

Section 3 ANALYSIS

Overview

This section presents analyses of existing and future traffic conditions, without and with the proposed re-development of the subject site, and evaluations of the parking and loading requirements.

Existing Levels of Service

Existing peak hour levels of service were estimated at the three key intersections in the study area based on the existing lane usage and traffic control shown on Figure 2-1, existing vehicular traffic counts shown on Figure 2-2, existing pedestrian traffic counts shown on Figure 2-3, and the Synchro intersection capacity analysis model. The results are presented in Appendix C and summarized in Table 3-1.

Table 3-1 indicates that each of the intersections in the study area currently operate at level of service (LOS) "D" or better during both the AM and PM peak hours. All approaches to each of the signalized intersections also operate at LOS "D" or better during both the AM and PM peak hours.

Trip Distribution Analysis

The distribution of peak hour trips that would be generated by the proposed office building at 1616 Rhode Island Avenue was determined based on existing traffic counts. Below are the estimated directions of approach:

To/From	<u>AM</u>		<u>PM</u>	
	Inbound	Outbound	Inbound	Outbound
17th Street (North)	25%	0%	16%	5%
Massachusetts Avenue (Northwest)	32%	10%	37%	15%
16th Street, Rhode Island Avenue (East), and Massachusetts Avenue (Southeast)	38%	35%	24%	47%
17th Street (South)	0%	30%	15%	11%
Rhode Island Avenue (West)	<u>5%</u>	<u>25%</u>	<u>8%</u>	<u>22%</u>
Total	100%	100%	100%	100%

Table 3-1

Center for Strategic and International Studies

Intersection Level of Service (1,2,3)

Intersection	Control	Approach	Existing, 2008		Background, 2011		Total Future, 2011	
			AM	PM	AM	PM	AM	PM
1. Rhode Island Avenue & 17th Street NW * 17th Street is one-way southbound from 7:00-9:30 AM	Signalized	EB WB NB SB Overall	B (19.6) A (5.8) N/A B (13.4) B (10.1)	C (30.1) B (14.1) A (8.0) A (7.3) B (13.0)	B (19.1) A (6.3) N/A B (13.9) B (10.5)	C (29.7) B (13.9) A (8.5) A (7.6) B (13.0)	B (19.1) A (7.5) N/A B (14.0) B (11.1)	C (29.7) B (14.1) A (8.4) A (7.6) B (13.1)
2. Rhode Island Avenue & Hotel Driveway/Alley (Future Site Entrance)	Unsignalized	EBTL WBLT SBLTR	A [0.0] A [0.0] B [11.5]	A [0.0] A [0.0] B [12.1]	A [0.0] A [0.0] B [11.7]	A [0.0] A [0.0] B [12.3]	A [0.0] A [2.2] B [12.9]	A [0.0] A [0.8] B [12.5]
3. Rhode Island Avenue & Bataan St NW/Surface Parking Lot	Unsignalized	EBTL WBLT NBLTR SBLTR	A [0.3] A [0.2] B [12.5] D [27.2]	A [0.1] A [0.1] C [15.5] C [20.4]	A [0.3] A [0.2] B [12.5] D [28.7]	A [0.1] A [0.1] C [15.8] C [21.2]	A [0.9] A [0.0] DRIVEWAY CLOSED C [16.8]	A [0.3] A [0.0] C [15.7]
4. Rhode Island Avenue & Alley (Future Site Exit)	Unsignalized	EBT NBR	A [0.0] B [11.3]	A [0.0] B [11.1]	A [0.0] B [11.3]	A [0.0] B [11.2]	A [0.0] B [11.4]	A [0.0] B [12.1]
5. Massachusetts Avenue & Scott Circle	Signalized	SEB SWB Overall	B (16.7) C (25.7) C (21.6)	A (8.1) C (34.7) B (19.6)	B (17.7) C (25.0) C (21.7)	A (8.7) C (33.8) B (19.6)	B (18.1) C (24.7) C (21.7)	A (8.7) C (33.8) B (19.6)
6. Rhode Island Avenue & Scott Circle/16th S	Signalized	EB SEB Overall	C (34.9) B (10.5) B (14.1)	C (32.9) B (15.1) C (21.5)	D (35.2) A (9.1) B (12.9)	C (33.4) B (15.4) C (21.8)	D (37.5) A (8.6) B (13.0)	D (35.6) B (17.2) C (23.8)

Notes:

¹ Based on as Synchro version 7² Numbers in brackets, [], represent control delay in seconds per vehicle for unsignalized intersections.³ Numbers in parenthesis, (), represent control delay in seconds per vehicle for signalized intersections.

Background Traffic Growth

No approved but unbuilt (or pipeline) projects were identified in the immediate study area. A one (1) percent per year background traffic growth rate was used to account for general regional traffic growth and other projects that may be built within the next three years in the District of Columbia outside of the study area. This rate was compounded for three years for project buildout (2011). As shown on Figure 3-1 this growth rate was applied to all movements at each study area intersections with exception of the existing site driveway, alleys and hotel entrance.

Background Traffic Forecasts

Background peak hour traffic forecasts, without re-development of the Center for Strategic and International Studies, were estimated based on existing traffic counts, and background traffic growth, as shown on Figure 3-2.

Background Future Levels of Service

Future peak hour levels of service, without the proposed Center for Strategic and International Studies, were estimated at the key intersections in the study area for the year of project buildout (2011) based on the intersection lane usage and traffic control shown on Figure 2-1; the background traffic forecasts shown on Figure 3-2; and the Synchro version 7 intersection capacity analysis model.

The results are presented in Appendix D, and are summarized in Table 3-1. Table 3-1 indicates that all intersections and approaches would continue to operate at LOS "D" or better during both the AM and PM peak hours in 2011 without the proposed Center for Strategic and International Studies.

Site Trip Generation Analysis

The number of trips that will be generated by the proposed the Center for Strategic and International Studies were estimated based on: (1) Institute of Transportation Engineers (ITE) trip generation rates, (2) the proximity of the project to the Farragut North and Dupont Circle Metro stations, and (3) experience with other comparable projects in Washington, D.C.

It is estimated that the proposed 113,447 S.F. office building would generate 93 AM peak hour trips, and 93 PM peak hour trips, as shown in Table 3-2. The existing commercial parking lot currently generates 20 AM and 19 PM peak hour trips, based on driveway counts. The existing parking lot trips were removed from the surrounding road network based on existing intersection turning movement splits, as shown on Figure 3-3. The proposed office building would generate 73 net additional trips during the AM peak hour and 74 net additional trips during the PM peak hour.

Table 3-2
Center for Strategic and International Studies
Site-Trip Generation Analysis

Land Use	Size	Units	Land Use Code	AM Peak Hour			PM Peak Hour		
				In	Out	Total	In	Out	Total
<u>Existing Vehicle Trips</u>				19	1	20	7	12	19
<u>ITE Vehicle-Trips (1)</u>									
Office	113,447	S.F.	710	182	25	207	35	171	206
<u>ITE Person-Trips (2)</u>				200	28	228	39	188	227
<u>1616 Rhode Island Ave Vehicle Trips (3)</u>				82	11	93	16	77	93
<u>Net Additional Trips</u>				63	10	73	9	65	74

Notes: (1) Based on Trip Generation, 7th Edition, Institute of Transportation Engineers.

(2) Assumptions:

Office

Non-auto mode split: 0%
Average vehicle occupancy 1.10
(persons per vehicle)

(3) Assumptions:

Office

Non-auto mode split: 50%
Average vehicle occupancy 1.20
(persons per vehicle)

Non-auto mode splits were adapted from the U.S. Census 2000
Data Summary File 3 and the Development-Related Ridership Survey II,
Washington Metropolitan Area Transit Authority, December 1989.

Site Traffic Assignments

The site-generated traffic volumes were assigned to the public road network according to the directional distribution described above. The resulting site traffic assignments are shown on Figure 3-4.

Total Future Traffic Forecasts

These site traffic assignments were added to the future background traffic volumes shown on Figure 3-2, plus the removal of existing parking lot traffic shown on Figure 3-3, to yield the total future traffic forecasts shown on Figure 3-5.

Total Future Levels of Service

Future peak hour levels of service with the Center for Strategic and International Studies were estimated at the key intersections in the study area based on the lane usage and traffic controls shown on Figure 2-1; the total future traffic forecasts shown on Figure 3-3; and Synchro version 7. The results are presented in Appendix E and summarized in Table 3-1.

Table 3-1 indicates that the net additional trips that would be generated by the proposed office building would have no significant impact on the intersections in the study area. The signalized intersections and all approaches to those intersections would continue to operate at LOS “D” or better during both the AM and PM peak hours.

Southbound traffic on Bataan Street, which is controlled by a stop sign at Rhode Island Avenue, would also continue to operate at LOS “D” or better during the AM and PM peak hours.

The alley system that will allow access to the Center for Strategic and International Studies is forecasted to operate at LOS “B” or better during both the AM and PM peak hours.

Parking Requirements

The parking requirement for an 113,447 S.F. office building within the underlying C-4 zone is one (1) space for each additional 1,800 S.F. of gross floor area in excess of 2,000 S.F., according to Chapter 21 of the *District of Columbia Municipal Regulations*. A building this size, therefore, would ordinarily require 63 parking spaces. Pursuant to Zoning Commission Order No. 02-51A, however, the PUD is required to provide approximately 90 spaces.

The proposed office building would be served by approximately 78 parking spaces (or 0.69 spaces per 1,000 S.F.), which is 15 (or 24 percent) more spaces than required by regulation. Although, the proposed parking supply does not satisfy the conditions of the first stage PUD approval, it does adequately accommodate the parking needs for the proposed office building.

Loading Requirements

The loading requirement is a minimum of two (2) 30-foot deep loading berths and one (1) service/delivery loading space for office buildings ranging from 100,000 to 200,000 S.F. in size, within the underlying C-4 zone, according to Chapter 22 of the *District of Columbia Municipal Regulations*.

One 30-foot loading berth and one service/delivery loading space will be provided and it will be located at the southeast corner of the proposed office building with access from the existing alley system. The trucks would back into the appropriate loading areas, as shown on Figure 3-6 and Figure 3-7.

A waiver is being requested for the second 30-foot deep loading berth. The loading/delivery/service facilities provided for this development would adequately meet the project requirements since the Center for Strategic and International Studies will be a long term tenant and tenants will not be moving in and out of the building on an annual basis.

