

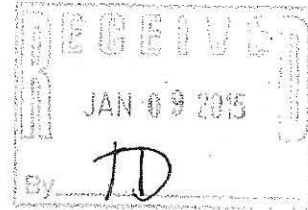
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January 9, 2015



Ms. Margaret Rhodes
Arlington County
Department of Community Planning, Housing & Development
7th Floor
2100 Clarendon Boulevard
Arlington, Virginia 22201

**Re: Washington Vista Apartments
1411 Key Boulevard & 1541 N. Colonial Terrace
RPC Nos. 16-014-057 & 16-014-056, respectively (the "Site")**

Dear Ms. Rhodes:

On behalf of NVR, Inc., we hereby submit an application for a change in the General Land Use Plan ("GLUP") designation for the above-referenced property. Since this application is unique in that a rezoning is not proposed in conjunction, as is normally the practice, pursuant to conversations with Planning Staff, we were instructed to submit the attached documents at this time, with the understanding that additional documents or additional fees may be required:

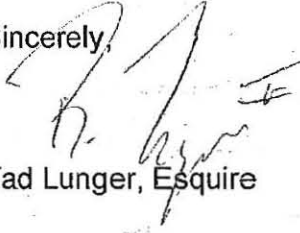
1. Five (5) copies of the GLUP Amendment request letter.
2. Five (5) copies of a GLUP map showing GLUP designations for site and surrounding area.
3. Five (5) copies of zoning map showing zoning for site and surrounding area.
4. Five (5) copies of the Transportation Impact Study (TIA).
5. Five (5) sets of graphics thought to be helpful with the evaluation.
6. Fee check in the amount of \$4,589.55 (\$4,371 DES review fee, plus 5% automation enhancement fee)

Thank you for your assistance with this request. If, after you review, additional

January 9, 2015
Page 2

information is required, please contact me, and I will be happy to provide what is needed. We look forward to working with you.

Sincerely,



Tad Lunger, Esquire

encs.

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**Re: Washington Vista Apartments
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RPC Nos. 16-014-057 & 16-014-056, respectively (the "Site")**

Dear Ms. Rhodes:

On behalf of NVR, Inc. (the "Applicant"), we hereby submit an application for a change in the General Land Use Plan ("GLUP") designation for the above-referenced property. The Applicant is proposing redevelopment of the Site which contemplates construction of a 63-unit residential building comprised of multi-family condominiums. At the request of County staff and various community stakeholders, the Applicant is requesting a GLUP change from its current Low-Medium Residential designation to a Medium Residential designation in order to bring it into conformance with the site's existing Zoning district designation. Although this request is not legally required to permit the proposed use on the site, the Applicant has agreed to follow the process found most appropriate by the community. If approved, the Applicant will follow with a 4.1 Site Plan submission.

The Site is bounded by Key Boulevard and North Nash Street in Rosslyn. The following uses surround the Site:

East: 300' Turnberry Tower Condominium Building
South: Two (2) 300' Towers (one office; one residential), plus a planned grocery store recently approved for Monday Properties known as 1401 Wilson Boulevard

South-East: Ames Center Block, planned for C-O-Rosslyn and heights and densities comparable to the C-O-Rosslyn District (300' and 10 FAR)
West: 4-story residential building
North: 5-story multi-family building

The Site is made up of two properties, RPC 16-014-057 and RPC 16-014-056, and totals 38,040 square feet or .87 acres. Attached to this letter is an excerpt from the GLUP Map, which shows the GLUP designations for the Site and surrounding properties. As shown, the absolute highest GLUP designations on the GLUP in terms of height and density are planned to the northeast, east, southeast, south and southwest. The boundary to the high density core of the Rosslyn Coordinated Redevelopment District, Rosslyn's urban core, runs along the centerline of Nash Street and Key Boulevard, the frontages of the Site. The Site serves as a transitional site between the high density, urban core of Rosslyn and the Low-Medium Residential neighborhoods sitting above it up the hill to the west. For these reasons, the Medium Residential GLUP designation for this site is a natural, logical fit.

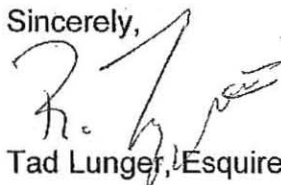
The Site is currently zoned RA6-15, and the Applicant is not requesting a change to the zoning classification in association with any of its requests. The RA6-15 District will remain. The existing by-right RA6-15 District is consistent with the Medium Residential GLUP designation proposed for the site, which allows for density of up to 48 units per acre. The current Low-Medium GLUP Designation allows for up to 36 units per acre, a mere 12 unit difference per acre. According to staff, this discrepancy between the current zoning designation and the current GLUP designation has existed since the GLUP was first adopted in 1961. The Applicant believes bringing the GLUP designation into conformance with the existing by-right zoning designation will serve to accomplish all of the County's and community's goals for this Site.

In conjunction with the request to align the zoning and GLUP designations for the Site, the Applicant is proposing a 6-story residential building which will provide a more sensible, flexible and natural transition between the higher densities and building heights of the urban core of Rosslyn and residential communities sitting above the site to the west. As described above, adjacent building heights reach up to 300 feet. A 6-story building will allow for a gradual transition to the lower 4 and 5-story residential buildings to the west and north, which sit at a substantially higher elevation above the Site, further mitigating this transition. Because of this significant grade change (approximately 40'), a 6-story building will appear significantly less tall to the existing residential buildings sitting above it, while still providing a modern, urban presence along the frontage of the site at its eastern low-point.

January 9, 2015
Page 3

Thank you for your assistance with this request. If you have any questions or need further information, please contact me at the number above.

Sincerely,

A handwritten signature in black ink, appearing to read "Tad Lunge", written over the printed name.

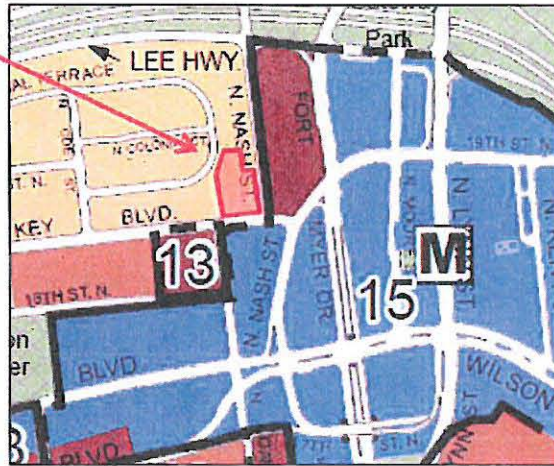
Tad Lunge, Esquire

Enclosures

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EXCERPT FROM GLUP MAP

SUBJECT SITE



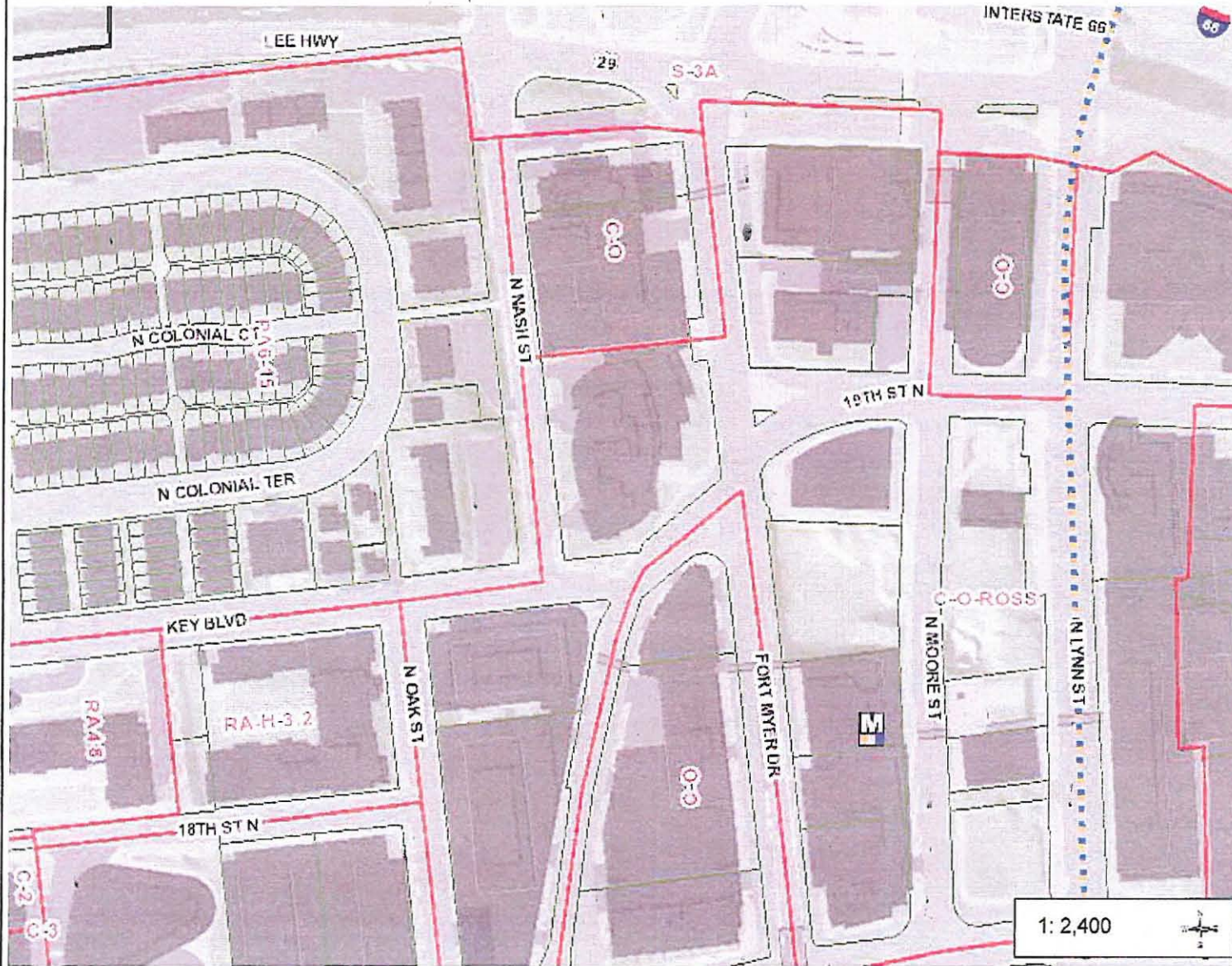
Land Use Category**	Range of Density/Typical Use	Zoning*
Residential		
Low	1-10 units per acre	R-20, R-10, R-10T, R-8, R-6, R-5
Low	11-15 units per acre	R2-7, R15-30T
Low-Medium	16-36 units per acre	R15-30T, RA14-26, RA8-18
Medium	Up to 37-72 units per acre	RA7-16, RA6-15, RA-H
High-Medium	Up to 3.24 F.A.R. (Floor Area Ratio) Residential	RA-4.8
High	Up to 4.8 F.A.R. Residential Up to 3.8 F.A.R. Hotel	RA-H-3.2, C-O Rosslyn

Office-Apartment-Hotel

	<u>Office Density</u>	<u>Apartment Density</u>	<u>Hotel Density</u>	
Low	Up to 1.5 F.A.R.	Up to 72 units/acre	Up to 110 units/acre	C-O-1.5, C-O-1.0
Medium	Up to 2.5 F.A.R.	Up to 115 units/acre	Up to 180 units/acre	C-O-2.5
High	Up to 3.8 F.A.R.	Up to 4.8 F.A.R.	Up to 3.8 F.A.R.	C-O, RA-H-3.2, C-O Rosslyn



Arlington County, Virginia



Legend

Metro Stations

- Metro Blue Line Station
- Metro Orange Line Station
- Metro Orange/Blue Line Station
- Metro Orange/Silver/Blue Line Station
- Metro Orange/Silver Line Station
- Metro Yellow/Blue Line Station

Metro Rail Lines

- Blue Line
- Blue-Orange Line
- Blue-Orange-Silver Line
- Blue-Yellow Line
- Orange Line
- Orange-Silver Line
- Yellow Line

Metro Station Areas

Zoning Boundary

Parcels

Notes

0.1 0 0.04 0.1 Miles

NAD_1983_StatePlane_Virginia_North_FIPS_4501_Feet
 © Arlington County, VA. GIS Mapping Center

This map is a user generated static output from an Internet mapping site and is for reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable.

THIS MAP IS NOT TO BE USED FOR NAVIGATION

WELLS + ASSOCIATES

MEMORANDUM



To: Jay K. Johnson
NVR, Inc.
Tad Lunger, Esquire
McGuire Woods, LLP

From: Michael J. Workosky, PTP, TOPS, TSOS
John A. Schick

Re: 1411 Key Boulevard
Arlington County, Virginia

Subject: Traffic Impact Analysis

Date: October 6, 2014

1420 Spring Hill Road
Suite 610
Tysons, Virginia 22102
703-917-6620
703-917-0730 FAX
www.njwells.com

Introduction

This memorandum presents a traffic impact analysis for 1411 Key Boulevard located in Arlington County, Virginia. The subject site is located on the north side of Key Boulevard, west of the North Nash Street intersection as shown on Figure 1.

The property is currently occupied by 32 rental apartments and one (1) single-family residence served by approximately 68 surface parking spaces with a driveway on Key Boulevard. The Applicant, NVR, Inc. proposes an amendment to the General Land Use Plan (GLUP) to redevelop the site with a total of 63 residential units that include 57 residential condominiums and six (6) townhouses. The plot and location plan is shown on Figure 2.

The existing driveway on Key Boulevard would be closed. The redeveloped site would gain access through an improved and shared driveway with an existing residential development on the west side of North Nash Street north Key Boulevard.

For ease of reading, all graphics and tables summarizing the traffic analysis are attached to this document.



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MEMORANDUM

Background Information

This document includes background information, traffic data, and analyses to satisfy the Arlington County 4.1 Administrative Regulations. Since the site is planned to be developed with fewer than 75 residential units, it would not trigger a formal VDOT Chapter 870 traffic impact study. However, as identified in the Regulations, an analysis of the site traffic at the access points is required.

This report examined future conditions (2019) in accordance with an anticipated buildout year of the project and consistent with other recently approved studies in the area. It is anticipated that the project would be complete prior to this date.

The "1401 Wilson Boulevard Traffic Impact Study", prepared by Wells + Associates, dated September 10, 2013 was used as the basis for this study. The background data, counts, and analyses should be referenced for further information.

Public Road Network

Key Boulevard is an east-west, two lane roadway in the vicinity of the. The existing site driveway is located just west of the North Nash Street intersection and serves approximately 68 surface parking spaces. Metered parking is currently provided on both sides of Key Boulevard.

Key Boulevard is planned to be modified as part of the 1401 Wilson Boulevard project to provide curbside parking, restriped for dedicated bicycle lanes, and access to the grocery store parking garage. Crosswalks and nubs are planned at the Key Boulevard/Oak Street intersection along with restriping and ADA ramps (some of these improvements are planned by others).

North Nash Street is a north-south, two lane roadway in the vicinity of the site with metered curb parking. Access is provided to Turnberry Tower on the east and an existing residential development on the west, just north of the Key Boulevard intersection. The Key Boulevard/North Nash Street intersection currently operates under stop control, and is expected to continue to do so in the future.

The existing lane use and traffic control within the study area are shown on Figure 3.



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MEMORANDUM

Public Transit

This area is well served by a number of public transit facilities. The Rosslyn Metrorail station is located approximately two blocks to the east between 19th Street North and Wilson Boulevard. It is also served by several bus lines at the depot located on North Moore Street. Carshare and Bikeshare services are also located in proximity to the site.

Bicycle and Pedestrian Facilities

Rosslyn is served by a connected network of bike routes and sidewalks. These bike routes connect with the W&OD Trail, which provides access between Rosslyn and Washington DC and the City of Alexandria to the south, and Ballston, Falls Church, and Fairfax County to the west. Bike racks are available for use at the Rosslyn Metro.

Sidewalks are provided throughout Rosslyn and are located on both sides of Key Boulevard and North Nash Street. Several elevated pedestrian walkways also allow pedestrians to cross roadways in the vicinity of the site.

Existing Traffic Counts

Existing AM and PM peak hour vehicular, pedestrian, and bicycle counts were conducted on Wednesday, June 4, 2014 by Wells + Associates at the existing driveway serving the site on Key Boulevard and the existing driveways serving Turnberry Tower on North Nash Street. These were supplemented by previously collected traffic data in 2012 at the Key Boulevard/North Nash Street intersection from the aforementioned 1401 Wilson Boulevard TIA. The vehicular, pedestrian, and bicycle count data is provided in Appendix A and summarized on Figures 4 through 6.

Existing Capacity Analysis

Existing capacity analyses were calculated at the intersections surrounding the site and the existing site driveway based on the existing lane usage and traffic control shown on Figure 3, the existing traffic volumes shown on Figure 4, and the Synchro analysis technique consistent with Arlington County standards. The results are presented in Appendix B and summarized on Table 1.

Table 1 indicates that all of the intersections and turning movements currently operate at acceptable levels of service (at LOS "D" or better) during both the AM and PM peak hours under stop sign control.



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Other Approved Developments and Background Growth

Background developments were extracted from the previously approved traffic report for 1401 Wilson Boulevard, and include the following:

1. 1401 Wilson Boulevard.
2. Rosslyn Gateway.
3. Central Place.
4. 1812 North Moore.
5. Sedona Slate.

Development densities and trip generation estimates for these projects were obtained through the aforementioned 1401 Wilson Boulevard TIA, and are included in Appendix C.

Consistent with the approved 1401 Wilson Boulevard TIA, a 0.5 percent per year growth rate as assumed in this study.

Site Access

The existing vehicular driveway serving 1411 Wilson Boulevard on Key Boulevard would be closed with the redevelopment of the site. The curbside parking would be maintained since the lobby of the building will be located along Key Boulevard for pedestrian access to the main building. Direct access to the six (6) townhouses would be provided on North Nash Street.

The existing driveway currently serving the residential property to the north of the site on North Nash Street would be improved to serve both the existing building and the redeveloped 1411 Wilson Boulevard project. This driveway would be located on the west side of North Nash Street, generally opposite the driveway serving exiting traffic from Turnberry Tower and the Turnberry Tower loading dock. The improved site driveway on North Nash Street would connect to a below-grade parking structure with approximately 72 spaces and loading dock for the 1411 Wilson Boulevard building.



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MEMORANDUM

Site Trip Generation and Assignment

The number of vehicle trips expected to be generated by the 1411 Wilson Boulevard project were estimated based on standard ITE trip generation (Ninth Edition) rates with adjustments for non-auto use. The site currently consists of 32 rental apartments and a single-family residence and would be redeveloped to include a total of 63 residential units that include 57 residential condominiums and six (6) townhouses.

Based on ITE rates with a non-auto adjustment of 42.3 percent, the project would generate a total of 21 AM peak hour trips (4 in and 17 out), and 24 PM peak hour trips (17 in and 8 out), and 249 daily (24-hour) trips upon completion, as summarized on Table 2.

