak hour; and
- Van Ness Street/40<sup>th</sup> Place northbound approach – improves from LOS E to LOS D during the AM peak hour.

## Queue Analysis

A queue analysis was conducted for 2021 total future conditions. Synchro was used to conduct the analyses, using the 95<sup>th</sup> percentile queue lengths. The results are summarized in Table 6 and queue reports are provided in Appendix J.

By comparing total future queues to background queues, the impact of the proposed development can be identified. In accordance with DDOT methodology, an impact is defined as an increase in the 95<sup>th</sup> percentile queue greater than 150 feet when compared to background conditions. As shown in Table 6, no queues would increase by more than 150

feet; however, 95<sup>th</sup> percentile queues are expected to improve (shorten) by more than 150 feet at the following locations:

- Wisconsin Avenue/Upton Street northbound left/through lane group – queue is projected to decrease by 172 feet during the AM peak hour;
- Van Ness Street/Nebraska Avenue eastbound approach – queue is projected to decrease by 184 feet during the AM peak hour; and
- Van Ness Street/40<sup>th</sup> Place northbound approach – queue is projected to decrease by 232 feet during the AM peak hour.

## Improvement Analysis

Although the proposed redevelopment is projected to substantially reduce the number of peak hour vehicle trips compared to current conditions, the directional distribution of the trips would be altered as a result of the redevelopment. For example, due to the large office component, current trips are heavily directed inbound during the morning peak hour and outbound during the evening peak hour. With the proposed redevelopment, the residential component would cause the directionality of trips to be in the reverse direction (i.e. trips would be more heavily weighted in the outbound direction during the morning peak hour and the inbound direction during the evening peak hour). As a result of this directional change of trips, some approaches at certain intersections would experience a drop in levels of service and some would experience an improvement in levels of service as previously noted. To mitigate the impact of the proposed redevelopment, improvements were examined at each impacted intersection. Specifically, minor timing adjustments were evaluated to better accommodate the redirection of the trips. Note that the cycle lengths and offsets are consistent with existing conditions. Results of the analyses are summarized in Tables 16 and 17. For comparison purposes, the background and total future conditions (without improvements) also are provided in Tables 16 and 17.

### Wisconsin Avenue/Van Ness Street

The eastbound left, eastbound through/right, and westbound levels of service for this intersection are projected to drop to LOS E or LOS F under future conditions. In order to offset the impact associated with the proposed redevelopment and improve the overall level of service at the intersection, the following minor timing adjustments could be made:

- During the AM peak, shift two seconds of green time from the mainline northbound/southbound phases to the eastbound/westbound phases.
- During the PM peak, shift three seconds of green time from the mainline northbound/southbound phases to the eastbound/westbound phases.

As shown in Table 16, these timing adjustments would improve the levels of service for the eastbound through/right, westbound left, and westbound through/right during the AM peak hour. During the PM peak hour, the levels of service would improve for the eastbound left, eastbound through/right, and westbound left.

### Wisconsin Avenue/Upton Street

The northbound approach level of service is projected to drop from LOS D to LOS E under future conditions. In order to offset the impact associated with the proposed redevelopment and improve the overall level of service at the intersection, the following minor timing adjustments could be made:

- During the PM peak, shift three seconds of green time from the eastbound phase to the northbound left and northbound mainline phases.

As shown in Table 16, this timing adjustment would offset the impact of the proposed redevelopment. The Synchro reports for level of service and queue improvement analyses are provided in Appendix K.

Table 16  
Level of Service Summary with Recommended Improvements

Approach	Background Conditions		Total Future Conditions		Total Future with Improvements	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>1. Wisconsin Avenue/Van Ness Street</b>						
EBL	D	E (72.4)	D	F (120.3)	D	E (72.1)
EBTR	D	E (66.4)	E (61.4)	E (64.7)	D	D
WBL	F (89.1)	E (78.2)	F (102.9)	F (97.4)	E (77.7)	E (65.5)
WBTR	F (108.3)	F (124.9)	F (87.8)	F (134.2)	E (72.6)	F (98.6)
NBLTR	B	B	B	B	B	B
SBLTR	B	C	B	C	B	D
<b>Overall</b>	<b>C</b>	<b>D</b>	<b>C</b>	<b>D</b>	<b>C</b>	<b>D</b>
<b>2. Wisconsin Avenue/Upton Street</b>						
EBL	D	D	D	D	D	D
EBR	C	C	D	C	D	C
WBR	D	C	D	C	D	D
NBLT	F (262.2)	D	F (124.3)	E (68.7)	F (124.3)	D
NBR	A		A		A	
SBTR	B	B	B	C	A	B
<b>Overall</b>	<b>F (119.7)</b>	<b>D</b>	<b>E (58.5)</b>	<b>D</b>	<b>E (57.9)</b>	<b>D</b>
[x.x] = unsignalized intersection control delay in sec/veh (x.x) = signalized intersection control delay in sec/veh						

Table 16 (continued)  
Level of Service Summary with Recommended Improvements

Approach	Background Conditions		Total Future Conditions		Total Future with Improvements	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>3. Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway</b>						
EBLTR	D	D	D	D	D	D
WBLTR	E (62.5)	F (93.4)	E (62.5)	F (93.4)	E (62.5)	F (93.4)
NBLTR	C	B	C	B	C	B
SBLTR	A	A	B	A	B	B
SWLR	E (56.1)	D	E (56.1)	D	E (56.1)	D
<b>Overall</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>C</b>	<b>B</b>	<b>C</b>
<b>4. Wisconsin Avenue/Rodman Street/Sidwell Driveway</b>						
EBLTR	F (109.2)	D	F (109.2)	D	F (109.2)	D
WBLTR	E (64.3)	D	E (64.3)	D	E (64.3)	D
NBLTR	A	A	A	A	A	A
SBLTR	B	B	B	B	B	B
<b>Overall</b>	<b>C</b>	<b>A</b>	<b>C</b>	<b>B</b>	<b>C</b>	<b>A</b>
<b>5. Wisconsin Avenue/Quebec Street</b>						
WBLR	B	C	C	C	C	C
NBTR	A	A	A	A	A	A
SBLT	A	A	A	A	A	A
<b>6. Wisconsin Avenue/Porter Street</b>						
EBLTR	D	D	D	D	D	D
WBLTR	F (141.8)	F (119.8)	F (134.0)	F (144.2)	F (134.0)	F (144.2)
NBLTR	B	B	B	B	B	B
SBLTR	C	B	D	B	D	B
<b>Overall</b>	<b>C</b>	<b>C</b>	<b>D</b>	<b>C</b>	<b>D</b>	<b>C</b>
<b>7. Van Ness Street/Nebraska Avenue</b>						
EBLTR	F (85.7)	D	D	D	D	D
WBL	E (69.1)	F (209.0)	D	F (124.8)	C	F (125.6)
WBTR	B	D	C	D	C	D
NBLTR	E (69.3)	D	D	D	D	D
SBLTR	B	F (181.7)	B	F (181.7)	B	F (181.7)
<b>Overall</b>	<b>D</b>	<b>F (103.0)</b>	<b>C</b>	<b>F (94.6)</b>	<b>C</b>	<b>F (94.7)</b>
<b>8. Van Ness Street/40<sup>th</sup> Place</b>						
EBLTR	A	A	A	A	A	A
WBLTR	A	A	A	A	A	A
NBLTR	E (39.5)	F (237.3)	D	F (117.4)	D	F (117.4)
SBLTR	B	C	B	C	B	C
[x.x] = unsignalized intersection control delay in sec/veh [x.x] = signalized intersection control delay in sec/veh						

Table 16 (continued)  
Level of Service Summary with Recommended Improvements

Approach	Background Conditions		Total Future Conditions		Total Future with Improvements	
	AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>9. Upton Street/40<sup>th</sup> Place</b>						
WBLR	A	B	A	B	A	B
NBTR	A	A	A	A	A	A
SBLT	B	A	A	A	A	A
<b>Overall</b>	<b>B</b>	<b>A</b>	<b>A</b>	<b>B</b>	<b>A</b>	<b>B</b>
<b>10. Upton Street/Site Driveways</b>						
EBTR	A	A	A	A	A	A
WBLT	A	A	A	A	A	A
NBLR	B	B	B	B	B	B
[x.x] = unsignalized intersection control delay in sec/veh (x.x) = signalized intersection control delay in sec/veh						

Table 17  
95<sup>th</sup> Percentile Queue Summary (in feet) with Recommended Improvements

Approach	Available Storage <sup>†</sup>	Background Conditions		Total Future Conditions		Total Future with Improvements	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>1. Wisconsin Avenue/Van Ness Street</b>							
EBL	100	37	92	68	139	66	118
EBTR	210	246	349	337	347	309	311
WBL	600	154	134	163	161	152	144
WBTR	105	472	520	427	536	410	511
NBLTR	290	269	324	280	275	305	341
SBLTR	215	335	416	322	477	340	586
<b>2. Wisconsin Avenue/Upton Street</b>							
EBL	210/435	29	175	62	117	62	121
EBR	210	134	152	224	115	224	115
WBR	455	30	0	34	0	34	0
NBLT	295	952	223	780	246	780	251
NBR	95	0		0		0	
SBTR	280	265	426	248	476	171	383
† All distances measured to nearest intersection or end of turn lane, as appropriate. Where two storage lengths are given, the first is the distance to the driveway, the second is the distance to the nearest intersection.							



Table 17 (continued)  
95<sup>th</sup> Percentile Queue Summary (in feet) with Recommended Improvements

Approach	Available Storage <sup>†</sup>	Background Conditions		Total Future Conditions		Total Future with Improvements	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>3. Wisconsin Avenue/Fannie Mae/Post Office/Sidwell Driveway</b>							
EBLTR	520	21	156	21	156	21	156
WBLTR	345	138	302	138	302	138	302
NBLTR	565	570	388	483	415	483	415
SBLT	300	575	143	620	129	620	128
SBR	170						
SWLR	75	0	17	0	17	0	17
<b>4. Wisconsin Avenue/Rodman Street/Sidwell Driveway</b>							
EBLTR	100	231	95	231	95	231	95
WBLTR	95	133	80	133	80	133	80
NBLTR	490	120	36	110	46	110	46
SBLTR	565	594	172	615	166	615	166
<b>5. Wisconsin Avenue/Quebec Street</b>							
WBLR	440	8	10	13	13	13	13
NBTR	265	0	0	0	0	0	0
SBLT	490	8	35	8	38	8	38
<b>6. Wisconsin Avenue/Porter Street</b>							
EBLTR	220	142	75	138	75	138	75
WBLTR	310	390	426	381	463	381	463
NBLTR	385	305	223	251	238	251	238
SBLTR	265	493	230	643	218	643	218
<b>7. Van Ness Street/Nebraska Avenue</b>							
EBLTR	100	538	172	354	182	354	182
WBL	245	100	386	110	272	113	283
WBTR	100	90	333	114	254	115	261
NBLTR	210	614	636	546	644	546	644
SBLTR	280/465	263	1109	262	1110	262	1110
<b>8. Van Ness Street/40<sup>th</sup> Place</b>							
EBLTR	145/590	3	0	3	0	3	0
WBLTR	20/185	8	0	5	5	5	5
NBLTR	120/290	43	495	60	263	60	263
SBLTR	25	3	18	3	23	3	23

<sup>†</sup> All distances measured to nearest intersection or end of turn lane, as appropriate. Where two storage lengths are given, the first is the distance to the driveway, the second is the distance to the nearest intersection.