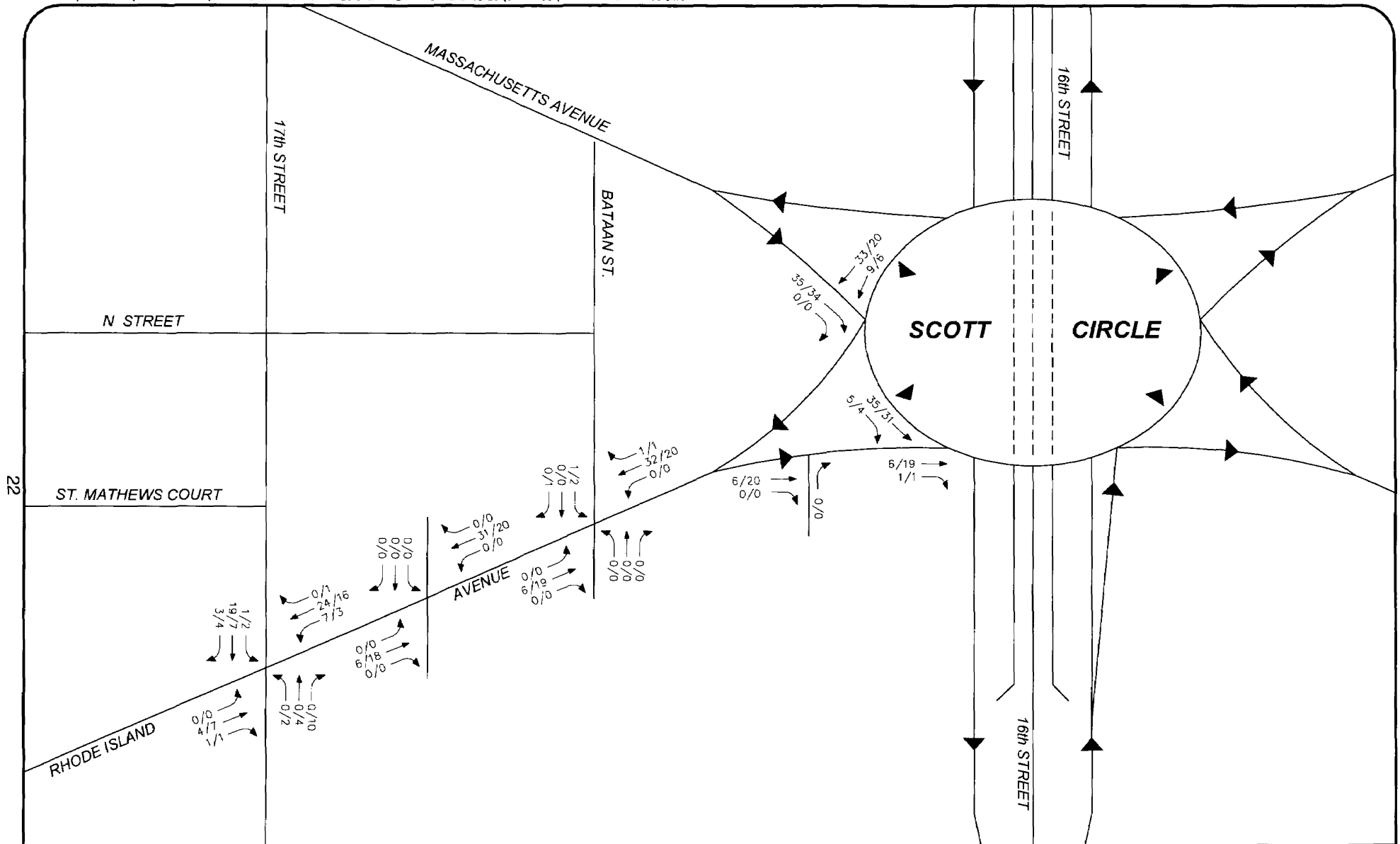


Figure 3-1
Background Growth

AM PEAK HOUR
PM PEAK HOUR
000/000



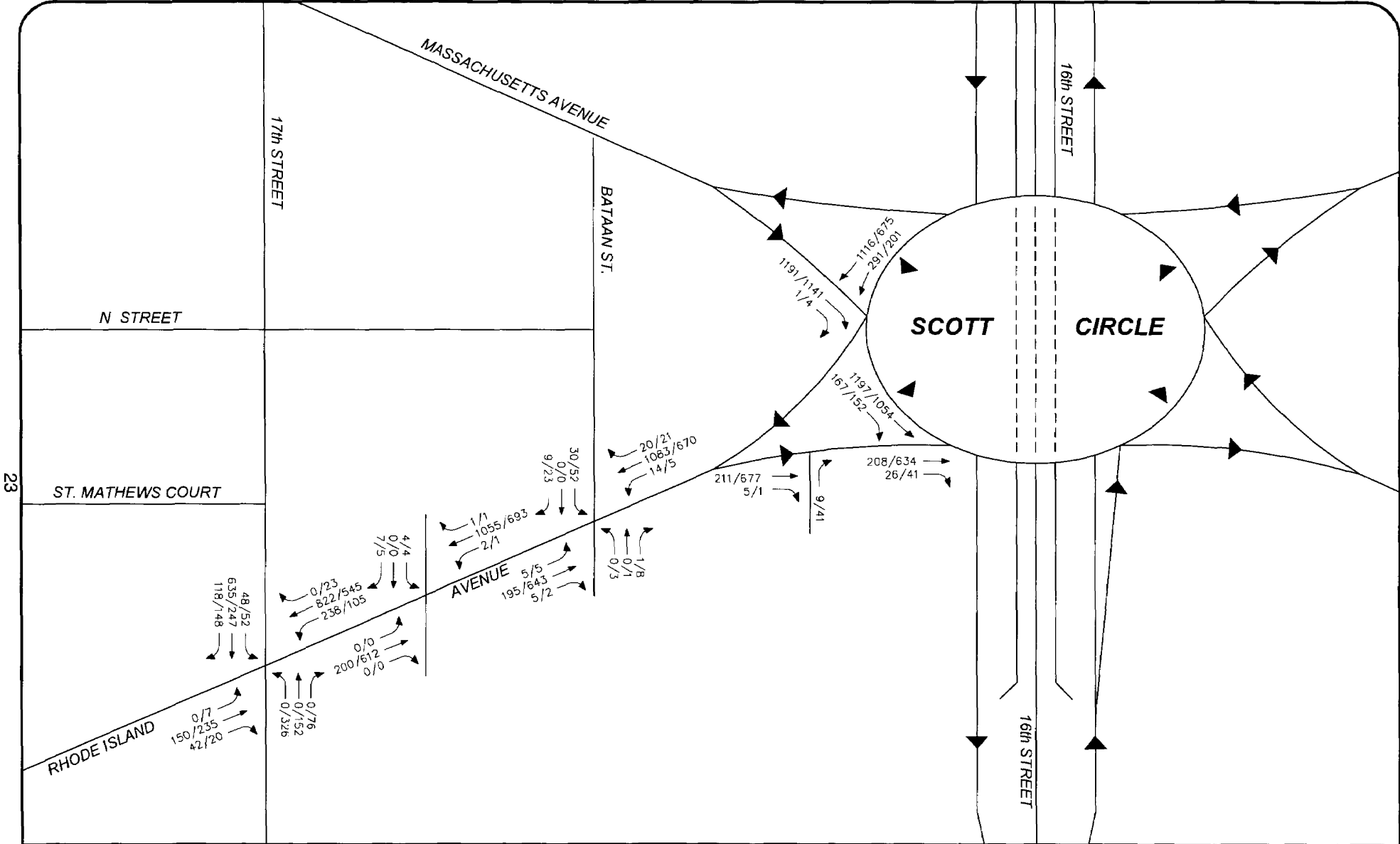


Figure 3-2
Background Future Peak Hour Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
000/000



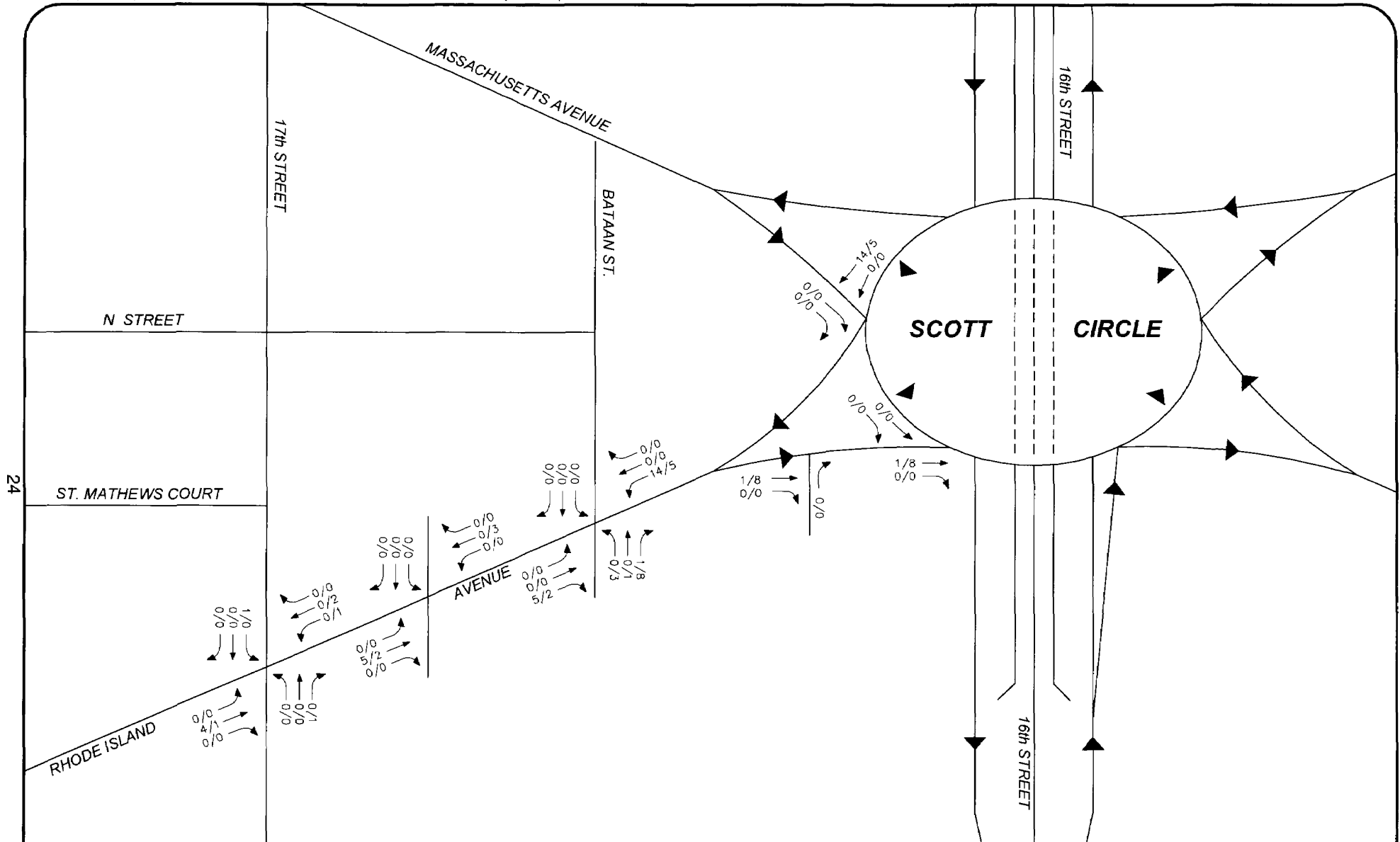


Figure 3-3
Existing Surface Parking Lot Traffic

AM PEAK HOUR
PM PEAK HOUR
000/000





AM PEAK HOUR
PM PEAK HOUR
000/000



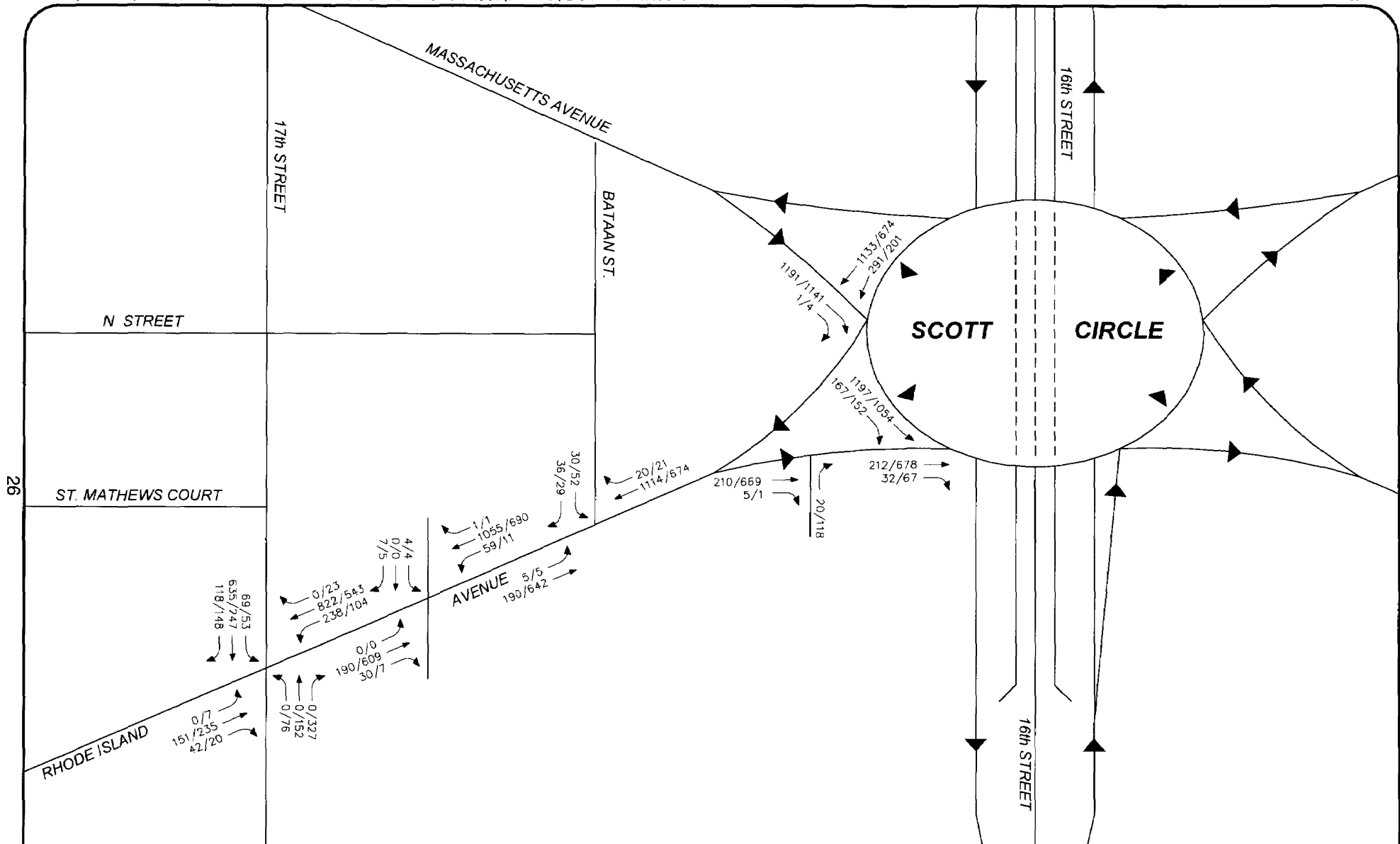
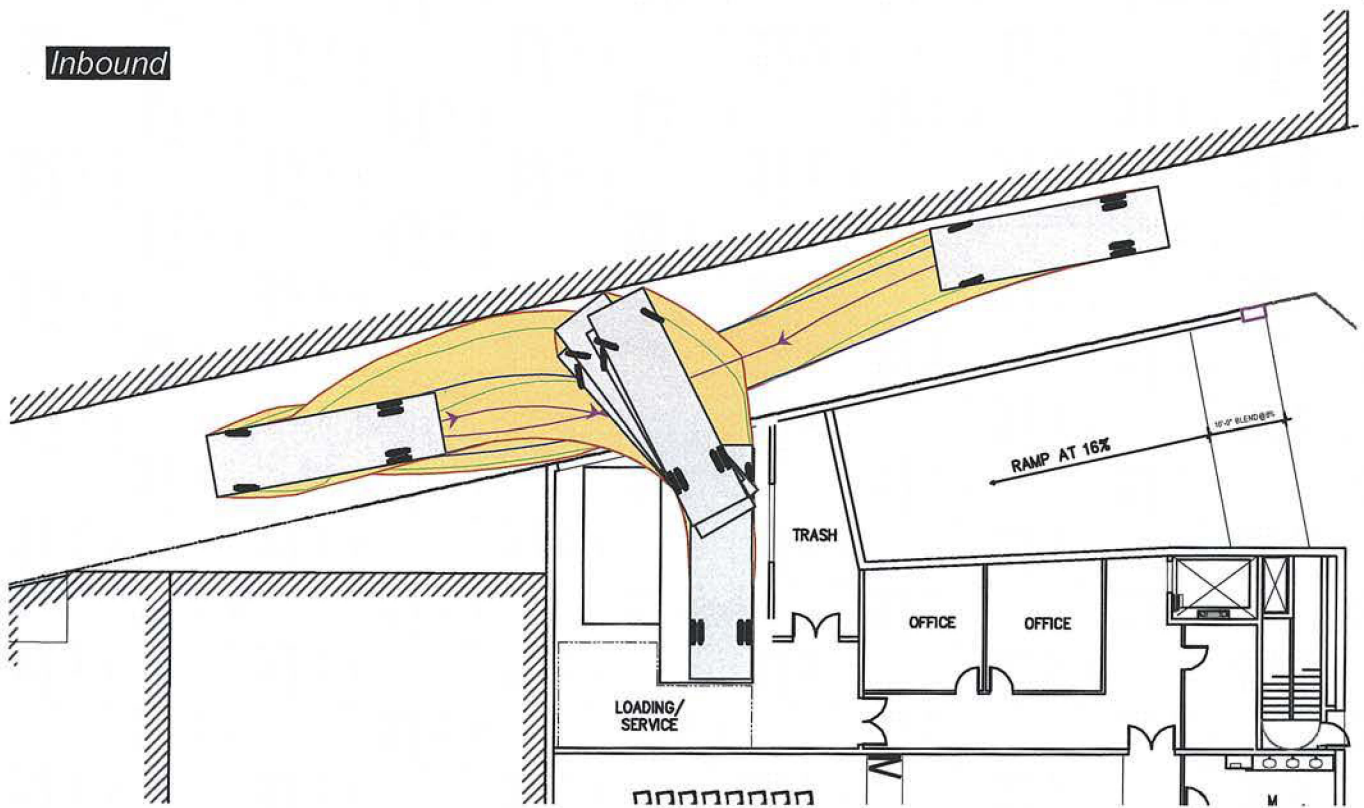