When accounting for the existing site-generated trips observed at the driveway on Key Boulevard, the site would generate 17 net new AM peak hour trips (4 in and 13 out) and 20 net new PM peak hour trips (13 in and 8 out). It is noted that all of the 32 existing units were occupied when the counts were collected, and were found to generate few peak hour trips. Thus, the analyses as presented are conservative.

The net new trips were assigned to the roadway network based on current travel patterns and previously approved traffic studies, and are shown on Figure 7.

Total Future Traffic Forecasts

Total future traffic forecasts were developed for 2019 by using the future traffic forecasts in the 1401 Wilson Boulevard TIA as a base. These forecasts were modified to reflect the closure and relocation of the site driveway from Key Boulevard to North Nash Street. The net new site-generated trips were then added to these volumes to reflect total future conditions for 2019 with the buildout and full occupancy of the site. The resulting traffic forecasts are shown on Figure 8. The future lane use and traffic control are shown on Figure 9.

Total Future Capacity Analysis

Future capacity analyses with the redevelopment of 1411 Key Boulevard were estimated at the key intersections within the study area based on the total future traffic forecasts shown on Figure 8, the future lane use and traffic control as shown on Figure 8, and the Synchro intersection capacity analysis procedure. The results are shown on Table 1 and are contained in Appendix D.



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The results of the future capacity analyses indicate that all of the stop controlled turning movements would continue to operate at acceptable levels of service with the redevelopment of the site. The minimal increase in peak hour trips would have only a modest impact on peak hour delays. Further, it is anticipated that the project would experience a higher than estimated non-auto mode share that would further reduce the peak hour impacts of the site. Therefore, the results presented in this study are conservative.

In addition, the relocation of the site driveway from Key Boulevard to North Nash Street would reduce the potential for vehicle and pedestrian/bicycle conflicts along Key Boulevard given the anticipated increase in activity associated with the redevelopment of 1401 Wilson Boulevard and the grocery store driveway that is planned opposite the existing driveway serving the 1411 building surface parking lot. Curbside parking would be provided in order to serve the residential building lobby in this area for patrons and deliveries.

Conclusions

The conclusions of this traffic study are summarized below:

1. The existing study area intersections and site driveway on Key Boulevard currently operate at acceptable level of service during both weekday AM and PM peak hours.
2. The redevelopment of 1411 Key Boulevard would replace 32 existing residential condominiums and a single-family residence with a total of 63 residential units that include 57 residential condominiums and six (6) townhouses. The redeveloped site is expected to generate 21 AM peak hour trips and 24 PM peak hour trips when complete. When accounting to the existing traffic currently generated by the site, the project would generate 17 net new AM peak hour trips and 20 PM peak hour trips. This reflects a non-auto mode share of approximately 40 percent that is conservative given the robust public transit options in the area.
3. The results of the total future analyses indicate that all of the movements at the study area intersections would continue to operate at acceptable levels of service with the addition of the new site-generated trips with minimal increases in overall delay. These results reflect the modest increase in peak hour trips distributed over the roadway network.



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MEMORANDUM

4. All of the turning movements at the proposed site driveway on North Nash Street would operate at acceptable levels of service under total future conditions with the site development.
5. The relocation of the existing driveway on Key Boulevard that serves the surface parking lot to North Nash Street would reduce potential vehicular and pedestrian/bicycle conflicts along Key Boulevard. Curbside parking would be provided on Key Boulevard to serve the residential building lobby. In addition, the North Nash Street driveway would consolidate access with the adjacent property in order to minimize the number of curb cuts provided.

Questions regarding this document should be directed to Wells + Associates.

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MEMORANDUM



Table 1
1411 Key Boulevard
Intersection Levels of Service

Intersection	Control	Movement	Existing Conditions (2)				Total Future 2019			
			AM		PM		AM		PM	
			LOS	Delay	LOS	Delay	LOS	Delay	LOS	Delay
Key Boulevard & Site Drive	Stop	EBLT SBLR	A	[0.0]	A	[0.0]	Removed		Removed	
			A	[10.3]	B	[11.1]				
Key Boulevard & Grocery Store Drive	Stop	WBLT NBLR	N/A		N/A		A	[1.1]	A	[2.9]
							B	[13.9]	C	[17.2]
Key Boulevard & Nash Street	Stop	EBLT SBLR	A	[3.3]	A	[2.4]	A	[3.5]	A	[2.7]
			C	[16.4]	B	[14.7]	C	[21.3]	C	[21.1]
Nash Street & Turnberry Entrance	Stop	SBLT	A	[0.7]	A	[2.4]	A	[0.5]	A	[2.0]
Nash Street & Turnberry Exit	Stop	WBLR	B	[10.1]	C	[19.1]	B	[10.5]	B	[11.0]
Nash Street & Site Drive	Stop	EBLR NBLT	A	[8.8]	A	[0.0]	A	[9.8]	A	[10.2]
			A	[0.0]	A	[0.1]	A	[0.1]	A	[0.3]

Notes:

1. Analysis performed using Synchro software, version 8
2. Based on 2012 count information extracted from the "1401 Wilson Boulevard and 1400 Key Boulevard Traffic Analysis" dated September 10, 2013. Augmented with June 2014 counts at the site driveways.



Table 2
1411 Wilson Boulevard
Site Trip Generation Summary

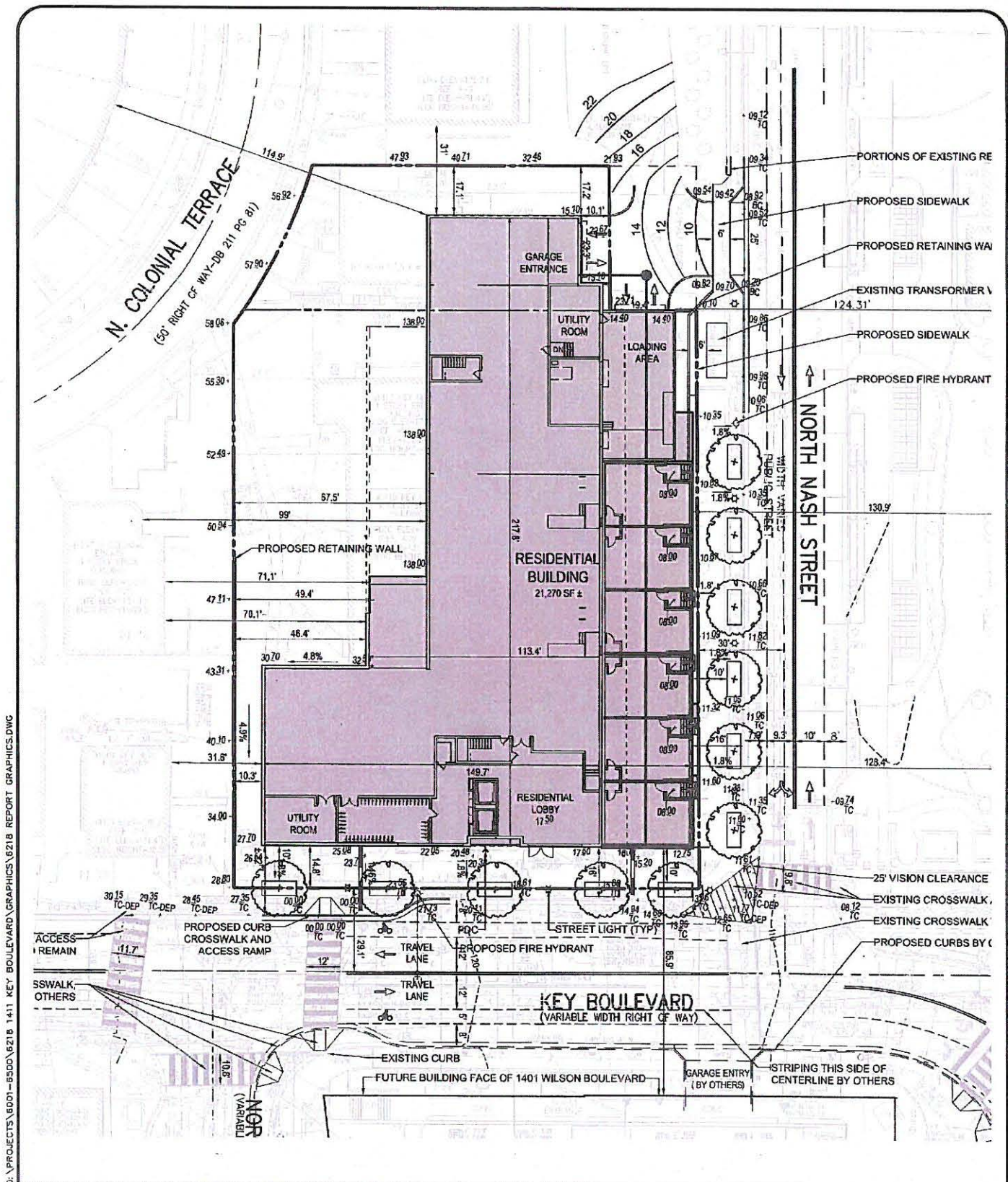
Land Use	ITE Code	Size	Units	AM Peak Hour			PM Peak Hour			ADT
				IN	OUT	TOTAL	IN	OUT	TOTAL	
Existing Observed Site Vehicle-Trips (1)										
Rental Apartments	NA		32 DU	-	4	4	4	-	4	NA
Transit Reduction (2,3)										
Residential Condominium	230		63 DU	7	29	36	29	13	42	431
<i>Transit Reduction</i>	42.3%			(3)	(12)	(15)	(12)	(5)	(18)	(182)
Residential Site Trips				4	17	21	17	8	24	249
Difference between Observed and Calculated										
Net New Residential Site Trips				4	13	17	13	8	20	249

Notes:

- (1) Based on counts collected by W+A on Wednesday, June 4, 2014.
- (2) Trips generated using Institute of Transportation Engineers (ITE) Trip Generation, 9th Edition.
- (3) Transit reductions based on 2005 Development-Related Ridership Survey Final Report; Washington Metropolitan Area Transit Authority, March 2006.
Distance from Metro is 350 feet, based on external trips, and consistent with the 1401 Wilson Boulevard TIA, September 10, 2013.



Figure 1
Regional Site Location Map



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 JFC

Figure 2
 Plot and Location Plan Reduction



1411 Key Boulevard
 Arlington County, Virginia



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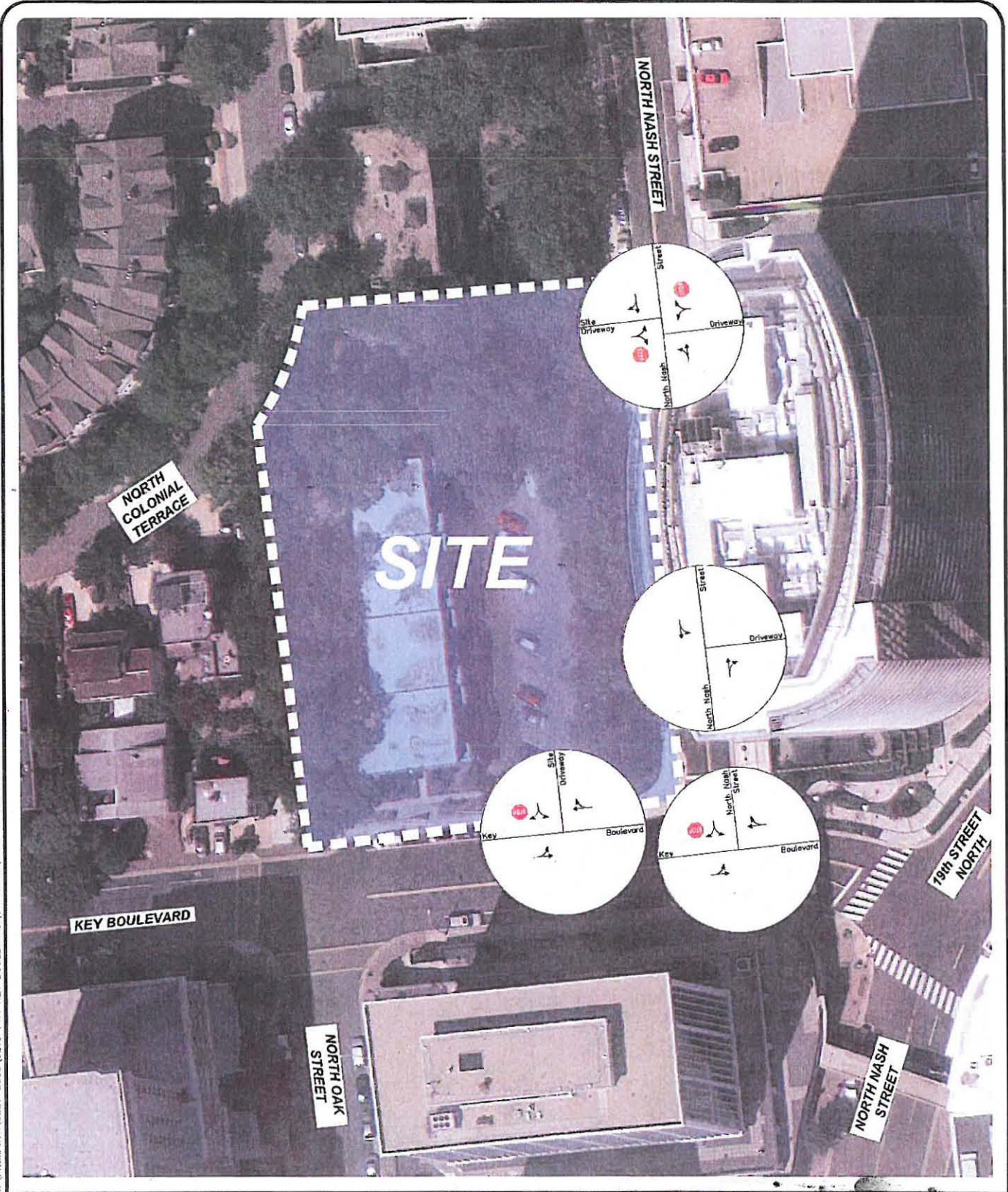


Figure 3
Existing Lane Use and Traffic Controls

- ← Represents One Travel Lane
- Signalized Intersection
- Stop Sign
- ↑ North

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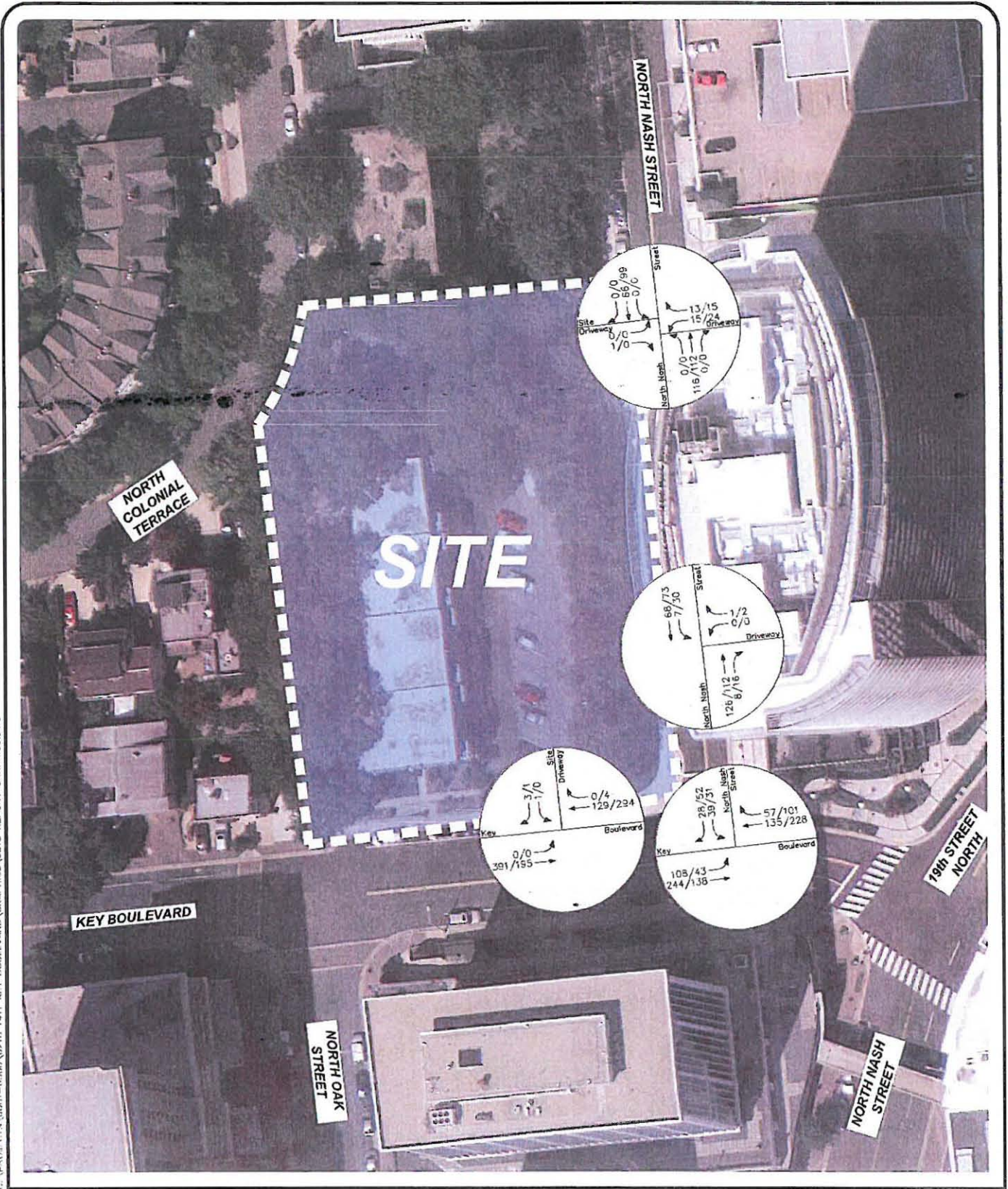