Table 17 (continued)  
 95<sup>th</sup> Percentile Queue Summary (in feet) with Recommended Improvements

Approach	Available Storage <sup>†</sup>	Background Conditions		Total Future Conditions		Total Future with Improvements	
		AM Peak	PM Peak	AM Peak	PM Peak	AM Peak	PM Peak
<b>9. Upton Street/40<sup>th</sup> Place</b>							
WBLR	190/420	15	35	13	45	13	45
NBTR	140	0	40	10	15	10	15
SBLT	45/290	88	20	28	30	28	30
<b>10. Upton Street/Site Driveways</b>							
EBTR	190	0	0	0	0	0	0
WBLT	210	15	3	3	10	3	10
NBLR	25	3	28	13	15	13	15
<sup>†</sup> All distances measured to nearest intersection or end of turn lane, as appropriate. Where two storage lengths are given, the first is the distance to the driveway, the second is the distance to the nearest intersection.							

## CONCLUSIONS AND RECOMMENDATIONS

The conclusions and recommendations of this study are as follows:

1. The subject site is well served by a high-quality multi-modal transportation system that includes: a corridor of arterial, collector, and local streets; a connected network of sidewalks; the Tenleytown-AU Metro station; multiple bus lines; and bicycle facilities.
2. The site is currently occupied with approximately 404,547 SF of office, 40,998 SF of retail, a 37,916 SF health club, and a conference center (which was originally a 2,070-seat cinema). Approximately 1,035 parking spaces are currently provided on site.
3. The proposed redevelopment will include approximately 716 residential units, a 60,200 SF grocery store, a 49,388 SF health club, and 22,598 SF of general retail space.
4. The proposed redevelopment will reduce the number of parking spaces on site from 1,035 spaces to approximately 900 spaces, a reduction of 13 percent.
5. Per ITE rates and equations, the site currently generates 539 AM peak hour vehicle trips and 609 PM peak hour vehicle trips. The proposed redevelopment is anticipated to generate 323 AM peak hour vehicle trips and 547 PM peak hour vehicle trips. Therefore, the redevelopment is expected reduce site traffic by 40 percent during the AM peak hour and 10 percent during the PM peak hour.
6. Two existing curb cuts on Upton Street will provide access to the approximately 900 parking spaces proposed with the project. The existing curb cut on Wisconsin Avenue would be closed in conjunction with the proposed redevelopment.
7. A third existing curb cut on Upton Street would be shifted to the west approximately 70 feet to accommodate front-in/front-out loading access to the site.
8. Minor adjustments to the signal timings at the Wisconsin Avenue/Van Ness Street and Wisconsin Avenue/Upton Street intersections are recommended to better accommodate the change in directionality of the vehicle trips generated by the proposed redevelopment.

# FIGURES

4000 WISCONSIN AVENUE



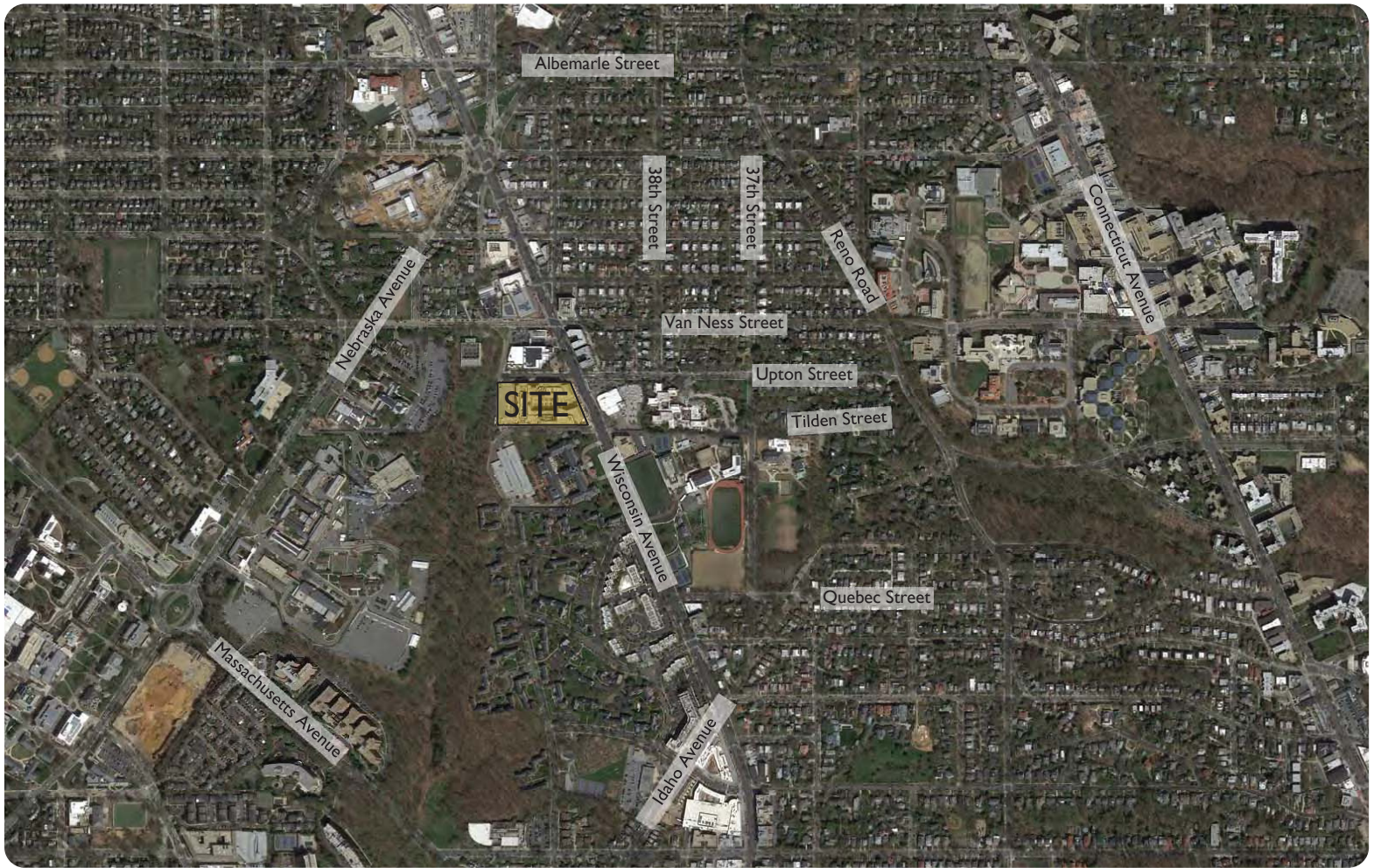


Figure 1  
Site Location Map

4000 Wisconsin Avenue  
Washington, DC





Figure 2A  
Site Plan - R0 Level Plan

4000 Wisconsin Avenue  
Washington, DC

Source: SK+I Architecture  
Date: 3-16-2017



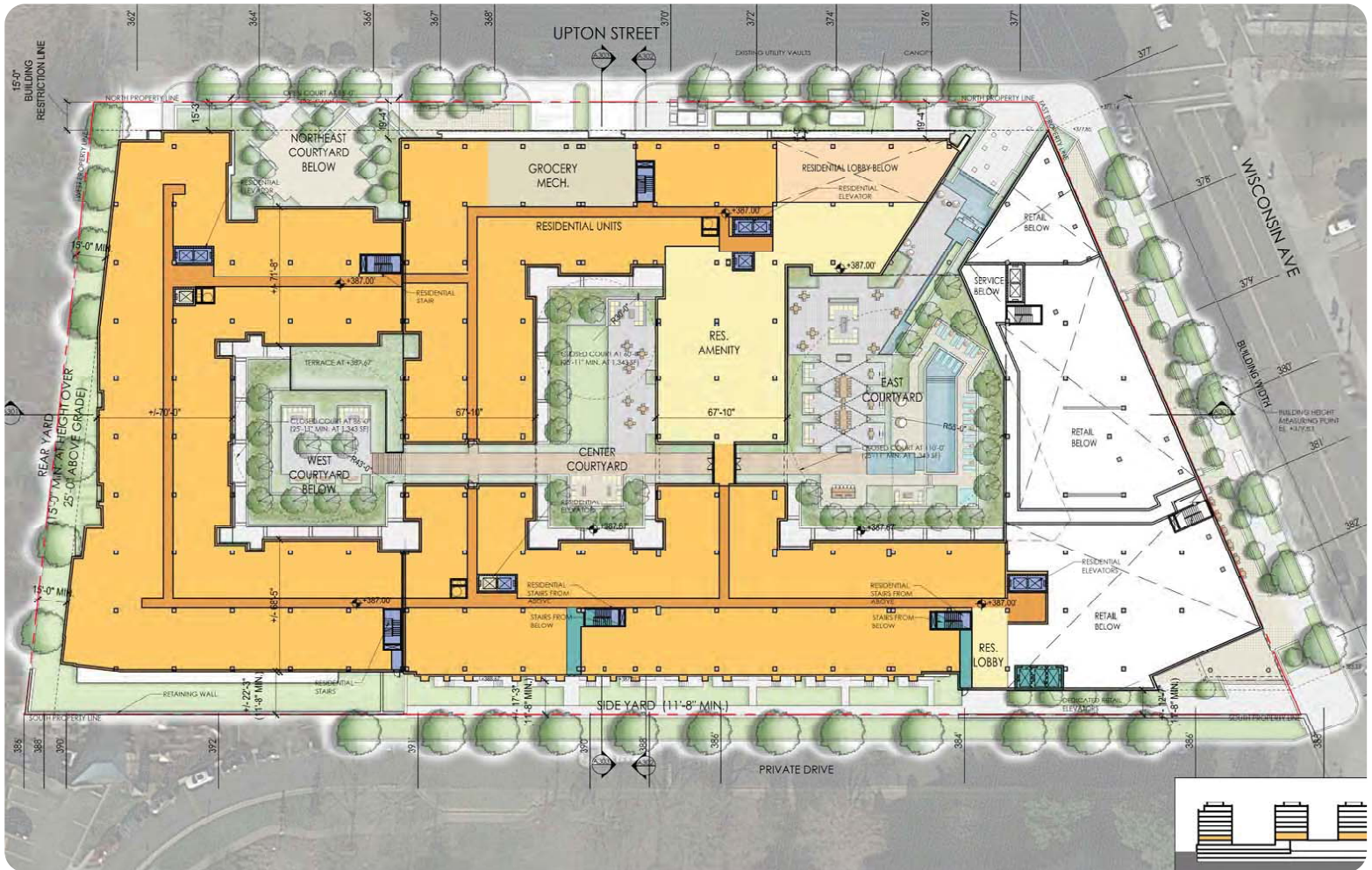


Figure 2B  
Site Plan - First Level Plan

4000 Wisconsin Avenue  
Washington, DC

Source: SK+I Architecture  
Date: 3-16-2017





Figure 3  
Multi-modal Transportation Options

4000 Wisconsin Avenue  
Washington, DC

- XX Metrobus Route
- XX MetroExtra Route
- # Capital Bikeshare Locations (Number of Docks)
- # Zipcar Locations (Number of Zipcars)
- # Bus Stops