Figure 3-5
Total Future Peak Hour Traffic Forecasts

AM PEAK HOUR
PM PEAK HOUR
000/000



Inbound



Outbound

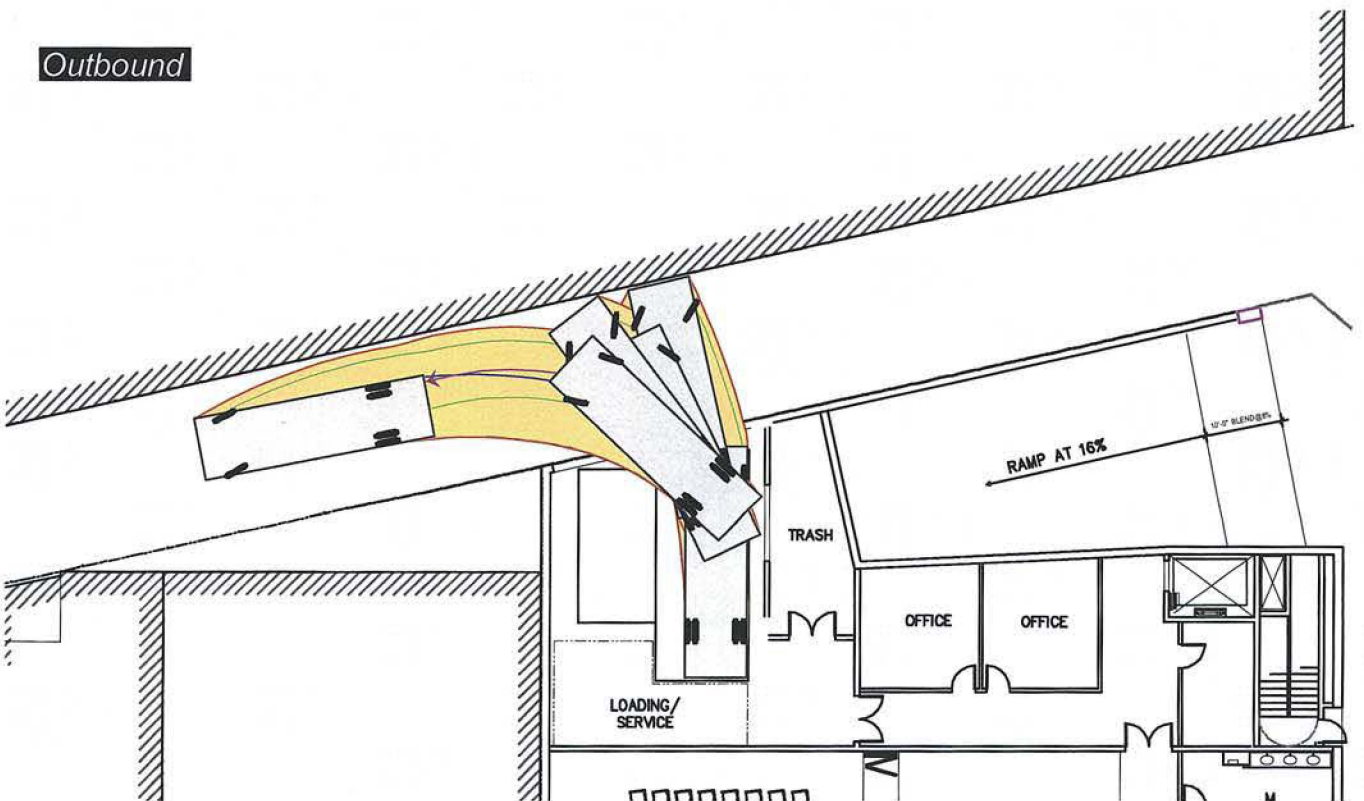


Figure 3-6
30' Single Unit Truck (SU30) Swept Area Diagram

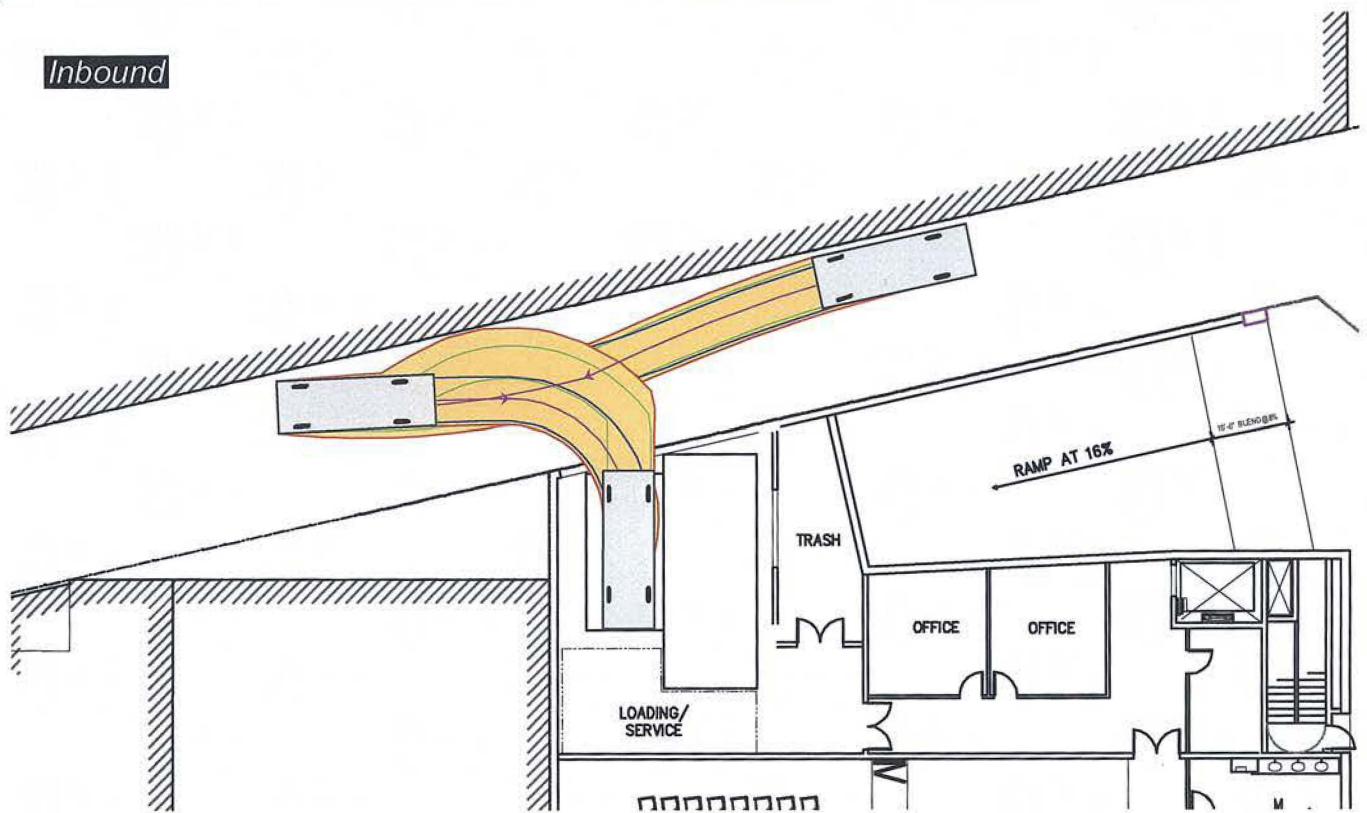
- Vehicle Body
- Front Tire Tread
- Rear Tire Tread
- Directional Path
- Vehicle Path



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DAO

Inbound



Outbound

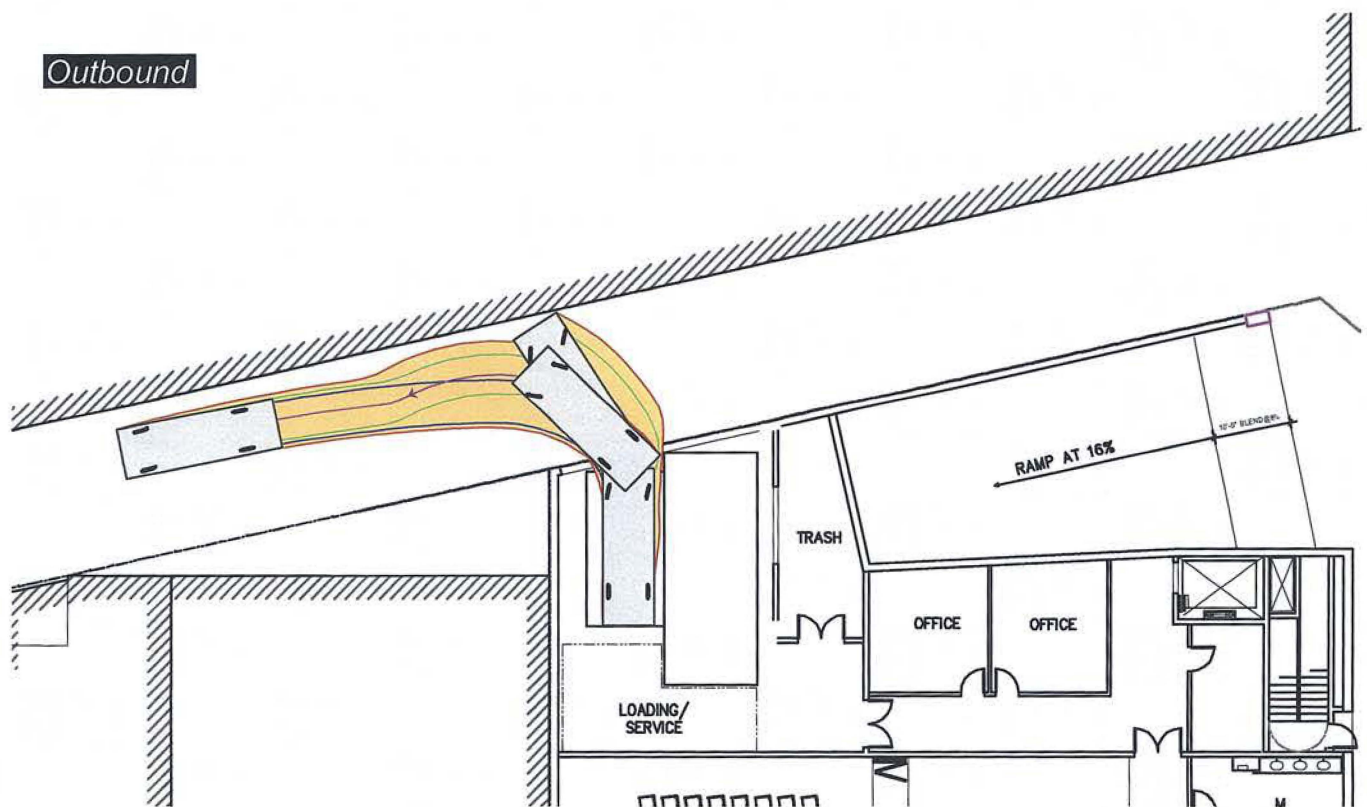


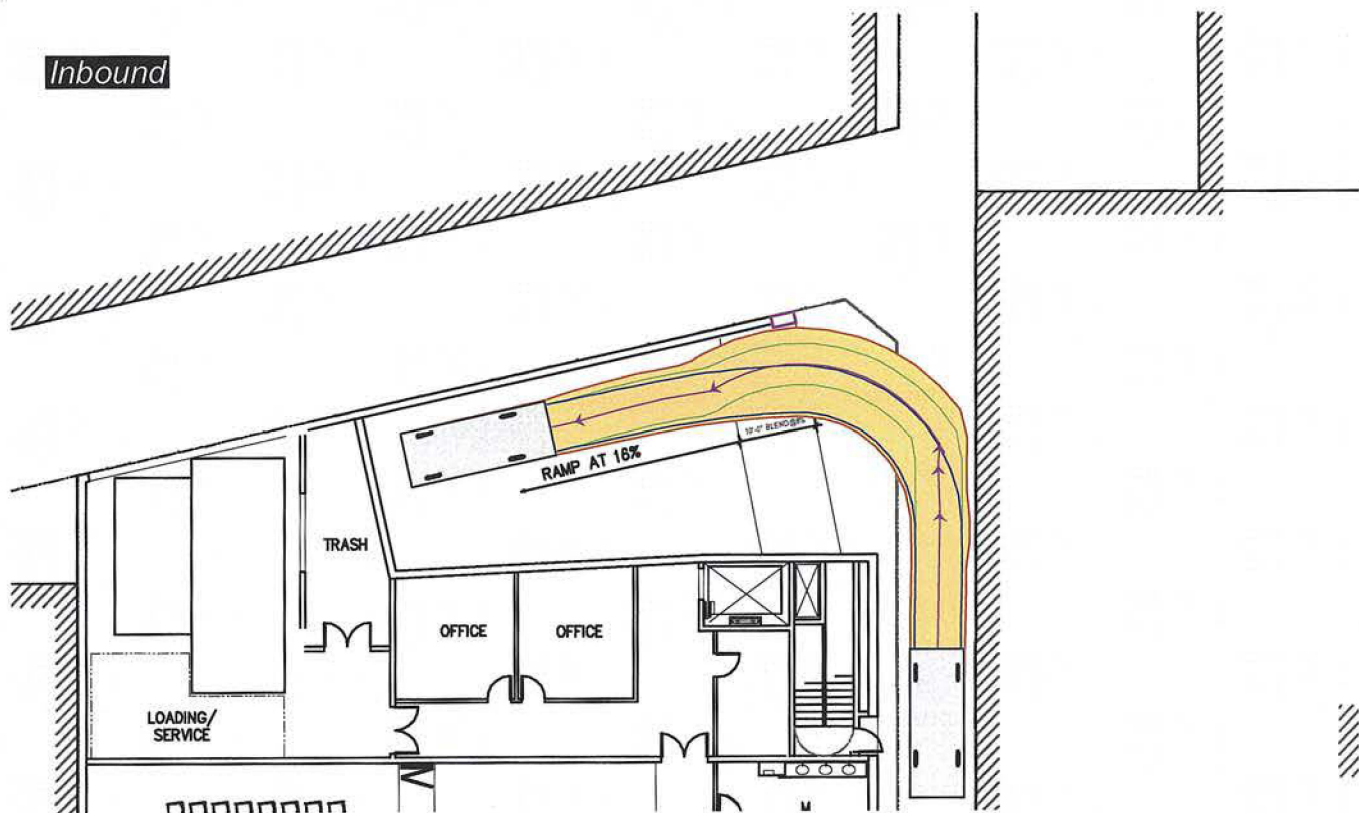
Figure 3-7
20' Cargo Van Swept Area Diagram

- Vehicle Body
- Front Tire Tread
- Rear Tire Tread
- Directional Path
- Vehicle Path



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Inbound



Outbound

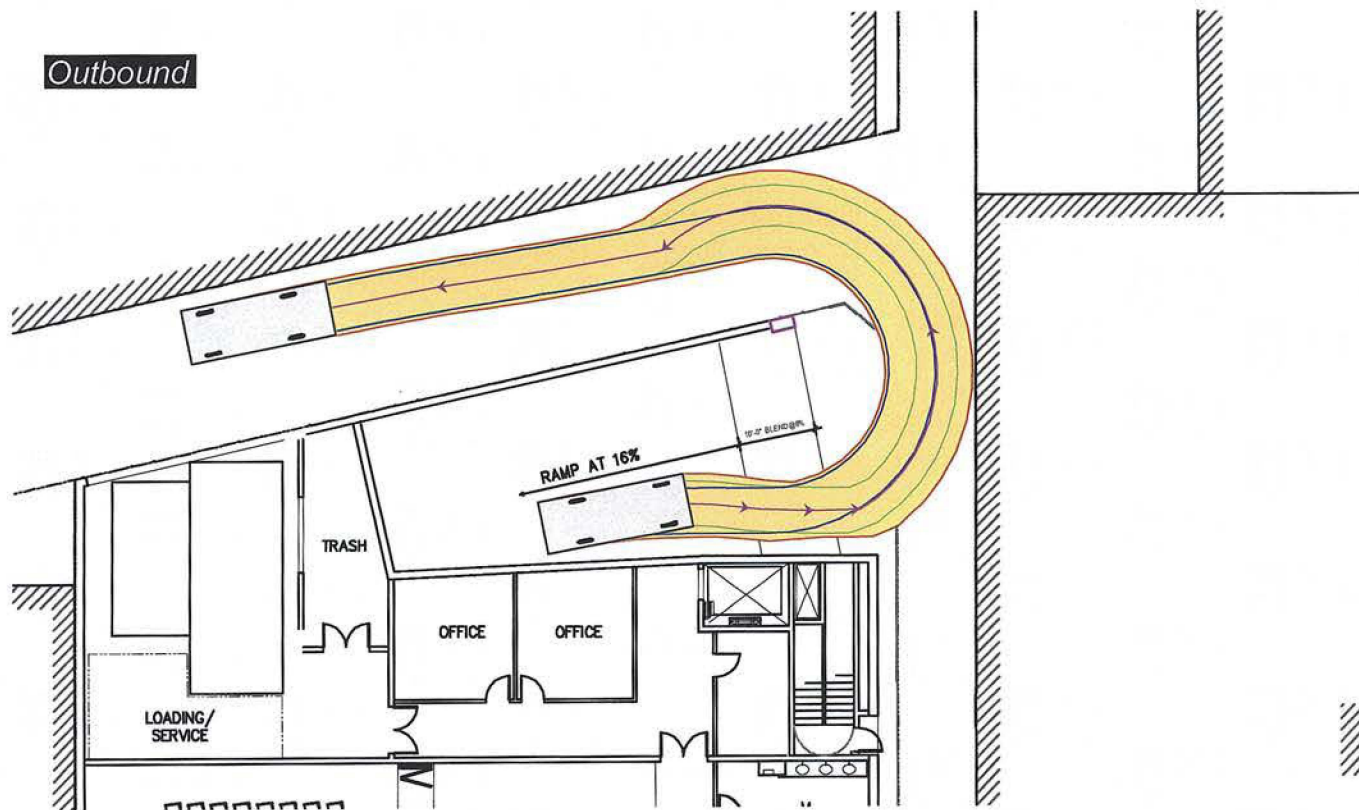


Figure 3-8
Passenger Car Swept Area Diagram

- Vehicle Body
- Front Tire Tread
- Rear Tire Tread
- Directional Path
- Vehicle Path



Section 4

CONCLUSIONS

The conclusions of this traffic impact study are as follows:

1. The four intersections in the study area currently operate at level of service (LOS) “D” or better during both the AM and PM peak hours. All approaches to each of the intersections also operate at LOS “D” or better during both the AM and PM peak hours.
2. Rhode Island Avenue and M Street currently operate at bicycle level of service (BLOS) “E”, according to the April 2005 District of Columbia Bicycle Master Plan. 16th and 17th Streets currently operate at BLOS “D”.
3. Center for Strategic and International Studies will add 73 new AM peak hour trips and 74 new PM peak hour trips, to the public street system upon project completion.
4. The net additional trips that would be generated by the proposed office building would have no significant impact on the intersections in the study area.
5. The 78 parking spaces in the three-level, underground garage would adequately accommodate the Center for Strategic and International Studies.
6. Center for Strategic and International Studies provides one 30-foot deep loading berth and a 20-foot service space, which will adequately serve the Center’s needs.
7. The elimination of the curb cut on Rhode Island Avenue will enhance the pedestrian experience and safety.