Figure 4
Existing Vehicular Traffic Volumes

AM PEAK HOUR
PM PEAK HOUR



North

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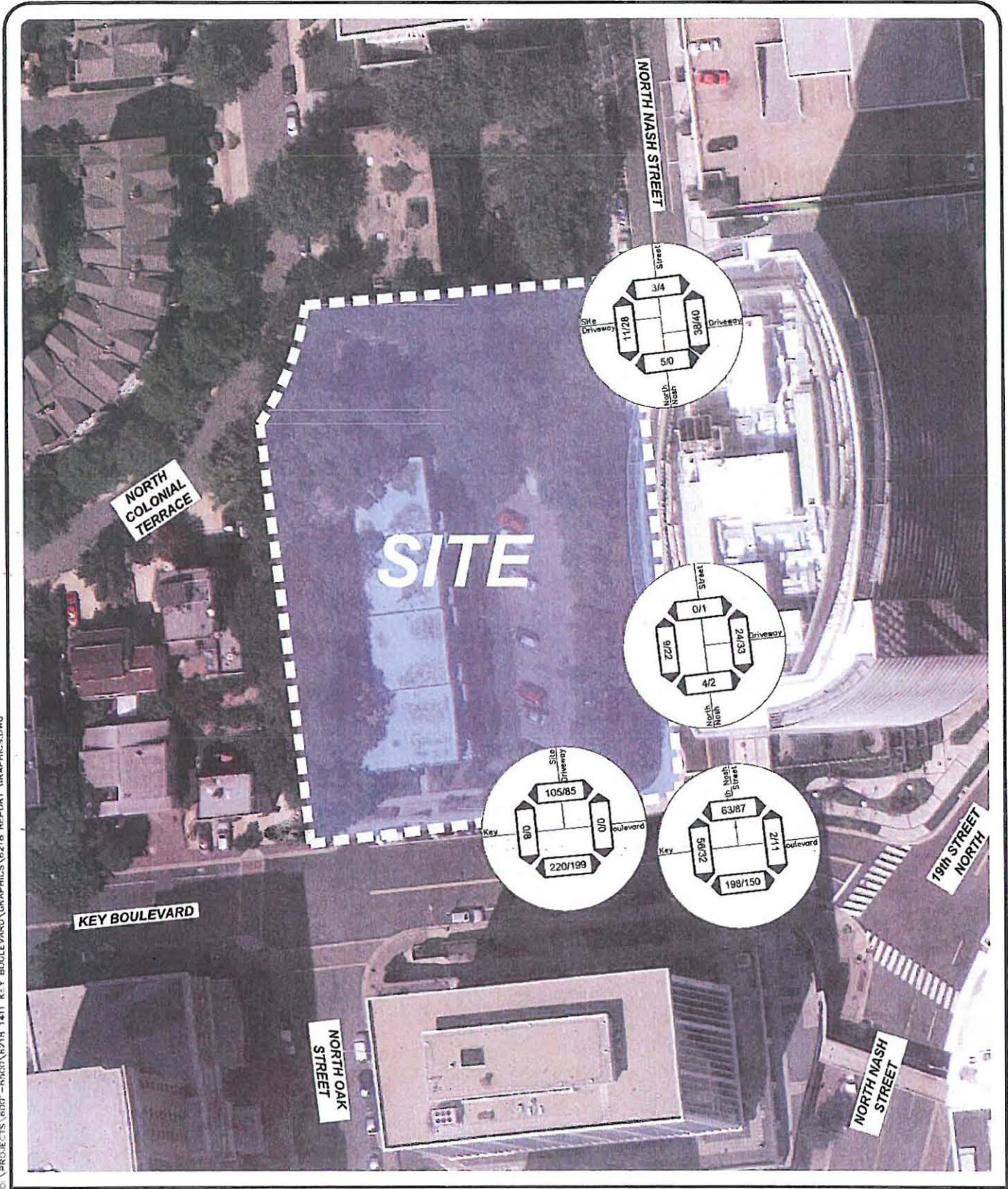


Figure 5
Existing Pedestrian Volumes

AM PEAK HOUR
PM PEAK HOUR
000/000



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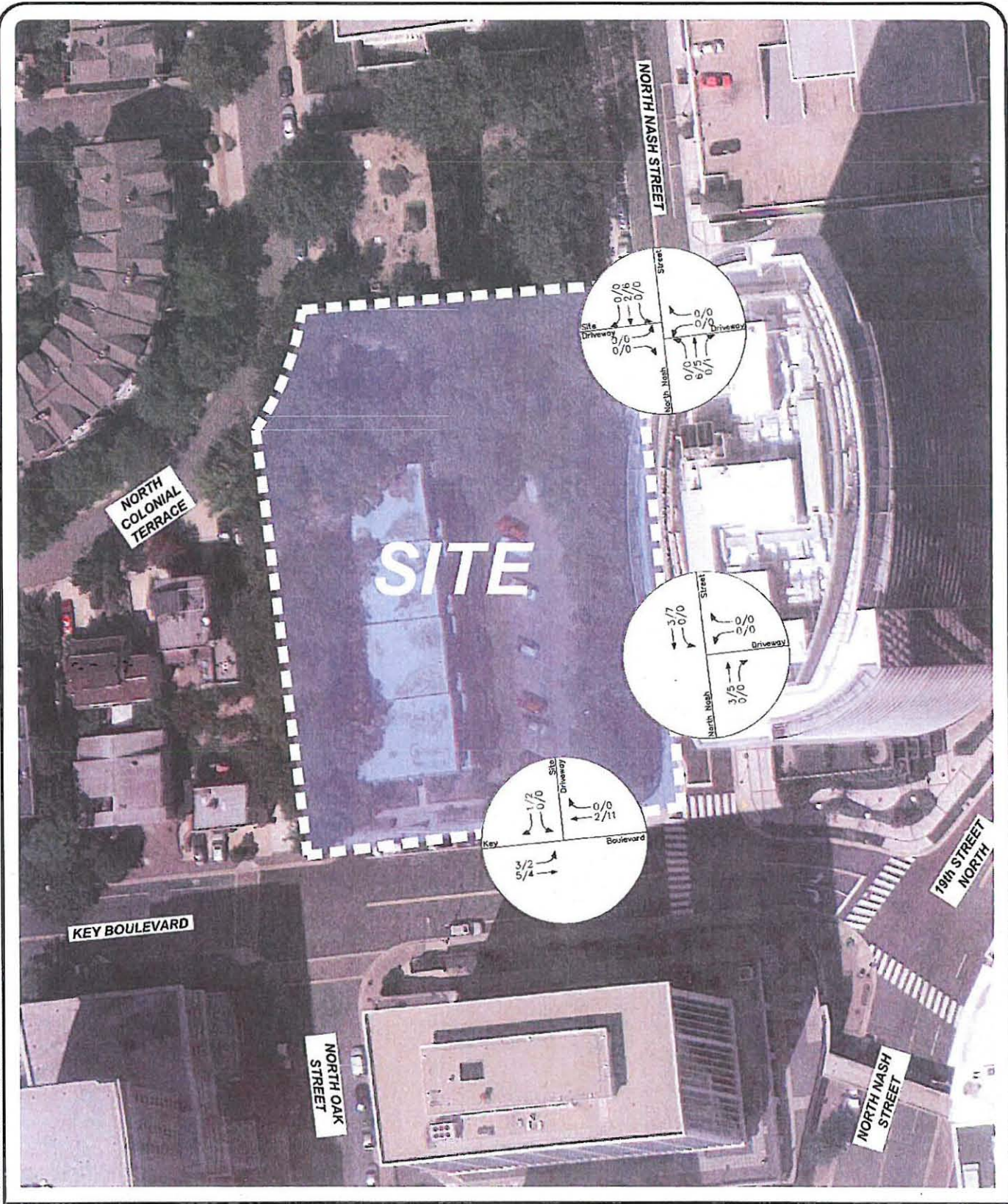


Figure 6 Existing Bicycle Volumes

AM Peak Hour
PM Peak Hour
063/750
North

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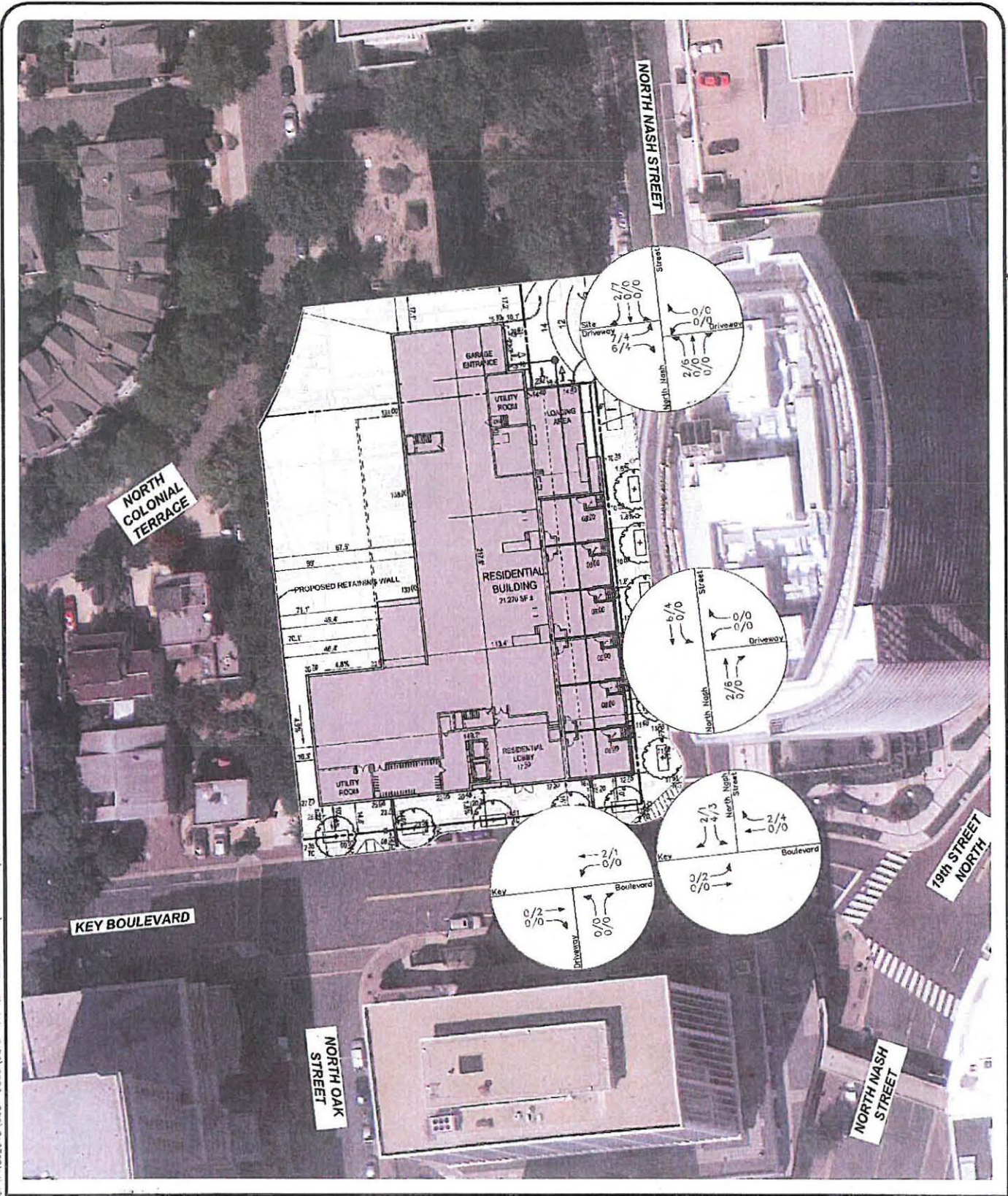


Figure 7
Net New Site Trips

AM PEAK HOUR
PM PEAK HOUR
North

1411 Key Boulevard
Arlington County, Virginia



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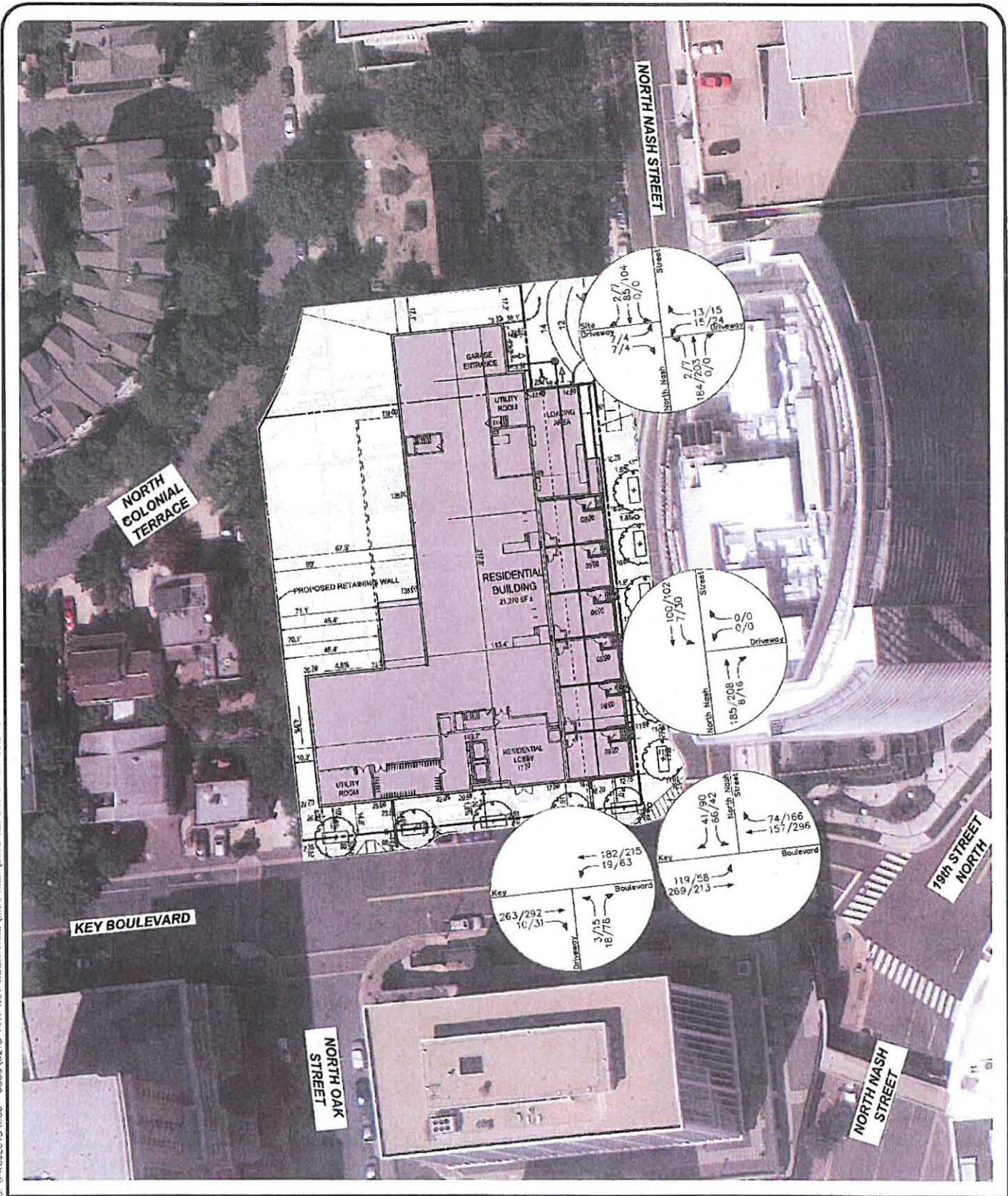


Figure 8
2019 Total Future Volumes with Development

AM PEAK HOUR
PM PEAK HOUR



North

JFC

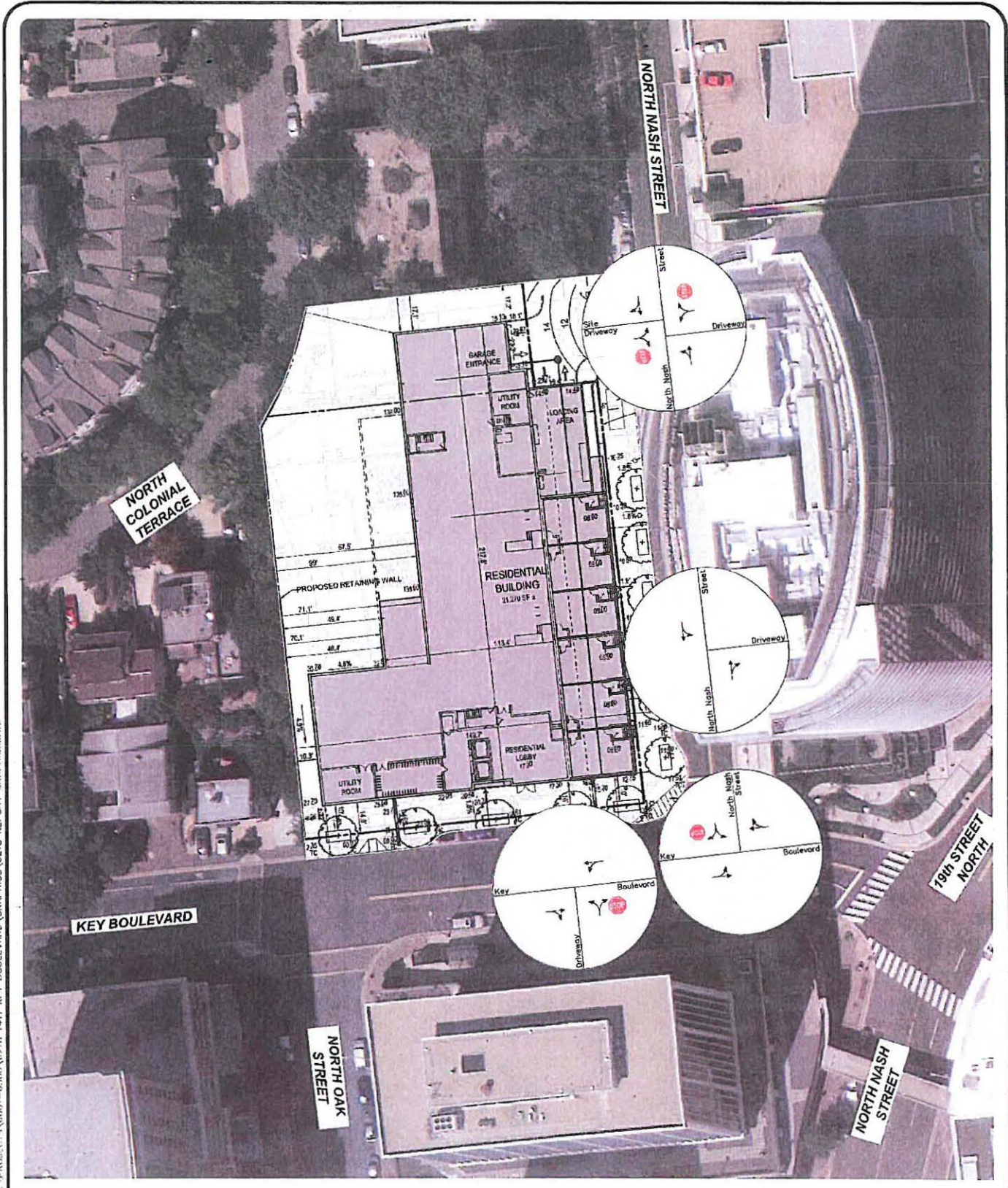


Figure 9
Future Lane Use and Traffic Controls

- ← Represents One Travel Lane
- ⬮ Signalized Intersection
- ⬮ Stop Sign
- ↑ North