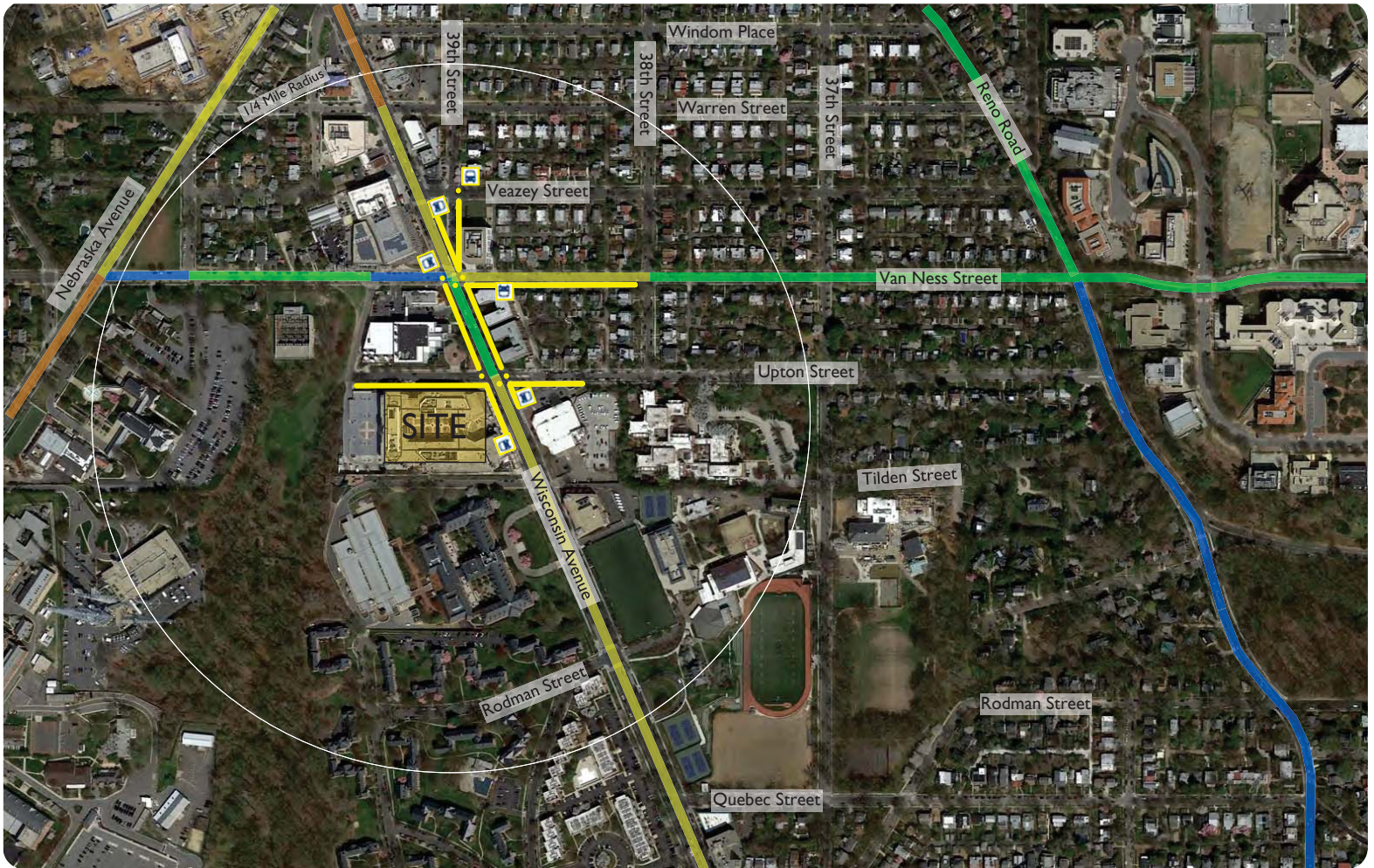








Figure 4  
One Quarter Mile Walk Shed

4000 Wisconsin Avenue  
Washington, DC

-  Bus Stops
-  Likely Walking Routes to/from Bus Stops
-  Sidewalk
-  Crosswalk

-  High Pedestrian Activity and Deficiency
-  Low Pedestrian Activity and Deficiency



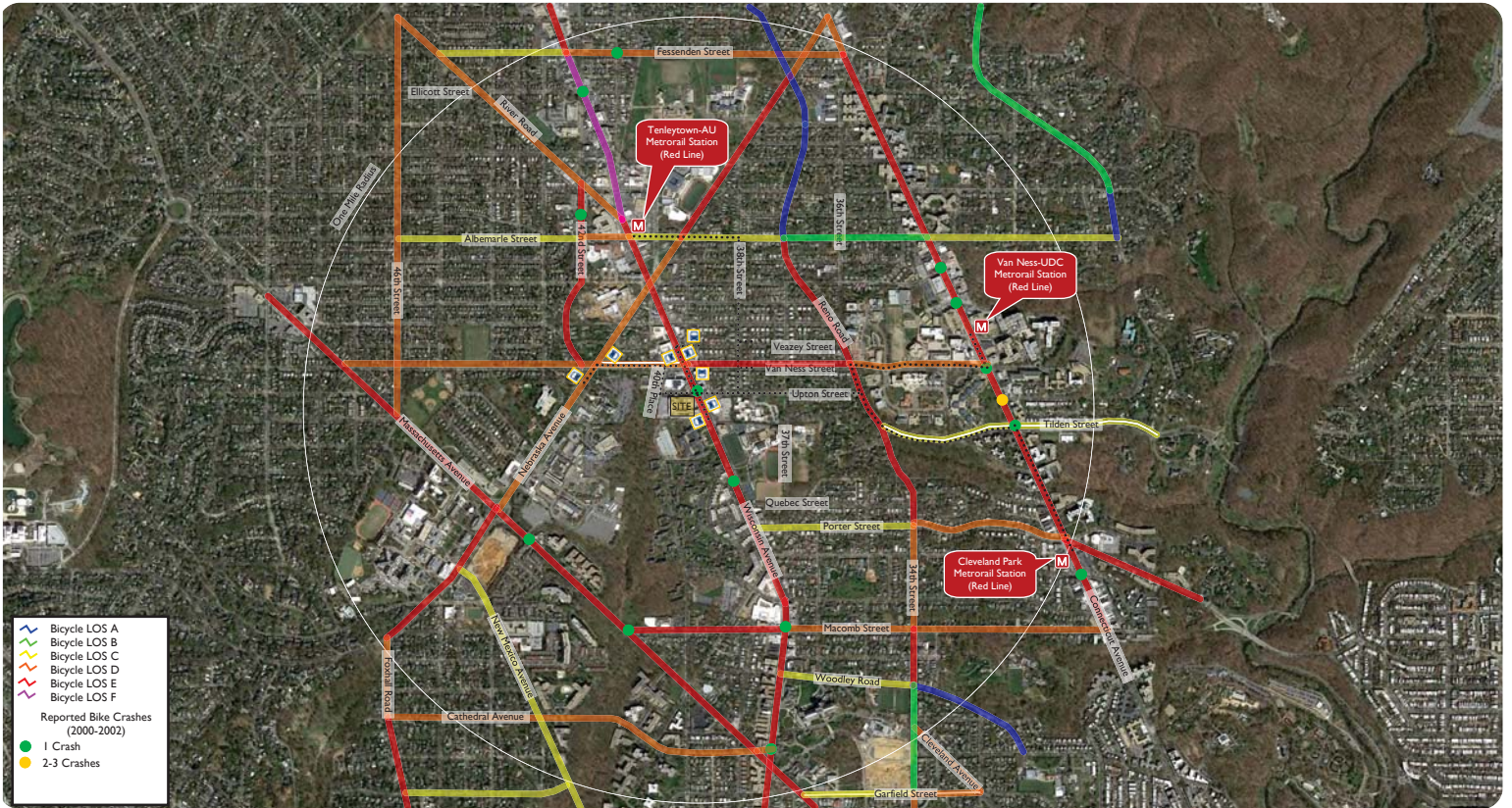


Figure 5  
One Mile Bike Shed

4000 Wisconsin Avenue  
Washington, DC

— Dedicated Bike Lane  
..... Likely Bike Routes to/from Transit Stops  
M Metrorail Station  
Bus Stop





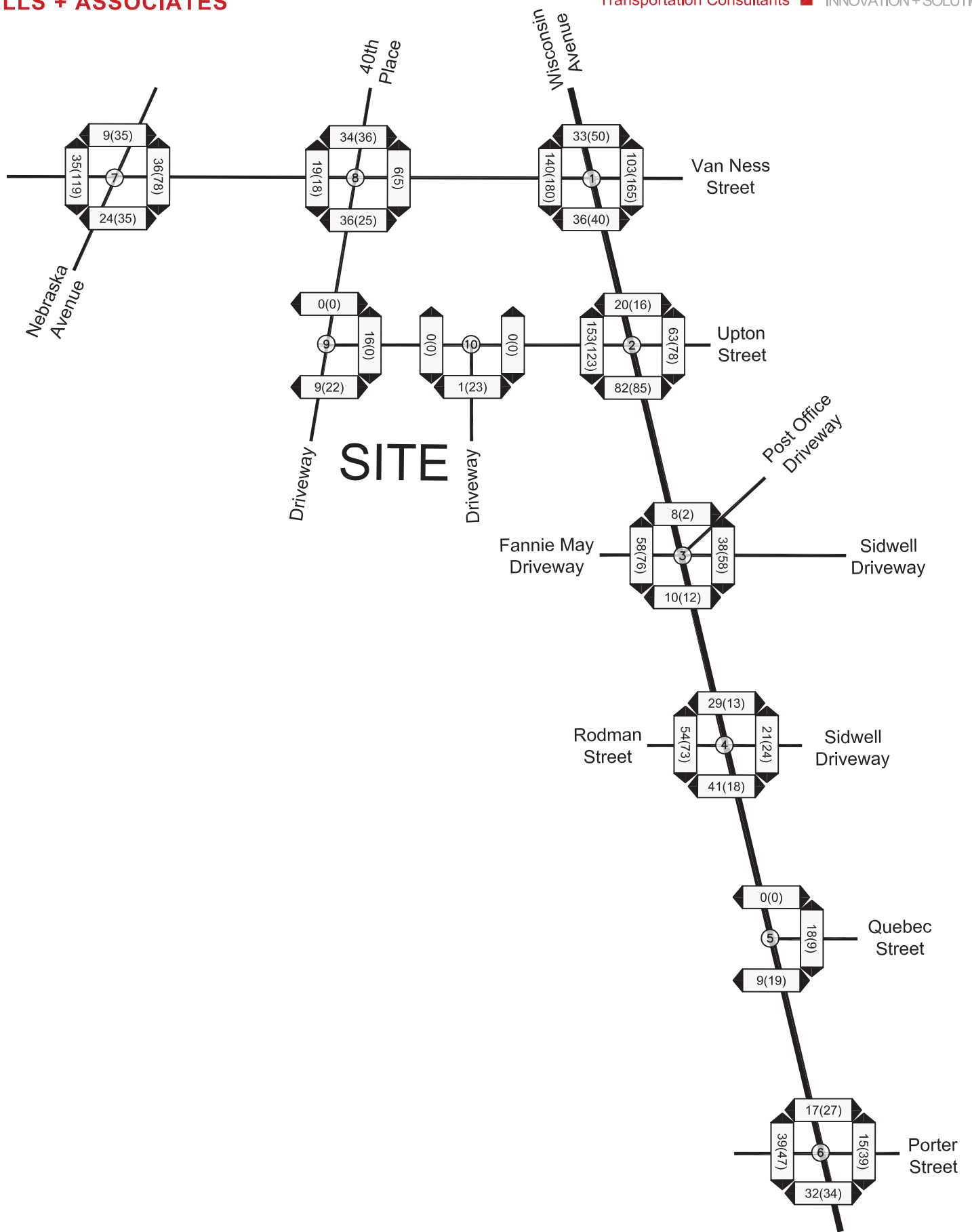


Figure 7  
Existing Peak Hour Pedestrian Volumes

4000 Wisconsin Avenue  
Washington, DC

AM Peak Hour  
PM Peak Hour  
000 (000)