Appendix A
Existing Vehicular Traffic Counts

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Center For Strategic & International Studies		DATE: 10/7/2008		SOUTHBOUND ROAD: Scott Circle																	
W & A JOB NO.: 4273		DAY: Tuesday		NORTHBOUND ROAD: Rhode Island Avenue																	
INTERSECTION: Rhode Island Avenue NW & Massachusetts Avenue		WEATHER: Clear		WESTBOUND ROAD: Scott Circle																	
LOCATION: Washington D.C.		COUNTED BY: Daniel		EASTBOUND ROAD: Massachusetts Avenue																	
		INPUTED BY: Ilisia																			
Time Period	Turning Movements																Total	PHF	Time Period		
	Southbound Scott Circle				Westbound Scott Circle				Northbound Rhode Island Avenue				Eastbound Massachusetts Avenue							North & South	East & West
	1 Right	2 Thru to R. I Ave	3 Left to Scott Circle	Total	4 Right	5 Thru	6 U-Turns	Total	7 Right	8 Thru	9 Left	Total	10 Right to R.I Ave	11 Thru to Scott Circle	12 Left	Total					
AM																					
7:00-7:15	0	181	29	210	0	0	0	0	0	0	0	0	0	129	0	129	210	129	339	7:00-7:15	
7:15-7:30	0	206	36	242	0	0	0	0	0	0	0	0	0	163	0	163	242	163	405	7:15-7:30	
7:30-7:45	0	236	47	283	0	0	0	0	0	0	0	0	0	227	0	227	283	227	510	7:30-7:45	
7:45-8:00	0	268	46	314	0	0	0	0	0	0	0	0	0	1 263	0	264	314	264	578	7:45-8:00	
8:00-8:15	0	263	63	326	0	0	0	0	0	0	0	0	0	1 282	0	283	326	283	609	8:00-8:15	
8:15-8:30	0	255	47	302	0	0	0	0	0	0	0	0	0	1 285	0	286	302	286	588	8:15-8:30	
8:30-8:45	0	266	65	331	0	0	0	0	0	0	0	0	0	1 295	0	296	331	296	627	8:30-8:45	
8:45-9:00	0	289	79	368	0	0	0	0	0	0	0	0	0	0 292	0	292	368	292	660	8:45-9:00	
9:00-9:15	0	288	65	353	0	0	0	0	0	0	0	0	0	0 271	0	271	353	271	624	9:00-9:15	
9:15-9:30	0	240	73	313	0	0	0	0	0	0	0	0	0	0 298	0	298	313	298	611	9:15-9:30	
9:30-9:45	0	234	62	296	0	0	0	0	0	0	0	0	0	0 332	0	332	296	332	628	9:30-9:45	
9:45-10:00	0	232	46	278	0	0	0	0	0	0	0	0	0	1 250	0	251	278	251	529	9:45-10:00	
3 Hour Totals	0	2,958	658	3,616	0	0	0	0	0	0	0	0	5	3,087	0	3,092	3,616	3,092	6,708		
1 Hour Totals																					
7:00-8:00	0	891	158	1,049	0	0	0	0	0	0	0	0	1	782	0	783	1,049	783	1,832	0.79	7:00-8:00
7:15-8:15	0	973	192	1,165	0	0	0	0	0	0	0	0	2	935	0	937	1,165	937	2,102	0.86	7:15-8:15
7:30-8:30	0	1,022	203	1,225	0	0	0	0	0	0	0	0	3	1,057	0	1,060	1,225	1,060	2,285	0.94	7:30-8:30
7:45-8:45	0	1,052	221	1,273	0	0	0	0	0	0	0	0	4	1,125	0	1,129	1,273	1,129	2,402	0.96	7:45-8:45
8:00-9:00	0	1,073	254	1,327	0	0	0	0	0	0	0	0	3	1,154	0	1,157	1,327	1,157	2,484	0.94	8:00-9:00
8:15-9:15	0	1,098	256	1,354	0	0	0	0	0	0	0	0	2	1,143	0	1,145	1,354	1,145	2,499	0.95	8:15-9:15
8:30-9:30	0	1,083	282	1,365	0	0	0	0	0	0	0	0	1	1,156	0	1,157	1,365	1,157	2,522	0.96	8:30-9:30
8:45-9:45	0	1,051	279	1,330	0	0	0	0	0	0	0	0	0	1,193	0	1,193	1,330	1,193	2,523	0.96	8:45-9:45
9:00-10:00	0	994	246	1,240	0	0	0	0	0	0	0	0	1	1,151	0	1,152	1,240	1,152	2,392	0.95	9:00-10:00
AM Peak 8:45-9:45																					
8:45-9:45	0	1,051	279	1,330	0	0	0	0	0	0	0	0	0	1,193	0	1,193	1,330	1,193	2,523	0.96	AM Peak 8:45-9:45
PM																					
4:00-4:15	0	128	46	174	0	0	0	0	0	0	0	0	1	256	0	257	174	257	431		4:00-4:15
4:15-4:30	0	173	46	219	0	0	0	0	0	0	0	0	0	237	0	237	219	237	456		4:15-4:30
4:30-4:45	0	141	42	183	0	0	0	0	0	0	0	0	0	219	0	220	183	220	403		4:30-4:45
4:45-5:00	0	184	44	228	0	0	0	0	0	0	0	0	0	232	0	232	228	232	460		4:45-5:00
5:00-5:15	0	176	35	211	0	0	0	0	0	0	0	0	0	259	0	259	211	259	470		5:00-5:15
5:15-5:30	0	181	55	236	0	0	0	0	0	0	0	0	0	264	0	264	236	264	500		5:15-5:30
5:30-5:45	0	137	58	195	0	0	0	0	0	0	0	0	2	293	0	295	195	295	490		5:30-5:45
5:45-6:00	0	161	47	208	0	0	0	0	0	0	0	0	2	291	0	293	208	293	501		5:45-6:00
6:00-6:15	0	122	36	158	0	0	0	0	0	0	0	0	1	311	0	312	158	312	470		6:00-6:15
6:15-6:30	0	162	43	205	0	0	0	0	0	0	0	0	0	342	0	342	205	342	547		6:15-6:30
6:30-6:45	0	158	35	193	0	0	0	0	0	0	0	0	0	254	0	254	193	254	447		6:30-6:45
6:45-7:00	0	135	35	170	0	0	0	0	0	0	0	0	0	227	0	227	170	227	397		6:45-7:00
3 Hour Totals	0	1,858	522	2,380	0	0	0	0	0	0	0	0	7	3,185	0	3,192	2,380	3,192	5,572		
1 Hour Totals																					
4:00-5:00	0	626	178	804	0	0	0	0	0	0	0	0	2	944	0	946	804	946	1,750	0.95	4:00-5:00
4:15-5:15	0	674	167	841	0	0	0	0	0	0	0	0	1	947	0	948	841	948	1,789	0.95	4:15-5:15
4:30-5:30	0	682	176	858	0	0	0	0	0	0	0	0	1	974	0	975	858	975	1,833	0.92	4:30-5:30
4:45-5:45	0	678	192	870	0	0	0	0	0	0	0	0	2	1,048	0	1,050	870	1,050	1,920	0.96	4:45-5:45
5:00-6:00	0	655	195	850	0	0	0	0	0	0	0	0	4	1,107	0	1,111	850	1,111	1,961	0.98	5:00-6:00
5:15-6:15	0	601	196	797	0	0	0	0	0	0	0	0	5	1,159	0	1,164	797	1,164	1,961	0.98	5:15-6:15
5:30-6:30	0	582	184	766	0	0	0	0	0	0	0	0	5	1,237	0	1,242	766	1,242	2,008	0.92	5:30-6:30
5:45-6:45	0	603	161	764	0	0	0	0	0	0	0	0	3	1,198	0	1,201	764	1,201	1,965	0.90	5:45-6:45
6:00-7:00	0	577	149	726	0	0	0	0	0	0	0	0	1	1,134	0	1,135	726	1,135	1,861	0.85	6:00-7:00
PM Peak 5:30-6:30																					
5:30-6:30	0	582	184	766	0	0	0	0	0	0	0	0	5	1,237	0	1,242	766	1,242	2,008	0.92	PM Peak 5:30-6:30

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Center For Strategic & International Studies	DATE: 10/7/2008	SOUTHBOUND ROAD: Scott Circle
W & A JOB NO.: 4273	DAY: Tuesday	NORTHBOUND ROAD: 16th Street NW
INTERSECTION: Rhode Island Avenue NW & Scott Circle & 16th Street NW	WEATHER: Clear	WESTBOUND ROAD: X
LOCATION: Washington D.C	COUNTED BY: Yesika	EASTBOUND ROAD: Rhode Island Avenue NW
	INPUTED BY: Ilisia	

Time Period	Turning Movements																		Total	PHF	Time Period
	Southbound Scott Circle				Westbound X				Northbound 16th Street NW				Eastbound Rhode Island Avenue NW				North & South	East & West			
	1 Right	2 Thru to 16th St	3 Left to Scott Circle	Total	4 Right	5 Thru	6 J-Turns	Total	7 Right	8 Thru	9 Left	Total	10 Right to 16th St	11 Thru to Scott Circle	12 Left	Total					
AM																					
7:00-7:15	0	11	54	65	0	0	0	0	0	0	0	0	1	17	0	18	65	18	83		7:00-7:15
7:15-7:30	0	23	186	209	0	0	0	0	0	0	0	0	3	29	0	32	209	32	241		7:15-7:30
7:30-7:45	0	21	250	271	0	0	0	0	0	0	0	0	1	41	0	42	271	42	313		7:30-7:45
7:45-8:00	0	24	280	304	0	0	0	0	0	0	0	0	2	35	0	37	304	37	341		7:45-8:00
8:00-8:15	0	34	301	335	0	0	0	0	0	0	0	0	2	51	0	53	335	53	388		8:00-8:15
8:15-8:30	0	27	265	292	0	0	0	0	0	0	0	0	14	73	0	87	292	87	379		8:15-8:30
8:30-8:45	0	39	314	353	0	0	0	0	0	0	0	0	7	49	0	56	353	56	409		8:30-8:45
8:45-9:00	0	44	306	350	0	0	0	0	0	0	0	0	3	47	0	50	350	50	400		8:45-9:00
9:00-9:15	0	32	270	302	0	0	0	0	0	0	0	0	7	55	0	62	302	62	364		9:00-9:15
9:15-9:30	0	47	272	319	0	0	0	0	0	0	0	0	8	51	0	59	319	59	378		9:15-9:30
9:30-9:45	0	40	291	331	0	0	0	0	0	0	0	0	2	38	0	40	331	40	371		9:30-9:45
9:45-10:00	0	27	193	220	0	0	0	0	0	0	0	0	8	80	0	88	220	88	308		9:45-10:00
3 Hour Totals	0	369	2,982	3,351	0	0	0	0	0	0	0	0	58	566	0	624	3,351	624	3,975		
1 Hour Totals																					
7:00-8:00	0	79	770	849	0	0	0	0	0	0	0	0	7	122	0	129	849	129	978	0.72	7:00-8:00
7:15-8:15	0	102	1,017	1,119	0	0	0	0	0	0	0	0	8	156	0	164	1,119	164	1,283	0.83	7:15-8:15
7:30-8:30	0	106	1,096	1,202	0	0	0	0	0	0	0	0	19	200	0	219	1,202	219	1,421	0.92	7:30-8:30
7:45-8:45	0	124	1,160	1,284	0	0	0	0	0	0	0	0	25	208	0	233	1,284	233	1,517	0.93	7:45-8:45
8:00-9:00	0	144	1,186	1,330	0	0	0	0	0	0	0	0	26	220	0	246	1,330	246	1,576	0.96	8:00-9:00
8:15-9:15	0	142	1,155	1,297	0	0	0	0	0	0	0	0	31	224	0	255	1,297	255	1,552	0.95	8:15-9:15
8:30-9:30	0	162	1,162	1,324	0	0	0	0	0	0	0	0	25	202	0	227	1,324	227	1,551	0.95	8:30-9:30
8:45-9:45	0	163	1,139	1,302	0	0	0	0	0	0	0	0	20	191	0	211	1,302	211	1,513	0.95	8:45-9:45
9:00-10:00	0	146	1,026	1,172	0	0	0	0	0	0	0	0	25	224	0	249	1,172	249	1,421	0.94	9:00-10:00
AM Peak 8:00-9:00	0	144	1,186	1,330	0	0	0	0	0	0	0	0	26	220	0	246	1,330	246	1,576	0.96	AM Peak 8:00-9:00
PM																					
4:00-4:15	0	27	244	271	0	0	0	0	0	0	0	0	11	102	0	113	271	113	384		4:00-4:15
4:15-4:30	0	31	227	258	0	0	0	0	0	0	0	0	4	102	0	106	258	106	364		4:15-4:30
4:30-4:45	0	26	226	252	0	0	0	0	0	0	0	0	5	116	0	121	252	121	373		4:30-4:45
4:45-5:00	0	20	226	246	0	0	0	0	0	0	0	0	12	118	0	130	246	130	376		4:45-5:00
5:00-5:15	0	35	257	292	0	0	0	0	0	0	0	0	9	144	0	153	292	153	445		5:00-5:15
5:15-5:30	0	48	249	297	0	0	0	0	0	0	0	0	10	164	0	174	297	174	471		5:15-5:30
5:30-5:45	0	30	269	299	0	0	0	0	0	0	0	0	10	151	0	161	299	161	460		5:30-5:45
5:45-6:00	0	35	248	283	0	0	0	0	0	0	0	0	11	156	0	167	283	167	450		5:45-6:00
6:00-6:15	0	27	269	296	0	0	0	0	0	0	0	0	7	131	0	138	296	138	434		6:00-6:15
6:15-6:30	0	29	235	264	0	0	0	0	0	0	0	0	6	124	0	130	264	130	394		6:15-6:30
6:30-6:45	0	28	216	244	0	0	0	0	0	0	0	0	8	97	0	105	244	105	349		6:30-6:45
6:45-7:00	0	15	189	204	0	0	0	0	0	0	0	0	4	112	0	116	204	116	320		6:45-7:00
3 Hour Totals	0	351	2,855	3,206	0	0	0	0	0	0	0	0	97	1,517	0	1,614	3,206	1,614	4,820		
1 Hour Totals																					
4:00-5:00	0	104	923	1,027	0	0	0	0	0	0	0	0	32	438	0	470	1,027	470	1,497	0.97	4:00-5:00
4:15-5:15	0	112	936	1,048	0	0	0	0	0	0	0	0	30	480	0	510	1,048	510	1,558	0.88	4:15-5:15
4:30-5:30	0	129	958	1,087	0	0	0	0	0	0	0	0	36	542	0	578	1,087	578	1,665	0.88	4:30-5:30
4:45-5:45	0	133	1,001	1,134	0	0	0	0	0	0	0	0	41	577	0	618	1,134	618	1,752	0.93	4:45-5:45
5:00-6:00	0	148	1,023	1,171	0	0	0	0	0	0	0	0	40	615	0	655	1,171	655	1,826	0.97	5:00-6:00
5:15-6:15	0	140	1,035	1,175	0	0	0	0	0	0	0	0	38	602	0	640	1,175	640	1,815	0.96	5:15-6:15
5:30-6:30	0	121	1,021	1,142	0	0	0	0	0	0	0	0	34	562	0	596	1,142	596	1,738	0.94	5:30-6:30
5:45-6:45	0	119	968	1,087	0	0	0	0	0	0	0	0	32	508	0	540	1,087	540	1,627	0.90	5:45-6:45
6:00-7:00	0	99	909	1,008	0	0	0	0	0	0	0	0	25	464	0	489	1,008	489	1,497	0.86	6:00-7:00
PM Peak 5:00-6:00	0	148	1,023	1,171	0	0	0	0	0	0	0	0	40	615	0	655	1,171	655	1,826	0.97	PM Peak 5:00-6:00