Appendix A
Traffic Counts

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

Time Period		Southbound Existing Metro Rosslyn Apartments Driveway					Westbound Key Boulevard					Northbound 0					Eastbound Key Boulevard					North & East		Total
		Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	South	West	
AM 15 Minute Volumes																								
6:00 AM - 6:15 AM		0	0	1	1		0	14	0	14		0	0	0	0		0	16	0	16		1	30	31
6:15 AM - 6:30 AM		0	0	1	1		0	12	0	12		0	0	0	0		0	14	0	14		1	26	27
6:30 AM - 6:45 AM		0	0	0	0		0	16	0	16		0	0	0	0		0	28	0	28		0	44	44
6:45 AM - 7:00 AM		0	0	0	0		0	17	0	17		0	0	0	0		0	22	0	22		0	39	39
7:00 AM - 7:15 AM		0	0	1	1		0	21	0	21		0	0	0	0		0	41	0	41		1	62	63
7:15 AM - 7:30 AM		0	0	0	0		0	23	0	23		0	0	0	0		0	63	0	63		0	86	86
7:30 AM - 7:45 AM		2	0	0	2		0	24	0	24		0	0	0	0		0	80	0	80		2	104	106
7:45 AM - 8:00 AM		0	0	0	0		0	35	0	35		0	0	0	0		0	94	0	94		0	129	129
8:00 AM - 8:15 AM		2	0	1	3		0	24	0	24		0	0	0	0		0	96	0	96		3	120	123
8:15 AM - 8:30 AM		1	0	0	1		0	44	0	44		0	0	0	0		0	94	0	94		1	138	139
8:30 AM - 8:45 AM		0	0	0	0		0	26	0	26		0	0	0	0		0	107	0	107		0	133	133
8:45 AM - 9:00 AM		1	0	2	3		0	27	0	27		0	0	0	0		0	91	0	91		3	118	121
Total		6	0	6	12		0	283	0	283		0	0	0	0		0	746	0	746		12	1029	1041
AM One Hour Volumes																								
6:00 AM - 7:00 AM		0	0	2	2	0.50	0	59	0	59	0.87	0	0	0	0	0.00	0	80	0	80	0.71	2	139	141
6:15 AM - 7:15 AM		0	0	2	2	0.50	0	66	0	66	0.79	0	0	0	0	0.00	0	105	0	105	0.64	2	171	173
6:30 AM - 7:30 AM		0	0	1	1	0.25	0	77	0	77	0.84	0	0	0	0	0.00	0	154	0	154	0.61	1	231	232
6:45 AM - 7:45 AM		2	0	1	3	0.38	0	85	0	85	0.89	0	0	0	0	0.00	0	206	0	206	0.64	3	291	294
7:00 AM - 8:00 AM		2	0	1	3	0.38	0	103	0	103	0.74	0	0	0	0	0.00	0	278	0	278	0.74	3	381	384
7:15 AM - 8:15 AM		4	0	1	5	0.42	0	106	0	106	0.76	0	0	0	0	0.00	0	333	0	333	0.87	5	439	444
7:30 AM - 8:30 AM		5	0	1	6	0.50	0	127	0	127	0.72	0	0	0	0	0.00	0	364	0	364	0.95	6	491	497
7:45 AM - 8:45 AM		3	0	1	4	0.33	0	129	0	129	0.73	0	0	0	0	0.00	0	391	0	391	0.91	4	520	524
8:00 AM - 9:00 AM		4	0	3	7	0.58	0	121	0	121	0.69	0	0	0	0	0.00	0	388	0	388	0.91	7	509	516
PM 15 Minute Volumes																								
4:00 PM - 4:15 PM		0	0	1	1		0	32	0	32		0	0	0	0		0	38	0	38		1	70	71
4:15 PM - 4:30 PM		0	0	0	0		0	39	0	39		0	0	0	0		0	29	0	29		0	68	68
4:30 PM - 4:45 PM		0	0	0	0		0	47	0	47		0	0	0	0		0	53	0	53		0	100	100
4:45 PM - 5:00 PM		0	0	0	0		0	52	0	52		0	0	0	0		0	35	0	35		0	87	87
5:00 PM - 5:15 PM		1	0	0	1		0	49	0	49		0	0	0	0		0	42	0	42		1	91	92
5:15 PM - 5:30 PM		0	0	0	0		1	83	0	84		0	0	0	0		0	48	0	48		0	132	132
5:30 PM - 5:45 PM		0	0	0	0		2	73	0	75		0	0	0	0		0	67	0	67		0	142	142
5:45 PM - 6:00 PM		0	0	0	0		1	69	0	70		0	0	0	0		0	37	0	37		0	107	107
6:00 PM - 6:15 PM		1	0	0	1		0	69	0	69		0	0	0	0		0	43	0	43		1	112	113
6:15 PM - 6:30 PM		1	0	0	1		1	59	0	60		0	0	0	0		0	33	0	33		1	93	94
6:30 PM - 6:45 PM		1	0	0	1		2	53	0	55		0	0	0	0		0	29	0	29		1	84	85
6:45 PM - 7:00 PM		0	0	1	1		0	54	0	54		0	0	0	0		0	33	0	33		1	87	88
Total		4	0	2	6		7	679	0	686		0	0	0	0		0	487	0	487		6	1173	1179
PM One Hour Volumes																								
4:00 PM - 5:00 PM		0	0	1	1	0.25	0	170	0	170	0.82	0	0	0	0	0.00	0	155	0	155	0.73	1	325	326
4:15 PM - 5:15 PM		1	0	0	1	0.25	0	187	0	187	0.90	0	0	0	0	0.00	0	159	0	159	0.75	1	346	347
4:30 PM - 5:30 PM		1	0	0	1	0.25	1	231	0	232	0.69	0	0	0	0	0.00	0	178	0	178	0.84	1	410	411
4:45 PM - 5:45 PM		1	0	0	1	0.25	3	257	0	260	0.77	0	0	0	0	0.00	0	192	0	192	0.72	1	452	453
5:00 PM - 6:00 PM		1	0	0	1	0.25	4	274	0	278	0.83	0	0	0	0	0.00	0	194	0	194	0.72	1	472	473
5:15 PM - 6:15 PM		1	0	0	1	0.25	4	294	0	298	0.89	0	0	0	0	0.00	0	195	0	195	0.73	1	493	494
5:30 PM - 6:30 PM		2	0	0	2	0.50	4	270	0	274	0.91	0	0	0	0	0.00	0	180	0	180	0.67	2	454	456
5:45 PM - 6:45 PM		3	0	0	3	0.75	4	250	0	254	0.91	0	0	0	0	0.00	0	142	0	142	0.83	3	396	399
6:00 PM - 7:00 PM		3	0	1	4	1.00	3	235	0	238	0.86	0	0	0	0	0.00	0	138	0	138	0.80	4	376	380

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT: 1411 Key Boulevard		DATE: 6/4/2014		SOUTHBOUND ROAD: Existing Metro Rosslyn Apartments Driveway															
W+A JOB NO: P6218		DAY: Wednesday		NORTHBOUND ROAD: 0															
INTERSECTION: Key Blvd. & Driveway		WEATHER: clear		WESTBOUND ROAD: Key Boulevard															
LOCATION: Arlington County, VA		COUNTED BY: Whitney		EASTBOUND ROAD: Key Boulevard															
		INPUTED BY: agan																	
Time Period	Southbound g Metro Rosslyn Apartments Dr				Westbound Key Boulevard				Northbound 0				Eastbound Key Boulevard				North & South	East & West	Total
	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total			
AM 15 Minute Volumes																			
6:00 AM - 6:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
6:15 AM - 6:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	1
6:30 AM - 6:45 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	2	4	0	2	2
6:45 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	1
7:00 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	2	2	0	4	0	2	2
7:15 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	1	1	0	2	0	1	1
7:30 AM - 7:45 AM	0	0	0	0	3	3	0	6	0	0	0	0	2	1	3	6	0	6	6
7:45 AM - 8:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	2	2	0	4	0	3	3
8:00 AM - 8:15 AM	1	0	0	1	0	0	0	0	0	0	0	0	1	1	1	3	1	1	2
8:15 AM - 8:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	8	0	4	4
8:30 AM - 8:45 AM	0	0	0	0	1	1	0	2	0	0	0	0	1	1	1	3	0	2	2
8:45 AM - 9:00 AM	0	0	0	0	1	1	0	2	0	0	0	0	1	1	1	3	0	2	2
Total	1	0	0	1	0	6	0	6	0	0	0	0	0	14	5	19	1	25	26
AM One Hour Volumes																			
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	3	1	4	0	4	4
6:15 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6	0	6	6
6:30 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	0	0	0	5	1	6	0	6	6
6:45 AM - 7:45 AM	0	0	0	0	0	3	0	3	0	0	0	0	0	6	1	7	0	10	10
7:00 AM - 8:00 AM	0	0	0	0	0	4	0	4	0	0	0	0	0	5	3	8	0	12	12
7:15 AM - 8:15 AM	1	0	0	1	0	4	0	4	0	0	0	0	0	4	3	7	1	11	12
7:30 AM - 8:30 AM	1	0	0	1	0	4	0	4	0	0	0	0	0	6	4	10	1	14	15
7:45 AM - 8:45 AM	1	0	0	1	0	2	0	2	0	0	0	0	0	5	3	8	1	10	11
8:00 AM - 9:00 AM	1	0	0	1	0	2	0	2	0	0	0	0	0	6	1	7	1	9	10
PM 15 Minute Volumes																			
4:00 PM - 4:15 PM	0	0	0	0	1	1	0	2	0	0	0	0	0	0	0	0	0	1	1
4:15 PM - 4:30 PM	0	0	0	0	1	1	0	2	0	0	0	0	1	1	0	2	0	2	2
4:30 PM - 4:45 PM	0	0	0	0	1	1	0	2	0	0	0	0	1	1	0	2	0	2	2
4:45 PM - 5:00 PM	0	0	0	0	5	5	0	10	0	0	0	0	2	2	0	4	0	7	7
5:00 PM - 5:15 PM	1	0	0	1	2	2	0	4	0	0	0	0	1	2	3	6	1	5	6
5:15 PM - 5:30 PM	2	0	0	2	0	0	0	0	0	0	0	0	1	1	2	4	1	3	3
5:30 PM - 5:45 PM	0	0	0	0	4	4	0	8	0	0	0	0	1	1	0	2	0	5	5
5:45 PM - 6:00 PM	0	0	0	0	2	2	0	4	0	0	0	0	2	1	3	6	0	5	5
6:00 PM - 6:15 PM	0	0	0	0	5	5	0	10	0	0	0	0	1	1	0	2	0	6	6
6:15 PM - 6:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	4	4	8	16	1	8	9
6:30 PM - 6:45 PM	3	0	0	3	1	1	0	2	0	0	0	0	1	1	2	4	3	3	6
6:45 PM - 7:00 PM	0	0	0	0	1	1	0	2	0	0	0	0	1	1	0	2	0	2	2
Total	7	0	0	7	0	23	0	23	0	0	0	0	0	13	11	24	7	47	54
PM One Hour Volumes																			
4:00 PM - 5:00 PM	0	0	0	0	0	8	0	8	0	0	0	0	0	2	2	4	0	12	12
4:15 PM - 5:15 PM	1	0	0	1	0	9	0	9	0	0	0	0	0	3	4	7	1	16	17
4:30 PM - 5:30 PM	3	0	0	3	0	8	0	8	0	0	0	0	0	3	4	7	3	15	18
4:45 PM - 5:45 PM	3	0	0	3	0	11	0	11	0	0	0	0	0	3	4	7	3	18	21
5:00 PM - 6:00 PM	3	0	0	3	0	8	0	8	0	0	0	0	0	5	3	8	3	16	19
5:15 PM - 6:15 PM	2	0	0	2	0	11	0	11	0	0	0	0	0	4	2	6	2	17	19
5:30 PM - 6:30 PM	1	0	0	1	0	11	0	11	0	0	0	0	0	7	6	13	1	24	25
5:45 PM - 6:45 PM	4	0	0	4	0	8	0	8	0	0	0	0	0	7	7	14	4	22	26
6:00 PM - 7:00 PM	4	0	0	4	0	7	0	7	0	0	0	0	0	6	6	12	4	19	23

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

<p>PROJECT: 1411 Key Boulevard W+A JOB NO: P6218 INTERSECTION: Key Blvd. & Driveway LOCATION: Arlington County, VA DATE: 6/4/2014 DAY: Wednesday WEATHER: clear COUNTED BY: Whitney INPUTED BY: agan</p>	
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Time Period	Movement								1+2	3+4	5+6	7+8	Total	
	1	2	3	4	5	6	7	8						
AM 15 Minute Volumes														
6:00 AM - 6:15 AM	1	4			2	7		5						
6:15 AM - 6:30 AM	1	7			5	12		3						
6:30 AM - 6:45 AM	3	11			4	14								
6:45 AM - 7:00 AM	3	8		1	6	11								
7:00 AM - 7:15 AM	9	3			7	24								
7:15 AM - 7:30 AM	5	14			5	17								
7:30 AM - 7:45 AM	2	13			8	31								
7:45 AM - 8:00 AM	6	32			10	34								
8:00 AM - 8:15 AM	2	17			5	50								
8:15 AM - 8:30 AM	7	13			6	45								
8:30 AM - 8:45 AM	5	23			6	64								
8:45 AM - 9:00 AM	1	10			13	48								
Total	45	155	0	1	77	357	0	8						
AM One Hour Volumes														
6:00 AM - 7:00 AM	8	30	0	1	17	44	0	8	38	1	61	8	108	
6:15 AM - 7:15 AM	16	29	0	1	22	61	0	3	45	1	83	3	132	
6:30 AM - 7:30 AM	20	36	0	1	22	66	0	0	56	1	88	0	145	
6:45 AM - 7:45 AM	19	38	0	1	26	83	0	0	57	1	109	0	167	
7:00 AM - 8:00 AM	22	62	0	0	30	106	0	0	84	0	136	0	220	
7:15 AM - 8:15 AM	15	76	0	0	28	132	0	0	91	0	160	0	251	
7:30 AM - 8:30 AM	17	75	0	0	29	160	0	0	92	0	189	0	281	
7:45 AM - 8:45 AM	20	85	0	0	27	193	0	0	105	0	220	0	325	
8:00 AM - 9:00 AM	15	63	0	0	30	207	0	0	78	0	237	0	315	
PM 15 Minute Volumes														
4:00 PM - 4:15 PM	8	6	2		21	11		1						
4:15 PM - 4:30 PM	6	11			18	8								
4:30 PM - 4:45 PM	6	10	1		23	5								
4:45 PM - 5:00 PM	8	3			19	3								
5:00 PM - 5:15 PM	5	6			17	11								
5:15 PM - 5:30 PM	8	8			25	19								
5:30 PM - 5:45 PM	17	6			36	23	1	1						
5:45 PM - 6:00 PM	13	4			29	25		2						
6:00 PM - 6:15 PM	25	4			25	17		4						
6:15 PM - 6:30 PM	21	8			34	19								
6:30 PM - 6:45 PM	16	9			31	24								
6:45 PM - 7:00 PM	16	7			22	14								
Total	149	82	3	0	300	179	1	8						
PM One Hour Volumes														
4:00 PM - 5:00 PM	28	30	3	0	81	27	0	1	58	3	108	1	170	
4:15 PM - 5:15 PM	25	30	1	0	77	27	0	0	55	1	104	0	160	
4:30 PM - 5:30 PM	27	27	1	0	84	38	0	0	54	1	122	0	177	
4:45 PM - 5:45 PM	38	23	0	0	97	56	1	1	61	0	153	2	216	
5:00 PM - 6:00 PM	43	24	0	0	107	78	1	3	67	0	185	4	256	
5:15 PM - 6:15 PM	63	22	0	0	115	84	1	7	85	0	199	8	292	
5:30 PM - 6:30 PM	76	22	0	0	124	84	1	7	98	0	208	8	314	
5:45 PM - 6:45 PM	75	25	0	0	119	85	0	6	100	0	204	6	310	
6:00 PM - 7:00 PM	78	28	0	0	112	74	0	4	106	0	186	4	296	

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

Time Period		Southbound North Nash Street				Westbound Key Boulevard				Northbound 0				Eastbound Key Boulevard				North & East	Total					
		Right	Thru	Left	PHF	Right	Thru	Left	PHF	Right	Thru	Left	PHF	Right	Thru	Left	PHF	South & West						
AM 15 Minute Volumes																								
6:00 AM - 6:15 AM		11	0	4	15	6	7	0	13	0	0	0	0	0	6	4	10	15	23	38				
6:15 AM - 6:30 AM		5	0	10	15	7	12	0	19	0	0	0	0	0	18	4	22	15	41	56				
6:30 AM - 6:45 AM		9	0	13	22	6	15	0	21	0	0	0	0	0	18	5	23	22	44	66				
6:45 AM - 7:00 AM		8	0	11	19	12	8	0	20	0	0	0	0	0	15	11	26	19	46	65				
7:00 AM - 7:15 AM		8	0	9	17	6	19	0	25	0	0	0	0	0	41	15	56	17	81	98				
7:15 AM - 7:30 AM		8	0	19	27	10	29	0	39	0	0	0	0	0	40	15	55	27	94	121				
7:30 AM - 7:45 AM		2	0	10	12	11	17	0	28	0	0	0	0	0	36	23	59	12	87	99				
7:45 AM - 8:00 AM		11	0	9	20	14	32	0	46	0	0	0	0	0	60	29	89	20	135	155				
8:00 AM - 8:15 AM		9	0	9	18	14	24	0	38	0	0	0	0	0	62	24	86	18	124	142				
8:15 AM - 8:30 AM		4	0	9	13	14	33	0	47	0	0	0	0	0	56	28	84	13	131	144				
8:30 AM - 8:45 AM		6	0	12	18	14	45	0	59	0	0	0	0	0	58	19	77	18	136	154				
8:45 AM - 9:00 AM		9	0	9	18	15	33	0	48	0	0	0	0	0	68	37	105	18	153	171				
Total		90	0	124	214	129	274	0	403	0	0	0	0	0	478	214	692	214	1095	1309				
AM One Hour Volumes																								
6:00 AM - 7:00 AM		33	0	38	71	0.81	31	42	0	73	0.87	0	0	0	0	0.00	0	57	24	81	0.78	71	154	225
6:15 AM - 7:15 AM		30	0	43	73	0.83	31	54	0	85	0.85	0	0	0	0	0.00	0	92	35	127	0.57	73	212	285
6:30 AM - 7:30 AM		33	0	52	85	0.79	34	71	0	105	0.67	0	0	0	0	0.00	0	114	46	160	0.71	85	265	350
6:45 AM - 7:45 AM		26	0	49	75	0.69	39	73	0	112	0.72	0	0	0	0	0.00	0	132	64	196	0.83	75	308	383
7:00 AM - 8:00 AM		29	0	47	76	0.70	41	97	0	138	0.75	0	0	0	0	0.00	0	177	82	259	0.73	76	397	473
7:15 AM - 8:15 AM		30	0	47	77	0.71	49	102	0	151	0.82	0	0	0	0	0.00	0	198	91	289	0.81	77	440	517
7:30 AM - 8:30 AM		26	0	37	63	0.79	53	106	0	159	0.85	0	0	0	0	0.00	0	214	104	318	0.89	63	477	540
7:45 AM - 8:45 AM		30	0	39	69	0.86	56	134	0	190	0.81	0	0	0	0	0.00	0	236	100	336	0.94	69	526	595
8:00 AM - 9:00 AM		28	0	39	67	0.93	57	135	0	192	0.81	0	0	0	0	0.00	0	244	108	352	0.84	67	544	611
PM 15 Minute Volumes																								
4:00 PM - 4:15 PM		15	0	2	17	15	33	0	48	0	0	0	0	0	28	7	35	17	83	100				
4:15 PM - 4:30 PM		8	0	8	16	16	38	0	54	0	0	0	0	0	17	9	26	16	80	96				
4:30 PM - 4:45 PM		9	0	8	17	22	30	0	52	0	0	0	0	0	29	6	35	17	87	104				
4:45 PM - 5:00 PM		4	0	6	10	24	37	0	61	0	0	0	0	0	29	9	38	10	99	109				
5:00 PM - 5:15 PM		8	0	7	15	15	51	0	66	0	0	0	0	0	31	9	40	15	106	121				
5:15 PM - 5:30 PM		16	0	5	21	19	63	0	82	0	0	0	0	0	37	11	48	21	130	151				
5:30 PM - 5:45 PM		12	0	7	19	32	62	0	94	0	0	0	0	0	39	8	47	19	141	160				
5:45 PM - 6:00 PM		14	0	13	27	26	49	0	75	0	0	0	0	0	41	12	53	27	128	155				
6:00 PM - 6:15 PM		10	0	6	16	24	54	0	78	0	0	0	0	0	21	12	33	16	111	127				
6:15 PM - 6:30 PM		12	0	10	22	14	52	0	66	0	0	0	0	0	25	10	35	22	101	123				
6:30 PM - 6:45 PM		11	0	6	17	19	41	0	60	0	0	0	0	0	33	11	44	17	104	121				
6:45 PM - 7:00 PM		10	0	5	15	16	31	0	47	0	0	0	0	0	26	11	37	15	84	99				
Total		129	0	83	212	242	541	0	783	0	0	0	0	0	356	115	471	212	1254	1466				
PM One Hour Volumes																								
4:00 PM - 5:00 PM		36	0	24	60	0.88	77	138	0	215	0.88	0	0	0	0	0.00	0	103	31	134	0.88	60	349	409
4:15 PM - 5:15 PM		29	0	29	58	0.85	77	156	0	233	0.88	0	0	0	0	0.00	0	106	33	139	0.87	58	372	430
4:30 PM - 5:30 PM		37	0	26	63	0.75	80	181	0	261	0.80	0	0	0	0	0.00	0	126	35	161	0.84	63	422	485
4:45 PM - 5:45 PM		40	0	25	65	0.77	90	213	0	303	0.81	0	0	0	0	0.00	0	136	37	173	0.90	65	476	541
5:00 PM - 6:00 PM		50	0	32	82	0.76	92	225	0	317	0.84	0	0	0	0	0.00	0	148	40	188	0.89	82	505	587
5:15 PM - 6:15 PM		52	0	31	83	0.77	101	228	0	329	0.88	0	0	0	0	0.00	0	138	43	181	0.85	83	510	593
5:30 PM - 6:30 PM		48	0	36	84	0.78	96	217	0	313	0.83	0	0	0	0	0.00	0	126	42	168	0.79	84	481	565
5:45 PM - 6:45 PM		47	0	35	82	0.76	83	196	0	279	0.89	0	0	0	0	0.00	0	120	45	165	0.78	82	444	526
6:00 PM - 7:00 PM		43	0	27	70	0.80	73	178	0	251	0.80	0	0	0	0	0.00	0	105	44	149	0.85	70	400	470