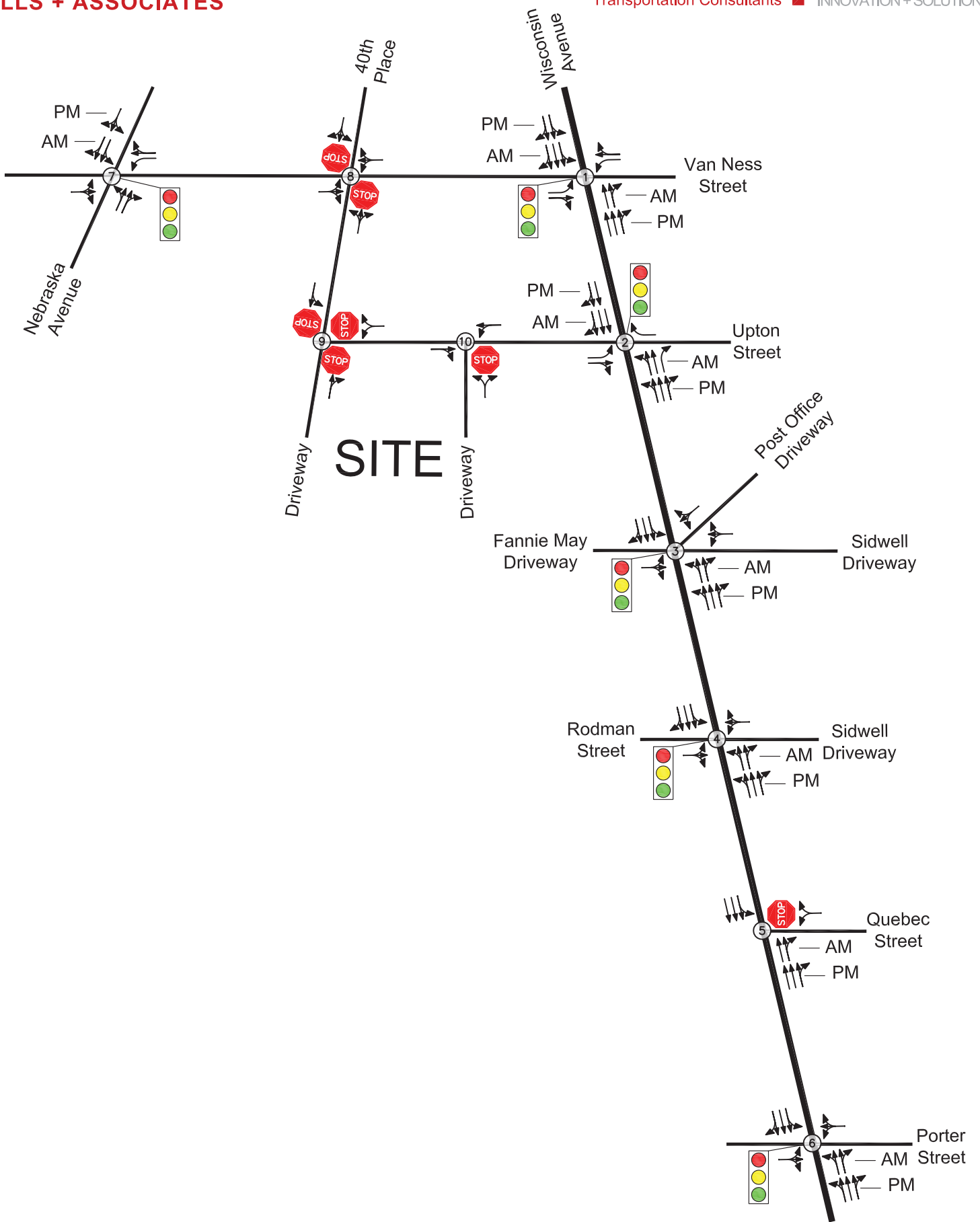


Figure 8  
Existing Lane Use and Traffic Control

4000 Wisconsin Avenue  
Washington, DC

- ← Represents One Travel Lane
- ⬢ Signalized Intersection
- ⬢ Stop Sign





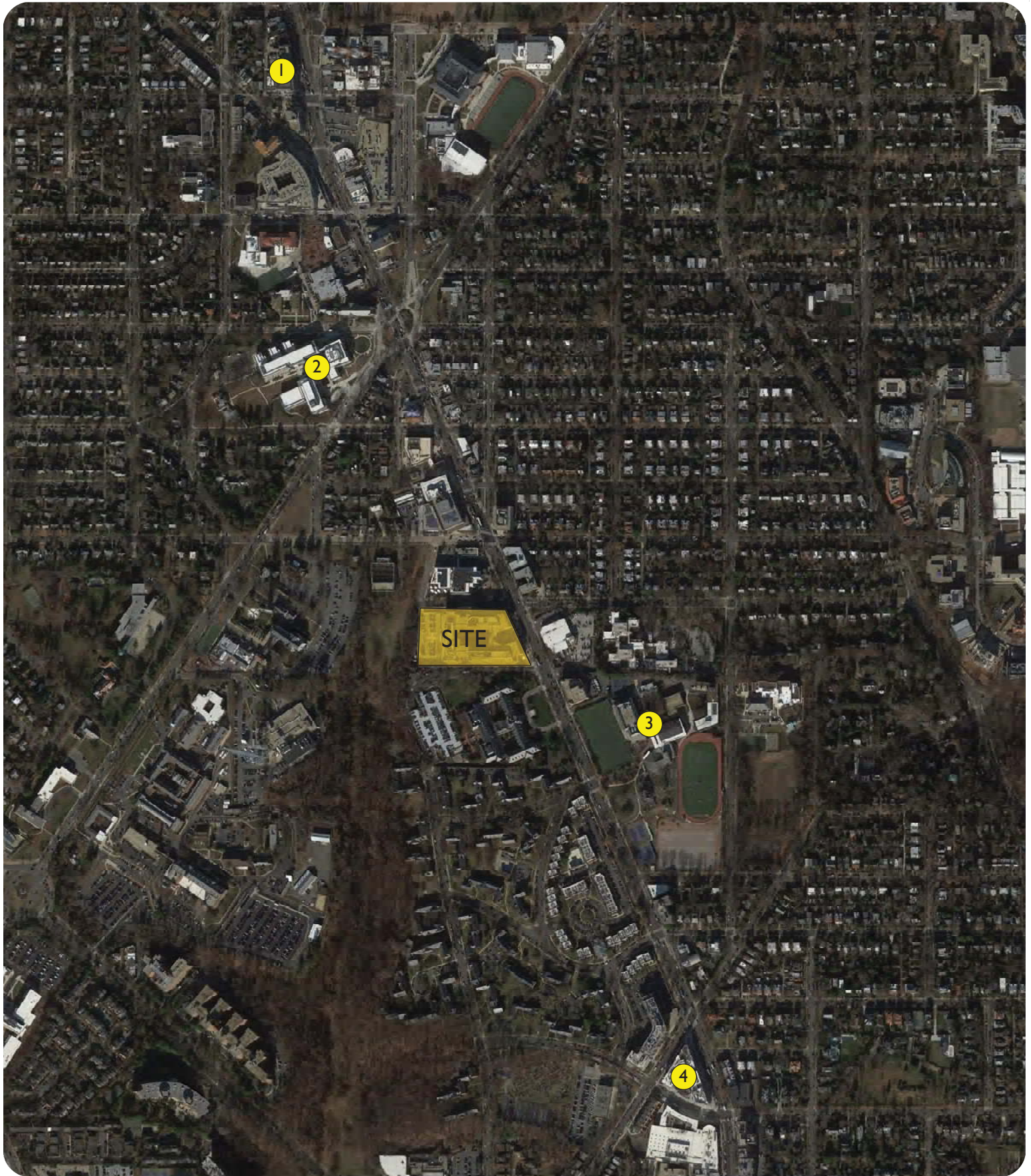


Figure 10  
Pipeline Locations

4000 Wisconsin Avenue  
Washington, DC

- ① 4614 Wisconsin Avenue
- ② Washington College of Law
- ③ Sidwell Friends School
- ④ Cathedral Commons