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Center For Strategic & International Studies	DATE: 10/7/2008	SOUTHBOUND ROAD: X
W & A JOB NO.: 4273	DAY: Tuesday	NORTHBOUND ROAD: East Alley
INTERSECTION: Rhode Island Avenue NW & Bataan Street NW	WEATHER: Clear	WESTBOUND ROAD: Rhode Island Avenue NW
LOCATION: Washington D.C	COUNTED BY: Ervin	EASTBOUND ROAD: Rhode Island Avenue NW
	INPUTED BY: Ilisia	

Time Period	Turning Movements																Total	PHF	Time Period		
	Southbound X				Westbound Rhode Island Avenue NW				Northbound East Alley				Eastbound Rhode Island Avenue NW							North & South	East & West
	1 Right	2 Thru	3 Left	Total	4 Right	5 Thru	6 J-Turns	Total	7 Right	8 Thru	9 Left	Total	10 Right	11 Thru	12 Left	Total					
AM																					
7:00-7:15	0	0	0	0	0	180	0	180	3	0	0	3	0	36	0	36	3	216	219	7:00-7:15	
7:15-7:30	0	0	0	0	0	207	1	208	1	0	0	1	0	24	0	24	1	232	233	7:15-7:30	
7:30-7:45	0	0	0	0	0	241	0	241	0	0	0	0	0	41	0	41	0	282	282	7:30-7:45	
7:45-8:00	0	0	0	0	0	278	1	279	1	0	0	1	0	32	0	32	1	311	312	7:45-8:00	
8:00-8:15	0	0	0	0	0	273	2	275	1	0	0	1	0	46	0	46	1	321	322	8:00-8:15	
8:15-8:30	0	0	0	0	0	251	2	253	1	0	0	1	1	42	0	43	1	296	297	8:15-8:30	
8:30-8:45	0	0	0	0	0	266	5	271	4	0	0	4	1	43	0	44	4	315	319	8:30-8:45	
8:45-9:00	0	0	0	0	0	297	1	298	2	0	0	2	2	47	0	49	2	347	349	8:45-9:00	
9:00-9:15	0	0	0	0	0	291	4	295	1	0	0	1	1	45	0	46	1	341	342	9:00-9:15	
9:15-9:30	0	0	0	0	0	234	4	238	2	0	0	2	1	70	0	71	2	309	311	9:15-9:30	
9:30-9:45	0	0	0	0	0	236	1	237	1	0	0	1	3	57	0	60	1	297	298	9:30-9:45	
9:45-10:00	0	0	0	0	0	231	0	231	0	0	0	0	0	54	0	54	0	285	285	9:45-10:00	
3 Hour Totals	0	0	0	0	0	2,985	21	3,006	17	0	0	17	9	537	0	546	17	3,552	3,569		
1 Hour Totals																					
7:00-8:00	0	0	0	0	0	906	2	908	5	0	0	5	0	133	0	133	5	1,041	1,046	0.84 7:00-8:00	
7:15-8:15	0	0	0	0	0	999	4	1,003	3	0	0	3	0	143	0	143	3	1,146	1,149	0.89 7:15-8:15	
7:30-8:30	0	0	0	0	0	1,043	5	1,048	3	0	0	3	1	161	0	162	3	1,210	1,213	0.94 7:30-8:30	
7:45-8:45	0	0	0	0	0	1,068	10	1,078	7	0	0	7	2	163	0	165	7	1,243	1,250	0.97 7:45-8:45	
8:00-9:00	0	0	0	0	0	1,087	10	1,097	8	0	0	8	4	178	0	182	8	1,279	1,287	0.92 8:00-9:00	
8:15-9:15	0	0	0	0	0	1,105	12	1,117	8	0	0	8	5	177	0	182	8	1,299	1,307	0.94 8:15-9:15	
8:30-9:30	0	0	0	0	0	1,088	14	1,102	9	0	0	9	5	205	0	210	9	1,312	1,321	0.95 8:30-9:30	
8:45-9:45	0	0	0	0	0	1,058	10	1,068	6	0	0	6	7	219	0	226	6	1,294	1,300	0.93 8:45-9:45	
9:00-10:00	0	0	0	0	0	992	9	1,001	4	0	0	4	5	226	0	231	4	1,232	1,236	0.90 9:00-10:00	
AM Peak 8:30-9:30	0	0	0	0	0	1,088	14	1,102	9	0	0	9	5	205	0	210	9	1,312	1,321	0.95 AM Peak 8:30-9:30	
PM																					
4:00-4:15	0	0	0	0	0	125	4	129	3	0	0	3	1	103	0	104	3	233	236	4:00-4:15	
4:15-4:30	0	0	0	0	0	172	0	172	10	0	0	10	1	100	0	101	10	273	283	4:15-4:30	
4:30-4:45	0	0	0	0	0	146	2	148	4	0	0	4	0	121	0	121	4	269	273	4:30-4:45	
4:45-5:00	0	0	0	0	0	174	4	178	5	0	0	5	0	133	0	133	5	311	316	4:45-5:00	
5:00-5:15	0	0	0	0	0	178	0	178	13	0	0	13	0	139	0	139	13	317	330	5:00-5:15	
5:15-5:30	0	0	0	0	0	182	1	183	10	0	0	10	1	174	0	175	10	358	368	5:15-5:30	
5:30-5:45	0	0	0	0	0	142	2	144	8	0	0	8	0	168	0	168	8	312	320	5:30-5:45	
5:45-6:00	0	0	0	0	0	157	0	157	10	0	0	10	0	176	0	176	10	333	343	5:45-6:00	
6:00-6:15	0	0	0	0	0	94	1	95	8	0	0	8	0	133	0	133	8	228	236	6:00-6:15	
6:15-6:30	0	0	0	0	0	147	2	149	4	0	0	4	0	136	0	136	4	285	289	6:15-6:30	
6:30-6:45	0	0	0	0	0	154	1	155	8	0	0	8	0	93	0	93	8	248	256	6:30-6:45	
6:45-7:00	0	0	0	0	0	124	1	125	9	0	0	9	0	103	0	103	9	228	237	6:45-7:00	
3 Hour Totals	0	0	0	0	0	1,795	18	1,813	92	0	0	92	3	1,579	0	1,582	92	3,395	3,487		
1 Hour Totals																					
4:00-5:00	0	0	0	0	0	617	10	627	22	0	0	22	2	457	0	459	22	1,086	1,108	0.88 4:00-5:00	
4:15-5:15	0	0	0	0	0	670	6	676	32	0	0	32	1	493	0	494	32	1,170	1,202	0.91 4:15-5:15	
4:30-5:30	0	0	0	0	0	680	7	687	32	0	0	32	1	567	0	568	32	1,255	1,287	0.87 4:30-5:30	
4:45-5:45	0	0	0	0	0	676	7	683	36	0	0	36	1	614	0	615	36	1,298	1,334	0.91 4:45-5:45	
5:00-6:00	0	0	0	0	0	659	3	662	41	0	0	41	1	657	0	658	41	1,320	1,361	0.92 5:00-6:00	
5:15-6:15	0	0	0	0	0	575	4	579	36	0	0	36	1	651	0	652	36	1,231	1,267	0.86 5:15-6:15	
5:30-6:30	0	0	0	0	0	540	5	545	30	0	0	30	0	613	0	613	30	1,158	1,188	0.87 5:30-6:30	
5:45-6:45	0	0	0	0	0	552	4	556	30	0	0	30	0	538	0	538	30	1,094	1,124	0.82 5:45-6:45	
6:00-7:00	0	0	0	0	0	519	5	524	29	0	0	29	0	465	0	465	29	989	1,018	0.88 6:00-7:00	
PM Peak 5:00-6:00	0	0	0	0	0	659	3	662	41	0	0	41	1	657	0	658	41	1,320	1,361	0.92 PM Peak 5:00-6:00	

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Center For Strategic & International Studies	DATE: 10/7/2008	SOUTHBOUND ROAD: Bataan Street NW	Bataan Street NW	
W & A JOB NO.: 4273	DAY: Tuesday	NORTHBOUND ROAD: PMI Parking Lot Entrance	PMI Parking Lot Entrance	
INTERSECTION: Rhode Island Avenue NW & Bataan Street NW	WEATHER: Clear	WESTBOUND ROAD: Rhode Island Avenue NW	Rhode Island Avenue NW	
LOCATION: Washington D.C	COUNTED BY: Abner & Belen	EASTBOUND ROAD: Rhode Island Avenue NW	Rhode Island Avenue NW	
INPUTED BY: Ilesia				

Time Period	Turning Movements																		Total	PHF	Time Period	
	Southbound Bataan Street NW				Westbound Rhode Island Avenue NW				Northbound PMI Parking Lot Entrance				Eastbound Rhode Island Avenue NW				North & South	East & West				
	1	2	3	Total	4	5	6	Total	7	8	9	Total	10	11	12	Total						
	Right	Thru	Left		Right	Thru	Left		Right	Thru	Left		Right	Thru	Left							
AM																						
7:00-7:15	4	3	2	9	0	196	0	196	1	0	0	1	0	12	0	12	10	208	218		7:00-7:15	
7:15-7:30	1	0	2	3	7	251	0	258	0	0	1	1	1	17	1	19	4	277	281		7:15-7:30	
7:30-7:45	3	0	2	5	3	328	1	332	0	0	0	0	0	33	1	34	5	366	371		7:30-7:45	
7:45-8:00	0	0	2	2	4	375	2	381	0	0	0	0	3	27	2	32	2	413	415		7:45-8:00	
8:00-8:15	5	0	7	12	11	376	1	388	0	0	0	0	1	41	4	46	12	434	446		8:00-8:15	
8:15-8:30	0	0	5	5	4	373	3	380	0	0	1	1	1	41	1	43	6	423	429		8:15-8:30	
8:30-8:45	4	0	10	14	9	328	1	338	0	0	0	0	0	47	1	48	14	386	400		8:30-8:45	
8:45-9:00	0	0	2	2	7	395	6	408	1	0	0	1	3	48	1	52	3	460	463		8:45-9:00	
9:00-9:15	2	0	5	7	0	338	6	344	0	0	0	0	1	45	1	47	7	391	398		9:00-9:15	
9:15-9:30	3	0	12	15	3	273	1	277	0	0	0	0	1	49	2	52	15	329	344		9:15-9:30	
9:30-9:45	2	0	5	7	2	234	1	237	0	0	0	0	0	50	1	51	7	288	295		9:30-9:45	
9:45-10:00	4	1	6	11	2	284	0	286	0	0	0	0	0	38	3	41	11	327	338		9:45-10:00	
3 Hour Totals	28	4	60	92	52	3,751	22	3,825	2	0	2	4	11	448	18	477	96	4,302	4,398			
1 Hour Totals																						
7:00-8:00	8	3	8	19	14	1,150	3	1,167	1	0	1	2	4	89	4	97	21	1,264	1,285	0.77	7:00-8:00	
7:15-8:15	9	0	13	22	25	1,330	4	1,359	0	0	1	1	5	118	8	131	23	1,490	1,513	0.85	7:15-8:15	
7:30-8:30	8	0	16	24	22	1,452	7	1,481	0	0	1	1	5	142	8	155	25	1,636	1,661	0.93	7:30-8:30	
7:45-8:45	9	0	24	33	28	1,452	7	1,487	0	0	1	1	5	156	8	169	34	1,656	1,690	0.95	7:45-8:45	
8:00-9:00	9	0	24	33	31	1,472	11	1,514	1	0	1	2	5	177	7	189	35	1,703	1,738	0.94	8:00-9:00	
8:15-9:15	6	0	22	28	20	1,434	16	1,470	1	0	1	2	5	181	4	190	30	1,660	1,690	0.91	8:15-9:15	
8:30-9:30	9	0	29	38	19	1,334	14	1,367	1	0	0	1	5	189	5	199	39	1,566	1,605	0.87	8:30-9:30	
8:45-9:45	7	0	24	31	12	1,240	14	1,266	1	0	0	1	5	192	5	202	32	1,468	1,500	0.81	8:45-9:45	
9:00-10:00	11	1	28	40	7	1,129	8	1,144	0	0	0	0	2	182	7	191	40	1,335	1,375	0.86	9:00-10:00	
AM Peak 8:00-9:00	9	0	24	33	31	1,472	11	1,514	1	0	1	2	5	177	7	189	35	1,703	1,738	0.94	AM Peak 8:00-9:00	
PM																						
4:00-4:15	3	0	8	11	0	118	0	118	2	0	0	2	0	118	1	119	13	237	250		4:00-4:15	
4:15-4:30	4	0	5	9	0	149	1	150	1	0	0	1	0	90	2	92	10	242	252		4:15-4:30	
4:30-4:45	3	1	8	12	1	156	3	160	4	0	3	7	0	110	1	111	19	271	290		4:30-4:45	
4:45-5:00	2	0	9	11	2	166	0	168	2	0	0	2	1	128	2	131	13	299	312		4:45-5:00	
5:00-5:15	6	0	3	9	4	176	1	181	1	0	1	2	0	137	0	137	11	318	329		5:00-5:15	
5:15-5:30	4	0	14	18	5	199	0	204	0	0	1	1	2	177	1	180	19	384	403		5:15-5:30	
5:30-5:45	7	0	19	26	4	147	1	152	5	0	0	5	0	140	1	141	31	293	324		5:30-5:45	
5:45-6:00	5	0	14	19	7	128	3	138	2	1	1	4	0	170	3	173	23	311	334		5:45-6:00	
6:00-6:15	5	0	9	14	4	113	4	121	3	0	0	3	0	115	1	116	17	237	254		6:00-6:15	
6:15-6:30	3	0	3	6	2	128	0	130	0	0	0	0	0	114	0	114	6	244	250		6:15-6:30	
6:30-6:45	3	0	6	9	0	164	1	165	0	0	0	0	0	91	3	94	9	259	268		6:30-6:45	
6:45-7:00	0	0	7	7	0	99	0	99	1	0	3	4	0	77	1	78	11	177	188		6:45-7:00	
3 Hour Totals	45	1	105	151	29	1,743	14	1,786	21	1	9	31	3	1,467	16	1,486	182	3,272	3,454			
1 Hour Totals																						
4:00-5:00	12	1	30	43	3	589	4	596	9	0	3	12	1	446	6	453	55	1,049	1,104	0.88	4:00-5:00	
4:15-5:15	15	1	25	41	7	647	5	659	8	0	4	12	1	465	5	471	53	1,130	1,183	0.90	4:15-5:15	
4:30-5:30	15	1	34	50	12	697	4	713	7	0	5	12	3	552	4	559	62	1,272	1,334	0.83	4:30-5:30	
4:45-5:45	19	0	45	64	15	688	2	705	8	0	2	10	3	582	4	589	74	1,294	1,368	0.85	4:45-5:45	
5:00-6:00	22	0	50	72	20	650	5	675	8	1	3	12	2	624	5	631	84	1,306	1,390	0.86	5:00-6:00	
5:15-6:15	21	0	56	77	20	587	8	615	10	1	2	13	2	602	6	610	90	1,225	1,315	0.82	5:15-6:15	
5:30-6:30	20	0	45	65	17	516	8	541	10	1	1	12	0	539	5	544	77	1,085	1,162	0.87	5:30-6:30	
5:45-6:45	16	0	32	48	13	533	8	554	5	1	1	7	0	490	7	497	55	1,051	1,106	0.83	5:45-6:45	
6:00-7:00	11	0	25	36	6	504	5	515	4	0	3	7	0	397	5	402	43	917	960	0.90	6:00-7:00	
PM Peak 5:00-6:00	22	0	50	72	20	650	5	675	8	1	3	12	2	624	5	631	84	1,306	1,390	0.86	PM Peak 5:00-6:00	