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT: 1400 Wilson Boulevard		DATE: 6/7/2012		SOUTHBOUND ROAD: North Nash Street												
W+A JOB NO: 0		DAY: Thursday		NORTHBOUND ROAD: 0												
INTERSECTION: Key Blvd. & N. Nash St.		WEATHER: clear		WESTBOUND ROAD: Key Boulevard												
LOCATION: Arlington County, VA		COUNTED BY: Charlie		EASTBOUND ROAD: Key Boulevard												
		INPUTED BY: agan														
Time Period	Southbound North Nash Street			Westbound Key Boulevard			Northbound 0			Eastbound Key Boulevard			North & South	East & West	Total	
	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left	Right	Thru	Left				Total
AM 15 Minute Volumes																
6:00 AM - 6:15 AM	1		1			0			0				1	1	1	2
6:15 AM - 6:30 AM			0		1	0		1	0				1	0	2	2
6:30 AM - 6:45 AM			0			0			0				0	0	0	0
6:45 AM - 7:00 AM	1		1	2		0			0			1	1	2	1	3
7:00 AM - 7:15 AM	1		1	1		0			0				0	1	0	1
7:15 AM - 7:30 AM			0			0			0			2	2	0	2	2
7:30 AM - 7:45 AM			0			0			0			4	4	0	4	4
7:45 AM - 8:00 AM	1		1	2	1	1	1	0	0		3	3	3	2	4	6
8:00 AM - 8:15 AM	1		1	1		0			0				0	1	0	1
8:15 AM - 8:30 AM			1	1		0			0		2	2	2	1	2	3
8:30 AM - 8:45 AM			0		1	1	1	0	0		1	1	2	0	3	3
8:45 AM - 9:00 AM			0			0			0		2	1	3	0	3	3
Total	5	0	3	8	0	3	0	3	0	0	0	0	0	13	6	19
AM One Hour Volumes																
6:00 AM - 7:00 AM	2	0	1	3	0	1	0	1	0	0	0	0	0	2	1	3
6:15 AM - 7:15 AM	2	0	1	3	0	1	0	1	0	0	0	0	0	1	2	3
6:30 AM - 7:30 AM	2	0	1	3	0	0	0	0	0	0	0	0	0	2	1	3
6:45 AM - 7:45 AM	2	0	1	3	0	0	0	0	0	0	0	0	0	6	1	7
7:00 AM - 8:00 AM	2	0	1	3	0	1	0	1	0	0	0	0	0	6	3	9
7:15 AM - 8:15 AM	2	0	1	3	0	1	0	1	0	0	0	0	0	6	3	9
7:30 AM - 8:30 AM	2	0	2	4	0	1	0	1	0	0	0	0	0	6	3	9
7:45 AM - 8:45 AM	2	0	2	4	0	2	0	2	0	0	0	0	0	3	4	7
8:00 AM - 9:00 AM	1	0	1	2	0	1	0	1	0	0	0	0	0	5	2	7
Total	17	0	8	25	0	6	0	6	0	0	0	0	0	31	14	45
PM 15 Minute Volumes																
4:00 PM - 4:15 PM	1		1	1		0			0				0	1	0	1
4:15 PM - 4:30 PM			0			0			0				1	1	0	1
4:30 PM - 4:45 PM	1		1	1		1		1					1	1	2	3
4:45 PM - 5:00 PM			0			0			0				1	1	0	1
5:00 PM - 5:15 PM	2		2	2	1	1	1	0	0		2	2	2	2	3	5
5:15 PM - 5:30 PM			0		3	3	3	0	0		1	1	1	0	4	4
5:30 PM - 5:45 PM			0		1	1	1	0	0				0	0	1	1
5:45 PM - 6:00 PM	1		1	3	1	4	4	0	0		1	3	4	1	8	9
6:00 PM - 6:15 PM	2		2	3	3	3	3	0	0		3	3	3	2	6	8
6:15 PM - 6:30 PM			0		4	4	4	0	0				0	0	4	4
6:30 PM - 6:45 PM	2		2	2		0			0				1	1	2	3
6:45 PM - 7:00 PM			0			0			0				0	0	0	0
Total	9	0	0	9	3	14	0	17	0	0	0	0	0	6	8	14
PM One Hour Volumes																
4:00 PM - 5:00 PM	2	0	0	2	0	1	0	1	0	0	0	0	0	1	2	3
4:15 PM - 5:15 PM	3	0	0	3	0	2	0	2	0	0	0	0	0	1	4	5
4:30 PM - 5:30 PM	3	0	0	3	0	5	0	5	0	0	0	0	0	2	3	5
4:45 PM - 5:45 PM	2	0	0	2	0	5	0	5	0	0	0	0	0	2	2	4
5:00 PM - 6:00 PM	3	0	0	3	3	6	0	9	0	0	0	0	0	2	5	7
5:15 PM - 6:15 PM	3	0	0	3	3	8	0	11	0	0	0	0	0	5	3	8
5:30 PM - 6:30 PM	3	0	0	3	3	9	0	12	0	0	0	0	0	4	3	7
5:45 PM - 6:45 PM	5	0	0	5	3	8	0	11	0	0	0	0	0	4	4	8
6:00 PM - 7:00 PM	4	0	0	4	0	7	0	7	0	0	0	0	0	3	1	4
Total	27	0	0	27	6	43	0	53	0	0	0	0	0	11	11	22

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: 1400 Wilson Boulevard	
W+A JOB NO: 0	
INTERSECTION: Key Blvd. & N. Nash St.	
LOCATION: Arlington County, VA	
DATE: 6/7/2012	
DAY: Thursday	
WEATHER: clear	
COUNTED BY: Charlie INPUTED BY: agan	

Time Period	Movement								1+2	3+4	5+6	7+8	Total	
	1	2	3	4	5	6	7	8						
AM 15 Minute Volumes														
6:00 AM - 6:15 AM	3	2			2	10		1						
6:15 AM - 6:30 AM	3	2		1	4	11	1	4						
6:30 AM - 6:45 AM	2	4		2	1	7	1	4						
6:45 AM - 7:00 AM	4		2		10	9		3						
7:00 AM - 7:15 AM	10	14		1	10	15	2	7						
7:15 AM - 7:30 AM	4	10		1	5	13	4	6						
7:30 AM - 7:45 AM	6	8	1	1	5	15	2	9						
7:45 AM - 8:00 AM	2	14	1	1	6	19	7	11						
8:00 AM - 8:15 AM	2	12			9	39	1	11						
8:15 AM - 8:30 AM	6	13		1	6	40	3	9						
8:30 AM - 8:45 AM	2	16			9	40	4	13						
8:45 AM - 9:00 AM	3	9		1	9	46	3	12						
Total	47	104	4	9	76	264	28	90						
AM One Hour Volumes														
6:00 AM - 7:00 AM	12	8	2	3	17	37	2	12	20	5	54	14	93	
6:15 AM - 7:15 AM	19	20	2	4	25	42	4	18	39	6	67	22	134	
6:30 AM - 7:30 AM	20	28	2	4	26	44	7	20	48	6	70	27	151	
6:45 AM - 7:45 AM	24	32	3	3	30	52	8	25	56	6	82	33	177	
7:00 AM - 8:00 AM	22	46	2	4	26	62	15	33	68	6	88	48	210	
7:15 AM - 8:15 AM	14	44	2	3	25	86	14	37	58	5	111	51	225	
7:30 AM - 8:30 AM	16	47	2	3	26	113	13	40	63	5	139	53	260	
7:45 AM - 8:45 AM	12	55	1	2	30	138	15	44	67	3	168	59	297	
8:00 AM - 9:00 AM	13	50	0	2	33	165	11	45	63	2	198	56	319	
PM 15 Minute Volumes														
4:00 PM - 4:15 PM	11	2		1	11	11	3	2						
4:15 PM - 4:30 PM	11	7		1	9	15	2	6						
4:30 PM - 4:45 PM	12	6			15	13	4	4						
4:45 PM - 5:00 PM	10	5			10	4	6	4						
5:00 PM - 5:15 PM	10	8			17	8	4	3						
5:15 PM - 5:30 PM	4	4	1		18	21	4	4						
5:30 PM - 5:45 PM	27	17		2	17	17	6	2						
5:45 PM - 6:00 PM	10	10		8	28	13	4	3						
6:00 PM - 6:15 PM	10	5			21	15	4	5						
6:15 PM - 6:30 PM	8	5	1	2	20	17	6	2						
6:30 PM - 6:45 PM	12	13		1	20	10	7	2						
6:45 PM - 7:00 PM	14	6	2		26	6	7	4						
Total	139	88	4	15	212	150	57	41						
PM One Hour Volumes														
4:00 PM - 5:00 PM	44	20	0	2	45	43	15	16	64	2	88	31	185	
4:15 PM - 5:15 PM	43	26	0	1	51	40	16	17	69	1	91	33	194	
4:30 PM - 5:30 PM	36	23	1	0	60	46	18	15	59	1	106	33	199	
4:45 PM - 5:45 PM	51	34	1	2	62	50	20	13	85	3	112	33	233	
5:00 PM - 6:00 PM	51	39	1	10	80	59	18	12	90	11	139	30	270	
5:15 PM - 6:15 PM	51	36	1	10	84	66	18	14	87	11	150	32	280	
5:30 PM - 6:30 PM	55	37	1	12	86	62	20	12	92	13	148	32	285	
5:45 PM - 6:45 PM	40	33	1	11	89	55	21	12	73	12	144	33	262	
6:00 PM - 7:00 PM	44	29	3	3	87	48	24	13	73	6	135	37	251	

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

Time Period		Southbound North Nash Street				Westbound Turnberry Exit Drive				Northbound North Nash Street				Eastbound Metro Rosslyn Apartments Driveway				North & South	East & West	Total			
		Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right				Thru	Left	Total
AM 15 Minute Volumes																							
6:00 AM - 6:15 AM	0	14	0	14	2	0	1	3	0	6	0	6	0	0	0	0	20	3	23				
6:15 AM - 6:30 AM	0	11	0	11	2	0	1	3	0	6	0	6	0	0	0	0	17	3	20				
6:30 AM - 6:45 AM	0	14	0	14	0	0	2	2	0	11	0	11	0	0	0	0	25	2	27				
6:45 AM - 7:00 AM	0	15	0	15	4	0	3	7	0	16	0	16	0	0	0	0	31	7	38				
7:00 AM - 7:15 AM	0	13	0	13	2	0	3	5	0	31	0	31	0	0	0	0	44	5	49				
7:15 AM - 7:30 AM	0	19	0	19	3	0	4	7	0	35	0	35	0	0	0	0	54	7	61				
7:30 AM - 7:45 AM	0	18	0	18	4	0	1	5	0	33	0	33	1	0	1	2	51	7	58				
7:45 AM - 8:00 AM	0	25	0	25	4	0	4	8	0	35	0	35	0	0	0	0	60	8	68				
8:00 AM - 8:15 AM	0	10	0	10	4	0	3	7	0	48	0	48	1	0	0	1	58	8	66				
8:15 AM - 8:30 AM	0	10	1	11	1	0	4	5	0	41	0	41	0	0	0	0	52	5	57				
8:30 AM - 8:45 AM	0	18	0	18	4	0	4	8	0	37	0	37	0	0	0	0	55	8	63				
8:45 AM - 9:00 AM	0	9	0	9	1	0	0	1	0	38	0	38	0	0	0	0	47	1	48				
Total	0	176	1	177	31	0	30	61	0	337	0	337	2	0	1	3	514	64	578				
AM One Hour Volumes																							
6:00 AM - 7:00 AM	0	54	0	54	0.90	8	0	7	15	0.54	0	39	0	39	0.61	0	0	0	0	0.00	93	15	108
6:15 AM - 7:15 AM	0	53	0	53	0.88	8	0	9	17	0.61	0	64	0	64	0.52	0	0	0	0	0.00	117	17	134
6:30 AM - 7:30 AM	0	61	0	61	0.80	9	0	12	21	0.75	0	93	0	93	0.66	0	0	0	0	0.00	154	21	175
6:45 AM - 7:45 AM	0	65	0	65	0.86	13	0	11	24	0.86	0	115	0	115	0.82	1	0	1	2	0.25	180	26	206
7:00 AM - 8:00 AM	0	75	0	75	0.75	13	0	12	25	0.78	0	134	0	134	0.96	1	0	1	2	0.25	209	27	236
7:15 AM - 8:15 AM	0	72	0	72	0.72	15	0	12	27	0.84	0	151	0	151	0.79	2	0	1	3	0.38	223	30	253
7:30 AM - 8:30 AM	0	63	1	64	0.64	13	0	12	25	0.78	0	157	0	157	0.82	2	0	1	3	0.38	221	28	249
7:45 AM - 8:45 AM	0	63	1	64	0.64	13	0	15	28	0.88	0	161	0	161	0.84	1	0	0	1	0.25	225	29	254
8:00 AM - 9:00 AM	0	47	1	48	0.67	10	0	11	21	0.66	0	164	0	164	0.85	1	0	0	1	0.25	212	22	234
PM 15 Minute Volumes																							
4:00 PM - 4:15 PM	0	16	0	16		2	0	6	8		0	18	0	18		0	0	0	0		34	8	42
4:15 PM - 4:30 PM	0	18	0	18		3	0	7	10		0	15	0	15		0	0	0	0		33	10	43
4:30 PM - 4:45 PM	0	16	0	16		0	0	5	5		0	18	0	18		0	0	0	0		34	5	39
4:45 PM - 5:00 PM	0	18	0	18		3	0	6	9		0	31	0	31		0	0	0	0		49	9	58
5:00 PM - 5:15 PM	0	19	0	19		0	0	2	2		0	26	0	26		0	0	0	0		45	2	47
5:15 PM - 5:30 PM	0	22	1	23		3	0	6	9		0	24	0	24		0	0	0	0		47	9	56
5:30 PM - 5:45 PM	0	23	0	23		2	0	7	9		0	35	1	36		0	0	0	0		59	9	68
5:45 PM - 6:00 PM	0	26	0	26		5	0	5	10		0	28	0	28		0	0	0	0		54	10	64
6:00 PM - 6:15 PM	0	25	0	25		3	0	5	8		0	25	0	25		0	0	0	0		50	8	58
6:15 PM - 6:30 PM	0	25	0	25		5	0	7	12		0	24	0	24		0	0	0	0		49	12	61
6:30 PM - 6:45 PM	0	23	0	23		2	0	8	10		0	19	1	20		0	0	0	0		43	10	53
6:45 PM - 7:00 PM	0	32	0	32		4	0	10	14		0	14	0	14		0	0	0	0		46	14	60
Total	0	263	1	264		32	0	74	106		0	277	2	279		0	0	0	0		543	106	649
PM One Hour Volumes																							
4:00 PM - 5:00 PM	0	68	0	68	0.94	8	0	24	32	0.80	0	82	0	82	0.66	0	0	0	0	0.00	150	32	182
4:15 PM - 5:15 PM	0	71	0	71	0.93	6	0	20	26	0.65	0	90	0	90	0.73	0	0	0	0	0.00	161	26	187
4:30 PM - 5:30 PM	0	75	1	76	0.83	6	0	19	25	0.69	0	99	0	99	0.80	0	0	0	0	0.00	175	25	200
4:45 PM - 5:45 PM	0	82	1	83	0.90	8	0	21	29	0.81	0	116	1	117	0.81	0	0	0	0	0.00	200	29	229
5:00 PM - 6:00 PM	0	90	1	91	0.88	10	0	20	30	0.75	0	113	1	114	0.79	0	0	0	0	0.00	205	30	235
5:15 PM - 6:15 PM	0	96	1	97	0.93	13	0	23	36	0.90	0	112	1	113	0.78	0	0	0	0	0.00	210	36	246
5:30 PM - 6:30 PM	0	99	0	99	0.95	15	0	24	39	0.81	0	112	1	113	0.78	0	0	0	0	0.00	212	39	251
5:45 PM - 6:45 PM	0	99	0	99	0.95	15	0	25	40	0.83	0	96	1	97	0.87	0	0	0	0	0.00	196	40	236
6:00 PM - 7:00 PM	0	105	0	105	0.82	14	0	30	44	0.79	0	82	1	83	0.83	0	0	0	0	0.00	188	44	232