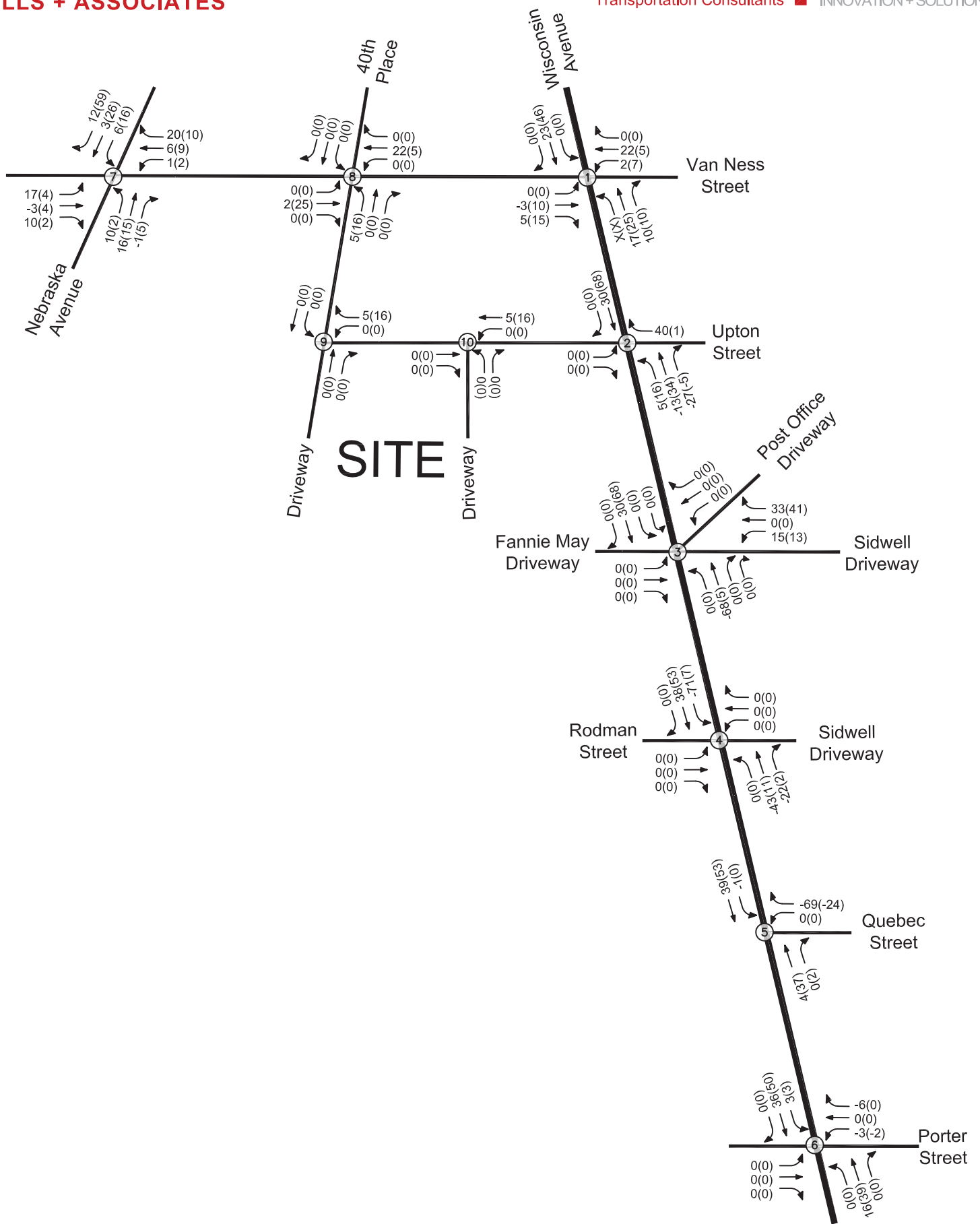


Figure 11  
Pipeline Traffic Forecasts

4000 Wisconsin Avenue  
Washington, DC

AM Peak Hour  
PM Peak Hour  
000 (000)