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Center For Strategic & International Study		DATE: 10/7/2008		SOUTHBOUND ROAD: 17th Street NW																	
W & A JOB NO.: 4273		DAY: Tuesday		NORTHBOUND ROAD: 17th Street NW																	
INTERSECTION: Rhode Island Avenue & 17th Street NW		WEATHER: Clear		WESTBOUND ROAD: Rhode Island Avenue NW																	
LOCATION: Washington D.C		COUNTED BY: Gina & Dewanna		EASTBOUND ROAD: Rhode Island Avenue NW																	
		INPUTED BY: Ilisia																			
Time Period	Turning Movements																Total	PHF	Time Period		
	Southbound 17th Street NW				Westbound Rhode Island Avenue NW				Northbound 17th Street NW				Eastbound Rhode Island Avenue NW							North & South	East & West
	1 Right	2 Thru	3 Left	Total	4 Right	5 Thru	6 Left	Total	7 Right	8 Thru	9 Left	Total	10 Right	11 Thru	12 Left	Total					
AM																					
7:00-7:15	26	39	10	75	0	152	27	179	0	0	0	0	4	21	0	25	75	204	279		7:00-7:15
7:15-7:30	19	38	11	68	0	160	34	194	0	0	0	0	7	12	0	19	68	213	281		7:15-7:30
7:30-7:45	33	73	9	115	0	192	41	233	0	0	0	0	7	34	0	41	115	274	389		7:30-7:45
7:45-8:00	35	96	8	139	0	228	51	279	0	0	0	0	15	24	0	39	139	318	457		7:45-8:00
8:00-8:15	28	102	17	147	0	204	43	247	0	0	0	0	8	30	0	38	147	285	432		8:00-8:15
8:15-8:30	32	129	13	174	0	193	52	245	0	0	0	0	8	28	0	36	174	281	455		8:15-8:30
8:30-8:45	32	139	6	177	0	195	57	252	0	0	0	0	7	33	0	40	177	292	469		8:30-8:45
8:45-9:00	23	157	14	194	0	231	49	280	0	0	0	0	10	36	0	46	194	326	520		8:45-9:00
9:00-9:15	29	170	15	214	0	182	70	252	0	0	0	0	5	41	0	46	214	298	512		9:00-9:15
9:15-9:30	31	150	13	194	0	190	55	245	1	0	1	2	19	36	0	55	196	300	496		9:15-9:30
9:30-9:45	37	107	3	147	3	167	51	221	18	8	3	29	7	36	1	44	176	265	441		9:30-9:45
9:45-10:00	29	87	3	119	3	159	55	217	12	9	2	23	4	36	0	40	142	257	399		9:45-10:00
3 Hour Totals	354	1,287	122	1,763	6	2,253	585	2,844	31	17	6	54	101	367	1	469	1,817	3,313	5,130		
1 Hour Totals																					
7:00-8:00	113	246	38	397	0	732	153	885	0	0	0	0	33	91	0	124	397	1,009	1,406	0.77	7:00-8:00
7:15-8:15	115	309	45	469	0	784	169	953	0	0	0	0	37	100	0	137	469	1,090	1,559	0.85	7:15-8:15
7:30-8:30	128	400	47	575	0	817	187	1,004	0	0	0	0	38	116	0	154	575	1,158	1,733	0.95	7:30-8:30
7:45-8:45	127	466	44	637	0	820	203	1,023	0	0	0	0	38	115	0	153	637	1,176	1,813	0.97	7:45-8:45
8:00-9:00	115	527	50	692	0	823	201	1,024	0	0	0	0	33	127	0	160	692	1,184	1,876	0.90	8:00-9:00
8:15-9:15	116	595	48	759	0	801	228	1,029	0	0	0	0	30	138	0	168	759	1,197	1,956	0.94	8:15-9:15
8:30-9:30	115	616	48	779	0	798	231	1,029	1	0	1	2	41	146	0	187	781	1,216	1,997	0.96	8:30-9:30
8:45-9:45	120	584	45	749	3	770	225	998	19	8	4	31	41	149	1	191	780	1,189	1,969	0.95	8:45-9:45
9:00-10:00	126	514	34	674	6	698	231	935	31	17	6	54	35	149	1	185	728	1,120	1,848	0.90	9:00-10:00
AM Peak 8:30-9:30	115	616	48	779	0	798	231	1,029	1	0	1	2	41	146	0	187	781	1,216	1,997	0.96	AM Peak 8:30-9:30
PM																					
4:00-4:15	20	47	8	75	2	96	19	117	44	23	11	78	8	44	6	58	153	175	328		4:00-4:15
4:15-4:30	26	63	13	102	1	114	28	143	30	21	12	63	5	38	1	44	165	187	352		4:15-4:30
4:30-4:45	26	56	14	96	2	133	20	155	50	33	13	96	10	49	1	60	192	215	407		4:30-4:45
4:45-5:00	36	53	12	101	4	149	35	188	46	30	12	88	11	48	1	60	189	248	437		4:45-5:00
5:00-5:15	46	57	13	116	5	136	26	167	64	33	19	116	4	58	2	64	232	231	463		5:00-5:15
5:15-5:30	34	53	12	99	7	149	27	183	78	36	21	135	3	67	1	71	234	254	488		5:15-5:30
5:30-5:45	37	60	14	111	7	128	18	153	84	43	15	142	5	47	2	54	253	207	460		5:30-5:45
5:45-6:00	27	70	11	108	3	116	31	150	90	36	19	145	7	56	2	65	253	215	468		5:45-6:00
6:00-6:15	25	59	16	100	2	114	15	131	68	40	23	131	8	48	1	57	231	188	419		6:00-6:15
6:15-6:30	37	49	13	99	3	122	24	149	55	41	17	113	6	53	2	61	212	210	422		6:15-6:30
6:30-6:45	29	56	6	91	1	129	26	156	44	40	8	92	3	47	0	50	183	206	389		6:30-6:45
6:45-7:00	32	48	6	86	2	115	9	126	40	27	12	79	3	40	0	43	165	169	334		6:45-7:00
3 Hour Totals	375	671	138	1,184	39	1,501	278	1,818	693	403	182	1,278	73	595	19	687	2,462	2,505	4,967		
1 Hour Totals																					
4:00-5:00	108	219	47	374	9	492	102	603	170	107	48	325	34	179	9	222	699	825	1,524	0.87	4:00-5:00
4:15-5:15	134	229	52	415	12	532	109	653	190	117	56	363	30	193	5	228	778	881	1,659	0.90	4:15-5:15
4:30-5:30	142	219	51	412	18	567	108	693	238	132	65	435	28	222	5	255	847	948	1,795	0.92	4:30-5:30
4:45-5:45	153	223	51	427	23	562	106	691	272	142	67	481	23	220	6	249	908	940	1,848	0.95	4:45-5:45
5:00-6:00	144	240	50	434	22	529	102	653	316	148	74	538	19	228	7	254	972	907	1,879	0.96	5:00-6:00
5:15-6:15	123	242	53	418	19	507	91	617	320	155	78	553	23	218	6	247	971	864	1,835	0.94	5:15-6:15
5:30-6:30	126	238	54	418	15	480	88	583	297	160	74	531	26	204	7	237	949	820	1,769	0.94	5:30-6:30
5:45-6:45	118	234	46	398	9	481	96	586	257	157	67	481	24	204	5	233	879	819	1,698	0.91	5:45-6:45
6:00-7:00	123	212	41	376	8	480	74	562	207	148	60	415	20	188	3	211	791	773	1,564	0.93	6:00-7:00
PM Peak 5:00-6:00	144	240	50	434	22	529	102	653	316	148	74	538	19	228	7	254	972	907	1,879	0.96	PM Peak 5:00-6:00

Wells & Associates, LLC

McLean, Virginia

Existing Traffic Count

PROJECT: Center For Strategic & International Studies		DATE: 10/7/2008		SOUTHBOUND ROAD: Beacon Hotel Driveway																	
W & A JOB NO.: 4273		DAY: Tuesday		NORTHBOUND ROAD: West Alley																	
INTERSECTION: Rhode Island Avenue NW & West Alley		WEATHER: Clear		WESTBOUND ROAD: Rhode Island Avenue NW																	
LOCATION: Washington D.C		COUNTED BY: Dina		EASTBOUND ROAD: Rhode Island Avenue NW																	
		INPUTED BY: Ilisia																			
Time Period	Turning Movements																Total	PHF	Time Period		
	Southbound Beacon Hotel Driveway				Westbound Rhode Island Avenue NW				Northbound West Alley				Eastbound Rhode Island Avenue NW							North & South	East & West
	1 Right	2 Thru	3 Left	Total	4 Right	5 Thru	6 Left	Total	7 Right	8 Thru	9 Left	Total	10 Right	11 Thru	12 Left	Total					
AM																					
7:00-7:15	0	0	3	3	0	136	0	136	0	0	0	0	0	10	0	10	3	146	149		7:00-7:15
7:15-7:30	4	0	3	7	0	177	3	180	0	0	0	0	0	20	0	20	7	200	207		7:15-7:30
7:30-7:45	1	0	6	7	0	238	0	238	0	0	0	0	0	22	0	22	7	260	267		7:30-7:45
7:45-8:00	0	0	5	5	0	274	0	274	0	0	0	0	2	29	0	31	5	305	310		7:45-8:00
8:00-8:15	3	0	2	5	1	261	1	263	0	0	0	0	0	34	0	34	5	297	302		8:00-8:15
8:15-8:30	1	0	3	4	0	232	0	232	0	0	0	0	0	28	0	28	4	260	264		8:15-8:30
8:30-8:45	2	0	2	4	0	237	0	237	0	0	0	0	0	33	0	33	4	270	274		8:30-8:45
8:45-9:00	1	0	2	3	1	301	1	303	0	0	0	0	0	31	0	31	3	334	337		8:45-9:00
9:00-9:15	1	0	0	1	0	260	0	260	0	0	0	0	0	44	0	44	1	304	305		9:00-9:15
9:15-9:30	3	0	0	3	0	226	1	227	0	0	0	0	0	36	0	36	3	263	266		9:15-9:30
9:30-9:45	1	0	0	1	0	214	0	214	0	0	0	0	0	47	1	48	1	262	263		9:30-9:45
9:45-10:00	2	0	0	2	0	213	0	213	0	0	0	0	0	36	0	36	2	249	251		9:45-10:00
3 Hour Totals	19	0	26	45	2	2,769	6	2,777	0	0	0	0	2	370	1	373	45	3,150	3,195		
1 Hour Totals																					
7:00-8:00	5	0	17	22	0	825	3	828	0	0	0	0	2	81	0	83	22	911	933	0.75	7:00-8:00
7:15-8:15	8	0	16	24	1	950	4	955	0	0	0	0	2	105	0	107	24	1,062	1,086	0.88	7:15-8:15
7:30-8:30	5	0	16	21	1	1,005	1	1,007	0	0	0	0	2	113	0	115	21	1,122	1,143	0.92	7:30-8:30
7:45-8:45	6	0	12	18	1	1,004	1	1,006	0	0	0	0	2	124	0	126	18	1,132	1,150	0.93	7:45-8:45
8:00-9:00	7	0	9	16	2	1,031	2	1,035	0	0	0	0	0	126	0	126	16	1,161	1,177	0.87	8:00-9:00
8:15-9:15	5	0	7	12	1	1,030	1	1,032	0	0	0	0	0	136	0	136	12	1,168	1,180	0.88	8:15-9:15
8:30-9:30	7	0	4	11	1	1,024	2	1,027	0	0	0	0	0	144	0	144	11	1,171	1,182	0.88	8:30-9:30
8:45-9:45	6	0	2	8	1	1,001	2	1,004	0	0	0	0	0	158	1	159	8	1,163	1,171	0.87	8:45-9:45
9:00-10:00	7	0	0	7	0	913	1	914	0	0	0	0	0	163	1	164	7	1,078	1,085	0.89	9:00-10:00
AM Peak																					
8:30-9:30	7	0	4	11	1	1,024	2	1,027	0	0	0	0	0	144	0	144	11	1,171	1,182	0.88	AM Peak 8:30-9:30
PM																					
4:00-4:15	0	0	1	1	0	121	0	121	0	0	0	0	0	72	0	72	1	193	194		4:00-4:15
4:15-4:30	2	0	1	3	0	164	0	164	0	0	0	0	0	88	0	88	3	252	255		4:15-4:30
4:30-4:45	1	0	0	1	0	150	0	150	1	0	0	1	0	106	0	106	2	256	258		4:30-4:45
4:45-5:00	3	0	0	3	0	207	1	208	1	0	1	2	1	116	0	117	5	325	330		4:45-5:00
5:00-5:15	1	0	1	2	0	140	1	141	1	0	0	1	0	122	0	122	3	263	266		5:00-5:15
5:15-5:30	0	0	0	0	1	162	0	163	0	0	0	0	0	138	0	138	0	301	301		5:15-5:30
5:30-5:45	0	0	0	0	0	141	0	141	0	0	0	0	0	136	0	136	0	277	277		5:30-5:45
5:45-6:00	4	0	3	7	0	140	0	140	0	0	0	0	0	150	0	150	7	290	297		5:45-6:00
6:00-6:15	1	0	1	2	1	126	1	128	1	0	0	1	0	108	0	108	3	236	239		6:00-6:15
6:15-6:30	1	0	0	1	1	150	0	151	0	0	0	0	0	108	0	108	1	259	260		6:15-6:30
6:30-6:45	3	0	0	3	0	143	0	143	2	0	0	2	0	84	0	84	5	227	232		6:30-6:45
6:45-7:00	1	0	5	6	0	127	0	127	0	0	1	1	0	82	1	83	7	210	217		6:45-7:00
3 Hour Totals	17	0	12	29	3	1,771	3	1,777	6	0	2	8	1	1,310	1	1,312	37	3,089	3,126		
1 Hour Totals																					
4:00-5:00	6	0	2	8	0	642	1	643	2	0	1	3	1	382	0	383	11	1,026	1,037	0.79	4:00-5:00
4:15-5:15	7	0	2	9	0	661	2	663	3	0	1	4	1	432	0	433	13	1,096	1,109	0.84	4:15-5:15
4:30-5:30	5	0	1	6	1	659	2	662	3	0	1	4	1	482	0	483	10	1,145	1,155	0.88	4:30-5:30
4:45-5:45	4	0	1	5	1	650	2	653	2	0	1	3	1	512	0	513	8	1,166	1,174	0.89	4:45-5:45
5:00-6:00	5	0	4	9	1	583	1	585	1	0	0	1	0	546	0	546	10	1,131	1,141	0.95	5:00-6:00
5:15-6:15	5	0	4	9	2	569	1	572	1	0	0	1	0	532	0	532	10	1,104	1,114	0.93	5:15-6:15
5:30-6:30	6	0	4	10	2	557	1	560	1	0	0	1	0	502	0	502	11	1,062	1,073	0.90	5:30-6:30
5:45-6:45	9	0	4	13	2	559	1	562	3	0	0	3	0	450	0	450	16	1,012	1,028	0.87	5:45-6:45
6:00-7:00	6	0	6	12	2	546	1	549	3	0	1	4	0	382	1	383	16	932	948	0.91	6:00-7:00
PM Peak																					
4:45-5:45	4	0	1	5	1	650	2	653	2	0	1	3	1	512	0	513	8	1,166	1,174	0.89	PM Peak 4:45-5:45