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

PROJECT: 1411 Key Boulevard		DATE: 6/4/2014		SOUTHBOUND ROAD: North Nash Street	
W+A JOB NO: P6218		DAY: Wednesday		NORTHBOUND ROAD: North Nash Street	
INTERSECTION: N. Nash St. & Driveway - North		WEATHER: clear		WESTBOUND ROAD: Turnberry Exit Drive	
LOCATION: Arlington County, VA		COUNTED BY: Gina		EASTBOUND ROAD: Metro Rosslyn Apartments Driveway	
		INPUTED BY: agan			

Time Period	Southbound North Nash Street				Westbound Turnberry Exit Drive				Northbound North Nash Street				Eastbound Metro Rosslyn Apartments Driveway				North & South	East & West	Total	
	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	South	West		
AM 15 Minute Volumes																				
6:00 AM - 6:15 AM				0				0				0				0	0	0	0	
6:15 AM - 6:30 AM				0				0				0				0	0	0	0	
6:30 AM - 6:45 AM				0				0		2		2				0	2	0	2	
6:45 AM - 7:00 AM				0				0				0		1	1	0	1	0	1	
7:00 AM - 7:15 AM				0				0				0				0	0	0	0	
7:15 AM - 7:30 AM				0				0				0				0	0	0	0	
7:30 AM - 7:45 AM		3		3				0		1		1				0	4	0	4	
7:45 AM - 8:00 AM				0				0		2		2				0	2	0	2	
8:00 AM - 8:15 AM		2		2				0				0				0	2	0	2	
8:15 AM - 8:30 AM				0				0		3		3				0	3	0	3	
8:30 AM - 8:45 AM				0				0		1		1				0	1	0	1	
8:45 AM - 9:00 AM		1		1				0				0				0	1	0	1	
Total	0	6	0	6	0	0	0	0	0	0	9	0	9	0	0	1	1	15	1	16
AM One Hour Volumes																				
6:00 AM - 7:00 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	2	1	3
6:15 AM - 7:15 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	2	1	3
6:30 AM - 7:30 AM	0	0	0	0	0	0	0	0	0	0	2	0	2	0	0	1	1	2	1	3
6:45 AM - 7:45 AM	0	3	0	3	0	0	0	0	0	0	1	0	1	0	0	1	1	4	1	5
7:00 AM - 8:00 AM	0	3	0	3	0	0	0	0	0	0	3	0	3	0	0	0	0	6	0	6
7:15 AM - 8:15 AM	0	5	0	5	0	0	0	0	0	0	3	0	3	0	0	0	0	8	0	8
7:30 AM - 8:30 AM	0	5	0	5	0	0	0	0	0	0	6	0	6	0	0	0	0	11	0	11
7:45 AM - 8:45 AM	0	2	0	2	0	0	0	0	0	0	6	0	6	0	0	0	0	8	0	8
8:00 AM - 9:00 AM	0	3	0	3	0	0	0	0	0	0	4	0	4	0	0	0	0	7	0	7
PM 15 Minute Volumes																				
4:00 PM - 4:15 PM				0				0				0				0	0	0	0	
4:15 PM - 4:30 PM				0				0				0				0	0	0	0	
4:30 PM - 4:45 PM				0				0		1		1				0	1	0	1	
4:45 PM - 5:00 PM		2		2				0		2		2				0	4	0	4	
5:00 PM - 5:15 PM		1		1				0		3		3				0	4	0	4	
5:15 PM - 5:30 PM		2		2				0				0				0	2	0	2	
5:30 PM - 5:45 PM		2		2				0				0				0	2	0	2	
5:45 PM - 6:00 PM		1		1				0		1		1				0	2	0	2	
6:00 PM - 6:15 PM		2		2				0		1	1	2				0	4	0	4	
6:15 PM - 6:30 PM		1		1				0		3		3				0	4	0	4	
6:30 PM - 6:45 PM		3		3				0		3		3				0	6	0	6	
6:45 PM - 7:00 PM		3		3				0		3		3				0	6	0	6	
Total	0	17	0	17	0	0	0	0	0	1	17	0	18	0	0	0	35	0	35	
PM One Hour Volumes																				
4:00 PM - 5:00 PM	0	2	0	2	0	0	0	0	0	0	3	0	3	0	0	0	5	0	5	
4:15 PM - 5:15 PM	0	3	0	3	0	0	0	0	0	0	6	0	6	0	0	0	9	0	9	
4:30 PM - 5:30 PM	0	5	0	5	0	0	0	0	0	0	6	0	6	0	0	0	11	0	11	
4:45 PM - 5:45 PM	0	7	0	7	0	0	0	0	0	0	5	0	5	0	0	0	12	0	12	
5:00 PM - 6:00 PM	0	6	0	6	0	0	0	0	0	0	4	0	4	0	0	0	10	0	10	
5:15 PM - 6:15 PM	0	7	0	7	0	0	0	0	0	1	2	0	3	0	0	0	10	0	10	
5:30 PM - 6:30 PM	0	6	0	6	0	0	0	0	0	1	5	0	6	0	0	0	12	0	12	
5:45 PM - 6:45 PM	0	7	0	7	0	0	0	0	0	1	8	0	9	0	0	0	16	0	16	
6:00 PM - 7:00 PM	0	9	0	9	0	0	0	0	0	1	10	0	11	0	0	0	20	0	20	

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

<p>PROJECT: 1411 Key Boulevard W+A JOB NO: P6218 INTERSECTION: N. Nash St. & Driveway - North LOCATION: Arlington County, VA DATE: 6/4/2014 DAY: Wednesday WEATHER: clear COUNTED BY: Gina INPUTED BY: agan</p>	<p style="font-size: small;">North Nash Street Metro Rosslyn Apartment Turnberry East Drive North</p>
--	--

Time Period	Movement								1+2	3+4	5+6	7+8	Total
	1	2	3	4	5	6	7	8					
AM 15 Minute Volumes													
6:00 AM - 6:15 AM			1	1									
6:15 AM - 6:30 AM			1	2	5				3				
6:30 AM - 6:45 AM			6	3					5				
6:45 AM - 7:00 AM			1	7		2			1				
7:00 AM - 7:15 AM			6	5		2	1	2					
7:15 AM - 7:30 AM	1		3	3				3					
7:30 AM - 7:45 AM	1		3	5				2					
7:45 AM - 8:00 AM	1		12	4	1	2	1	2					
8:00 AM - 8:15 AM	1		3	7				1					
8:15 AM - 8:30 AM				4	1			1	4				
8:30 AM - 8:45 AM	1			8	1			2					
8:45 AM - 9:00 AM	1		1	5				1	4				
Total	6	1	38	57	3	7	6	26					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	1	10	16	0	2	0	9	1	26	2	9	38
6:15 AM - 7:15 AM	0	1	15	20	0	4	1	11	1	35	4	12	52
6:30 AM - 7:30 AM	1	0	16	18	0	4	4	8	1	34	4	12	51
6:45 AM - 7:45 AM	2	0	13	20	0	4	4	5	2	33	4	9	48
7:00 AM - 8:00 AM	3	0	24	17	1	4	5	6	3	41	5	11	60
7:15 AM - 8:15 AM	4	0	21	19	1	2	4	5	4	40	3	9	56
7:30 AM - 8:30 AM	3	0	18	20	2	2	2	9	3	38	4	11	56
7:45 AM - 8:45 AM	3	0	15	23	3	2	2	9	3	38	5	11	57
8:00 AM - 9:00 AM	3	0	4	24	2	1	1	11	3	28	3	12	46
PM 15 Minute Volumes													
4:00 PM - 4:15 PM			5				2	2					
4:15 PM - 4:30 PM			3	6			1						
4:30 PM - 4:45 PM	1	1	8	2			2	3					
4:45 PM - 5:00 PM			1	5				3					
5:00 PM - 5:15 PM			4	1			1	3					
5:15 PM - 5:30 PM			2	3				1	2				
5:30 PM - 5:45 PM			4	3			5	3					
5:45 PM - 6:00 PM	1	2	2	6			6	4					
6:00 PM - 6:15 PM			9	5			2	2					
6:15 PM - 6:30 PM		1	9	2				1	5				
6:30 PM - 6:45 PM			4	3			1	3					
6:45 PM - 7:00 PM	5	1	3	3	1	1	1	3					
Total	7	5	54	39	1	2	27	27					
PM One Hour Volumes													
4:00 PM - 5:00 PM	1	1	17	13	0	0	5	8	2	30	0	13	45
4:15 PM - 5:15 PM	1	1	16	14	0	0	4	9	2	30	0	13	45
4:30 PM - 5:30 PM	1	1	15	11	0	0	4	11	2	26	0	15	43
4:45 PM - 5:45 PM	0	0	11	12	0	0	7	11	0	23	0	18	41
5:00 PM - 6:00 PM	1	2	12	13	0	0	13	12	3	25	0	25	53
5:15 PM - 6:15 PM	1	2	17	17	0	0	14	11	3	34	0	25	62
5:30 PM - 6:30 PM	1	3	24	16	0	0	14	14	4	40	0	28	72
5:45 PM - 6:45 PM	1	3	24	16	0	1	12	11	4	40	1	23	68
6:00 PM - 7:00 PM	5	2	25	13	1	2	9	7	7	38	3	16	64

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - All Vehicles

Time Period		Southbound North Nash Street				Westbound Turnberry Entrance Drive				Northbound North Nash Street				Eastbound 0				North & East & West		Total				
		Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	Right	Thru	Left	Total	PHF	South	West						
AM 15 Minute Volumes																								
6:00 AM - 6:15 AM		0	13	1	14	0	0	1	1	2	9	0	11	0	0	0	0	25	1	26				
6:15 AM - 6:30 AM		0	12	0	12	0	0	0	0	2	7	0	9	0	0	0	0	21	0	21				
6:30 AM - 6:45 AM		0	15	0	15	0	0	0	0	1	12	0	13	0	0	0	0	28	0	28				
6:45 AM - 7:00 AM		0	18	1	19	0	0	0	0	1	16	0	17	0	0	0	0	36	0	36				
7:00 AM - 7:15 AM		0	15	1	16	0	0	0	0	3	31	0	34	0	0	0	0	50	0	50				
7:15 AM - 7:30 AM		0	21	2	23	0	0	0	0	4	31	0	35	0	0	0	0	58	0	58				
7:30 AM - 7:45 AM		0	20	0	20	1	0	0	1	1	26	0	27	0	0	0	0	47	1	48				
7:45 AM - 8:00 AM		0	14	4	18	0	0	0	0	2	30	0	32	0	0	0	0	50	0	50				
8:00 AM - 8:15 AM		0	13	1	14	0	0	0	0	1	39	0	40	0	0	0	0	54	0	54				
8:15 AM - 8:30 AM		0	12	1	13	0	0	1	1	1	34	0	35	0	0	0	0	48	1	49				
8:30 AM - 8:45 AM		0	13	7	20	0	0	0	0	1	34	0	35	0	0	0	0	55	0	55				
8:45 AM - 9:00 AM		0	6	0	6	0	0	0	0	1	33	0	34	0	0	0	0	40	0	40				
Total		0	172	18	190	1	0	2	3	20	302	0	322	0	0	0	0	512	3	515				
AM One Hour Volumes																								
6:00 AM - 7:00 AM		0	58	2	60	0.79	0	0	1	1	0.25	6	44	0	50	0.74	0	0	0	0	0.00	110	1	111
6:15 AM - 7:15 AM		0	60	2	62	0.82	0	0	0	0	0.00	7	66	0	73	0.54	0	0	0	0	0.00	135	0	135
6:30 AM - 7:30 AM		0	69	4	73	0.79	0	0	0	0	0.00	9	90	0	99	0.71	0	0	0	0	0.00	172	0	172
6:45 AM - 7:45 AM		0	74	4	78	0.85	1	0	0	1	0.25	9	104	0	113	0.81	0	0	0	0	0.00	191	1	192
7:00 AM - 8:00 AM		0	70	7	77	0.84	1	0	0	1	0.25	10	118	0	128	0.91	0	0	0	0	0.00	205	1	206
7:15 AM - 8:15 AM		0	68	7	75	0.82	1	0	0	1	0.25	8	126	0	134	0.84	0	0	0	0	0.00	209	1	210
7:30 AM - 8:30 AM		0	59	6	65	0.81	1	0	1	2	0.50	5	129	0	134	0.84	0	0	0	0	0.00	199	2	201
7:45 AM - 8:45 AM		0	52	13	65	0.81	0	0	1	1	0.25	5	137	0	142	0.89	0	0	0	0	0.00	207	1	208
8:00 AM - 9:00 AM		0	44	9	53	0.66	0	0	1	1	0.25	4	140	0	144	0.90	0	0	0	0	0.00	197	1	198
PM 15 Minute Volumes																								
4:00 PM - 4:15 PM		0	16	5	21	0	0	0	0	6	20	0	26	0	0	0	0	47	0	47				
4:15 PM - 4:30 PM		0	17	7	24	0	0	0	0	3	15	0	18	0	0	0	0	42	0	42				
4:30 PM - 4:45 PM		0	17	3	20	0	0	0	0	4	19	0	23	0	0	0	0	43	0	43				
4:45 PM - 5:00 PM		0	16	6	22	0	0	0	0	2	29	0	31	0	0	0	0	53	0	53				
5:00 PM - 5:15 PM		0	18	4	22	0	0	0	0	3	24	0	27	0	0	0	0	49	0	49				
5:15 PM - 5:30 PM		0	16	8	24	0	0	0	0	2	27	0	29	0	0	0	0	53	0	53				
5:30 PM - 5:45 PM		0	15	8	23	1	0	0	1	6	35	0	41	0	0	0	0	64	1	65				
5:45 PM - 6:00 PM		0	22	7	29	0	0	0	0	5	26	0	31	0	0	0	0	60	0	60				
6:00 PM - 6:15 PM		0	20	7	27	1	0	0	1	3	24	0	27	0	0	0	0	54	1	55				
6:15 PM - 6:30 PM		0	16	12	28	0	0	1	1	1	23	0	24	0	0	0	0	52	1	53				
6:30 PM - 6:45 PM		0	21	8	29	0	0	0	0	3	19	0	22	0	0	0	0	51	0	51				
6:45 PM - 7:00 PM		0	24	12	36	0	0	0	0	5	13	0	18	0	0	0	0	54	0	54				
Total		0	218	87	305	2	0	1	3	43	274	0	317	0	0	0	0	622	3	625				
PM One Hour Volumes																								
4:00 PM - 5:00 PM		0	66	21	87	0.91	0	0	0	0	0.00	15	83	0	98	0.79	0	0	0	0	0.00	185	0	185
4:15 PM - 5:15 PM		0	68	20	88	0.92	0	0	0	0	0.00	12	87	0	99	0.80	0	0	0	0	0.00	187	0	187
4:30 PM - 5:30 PM		0	67	21	88	0.92	0	0	0	0	0.00	11	99	0	110	0.89	0	0	0	0	0.00	198	0	198
4:45 PM - 5:45 PM		0	65	26	91	0.95	1	0	0	1	0.25	13	115	0	128	0.78	0	0	0	0	0.00	219	1	220
5:00 PM - 6:00 PM		0	71	27	98	0.84	1	0	0	1	0.25	16	112	0	128	0.78	0	0	0	0	0.00	226	1	227
5:15 PM - 6:15 PM		0	73	30	103	0.89	2	0	0	2	0.50	16	112	0	128	0.78	0	0	0	0	0.00	231	2	233
5:30 PM - 6:30 PM		0	73	34	107	0.92	2	0	1	3	0.75	15	108	0	123	0.75	0	0	0	0	0.00	230	3	233
5:45 PM - 6:45 PM		0	79	34	113	0.97	1	0	1	2	0.50	12	92	0	104	0.84	0	0	0	0	0.00	217	2	219
6:00 PM - 7:00 PM		0	81	39	120	0.83	1	0	1	2	0.50	12	79	0	91	0.84	0	0	0	0	0.00	211	2	213

Wells + Associates, Inc.

McLean, Virginia

Turning Movement Count - Bicycles

Time Period		Southbound North Nash Street				Westbound Turnberry Entrance Drive				Northbound North Nash Street				Eastbound 0				North & East & West		Total		
		Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	Right	Thru	Left	Total	South	West			
PROJECT: 1411 Key Boulevard																						
W+A JOB NO: P6218																						
INTERSECTION: N. Nash St. & Driveway - South																						
LOCATION: Arlington County, VA																						
DATE: 6/4/2014																						
DAY: Wednesday																						
WEATHER: clear																						
COUNTED BY: James																						
INPUTED BY: agan																						
SOUTHBOUND ROAD: North Nash Street																						
NORTHBOUND ROAD: North Nash Street																						
WESTBOUND ROAD: Turnberry Entrance Drive																						
EASTBOUND ROAD: 0																						
AM 15 Minute Volumes																						
6:00 AM - 6:15 AM		0				0				0				0				0		0		0
6:15 AM - 6:30 AM		0				0				0				0				0		0		0
6:30 AM - 6:45 AM		0				0				2				2				0		2		2
6:45 AM - 7:00 AM		2				2				1				1				0		3		3
7:00 AM - 7:15 AM		0				0				0				0				0		0		0
7:15 AM - 7:30 AM		0				0				0				0				0		0		0
7:30 AM - 7:45 AM		1				1				1				1				0		2		2
7:45 AM - 8:00 AM		1				1				2				2				0		3		3
8:00 AM - 8:15 AM		1				1				0				0				0		1		1
8:15 AM - 8:30 AM		0				0				2				2				0		2		2
8:30 AM - 8:45 AM		0				0				0				0				0		0		0
8:45 AM - 9:00 AM		0				0				1				1				0		1		1
Total		0	5	0	5	0	0	0	0	1	8	0	9	0	0	0	0	14	0	14		
AM One Hour Volumes																						
6:00 AM - 7:00 AM		0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5	0	5		
6:15 AM - 7:15 AM		0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5	0	5		
6:30 AM - 7:30 AM		0	2	0	2	0	0	0	0	1	2	0	3	0	0	0	0	5	0	5		
6:45 AM - 7:45 AM		0	3	0	3	0	0	0	0	1	1	0	2	0	0	0	0	5	0	5		
7:00 AM - 8:00 AM		0	2	0	2	0	0	0	0	0	3	0	3	0	0	0	0	5	0	5		
7:15 AM - 8:15 AM		0	3	0	3	0	0	0	0	0	3	0	3	0	0	0	0	6	0	6		
7:30 AM - 8:30 AM		0	3	0	3	0	0	0	0	0	5	0	5	0	0	0	0	8	0	8		
7:45 AM - 8:45 AM		0	2	0	2	0	0	0	0	0	4	0	4	0	0	0	0	6	0	6		
8:00 AM - 9:00 AM		0	1	0	1	0	0	0	0	0	3	0	3	0	0	0	0	4	0	4		
PM 15 Minute Volumes																						
4:00 PM - 4:15 PM		0				0				1				1				0		1		1
4:15 PM - 4:30 PM		0				0				0				0				0		0		0
4:30 PM - 4:45 PM		1				1				1				1				0		2		2
4:45 PM - 5:00 PM		2				2				0				0				0		2		2
5:00 PM - 5:15 PM		1				1				2				2				0		3		3
5:15 PM - 5:30 PM		3				3				2				2				0		5		5
5:30 PM - 5:45 PM		0				0				1				1				0		1		1
5:45 PM - 6:00 PM		2				2				0				0				0		2		2
6:00 PM - 6:15 PM		2				2				2				2				0		4		4
6:15 PM - 6:30 PM		1				1				3				3				0		4		4
6:30 PM - 6:45 PM		3				3				2				2				0		5		5
6:45 PM - 7:00 PM		3				3				3				3				0		6		6
Total		0	18	0	18	0	0	0	0	0	17	0	17	0	0	0	0	35	0	35		
PM One Hour Volumes																						
4:00 PM - 5:00 PM		0	3	0	3	0	0	0	0	0	2	0	2	0	0	0	0	5	0	5		
4:15 PM - 5:15 PM		0	4	0	4	0	0	0	0	0	3	0	3	0	0	0	0	7	0	7		
4:30 PM - 5:30 PM		0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0	12	0	12		
4:45 PM - 5:45 PM		0	6	0	6	0	0	0	0	0	5	0	5	0	0	0	0	11	0	11		
5:00 PM - 6:00 PM		0	6	0	6	0	0	0	0	0	5	0	5	0	0	0	0	11	0	11		
5:15 PM - 6:15 PM		0	7	0	7	0	0	0	0	0	5	0	5	0	0	0	0	12	0	12		
5:30 PM - 6:30 PM		0	5	0	5	0	0	0	0	0	6	0	6	0	0	0	0	11	0	11		
5:45 PM - 6:45 PM		0	8	0	8	0	0	0	0	0	7	0	7	0	0	0	0	15	0	15		
6:00 PM - 7:00 PM		0	9	0	9	0	0	0	0	0	10	0	10	0	0	0	0	19	0	19		

Wells + Associates, Inc.