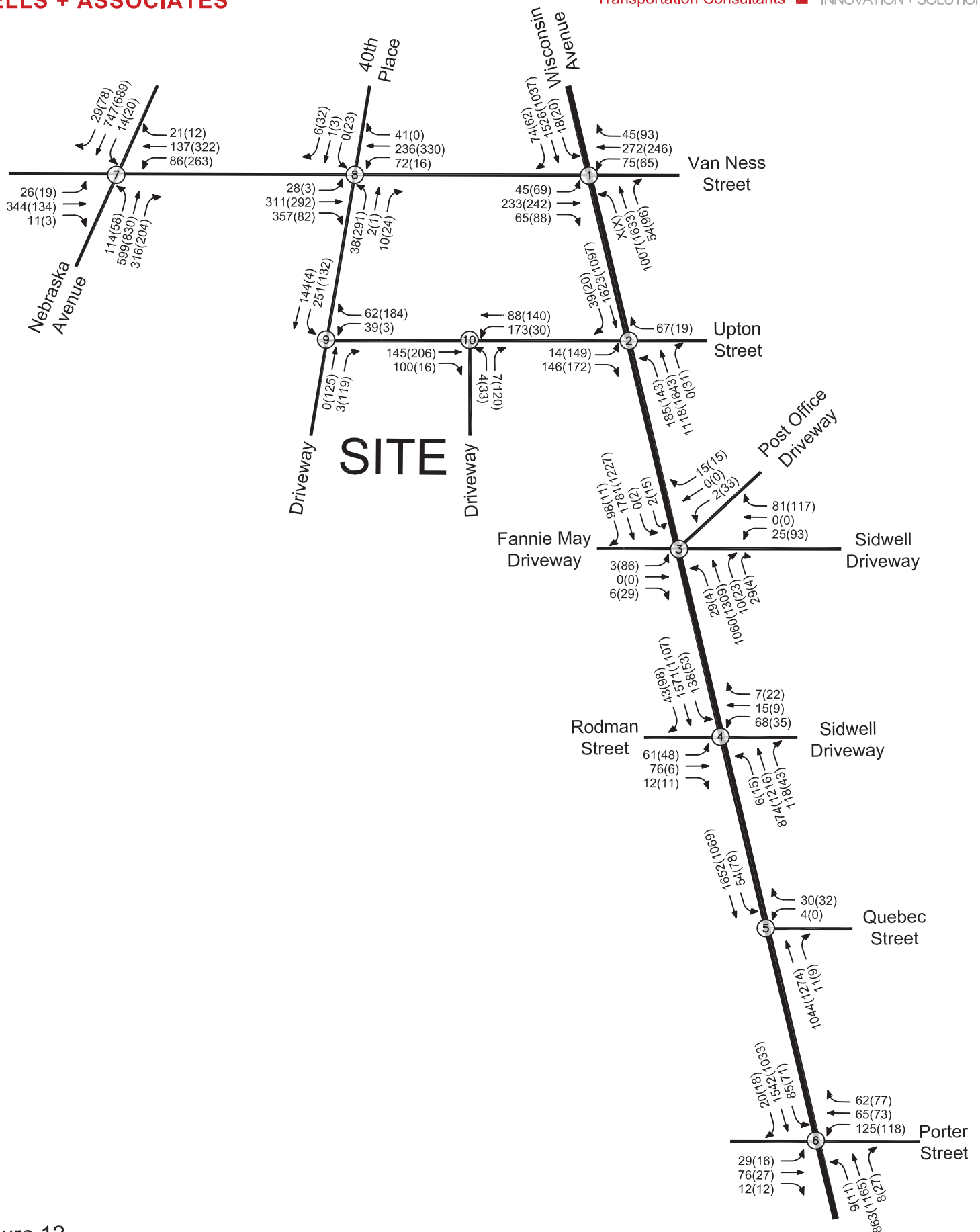


Figure 12  
2021 Background Traffic Forecasts

4000 Wisconsin Avenue  
Washington, DC

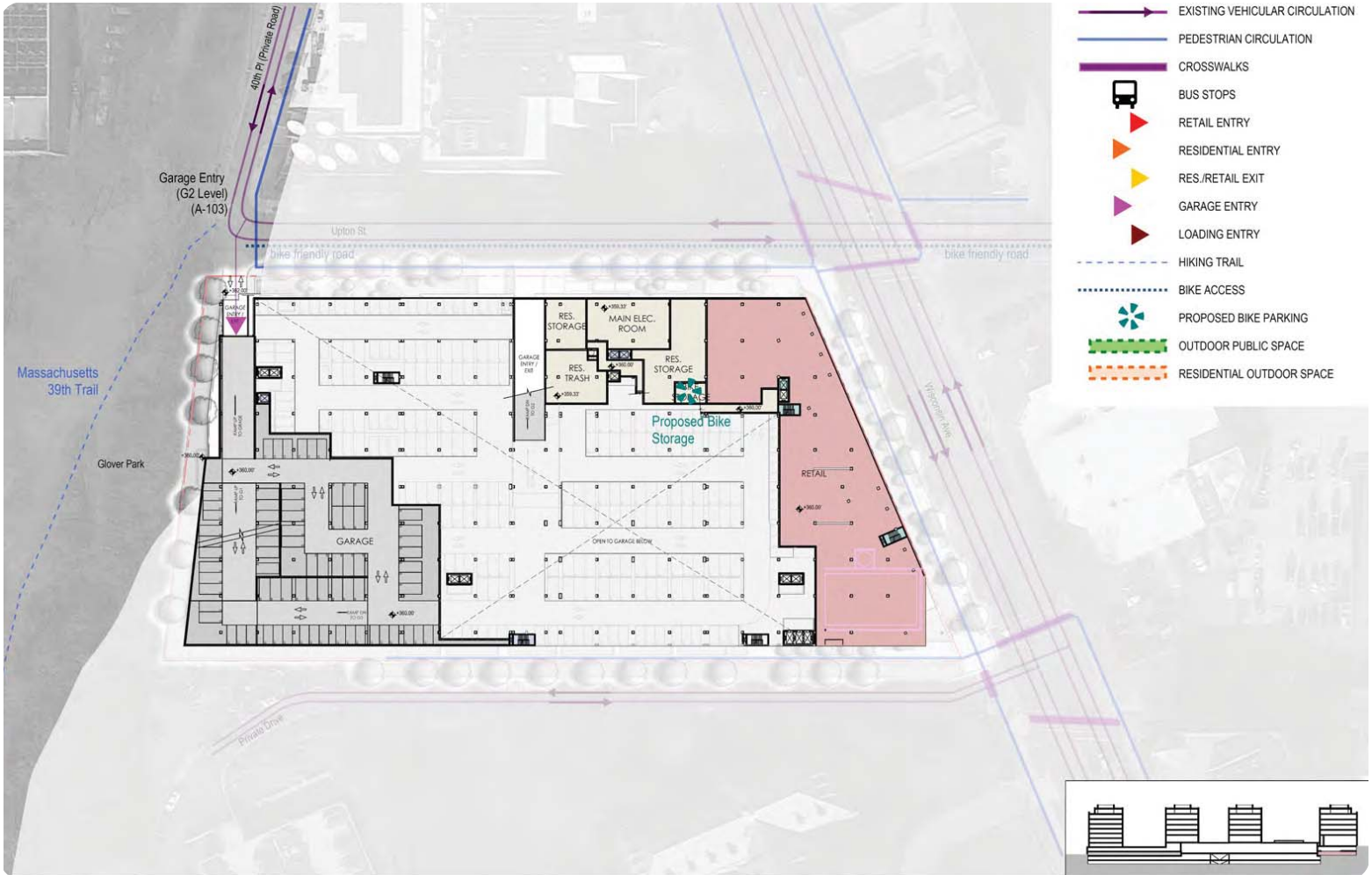


Figure 13A  
Site Circulation - G2 Level Plan

4000 Wisconsin Avenue  
Washington, DC

Source: SK+I Architecture  
Date: 3-16-2017



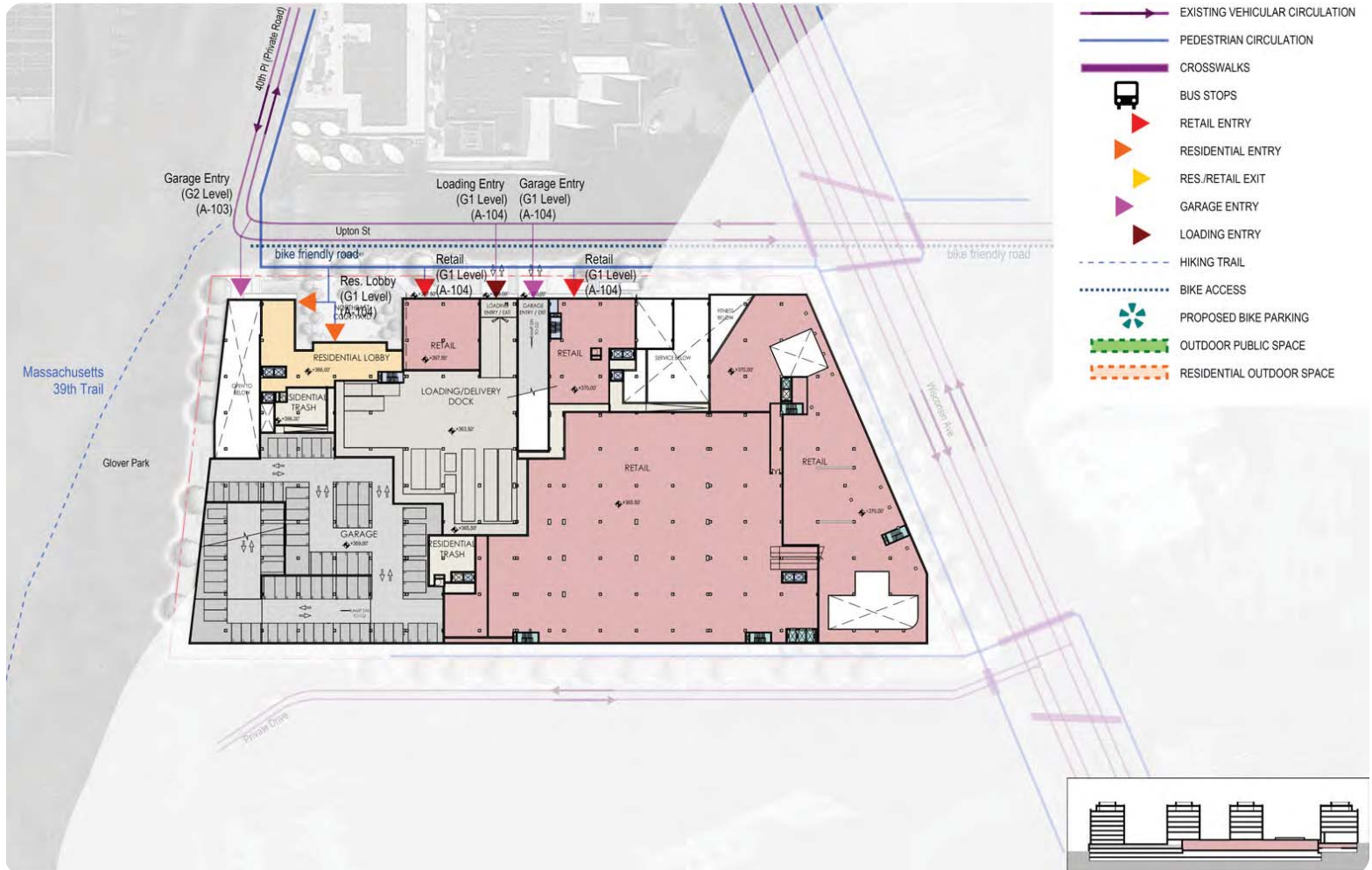


Figure 13B  
Site Circulation - G1 Level Plan

4000 Wisconsin Avenue  
Washington, DC

Source: SK+I Architecture  
Date: 3-16-2017



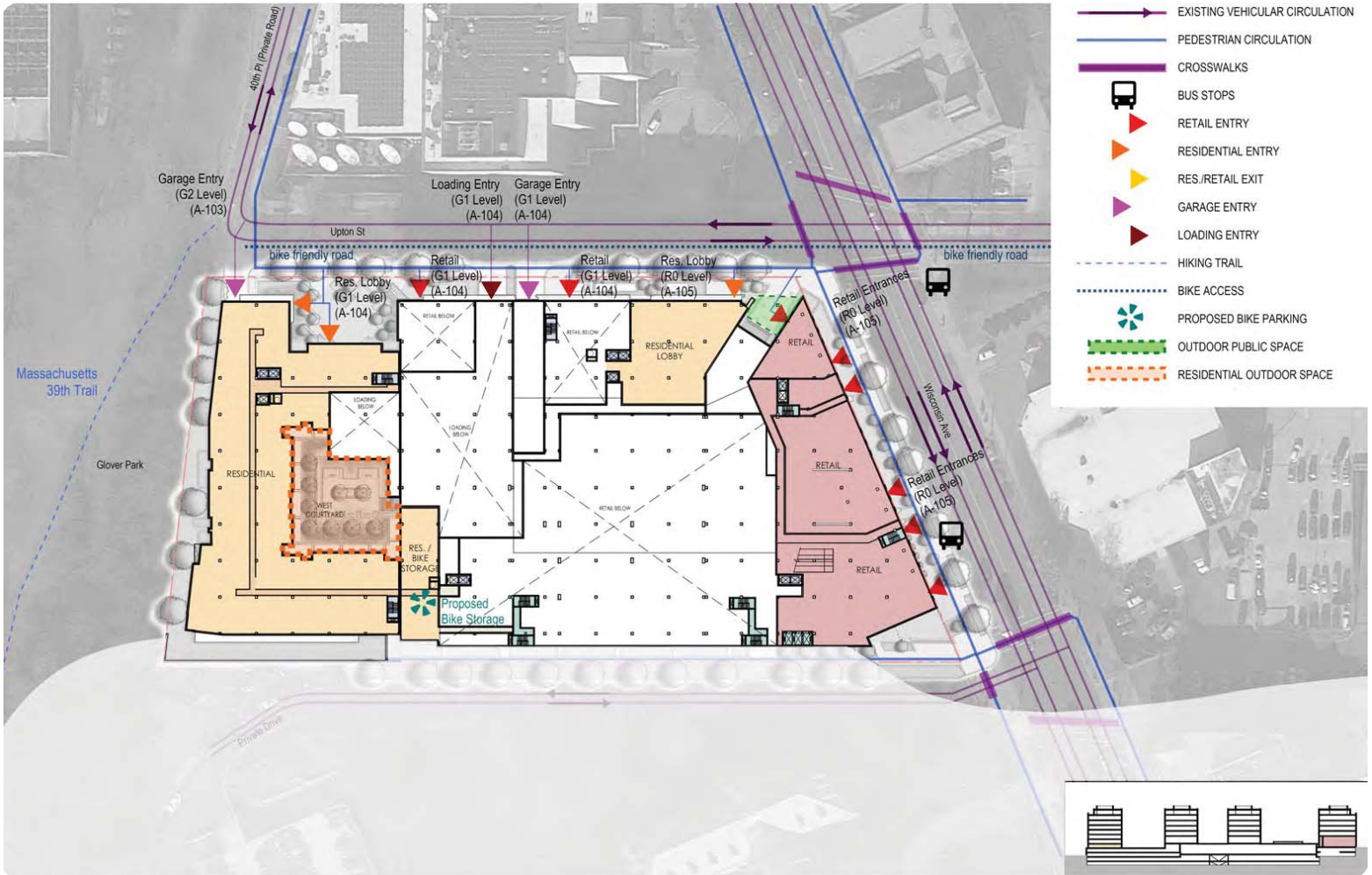


Figure 13C  
Site Circulation - R0 Level Plan

Source: SK+I Architecture  
Date: 3-16-2017

4000 Wisconsin Avenue  
Washington, DC



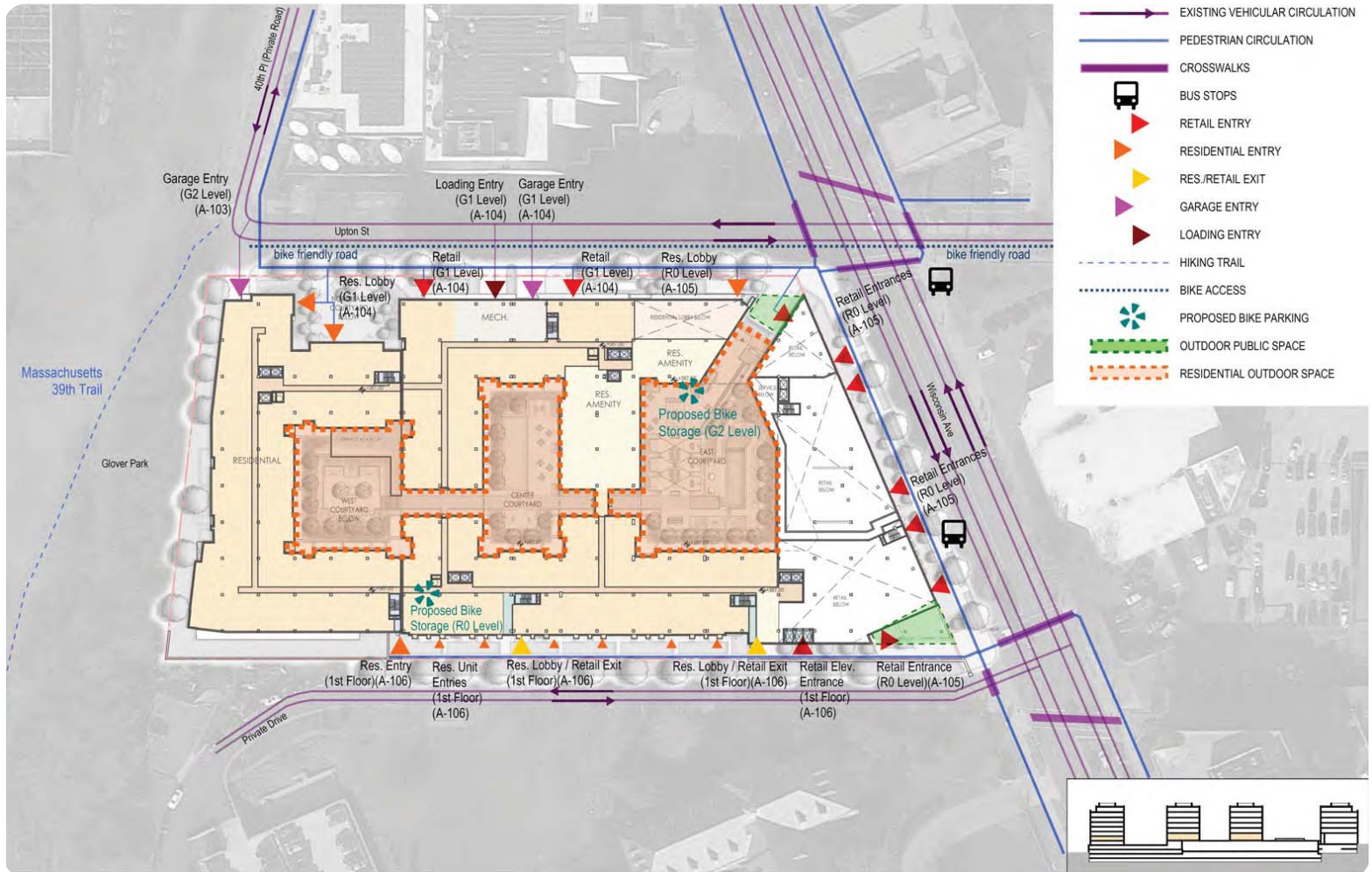


Figure 13D  
Site Circulation - First Level Plan

Source: SK+I Architecture  
Date: 3-16-2017

4000 Wisconsin Avenue  
Washington, DC



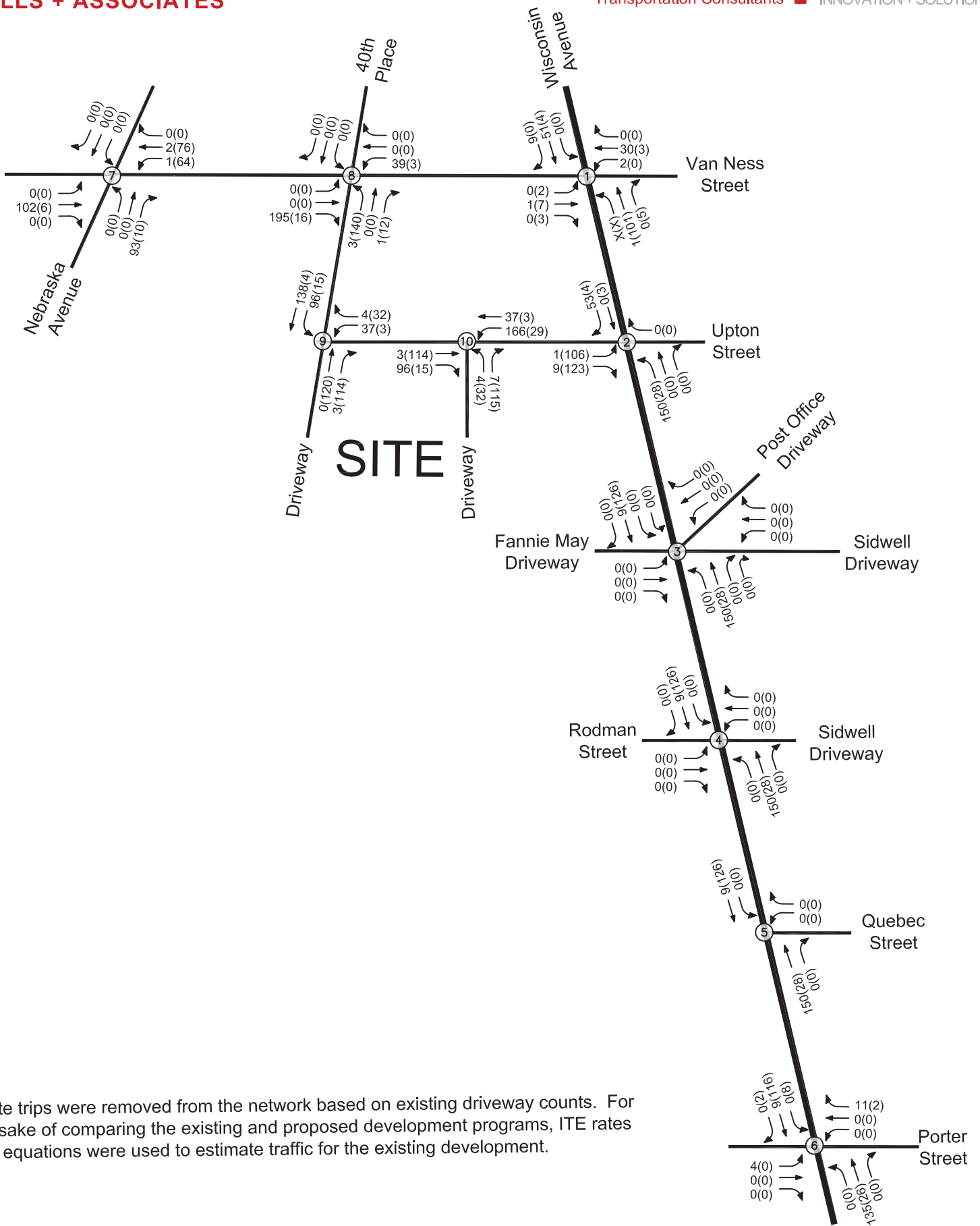


Figure 14  
Removed Office and Retail Site Trips

4000 Wisconsin Avenue  
Washington, DC