Appendix B

Existing Pedestrian Traffic Counts

Project Name: Center For Strategic & International Studie

Project Number: 4273

Location: Washington D.C

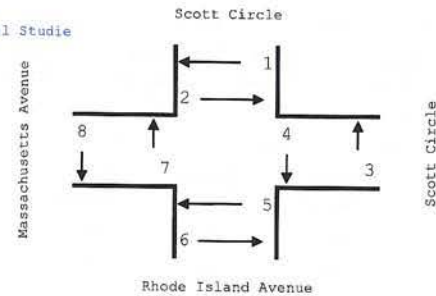
Intersection: Rhode Island Avenue NW & Massach

Weather: Clear

Date: 10/7/2008

Surveyor: 0

Hours: 0 Mileage: 0



Hourly Pedestrian Count

		1	2	3	4	5	6	7	8						
Time Period	From:	SE	NE	SW	SE	SW	NW	NW	NE	Total	1 & 2	3 & 4	5 & 6	7 & 8	
	To:	NE	SE	SE	SW	NW	SW	NE	NW						
AM PEAK															
6:15	7:15	0	0	0	0	15	12	9	8	44	0	0	27	17	
6:30	7:30	0	0	0	0	36	30	21	23	110	0	0	66	44	
6:45	7:45	0	0	0	0	52	45	39	44	180	0	0	97	83	
7:00	8:00	0	0	0	0	77	68	67	75	287	0	0	145	142	
7:15	8:15	0	0	0	0	73	75	78	93	319	0	0	148	171	
7:30	8:30	0	0	0	0	67	75	87	101	330	0	0	142	188	
7:45	8:45	0	0	0	0	75	81	104	99	359	0	0	156	203	
8:00	9:00	0	0	0	0	69	83	118	96	366	0	0	152	214	
8:15	9:15	0	0	0	0	70	99	135	95	399	0	0	169	230	
8:30	9:30	0	0	0	0	82	122	144	96	444	0	0	204	240	
8:45	9:45	0	0	0	0	89	133	130	94	446	0	0	222	224	
9:00	10:00	0	0	0	0	89	134	106	81	410	0	0	223	187	
9:15	10:15	0	0	0	0	77	99	69	56	301	0	0	176	125	
9:30	10:30	0	0	0	0	50	58	39	32	179	0	0	108	71	
9:45	10:45	0	0	0	0	19	26	18	15	78	0	0	45	33	
PM PEAK															
15:15	16:15	0	0	0	0	8	10	11	19	48	0	0	18	30	
15:30	16:30	0	0	0	0	16	29	29	42	116	0	0	45	71	
15:45	16:45	0	0	0	0	22	39	46	63	170	0	0	61	109	
16:00	17:00	0	0	0	0	33	54	61	74	222	0	0	87	135	
16:15	17:15	0	0	0	0	42	63	73	73	251	0	0	105	146	
16:30	17:30	0	0	0	0	53	64	73	75	265	0	0	117	148	
16:45	17:45	0	0	0	0	77	76	85	86	324	0	0	153	171	
17:00	18:00	0	0	0	0	101	89	90	103	383	0	0	190	193	
17:15	18:15	0	0	0	0	119	90	97	112	418	0	0	209	209	
17:30	18:30	0	0	0	0	120	96	129	124	469	0	0	216	253	
17:45	18:45	0	0	0	0	113	93	131	145	482	0	0	206	276	
18:00	19:00	0	0	0	0	99	83	122	148	452	0	0	182	270	

Project Name: Center For Strategic & International Studie

Project Number: 4273

Location: Washington D.C

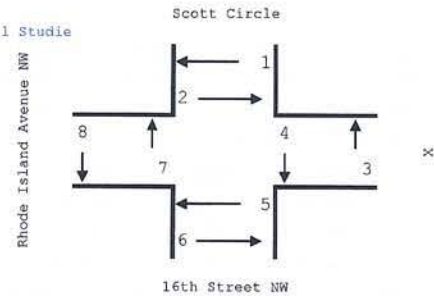
Intersection: Rhode Island Avenue NW & Scott C

Weather: Clear

Date: 10/7/2008

Surveyor: 0

Hours: 0 Mileage: 0



Hourly Pedestrian Count

		1	2	3	4	5	6	7	8					
Time Period	From:	SE	NE	SW	SE	SW	NW	NW	NE	Total	1 & 2	3 & 4	5 & 6	7 & 8
	To:	NE	SE	SE	SW	NW	SW	NE	NW					
AM PEAK														
6:15	7:15	0	0	7	6	10	19	15	12	69	0	13	29	27
6:30	7:30	0	0	8	9	18	26	36	30	127	0	17	44	66
6:45	7:45	0	0	21	15	25	48	52	45	206	0	36	73	97
7:00	8:00	0	0	32	20	42	71	77	68	310	0	52	113	145
7:15	8:15	0	0	41	30	52	67	73	75	338	0	71	119	148
7:30	8:30	0	0	55	38	58	77	67	75	370	0	93	135	142
7:45	8:45	0	0	52	50	76	81	75	81	415	0	102	157	156
8:00	9:00	0	0	53	64	69	68	69	83	406	0	117	137	152
8:15	9:15	0	0	55	58	68	68	70	99	418	0	113	136	169
8:30	9:30	0	0	61	71	75	69	82	122	480	0	132	144	204
8:45	9:45	0	0	74	72	70	65	89	133	503	0	146	135	222
9:00	10:00	0	0	75	74	61	66	89	134	499	0	149	127	223
9:15	10:15	0	0	57	64	42	51	77	99	390	0	121	93	176
9:30	10:30	0	0	36	40	21	33	50	58	238	0	76	54	108
9:45	10:45	0	0	13	21	1	11	19	26	91	0	34	12	45
PM PEAK														
15:15	16:15	0	0	12	13	0	7	8	10	50	0	25	7	18
15:30	16:30	0	0	21	20	12	12	16	29	110	0	41	24	45
15:45	16:45	0	0	36	29	24	24	22	39	174	0	65	48	61
16:00	17:00	0	0	61	37	42	49	33	54	276	0	98	91	87
16:15	17:15	0	0	68	37	69	54	42	63	333	0	105	123	105
16:30	17:30	0	0	82	47	79	65	53	64	390	0	129	144	117
16:45	17:45	0	0	85	57	90	84	77	76	469	0	142	174	153
17:00	18:00	0	0	75	60	100	88	101	89	513	0	135	188	190
17:15	18:15	0	0	74	69	85	103	119	90	540	0	143	188	209
17:30	18:30	0	0	64	67	86	122	120	96	555	0	131	208	216
17:45	18:45	0	0	64	67	88	123	113	93	548	0	131	211	206
18:00	19:00	0	0	70	74	93	119	99	83	538	0	144	212	182

Project Name: Center For Strategic & International Studie

Project Number: 4273

Location: Washington D.C

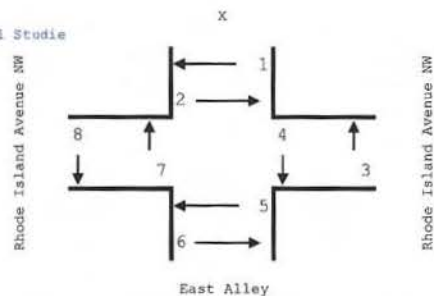
Intersection: Rhode Island Avenue NW & Bataan

Weather: Clear

Date: 10/7/2008

Surveyor: 0

Hours: 0 Mileage: 0



Hourly Pedestrian Count

		1	2	3	4	5	6	7	8					
Time Period	From:	SE	NE	SW	SE	SW	NW	NW	NE	Total	1 & 2	3 & 4	5 & 6	7 & 8
	To:	NE	SE	SE	SW	NW	SW	NE	NW					
AM PEAK														
6:15	7:15	12	4	0	0	17	7	0	0	40	16	0	24	0
6:30	7:30	19	9	0	0	34	17	0	0	79	28	0	51	0
6:45	7:45	35	20	0	0	52	24	0	0	131	55	0	76	0
7:00	8:00	61	23	0	0	77	33	0	0	194	84	0	110	0
7:15	8:15	66	33	0	0	94	31	0	0	224	99	0	125	0
7:30	8:30	85	32	0	0	132	40	0	0	289	117	0	172	0
7:45	8:45	107	25	0	0	170	50	0	0	352	132	0	220	0
8:00	9:00	110	32	0	0	213	74	0	0	429	142	0	287	0
8:15	9:15	141	28	0	0	243	89	0	0	501	169	0	332	0
8:30	9:30	138	32	0	0	227	80	0	0	477	170	0	307	0
8:45	9:45	114	33	0	0	214	79	0	0	440	147	0	293	0
9:00	10:00	100	28	0	0	202	50	0	1	381	128	0	252	1
9:15	10:15	52	18	0	0	138	30	0	1	239	70	0	168	1
9:30	10:30	29	10	0	0	99	20	0	1	159	39	0	119	1
9:45	10:45	15	5	0	0	56	4	0	1	81	20	0	60	1
PM PEAK														
15:15	16:15	8	9	0	0	17	13	0	0	47	17	0	30	0
15:30	16:30	15	25	0	0	33	28	0	0	101	40	0	61	0
15:45	16:45	29	44	0	0	43	55	0	0	171	73	0	98	0
16:00	17:00	50	59	0	0	52	68	0	0	229	109	0	120	0
16:15	17:15	55	63	0	0	63	87	0	0	268	118	0	150	0
16:30	17:30	65	66	0	0	76	95	0	0	302	131	0	171	0
16:45	17:45	72	77	0	0	118	99	0	0	366	149	0	217	0
17:00	18:00	57	79	0	0	124	119	0	0	379	136	0	243	0
17:15	18:15	61	97	0	0	142	141	0	0	441	158	0	283	0
17:30	18:30	62	98	0	0	143	149	0	0	452	160	0	292	0
17:45	18:45	50	98	0	0	118	167	0	0	433	148	0	285	0
18:00	19:00	67	112	0	0	113	179	0	0	471	179	0	292	0

Project Name: Center For Strategic & International Studie

Project Number: 4273

Location: Washington D.C

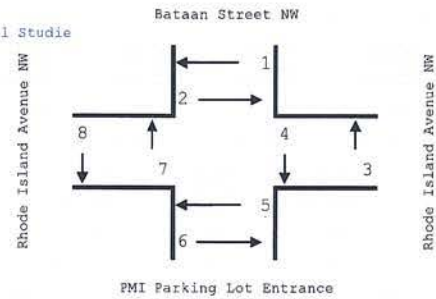
Intersection: Rhode Island Avenue NW & Bataan

Weather: Clear

Date: 10/7/2008

Surveyor: 0

Hours: 0 Mileage: 0



Hourly Pedestrian Count

		1	2	3	4	5	6	7	8					
Time Period	From:	SE	NE	SW	SE	SW	NW	NW	NE	Total	1 & 2	3 & 4	5 & 6	7 & 8
	To:	NE	SE	SE	SW	NW	SW	NE	NW					
AM PEAK														
6:15	7:15	4	13	0	0	16	10	2	0	45	17	0	26	2
6:30	7:30	4	13	0	0	16	10	2	0	45	17	0	26	2
6:45	7:45	15	29	1	7	34	19	6	0	111	44	8	53	6
7:00	8:00	31	40	1	20	60	31	6	0	189	71	21	91	6
7:15	8:15	41	50	9	32	80	35	5	7	259	91	41	115	12
7:30	8:30	58	79	14	38	137	55	5	7	393	137	52	192	12
7:45	8:45	68	100	13	31	190	67	2	8	479	168	44	257	10
8:00	9:00	75	122	15	22	247	81	2	8	572	197	37	328	10
8:15	9:15	80	138	7	10	254	85	6	1	581	218	17	339	7
8:30	9:30	77	150	3	4	231	79	6	1	551	227	7	310	7
8:45	9:45	67	133	3	10	189	66	5	0	473	200	13	255	5
9:00	10:00	57	123	1	6	133	51	5	0	376	180	7	184	5
9:15	10:15	38	84	1	6	90	33	0	0	252	122	7	123	0
9:30	10:30	24	43	0	6	56	19	0	0	148	67	6	75	0
9:45	10:45	13	23	0	0	27	11	0	0	74	36	0	38	0
PM PEAK														
15:15	16:15	9	13	0	5	14	17	0	0	58	22	5	31	0
15:30	16:30	20	28	0	5	25	36	0	0	114	48	5	61	0
15:45	16:45	33	46	7	5	32	57	0	0	180	79	12	89	0
16:00	17:00	50	67	8	8	44	73	0	0	250	117	16	117	0
16:15	17:15	64	91	20	9	46	97	0	0	327	155	29	143	0
16:30	17:30	77	95	20	11	47	114	0	0	364	172	31	161	0
16:45	17:45	87	98	17	12	55	134	0	0	403	185	29	189	0
17:00	18:00	88	100	16	9	52	147	0	0	412	188	25	199	0
17:15	18:15	89	80	11	11	54	128	0	0	373	169	22	182	0
17:30	18:30	93	87	11	9	55	119	0	0	374	180	20	174	0
17:45	18:45	105	104	13	11	50	107	0	0	390	209	24	157	0
18:00	19:00	109	112	13	11	52	96	0	0	393	221	24	148	0