McLean, Virginia

Pedestrian Volume Survey

PROJECT: 1411 Key Boulevard W+A JOB NO: P6218 INTERSECTION: N. Nash St. & Driveway - South LOCATION: Arlington County, VA DATE: 6/4/2014 DAY: Wednesday WEATHER: clear COUNTED BY: James INPUTED BY: agan													
Time Period	Movement												Total
	1	2	3	4	5	6	7	8	1+2	3+4	5+6	7+8	
AM 15 Minute Volumes													
6:00 AM - 6:15 AM								1					
6:15 AM - 6:30 AM				4			1		2				
6:30 AM - 6:45 AM			6	4	2				4				
6:45 AM - 7:00 AM				4			1		1	2			
7:00 AM - 7:15 AM			4	6			1	1	1				
7:15 AM - 7:30 AM				1	2			2					
7:30 AM - 7:45 AM				2	2		1		1				
7:45 AM - 8:00 AM			7	2			1		4				
8:00 AM - 8:15 AM				2	5								
8:15 AM - 8:30 AM			1	1	3			1	5				
8:30 AM - 8:45 AM					7				3				
8:45 AM - 9:00 AM				1	5				4				
Total	0	1	25	44	5	4	5	29					
AM One Hour Volumes													
6:00 AM - 7:00 AM	0	0	6	12	3	1	1	9	0	18	4	10	32
6:15 AM - 7:15 AM	0	0	10	18	3	2	2	9	0	28	5	11	44
6:30 AM - 7:30 AM	0	0	11	16	3	1	4	7	0	27	4	11	42
6:45 AM - 7:45 AM	0	0	8	14	2	2	4	4	0	22	4	8	34
7:00 AM - 8:00 AM	0	0	15	12	2	3	3	6	0	27	5	9	41
7:15 AM - 8:15 AM	0	0	13	11	2	2	2	7	0	24	4	9	37
7:30 AM - 8:30 AM	0	1	13	12	2	2	1	12	1	25	4	13	43
7:45 AM - 8:45 AM	0	1	10	17	1	1	1	14	1	27	2	15	45
8:00 AM - 9:00 AM	0	1	4	20	0	0	1	14	1	24	0	15	40
PM 15 Minute Volumes													
4:00 PM - 4:15 PM			5			1	1	6	5				
4:15 PM - 4:30 PM			2	5		1		1					
4:30 PM - 4:45 PM			5				4	3					
4:45 PM - 5:00 PM			1	4				1	3				
5:00 PM - 5:15 PM			2	1				2	2				
5:15 PM - 5:30 PM			1	2		1		1	3				
5:30 PM - 5:45 PM			4	2			1	3					
5:45 PM - 6:00 PM			1	2	5			7	2				
6:00 PM - 6:15 PM			6	11				5	1				
6:15 PM - 6:30 PM			6	1				3	5				
6:30 PM - 6:45 PM			5	3				3	1				
6:45 PM - 7:00 PM			2	3				2	3				
Total	0	1	41	37	3	6	37	25					
PM One Hour Volumes													
4:00 PM - 5:00 PM	0	0	13	9	2	5	11	8	0	22	7	19	48
4:15 PM - 5:15 PM	0	0	10	10	1	4	7	5	0	20	5	12	37
4:30 PM - 5:30 PM	0	0	9	7	1	4	7	8	0	16	5	15	36
4:45 PM - 5:45 PM	0	0	8	9	1	1	7	8	0	17	2	15	34
5:00 PM - 6:00 PM	0	1	9	10	1	1	13	7	1	19	2	20	42
5:15 PM - 6:15 PM	0	1	13	20	1	1	16	6	1	33	2	22	58
5:30 PM - 6:30 PM	0	1	18	19	0	1	18	8	1	37	1	26	65
5:45 PM - 6:45 PM	0	1	19	20	0	0	18	9	1	39	0	27	67
6:00 PM - 7:00 PM	0	0	19	18	0	0	13	10	0	37	0	23	60

Appendix B Existing Intersection Levels of Service and Queues

HCM Unsignalized Intersection Capacity Analysis
 1: Key Boulevard & Site Drive

Existing AM
 10/6/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↔	↔		↔	
Volume (veh/h)	0	391	129	0	1	3
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	425	140	0	1	3
Pedestrians			105			
Lane Width (ft)			12.0			
Walking Speed (ft/s)			4.0			
Percent Blockage			9			
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	140				670	140
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	140				670	140
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1443				385	908

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	425	140	4
Volume Left	0	0	1
Volume Right	0	0	3
cSH	1443	1700	678
Volume to Capacity	0.00	0.08	0.01
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	10.3
Lane LOS			B
Approach Delay (s)	0.0	0.0	10.3
Approach LOS			B

Intersection Summary			
Average Delay		0.1	
Intersection Capacity Utilization		30.6%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis

2: Key Boulevard & North Nash Street

Existing AM
10/6/2014











Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↑	↑		↓	
Volume (veh/h)	108	244	135	57	39	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	127	287	159	67	42	30
Pedestrians		56	2		63	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		5	0		5	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	289				799	311
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	289				799	311
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	89				86	95
cM capacity (veh/h)	1206				300	658

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	414	226	73
Volume Left	127	0	42
Volume Right	0	67	30
cSH	1206	1700	389
Volume to Capacity	0.11	0.13	0.19
Queue Length 95th (ft)	9	0	17
Control Delay (s)	3.3	0.0	16.4
Lane LOS	A		C
Approach Delay (s)	3.3	0.0	16.4
Approach LOS			C

Intersection Summary			
Average Delay		3.6	
Intersection Capacity Utilization	56.4%		ICU Level of Service B
Analysis Period (min)		15	










HCM Unsignalized Intersection Capacity Analysis
 3: North Nash Street & Site Drive

Existing AM
 10/6/2014

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	1	126	8	7	68
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	137	9	8	74
Pedestrians	24					
Lane Width (ft)	0.0					
Walking Speed (ft/s)	4.0					
Percent Blockage	0					
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	254	165			170	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	254	165			170	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	730	879			1408	
Direction, Lane #	NB 1	SB 1				
Volume Total	146	82				
Volume Left	0	8				
Volume Right	9	0				
cSH	1700	1408				
Volume to Capacity	0.09	0.01				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.7				
Lane LOS		A				
Approach Delay (s)	0.0	0.7				
Approach LOS						
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			










HCM Unsignalized Intersection Capacity Analysis
 4: North Nash Street & Site Drive

Existing AM
 10/6/2014

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	15	13	161	0	0	67
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	14	175	0	0	73
Pedestrians			38			38
Lane Width (ft)			12.0			12.0
Walking Speed (ft/s)			4.0			4.0
Percent Blockage			3			3
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	286	213			175	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	286	213			175	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	98	98			100	
cM capacity (veh/h)	682	801			1401	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	30	175	73			
Volume Left	16	0	0			
Volume Right	14	0	0			
cSH	733	1700	1700			
Volume to Capacity	0.04	0.10	0.04			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	10.1	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.1	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.1			
Intersection Capacity Utilization			25.7%	ICU Level of Service		A
Analysis Period (min)			15			

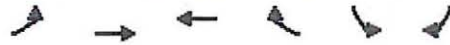
HCM Unsignalized Intersection Capacity Analysis
 5: North Nash Street & Site Drive

Existing AM
 10/6/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	1	0	174	66	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	1	0	189	72	0
Pedestrians	11			11	11	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			1	1	
Right turn flare (veh)						
Median type				None	None	
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	283	94	83			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	283	94	83			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	694	946	1501			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	1	189	72			
Volume Left	0	0	0			
Volume Right	1	0	0			
cSH	946	1501	1700			
Volume to Capacity	0.00	0.00	0.04			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	8.8	0.0	0.0			
Lane LOS	A					
Approach Delay (s)	8.8	0.0	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			22.2%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 1: Key Boulevard & Site Drive

Existing PM
 10/6/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	0	195	294	4	0	1
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	212	320	4	0	1
Pedestrians		8			85	
Lane Width (ft)		12.0			12.0	
Walking Speed (ft/s)		4.0			4.0	
Percent Blockage		1			7	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	409				619	415
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	409				619	415
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				100	100
cM capacity (veh/h)	1068				420	589

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	212	324	1
Volume Left	0	0	0
Volume Right	0	4	1
cSH	1068	1700	589
Volume to Capacity	0.00	0.19	0.00
Queue Length 95th (ft)	0	0	0
Control Delay (s)	0.0	0.0	11.1
Lane LOS			B
Approach Delay (s)	0.0	0.0	11.1
Approach LOS			B

Intersection Summary			
Average Delay		0.0	
Intersection Capacity Utilization		28.1%	ICU Level of Service A
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis 2: Key Boulevard & North Nash Street

Existing PM
10/6/2014



Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	43	138	228	101	31	52
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	51	162	259	115	36	61
Pedestrians		32	11		87	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		3	1		7	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	461				678	435
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	461				678	435
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)					3.5	3.3
p0 queue free %	95				90	89
cM capacity (veh/h)	1020				365	560









Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	213	374	98
Volume Left	51	0	36
Volume Right	0	115	61
cSH	1020	1700	467
Volume to Capacity	0.05	0.22	0.21
Queue Length 95th (ft)	4	0	20
Control Delay (s)	2.4	0.0	14.7
Lane LOS	A		B
Approach Delay (s)	2.4	0.0	14.7
Approach LOS			B

Intersection Summary

Average Delay		2.9	
Intersection Capacity Utilization		53.8%	ICU Level of Service A
Analysis Period (min)		15	










HCM Unsignalized Intersection Capacity Analysis
 3: North Nash Street & Site Drive

Existing PM
 10/6/2014

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	2	112	16	30	73
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	2	122	17	33	79
Pedestrians	33		2			1
Lane Width (ft)	0.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage veh						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	310	164			172	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	310	164			172	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			98	
cM capacity (veh/h)	665	879			1405	
Direction, Lane #	NB 1	SB 1				
Volume Total	139	112				
Volume Left	0	33				
Volume Right	17	0				
cSH	1700	1405				
Volume to Capacity	0.08	0.02				
Queue Length 95th (ft)	0	2				
Control Delay (s)	0.0	2.4				
Lane LOS		A				
Approach Delay (s)	0.0	2.4				
Approach LOS						
Intersection Summary						
Average Delay			Err			
Intersection Capacity Utilization			Err%	ICU Level of Service		H
Analysis Period (min)			15			










HCM Unsignalized Intersection Capacity Analysis
 4: North Nash Street & Site Drive

Existing PM
 10/6/2014

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	24	15	112	0	0	66
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	16	122	0	0	72
Pedestrians	440					3
Lane Width (ft)	12.0					12.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	37					0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	633	565			562	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	633	565			562	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	91	95			100	
cM capacity (veh/h)	281	331			639	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	42	122	72			
Volume Left	26	0	0			
Volume Right	16	0	0			
cSH	298	1700	1700			
Volume to Capacity	0.14	0.07	0.04			
Queue Length 95th (ft)	12	0	0			
Control Delay (s)	19.1	0.0	0.0			
Lane LOS	C					
Approach Delay (s)	19.1	0.0	0.0			
Approach LOS	C					
Intersection Summary						
Average Delay			3.4			
Intersection Capacity Utilization			22.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 5: North Nash Street & Site Drive

Existing PM
 10/6/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	0	0	1	127	99	0
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	1	138	108	0
Pedestrians	28				4	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	2				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	280	136	136			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	280	136	136			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	100	100	100			
cM capacity (veh/h)	691	892	1415			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	0	139	108			
Volume Left	0	1	0			
Volume Right	0	0	0			
cSH	1700	1415	1700			
Volume to Capacity	0.00	0.00	0.06			
Queue Length 95th (ft)	0	0	0			
Control Delay (s)	0.0	0.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	0.0	0.1	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.0			
Intersection Capacity Utilization			13.5%	ICU Level of Service		A
Analysis Period (min)			15			

Appendix C
Pipeline Development Densities and Trip Generation

Table D-2
 1411 Key Boulevard
 Background Project Trip Generation Analysis Summary

Land Use	ITE Land Use Code	Size	Units	AM Peak Hour			PM Peak Hour			Average Daily Trips
				In	Out	Total	In	Out	Total	
1812 North Moore Street										
Total New Vehicle-Trips				335	47	381	68	304	372	2,709
Central Place										
Total New Vehicle-Trips				348	96	443	124	339	463	3,715
Sedona Slate (Rosslyn Commons)										
Net-New Vehicle-Trips				25	91	116	103	48	151	1,803
Rosslyn Gateway										
Total New Vehicle-Trips				407	129	536	213	434	648	5,810
1401 Wilson Boulevard & 1400 Key Boulevard										
Total New External Vehicle-Trips				266	87	353	66	101	167	1,231
Total Net New Pipeline Project Trips				1,381	450	1,829	574	1,226	1,801	15,268

Table D-2
 1411 Key Boulevard
 Background Project Trip Generation Analysis

Land Use	ITE Land Use Code	Size	Units	AM Peak Hour			PM Peak Hour			Average Daily Trips
				In	Out	Total	In	Out	Total	
1812 North Moore Street										
General Office	710	569,739 SF		664	91	755	122	595	717	5,094
Mode Split Reduction		50 %		(332)	(46)	(378)	(61)	(298)	(359)	(2,547)
Subtotal				332	45	377	61	297	358	2,547
Shopping Center	820	11,020 SF		26	16	42	71	74	145	1,619
Mode Split Reduction		90 %		(23)	(14)	(38)	(64)	(67)	(131)	(1,457)
Subtotal				3	2	4	7	7	14	162
Total New Vehicle-Trips				335	47	381	68	304	372	2,709
Central Place										
Condominium	230	350 D.U.		24	117	141	113	55	168	1,913
Mode Split Reduction		60 %		(14)	(70)	(85)	(68)	(33)	(101)	(1,148)
Subtotal				10	47	56	45	22	67	765
Retail	820	44,554 GSF		59	37	96	181	189	370	4,015
Mode Split Reduction		90 %		(53)	(33)	(86)	(163)	(170)	(333)	(3,614)
Subtotal				6	4	10	18	19	37	401
Office	710	570,549 SF		664	91	755	122	596	718	5,099
Mode Split Reduction		50 %		(332)	(46)	(378)	(61)	(298)	(359)	(2,550)
Subtotal				332	45	377	61	298	359	2,549
Total New Vehicle-Trips				348	96	443	124	339	463	3,715
Sedona Slate (Rosslyn Commons)										
Apartment	220	454 DU's		45	181	226	174	93	267	2,875
Townhouse	230	25 DU's		3	14	17	13	6	19	193
Mode Split Reduction		47 %		(21)	(93)	(114)	(88)	(46)	(134)	(1,442)
Residential Total		479 DU's		27	102	129	99	53	152	1,626
Retail	820	12,635 SF		27	18	45	78	81	159	1,770
Mode Split Reduction		90 %		(25)	(16)	(41)	(69)	(74)	(143)	(1,593)
Retail Total				2	2	4	9	7	16	177
Total New Trips				29	104	133	108	60	168	1,803
Existing Trips				(4)	(13)	(17)	(5)	(12)	(17)	-
Net-New Vehicle-Trips				25	91	116	103	48	151	1,803
Rosslyn Gateway										
Office	710	490,056 SF		589	80	669	107	521	628	4,536
Mode Split Reduction		41 %		(240)	(33)	(273)	(44)	(213)	(256)	(1,851)
Subtotal				349	47	396	63	308	372	2,685
Hotel	310	148 Keys		40	26	66	46	41	87	1,209
Apartment	220	273 DU's		28	110	138	109	59	168	1,778
Mode Split Reduction		52 %		(35)	(70)	(105)	(80)	(52)	(132)	(1,544)
Subtotal				33	66	99	75	48	123	1,443
Retail	820	26,376 SF		43	27	70	127	133	260	2,856
Mode Split Reduction		41 %		(18)	(11)	(29)	(52)	(55)	(107)	(1,174)
Subtotal				25	16	41	75	78	153	1,682
Total New Vehicle-Trips				407	129	536	213	434	648	5,810
Total Net New Pipeline Project Trips				1,115	363	1,476	508	1,125	1,634	14,037