AM Peak Hour  
PM Peak Hour  
000 (000)



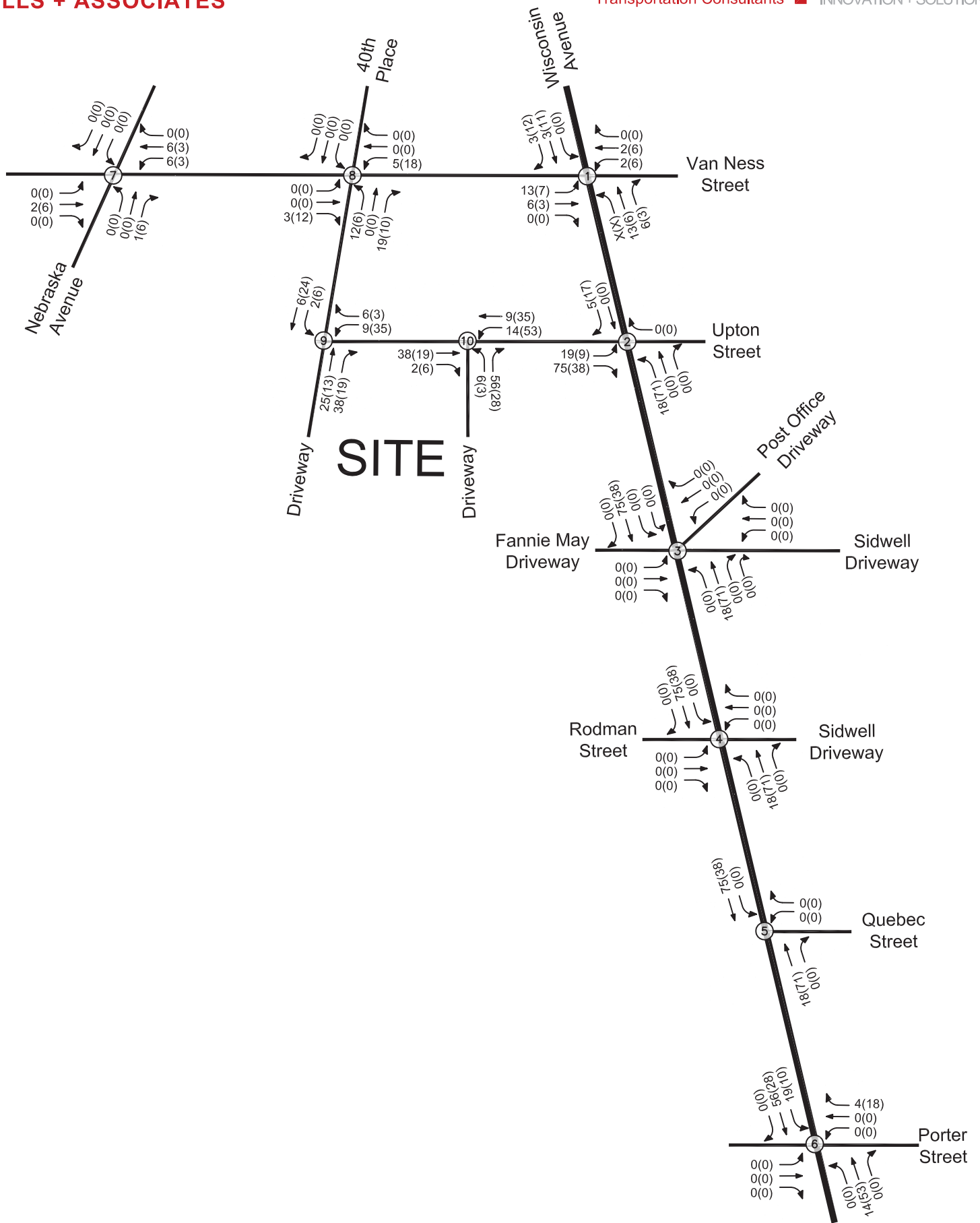


Figure 15  
Residential Site Trips

4000 Wisconsin Avenue  
Washington, DC

AM Peak Hour  
PM Peak Hour  
000 (000)



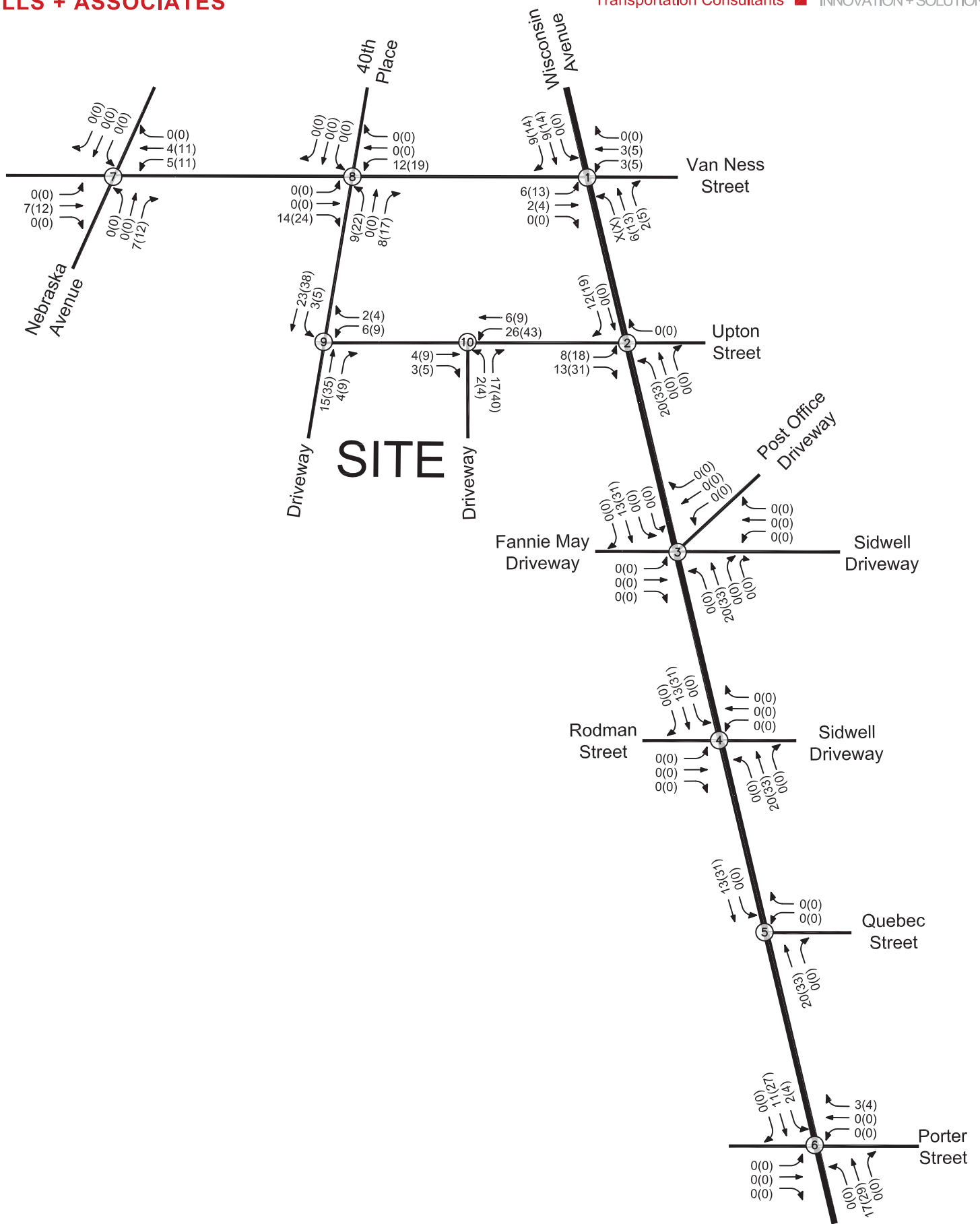


Figure 16A  
Retail Site Trips

4000 Wisconsin Avenue  
Washington, DC

AM Peak Hour  
PM Peak Hour  
000 (000)











**Large Tract Review Certification Form  
Part A: Developer's Application**

1. Project Name

Developer

Address

City  State  Zip

Phone  Fax

E-mail

*If Developer does not own subject property, please provide the following information regarding the property owner:*

Owner(s)

Address

City  State  Zip

Phone  Fax

E-mail

2. Property Address

City  State  Zip

Ward  ANC(s)  Square(s)  Parcel/Lot No. (s)

3. Current Use(s): (place X where applicable)

Residential  Retail/Office  Industrial  Open Space/Undeveloped

Public/Institutional  Other

\*Maximum Height of Existing Improvement (ft.)