Table D-3

1411 Key Boulevard

Background Project Trip Generation Analysis

Land Use	ITE Code	Size	Units	AM Peak Hour			PM Peak Hour			ADT
				IN	OUT	TOTAL	IN	OUT	TOTAL	
1401 Wilson Boulevard & 1400 Key Boulevard										
Proposed ITE Site Vehicle-Trips										
Office	710	513,000 SF (GFA)		611	83	694	111	542	653	4,699
Grocery	850	40,000 SF (GLA)		88	56	144	251	242	493	4,090
Retail	820	18,000 SF (GLA)		34	22	56	97	105	202	2,228
Multi-Family Residential	220	288 DU		29	116	145	114	62	176	1,881
Total Proposed Development Trips				762	277	1,039	573	951	1,524	12,898
Internal Capture (2)										
Office	710			21	8	29	15	34	49	353
Grocery and Retail	850/820			21	8	29	26	23	49	445
Residential	220			8	34	42	34	18	52	556
Total Internal Trips				50	50	100	75	75	150	1,354
External Site Vehicle-Trips										
Office	710	513,000 SF (GFA)		611	83	694	111	542	653	4,699
Internal Capture				(21)	(8)	(29)	(15)	(34)	(49)	(353)
Transit Reduction (3)		41.9%		(247)	(31)	(278)	(40)	(213)	(253)	(1,822)
Reduction Subtotal				(268)	(39)	(307)	(55)	(247)	(302)	(2,175)
External Office Vehicle-Trips				343	44	387	56	295	351	2,524
Grocery	850	40,000 SF (GLA)		88	56	144	251	242	493	4,090
Internal Capture				(14)	(6)	(20)	(18)	(16)	(34)	(307)
Transit Reduction (3)		52.4%		(39)	(26)	(65)	(122)	(118)	(240)	(1,982)
Reduction Subtotal				(53)	(32)	(85)	(140)	(134)	(274)	(2,289)
External Grocery Vehicle-Trips				35	24	59	111	108	219	1,801
Retail	820	18,000 SF (GLA)		34	22	56	97	105	202	2,228
Internal Capture				(7)	(2)	(9)	(8)	(7)	(15)	(138)
Transit Reduction (3)		52.4%		(14)	(10)	(24)	(47)	(51)	(98)	(1,094)
Reduction Subtotal				(21)	(12)	(33)	(55)	(58)	(113)	(1,232)
External Retail Vehicle-Trips				13	10	23	42	47	89	996
Residential	220	288 DU		29	116	145	114	62	176	1,881
Internal Capture				(8)	(34)	(42)	(34)	(18)	(52)	(556)
Transit Reduction (3)		42.3%		(9)	(35)	(44)	(34)	(19)	(53)	(561)
Reduction Subtotal				(17)	(69)	(86)	(68)	(37)	(105)	(1,117)
External Residential Vehicle-Trips				12	47	59	46	25	71	764
Total External Site Vehicle-Trips				403	125	528	255	475	730	6,085
Pass-by Vehicle Trips (4)										
External Retail Site Vehicle Trips	820	18,000 SF (GLA)		13	10	23	42	47	89	996
25% Pass-by Reduction		25.0%		(3)	(3)	(6)	(11)	(12)	(23)	(249)
New External Retail Vehicle Trip Subtotal				10	7	17	31	35	66	747
External Grocery Site Vehicle Trip	850	40,000 SF (GLA)		35	24	59	111	108	219	1,801
25% Pass-by Reduction		25.0%		(9)	(6)	(15)	(28)	(27)	(55)	(450)
New External Grocery Vehicle Trip Subtotal				26	18	44	83	81	164	1,351
New External Site Vehicle Trips										
Office	710	513,000 SF (GFA)		343	44	387	56	295	351	2,524
Grocery	850	40,000 SF (GLA)		26	18	44	83	81	164	1,351
Retail	820	18,000 SF (GLA)		10	7	17	31	35	66	747
Residential	220	288 DU		12	47	59	46	25	71	764
Total New External Site Vehicle-Trips				391	116	507	216	436	652	5,386
Existing Site Vehicle Trips (5)										
Office	710	390,944 SF (GFA)		125	29	154	66	101	167	1,231
Total New External Trips				266	87	353	150	335	485	4,155

Notes:

- (1) Trips generated using Institute of Transportation Engineers (ITE) *Trip Generation*, 8th Edition.
- (2) Internal capture determined by calculating a percent reduction for a set of uses with natural interaction, and applying the lower of the two resulting reductions. See Tables 3B and 3C for detailed calculations.
- (3) Transit reductions based on *2005 Development-Related Ridership Survey Final Report*; Washington Metropolitan Area Transit Authority, March 2006. Distance from Metro is 350 feet.
- (4) Per VDOT Chapter 527 Standards, a 25% pass-by vehicle trip reduction was taken for the retail component.
- (5) Site trips counted by Wells + Associates on Thursday, June 7th, 2012.

Appendix D Total Future Levels of Service and Queues

HCM Unsignalized Intersection Capacity Analysis
2: Key Boulevard & North Nash Street

Total Future AM
10/6/2014









Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	119	269	157	74	66	41
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.85	0.85	0.92	0.92
Hourly flow rate (vph)	140	316	185	87	72	45
Pedestrians		56	2		63	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		5	0		5	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	335				890	347
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	335				890	347
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	88				72	93
cM capacity (veh/h)	1160				261	629

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	456	272	116
Volume Left	140	0	72
Volume Right	0	87	45
cSH	1160	1700	336
Volume to Capacity	0.12	0.16	0.35
Queue Length 95th (ft)	10	0	38
Control Delay (s)	3.5	0.0	21.3
Lane LOS	A		C
Approach Delay (s)	3.5	0.0	21.3
Approach LOS			C

Intersection Summary			
Average Delay		4.8	
Intersection Capacity Utilization		61.3%	ICU Level of Service B
Analysis Period (min)		15	

HCM Unsignalized Intersection Capacity Analysis
 3: North Nash Street & Site Drive

Total Future AM
 10/6/2014

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations			↕			↕
Volume (veh/h)	0	0	185	8	7	100
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	201	9	8	109
Pedestrians	24		4			
Lane Width (ft)	0.0		12.0			
Walking Speed (ft/s)	4.0		4.0			
Percent Blockage	0		0			
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	357	229			234	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	357	229			234	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			99	
cM capacity (veh/h)	635	810			1334	
Direction, Lane #	NB 1	SB 1				
Volume Total	210	116				
Volume Left	0	8				
Volume Right	9	0				
cSH	1700	1334				
Volume to Capacity	0.12	0.01				
Queue Length 95th (ft)	0	0				
Control Delay (s)	0.0	0.5				
Lane LOS		A				
Approach Delay (s)	0.0	0.5				
Approach LOS						
Intersection Summary						
Average Delay			0.2			
Intersection Capacity Utilization			15.3%		ICU Level of Service	A
Analysis Period (min)			15			










HCM Unsignalized Intersection Capacity Analysis
4: North Nash Street & Site Drive

Total Future AM
10/6/2014

	↙	↖	↑	↗	↘	↓
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations	↙		↑			↑
Volume (veh/h)	15	13	186	0	0	92
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	16	14	202	0	0	100
Pedestrians	38		5			3
Lane Width (ft)	12.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	3		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	345	243			240	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	345	243			240	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	97	98			100	
cM capacity (veh/h)	628	769			1284	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	30	202	100			
Volume Left	16	0	0			
Volume Right	14	0	0			
cSH	686	1700	1700			
Volume to Capacity	0.04	0.12	0.06			
Queue Length 95th (ft)	3	0	0			
Control Delay (s)	10.5	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	10.5	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			23.3%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 5: North Nash Street & Site Drive

Total Future AM
 10/6/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	7	7	2	199	85	2
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	8	8	2	216	92	2
Pedestrians	11			5	3	
Lane Width (ft)	12.0			12.0	12.0	
Walking Speed (ft/s)	4.0			4.0	4.0	
Percent Blockage	1			0	0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	328	109	106			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	328	109	106			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	99	100			
cM capacity (veh/h)	658	932	1472			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	15	218	95			
Volume Left	8	2	0			
Volume Right	8	0	2			
cSH	771	1472	1700			
Volume to Capacity	0.02	0.00	0.06			
Queue Length 95th (ft)	2	0	0			
Control Delay (s)	9.8	0.1	0.0			
Lane LOS	A	A				
Approach Delay (s)	9.8	0.1	0.0			
Approach LOS	A					
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			23.6%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 6: Grocery Drive & Key Boulevard

Total Future AM
 10/6/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↘			↖	↗	
Volume (veh/h)	263	10	19	182	3	18
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	286	11	21	198	3	20
Pedestrians					220	
Lane Width (ft)					12.0	
Walking Speed (ft/s)					4.0	
Percent Blockage					18	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			517		750	511
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			517		750	511
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			98		99	96
cM capacity (veh/h)			857		302	459
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	297	218	23			
Volume Left	0	21	3			
Volume Right	11	0	20			
cSH	1700	857	427			
Volume to Capacity	0.17	0.02	0.05			
Queue Length 95th (ft)	0	2	4			
Control Delay (s)	0.0	1.1	13.9			
Lane LOS		A	B			
Approach Delay (s)	0.0	1.1	13.9			
Approach LOS			B			
Intersection Summary						
Average Delay			1.0			
Intersection Capacity Utilization			35.4%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 2: Key Boulevard & North Nash Street

Total Future PM
 10/6/2014











Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations		↕	↕		↕	
Volume (veh/h)	58	213	296	166	42	90
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.85	0.85	0.88	0.88	0.85	0.85
Hourly flow rate (vph)	68	251	336	189	49	106
Pedestrians		32	11		87	
Lane Width (ft)		12.0	12.0		12.0	
Walking Speed (ft/s)		4.0	4.0		4.0	
Percent Blockage		3	1		7	
Right turn flare (veh)						
Median type		None	None			
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	612				916	550
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	612				916	550
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	92				81	78
cM capacity (veh/h)	897				257	483

Direction, Lane #	EB 1	WB 1	SB 1
Volume Total	319	525	155
Volume Left	68	0	49
Volume Right	0	189	106
cSH	897	1700	377
Volume to Capacity	0.08	0.31	0.41
Queue Length 95th (ft)	6	0	49
Control Delay (s)	2.7	0.0	21.1
Lane LOS	A		C
Approach Delay (s)	2.7	0.0	21.1
Approach LOS			C

Intersection Summary			
Average Delay		4.1	
Intersection Capacity Utilization		69.0%	ICU Level of Service C
Analysis Period (min)		15	










HCM Unsignalized Intersection Capacity Analysis
 3: North Nash Street & Site Drive

Total Future PM
 10/6/2014

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	208	16	30	102
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	0	226	17	33	111
Pedestrians	33		2			1
Lane Width (ft)	0.0		12.0			12.0
Walking Speed (ft/s)	4.0		4.0			4.0
Percent Blockage	0		0			0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	446	269			276	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	446	269			276	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			97	
cM capacity (veh/h)	555	769			1286	
Direction, Lane #	NB 1	SB 1				
Volume Total	243	143				
Volume Left	0	33				
Volume Right	17	0				
cSH	1700	1286				
Volume to Capacity	0.14	0.03				
Queue Length 95th (ft)	0	2				
Control Delay (s)	0.0	2.0				
Lane LOS		A				
Approach Delay (s)	0.0	2.0				
Approach LOS						
Intersection Summary						
Average Delay			0.7			
Intersection Capacity Utilization			33.6%	ICU Level of Service		A
Analysis Period (min)			15			










HCM Unsignalized Intersection Capacity Analysis
 4: North Nash Street & Site Drive

Total Future PM
 10/6/2014

						
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	24	15	210	0	0	108
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	26	16	228	0	0	117
Pedestrians	40					4
Lane Width (ft)	12.0					12.0
Walking Speed (ft/s)	4.0					4.0
Percent Blockage	3					0
Right turn flare (veh)						
Median type			None			None
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	386	272			268	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	386	272			268	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	96	98			100	
cM capacity (veh/h)	597	738			1252	
Direction, Lane #	WB 1	NB 1	SB 1			
Volume Total	42	228	117			
Volume Left	26	0	0			
Volume Right	16	0	0			
cSH	644	1700	1700			
Volume to Capacity	0.07	0.13	0.07			
Queue Length 95th (ft)	5	0	0			
Control Delay (s)	11.0	0.0	0.0			
Lane LOS	B					
Approach Delay (s)	11.0	0.0	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			1.2			
Intersection Capacity Utilization			24.0%		ICU Level of Service	A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
 5: North Nash Street & Site Drive

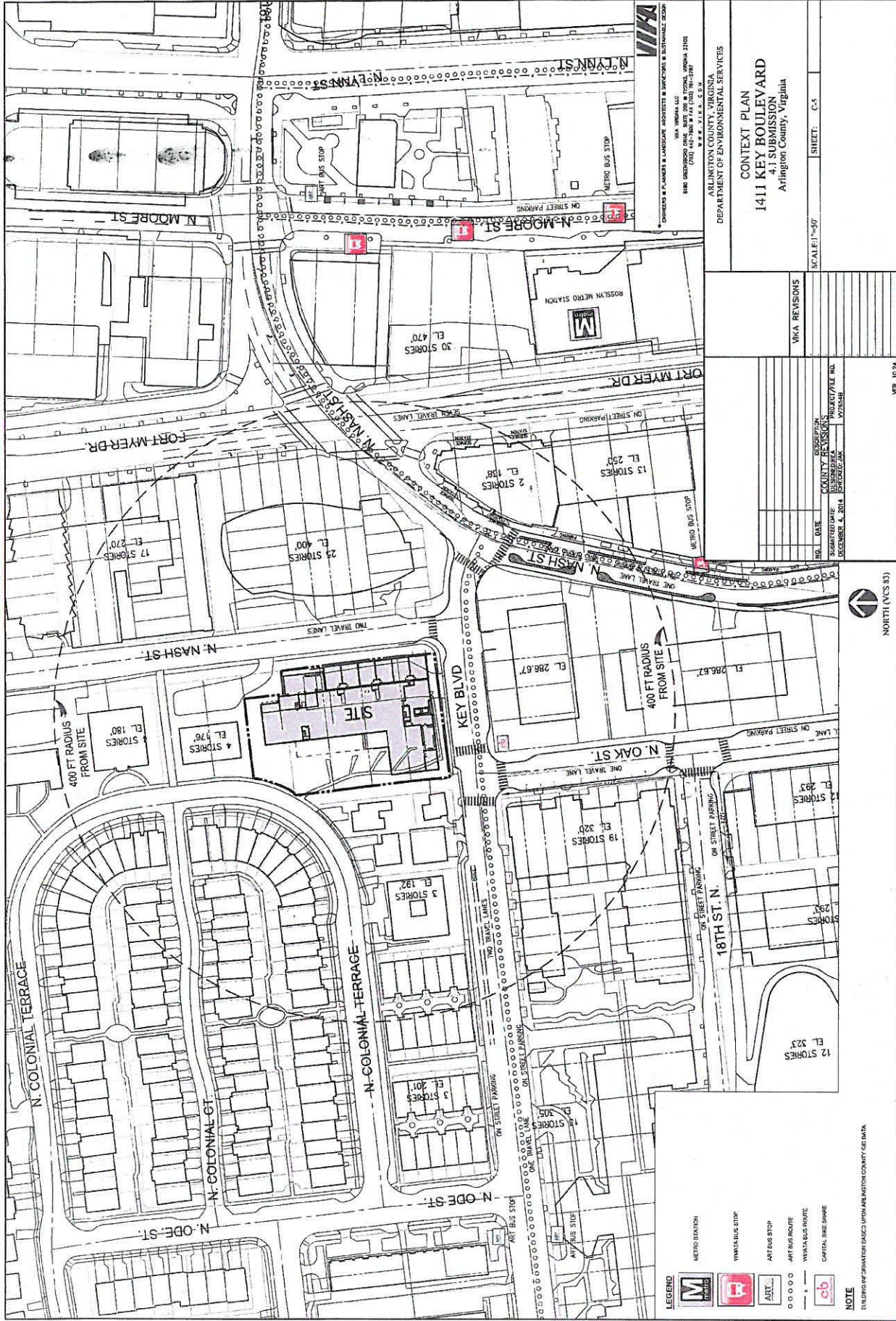
Total Future PM
 10/6/2014

						
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (veh/h)	4	4	7	225	104	7
Sign Control	Stop			Free	Free	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	4	4	8	245	113	8
Pedestrians	28				4	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	2				0	
Right turn flare (veh)						
Median type				None	None	
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	409	145	149			
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	409	145	149			
tC, single (s)	6.4	6.2	4.1			
tC, 2 stage (s)						
tF (s)	3.5	3.3	2.2			
p0 queue free %	99	100	99			
cM capacity (veh/h)	580	881	1399			
Direction, Lane #	EB 1	NB 1	SB 1			
Volume Total	9	252	121			
Volume Left	4	8	0			
Volume Right	4	0	8			
cSH	699	1399	1700			
Volume to Capacity	0.01	0.01	0.07			
Queue Length 95th (ft)	1	0	0			
Control Delay (s)	10.2	0.3	0.0			
Lane LOS	B	A				
Approach Delay (s)	10.2	0.3	0.0			
Approach LOS	B					
Intersection Summary						
Average Delay			0.4			
Intersection Capacity Utilization			27.5%	ICU Level of Service		A
Analysis Period (min)			15			

HCM Unsignalized Intersection Capacity Analysis
6: Grocery Store Drive & Key Boulevard

Total Future PM
10/6/2014

	→	↘	↙	←	↖	↗
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↘			↖	↗	
Volume (veh/h)	292	31	63	215	15	78
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	317	34	68	234	16	85
Pedestrians	8				199	
Lane Width (ft)	12.0				12.0	
Walking Speed (ft/s)	4.0				4.0	
Percent Blockage	1				17	
Right turn flare (veh)						
Median type	None			None		
Median storage (veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			550		912	533
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			550		912	533
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			92		93	81
cM capacity (veh/h)			851		232	456
Direction, Lane #	EB 1	WB 1	NB 1			
Volume Total	351	302	101			
Volume Left	0	68	16			
Volume Right	34	0	85			
cSH	1700	851	394			
Volume to Capacity	0.21	0.08	0.26			
Queue Length 95th (ft)	0	7	25			
Control Delay (s)	0.0	2.9	17.2			
Lane LOS		A	C			
Approach Delay (s)	0.0	2.9	17.2			
Approach LOS			C			
Intersection Summary						
Average Delay			3.5			
Intersection Capacity Utilization			48.4%	ICU Level of Service		A
Analysis Period (min)			15			



LEGEND

- METRO STATION
- WMTA BUS STOP
- ART BUS STOP
- ART BUS ROUTE
- WMTA BUS ROUTE
- CAPITAL LINE GARAGE

NOTE
BUILDING INFORMATION BASED UPON ARLINGTON COUNTY GIS DATA.

ARLINGTON COUNTY, VIRGINIA
DEPARTMENT OF ENVIRONMENTAL SERVICES

CONTEXT PLAN
1411 KEY BOULEVARD
4.1 SUBMISSION
Arlington County, Virginia

SCALE: 1"=50'
SHEET: C-5

NO.	DATE	DESCRIPTION	DESIGNER/REVISOR	PROJECT FILE NO.
1	12/14/14	ISSUED FOR PERMITS	WKS/MSB	WKS6548

DATE: 12/14/14
SUBMITTED DATE: 12/14/14
PROJECT FILE NO.: WKS6548



VS 1024

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