\* Total Gross Floor Area (GFA) of Existing Improvements (sq. ft.):

\* If Property is Undeveloped or Cleared, Enter "N/A".

4.

**Note: Refer to definition of GFA in  
Section 199 of the D.C. Zoning  
Regulations**

Office of Planning Large Tract Review Certification Form Part A: **Developer's Application (Contd.) 2**

Current Zoning:

	Zoning	Land Area (sq. ft.)	M.O.R. Far*	Permitted Height (ft.)
1.	MU-5-A	181,427	4.2 FAR w/ IZ	70 feet w/ IZ
2.				
3.				
4.				
5.				

\*Matter-Of-Right Floor Area Ratio

5. Proposed Zoning:

	Zoning	Land Area (sq. ft.)	M.O.R. Far*	Permitted Height (ft.)
1.	MU-5-A	181,427	4.2 FAR w/ IZ	70 feet w/ IZ
2.				
3.				
4.				
5.				

\*Matter-Of-Right Floor Area Ratio

6. Estimated Project Completion Date (mo./yr.)

Type of Development (place X where applicable)

New  Rehab/Historic Preservation  Addition

Existing Jobs Retained and/or New Jobs Created by Project:

Temporary/Construction  Permanent

7. Gross Floor Area (GFA) by Use:

	GFA (sq. ft.)
* Residential	604,478
Retail	34,436
Office	0
Hotel	0
Industrial	0
Other	54,853
<b>Total GFA</b>	<b>693,767</b>

For Residential Space Only:

No. of Single-Family Units	Approximately 716
No. of Multi-Family Units:	0
Estimated Development Cost:	\$30,000,000
Land Cost	Ground Lease
Construction Cost	\$150,000,000
Other Cost	\$6,000,000
<b>Total Project Cost</b>	<b>\$186,000,000</b>

8. Public Contribution:

UDAG	<input type="text" value="N/A"/>
EDA	<input type="text" value="N/A"/>
D.C. Revenue Bonds	<input type="text" value="N/A"/>
CDBG	<input type="text" value="N/A"/>
Urban Renewal	<input type="text" value="N/A"/>
HODAG	<input type="text" value="N/A"/>
Other	<input type="text" value="N/A"/>

9. Residential/Business Displacement Due to Project: *If not applicable or no displacement expected, enter "0"*

Number of Households Displaced

Number of Businesses Displaced

Authorized Signatures Norm M. Johnson, Jr. Date 3/23/17

\_\_\_\_\_ Date \_\_\_\_\_

\_\_\_\_\_ Date \_\_\_\_\_

FOR OP USE ONLY – DO NOT WRITE BELOW LINE

Project No.

Date Received by OP  /  /

OP Recommendation  
For (check one):

Approval  Disapproval

Date of Final Action  /  /

**THE KARLA H.K. HARRISON IRREVOCABLE *INTER VIVOS* TRUST**  
% JAN EVANS HOUSER, CO-TRUSTEE  
8300 BURDETTE ROAD, APT. 642  
BETHESDA, MD 20817

Exhibit E (1)

March 20, 2017

Jennifer Steingasser  
District of Columbia Office of Planning  
1100 4<sup>th</sup> Street, SW, Suite E650  
Washington, DC 20024

**Re: Authorization Letter – Large Tract Review  
4000 Wisconsin Avenue, N.W. (Square 1823, Lot 19)  
Washington, D.C.**

Dear Members of the Board:

As the owner of the above-referenced property, this letter is to authorize Donohoe Acquisitions, LLC to file an application for Large Tract Review with the District of Columbia Office of Planning and to act on my behalf for all actions necessary with respect to the application and all related efforts with other agencies, utilities and any and all permits and authorizations related to this project through permit issuance, commencement and completion of construction and occupancy of the buildings. The purpose of the application is to support the redevelopment of the property.

Sincerely,

**THE KARLA H.K. HARRISON  
IRREVOCABLE *INTER VIVOS* TRUST**

By: Jan A. K. Swans  
Jan Evans Houser, Co-Trustee

By: Charles B. King, Jr.  
Charles B. King, Jr. Co-Trustee

# DONOHOE

*Integrity and Vision Since 1884*

Exhibit E (2)

March 22, 2017

Jennifer Steingasser  
District of Columbia Office of Planning  
1100 4<sup>th</sup> Street, SW, Suite E650  
Washington, DC 20024

Re: Authorization Letter- Large Tract Review  
4000 Wisconsin Avenue, N.W. (Square 1823, Lot 19)  
Washington, D.C.

Dear Ms. Steingasser:

As applicant in the above-referenced case, Donohoe Acquisitions, LLC hereby authorizes the law firm of Holland & Knight LLP to act on its behalf for all actions necessary with respect to the application for Large Tract Review for Lot 19 in Square 1823 and to act on its behalf for all actions necessary with respect to the application and all related efforts with other agencies, utility providers, and any and all permits and authorizations related to this project through permit issuance, commencement and completion of construction and occupancy of the buildings. The purpose of the application is to support the redevelopment of the property.

Sincerely,

DONOHOE ACQUISITIONS, LLC

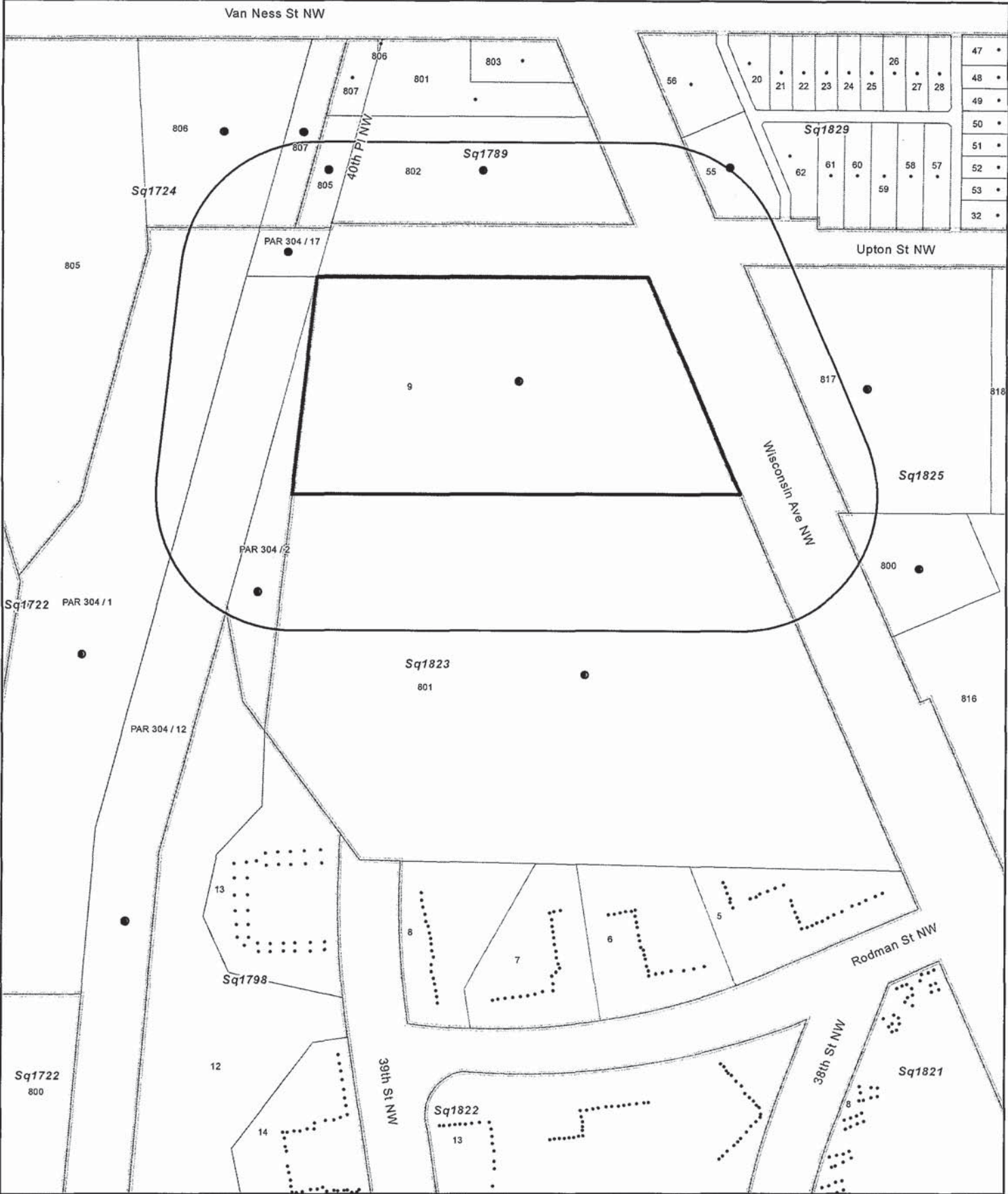
By: The Donohoe Companies, Inc., its Manager

By:   
Christopher A. Bruch  
President

7101 Wisconsin Avenue, Suite 700  
Bethesda, MD 20814

202.333.0880





Property ID: 1823 0009



Date: 2/9/2017

For general planning purposes

★ ★ ★ DC Office of Tax and Revenue  
 O.T.A. Real Property Assessment Division  
 G.I.S. Geographic Information Systems



JAN K EVANS KING TRUSTEE  
7101 WISCONSIN AVE STE 700  
BETHESDA, MD 20814-4814

UNITED STATES OF AMERICA  
,

NASH-ROADSIDE 3900 WISCONSIN LLC  
1730 RHODE ISLAND AVE NW STE  
WASHINGTON, DC 20036-3117

UNITED STATES OF AMERICA  
,

SIDWELL FRIENDS SCHOOL  
3825 WISCONSIN AVE NW  
WASHINGTON, DC 20016-2907

UNITED STATES OF AMERICA  
,

WASHINGTON HOME INCURABLES &  
3720 UPTON ST NW  
WASHINGTON, DC 20016-2299

UNITED STATES OF AMERICA  
,

4105 WISCONSIN LLC  
4827 RUGBY AVE STE 201  
BETHESDA, MD 20814-3040

POTOMAC ELECTRIC POWER  
701 9TH ST NW  
WASHINGTON, DC 20068-0001

G ECKLES  
4100 WISCONSIN AVE NW  
WASHINGTON, DC 20016-2810

G A ECKLES & A LORD TRUSTEES  
4100 WISCONSIN AVE NW  
WASHINGTON, DC 20016-2810

UNITED STATES OF AMERICA  
,

UNITED STATES OF AMERICA  
1100 OHIO DR SW  
WASHINGTON, DC 20242-0001