Project Name: Center For Strategic & International Study

Project Number: 4273

Location: Washington D.C

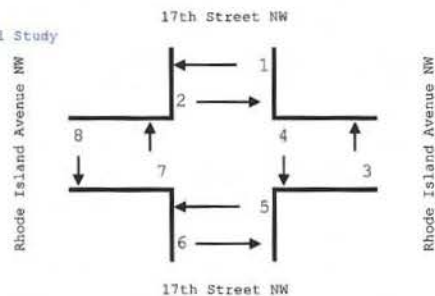
Intersection: Rhode Island Avenue & 17th Street

Weather: Clear

Date: 10/7/2008

Surveyor: 0

Hours: 0 Mileage: 0



Hourly Pedestrian Count

		1	2	3	4	5	6	7	8					
Time Period	From:	SE	NE	SW	SE	SW	NW	NW	NE	Total	1 & 2	3 & 4	5 & 6	7 & 8
	To:	NE	SE	SE	SW	NW	SW	NE	NW					
AM PEAK														
6:15	7:15	8	5	7	6	13	3	9	13	64	13	13	16	22
6:30	7:30	14	10	11	18	29	7	24	31	144	24	29	36	55
6:45	7:45	31	20	30	36	49	11	35	60	272	51	66	60	95
7:00	8:00	41	34	42	66	77	13	46	84	403	75	108	90	130
7:15	8:15	50	37	60	87	91	14	52	108	499	87	147	105	160
7:30	8:30	64	47	73	132	133	19	55	145	668	111	205	152	200
7:45	8:45	63	46	73	182	177	17	60	182	800	109	255	194	242
8:00	9:00	72	49	81	208	205	18	60	171	864	121	289	223	231
8:15	9:15	69	57	77	257	230	27	71	267	1055	126	334	257	338
8:30	9:30	60	48	83	244	223	28	67	244	997	108	327	251	311
8:45	9:45	51	54	73	225	208	40	63	213	927	105	298	248	276
9:00	10:00	52	46	75	208	191	42	64	219	897	98	283	233	283
9:15	10:15	38	30	54	132	139	29	38	86	546	68	186	168	124
9:30	10:30	27	24	31	88	88	19	24	54	355	51	119	107	78
9:45	10:45	20	9	22	39	39	5	12	19	165	29	61	44	31
PM PEAK														
15:15	16:15	9	26	15	12	24	18	17	20	141	35	27	42	37
15:30	16:30	18	35	23	13	30	25	21	25	190	53	36	55	46
15:45	16:45	34	50	37	26	48	37	48	55	335	84	63	85	103
16:00	17:00	49	65	54	45	66	56	71	98	504	114	99	122	169
16:15	17:15	69	53	81	51	66	70	107	113	610	122	132	136	220
16:30	17:30	79	65	121	79	86	95	161	144	830	144	200	181	305
16:45	17:45	99	82	160	82	100	119	195	152	989	181	242	219	347
17:00	18:00	115	106	209	86	114	127	247	148	1152	221	295	241	395
17:15	18:15	108	140	233	90	118	145	278	164	1276	248	323	263	442
17:30	18:30	125	159	259	82	135	136	284	164	1344	284	341	271	448
17:45	18:45	117	165	268	91	143	132	281	159	1356	282	359	275	440
18:00	19:00	126	177	251	95	133	124	257	148	1311	303	346	257	405

Project Name: Center For Strategic & International Studie

Project Number: 4273

Location: Washington D.C

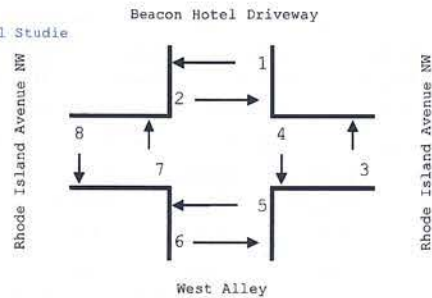
Intersection: Rhode Island Avenue NW & West Al

Weather: Clear

Date: 10/7/2008

Surveyor: 0

Hours: 0 Mileage: 0



Hourly Pedestrian Count

		1	2	3	4	5	6	7	8						
Time Period	From:	SE	NE	SW	SE	SW	NW	NW	NE	Total	1 & 2	3 & 4	5 & 6	7 & 8	
	To:	NE	SE	SE	SW	NW	SW	NE	NW						
AM PEAK															
6:15	7:15	0	0	0	0	0	0	0	0	0	0	0	0	0	
6:30	7:30	4	5	0	0	11	1	0	0	21	9	0	12	0	
6:45	7:45	9	8	0	1	33	12	0	0	63	17	1	45	0	
7:00	8:00	20	16	0	1	55	13	0	0	105	36	1	68	0	
7:15	8:15	26	20	0	1	85	17	0	0	149	46	1	102	0	
7:30	8:30	36	18	0	1	125	22	0	0	202	54	1	147	0	
7:45	8:45	44	15	0	0	147	19	0	0	225	59	0	166	0	
8:00	9:00	47	7	0	0	182	21	0	0	257	54	0	203	0	
8:15	9:15	62	9	0	0	187	35	0	0	293	71	0	222	0	
8:30	9:30	57	6	0	0	163	29	0	0	255	63	0	192	0	
8:45	9:45	49	7	0	0	149	23	0	0	228	56	0	172	0	
9:00	10:00	39	7	0	0	106	20	0	0	172	46	0	126	0	
9:15	10:15	18	1	0	0	71	2	0	0	92	19	0	73	0	
9:30	10:30	9	1	0	0	44	2	0	0	56	10	0	46	0	
9:45	10:45	4	0	0	0	14	0	0	0	18	4	0	14	0	
PM PEAK															
15:15	16:15	6	5	0	0	18	4	0	0	33	11	0	22	0	
15:30	16:30	16	9	0	0	26	17	0	0	68	25	0	43	0	
15:45	16:45	25	13	0	0	34	27	0	0	99	38	0	61	0	
16:00	17:00	34	17	0	0	44	36	0	0	131	51	0	80	0	
16:15	17:15	40	23	0	0	45	61	0	0	169	63	0	106	0	
16:30	17:30	48	28	0	0	59	83	0	0	218	76	0	142	0	
16:45	17:45	55	36	0	0	84	115	0	2	292	91	0	199	2	
17:00	18:00	65	49	0	0	112	137	0	2	365	114	0	249	2	
17:15	18:15	76	51	0	0	122	128	0	2	379	127	0	250	2	
17:30	18:30	77	62	0	0	137	108	0	2	386	139	0	245	2	
17:45	18:45	78	68	0	0	127	95	0	1	369	146	0	222	1	
18:00	19:00	75	63	0	0	121	94	0	1	354	138	0	215	1	

Appendix C

Existing Levels of Service

Center for Strategic and International Studies
1: Rhode Island Avenue NW & 17th Street NW

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↑↑			↑↑↑						↑↑↑↑	
Volume (vph)	0	146	41	231	798	0	0	0	0	48	616	115
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0						4.0	
Lane Util. Factor		0.95			0.91						0.81	
Frpb, ped/bikes		0.93			1.00						0.95	
Flpb, ped/bikes		1.00			0.94						0.98	
Frt		0.97			1.00						0.98	
Flt Protected		1.00			0.99						1.00	
Satd. Flow (prot)		2849			4270						6126	
Flt Permitted		1.00			0.81						1.00	
Satd. Flow (perm)		2849			3499						6126	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	159	45	251	867	0	0	0	0	52	670	125
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	28	0
Lane Group Flow (vph)	0	204	0	0	1118	0	0	0	0	0	819	0
Confl. Peds. (#/hr)			251	251						327		311
Turn Type			Perm							Perm		
Protected Phases		4			8						6	
Permitted Phases				8						6		
Actuated Green, G (s)		39.8			39.8						52.2	
Effective Green, g (s)		39.8			39.8						52.2	
Actuated g/C Ratio		0.40			0.40						0.52	
Clearance Time (s)		4.0			4.0						4.0	
Vehicle Extension (s)		3.0			3.0						3.0	
Lane Grp Cap (vph)		1134			1393						3198	
v/s Ratio Prot		0.07										
v/s Ratio Perm					c0.32						0.13	
v/c Ratio		0.18			0.80						0.26	
Uniform Delay, d1		19.5			26.6						13.2	
Progression Factor		1.00			0.11						1.00	
Incremental Delay, d2		0.1			3.0						0.2	
Delay (s)		19.6			5.8						13.4	
Level of Service		B			A						B	
Approach Delay (s)		19.6			5.8			0.0			13.4	
Approach LOS		B			A			A			B	
Intersection Summary												
HCM Average Control Delay			10.1		HCM Level of Service					B		
HCM Volume to Capacity ratio			0.49									
Actuated Cycle Length (s)			100.0		Sum of lost time (s)					8.0		
Intersection Capacity Utilization			59.0%		ICU Level of Service					B		
Analysis Period (min)			15									
c Critical Lane Group												

Center for Strategic and International Studies
2: Rhode Island Avenue NW & Hotel Driveway

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	194	0	2	1024	1	0	0	0	4	0	7
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	211	0	2	1113	1	0	0	0	4	0	8
Pedestrians								192			63	
Lane Width (ft)								10.0			8.0	
Walking Speed (ft/s)								4.0			4.0	
Percent Blockage								13			4	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		152			334							
pX, platoon unblocked	0.79			0.99			0.80	0.80	0.99	0.80	0.80	0.79
vC, conflicting volume	1177			403			786	1584	297	1286	1584	435
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	307			377			0	779	270	405	778	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	99
cM capacity (veh/h)	967			1011			611	217	624	360	220	834
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	105	105	280	557	279	0	12					
Volume Left	0	0	2	0	0	0	4					
Volume Right	0	0	0	0	1	0	8					
cSH	967	1700	1011	1700	1700	1700	564					
Volume to Capacity	0.00	0.06	0.00	0.33	0.16	0.00	0.02					
Queue Length 95th (ft)	0	0	0	0	0	0	2					
Control Delay (s)	0.0	0.0	0.1	0.0	0.0	0.0	11.5					
Lane LOS			A			A	B					
Approach Delay (s)	0.0		0.0			0.0	11.5					
Approach LOS						A	B					
Intersection Summary												
Average Delay			0.1									
Intersection Capacity Utilization			33.5%	ICU Level of Service						A		
Analysis Period (min)			15									

Center for Strategic and International Studies
3: Rhode Island Avenue NW & Bataan Street NW

Existing AM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	189	5	14	1051	19	0	0	1	29	0	9
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	205	5	15	1142	21	0	0	1	32	0	10
Pedestrians		7			7			310			227	
Lane Width (ft)		12.0			12.0			8.0			10.0	
Walking Speed (ft/s)		4.0			4.0			4.0			4.0	
Percent Blockage		1			1			17			16	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		253			233							
pX, platoon unblocked	0.78						0.78	0.78		0.78	0.78	0.78
vC, conflicting volume	1390			521			957	1950	422	1532	1942	625
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	490			521			0	1211	422	673	1201	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			98			100	100	100	81	100	99
cM capacity (veh/h)	699			874			487	97	482	166	98	704
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	108	108	301	571	306	1	41					
Volume Left	5	0	15	0	0	0	32					
Volume Right	0	5	0	0	21	1	10					
cSH	699	1700	874	1700	1700	482	203					
Volume to Capacity	0.01	0.06	0.02	0.34	0.18	0.00	0.20					
Queue Length 95th (ft)	1	0	1	0	0	0	18					
Control Delay (s)	0.6	0.0	0.6	0.0	0.0	12.5	27.2					
Lane LOS	A		A			B	D					
Approach Delay (s)	0.3		0.2			12.5	27.2					
Approach LOS						B	D					
Intersection Summary												
Average Delay			1.0									
Intersection Capacity Utilization			50.8%		ICU Level of Service		A					
Analysis Period (min)			15									

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Volume (veh/h)	205	0	0	0	0	9
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)	223	0	0	0	0	10
Pedestrians				307		
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)				132		
pX, platoon unblocked						
vC, conflicting volume			223		223	418
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			223		223	418
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	98
cM capacity (veh/h)			1343		745	583
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	111	111	10			
Volume Left	0	0	0			
Volume Right	0	0	10			
cSH	1700	1700	583			
Volume to Capacity	0.07	0.07	0.02			
Queue Length 95th (ft)	0	0	1			
Control Delay (s)	0.0	0.0	11.3			
Lane LOS			B			
Approach Delay (s)	0.0		11.3			
Approach LOS			B			
Intersection Summary						
Average Delay			0.5			
Intersection Capacity Utilization			26.3%	ICU Level of Service		A
Analysis Period (min)			15			

Center for Strategic and International Studies
5: Massachusetts Avenue NW & Scott Circle NW

Existing AM

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑									↑↑↑	
Volume (vph)	0	1156	1	0	0	0	0	0	0	282	1083	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0									4.0	
Lane Util. Factor		0.91									0.91	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		1.00									1.00	
Frt		1.00									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		5083									5033	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		5083									5033	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1257	1	0	0	0	0	0	0	307	1177	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	5	0
Lane Group Flow (vph)	0	1258	0	0	0	0	0	0	0	0	1479	0
Confl. Peds. (#/hr)			204									
Turn Type										Perm		
Protected Phases											8	
Permitted Phases		6								8		
Actuated Green, G (s)		50.8									41.2	
Effective Green, g (s)		50.8									41.2	
Actuated g/C Ratio		0.51									0.41	
Clearance Time (s)		4.0									4.0	
Vehicle Extension (s)		3.0									3.0	
Lane Grp Cap (vph)		2582									2074	
v/s Ratio Prot												
v/s Ratio Perm		0.25									0.29	
v/c Ratio		0.49									0.71	
Uniform Delay, d1		16.1									24.5	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.7									1.2	
Delay (s)		16.7									25.7	
Level of Service		B									C	
Approach Delay (s)		16.7			0.0			0.0			25.7	
Approach LOS		B			A			A			C	
Intersection Summary												
HCM Average Control Delay			21.6				HCM Level of Service			C		
HCM Volume to Capacity ratio			0.59									
Actuated Cycle Length (s)			100.0				Sum of lost time (s)			8.0		
Intersection Capacity Utilization			55.7%				ICU Level of Service			B		
Analysis Period (min)			15									
c Critical Lane Group												

Center for Strategic and International Studies
6: Rhode Island Avenue NW & 16th Street NW

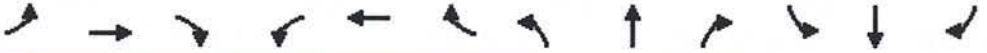
Existing AM



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER
Lane Configurations		↑↑							↑↑	↑
Volume (vph)	0	202	25	0	0	0	0	0	1162	162
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0							4.0	4.0
Lane Util. Factor		0.95							0.97	1.00
Frpb, ped/bikes		0.97							1.00	1.00
Flpb, ped/bikes		1.00							1.00	1.00
Frt		0.98							1.00	0.85
Flt Protected		1.00							0.95	1.00
Satd. Flow (prot)		3376							3433	1583
Flt Permitted		1.00							0.95	1.00
Satd. Flow (perm)		3376							3433	1583
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	220	27	0	0	0	0	0	1263	176
RTOR Reduction (vph)	0	12	0	0	0	0	0	0	172	0
Lane Group Flow (vph)	0	235	0	0	0	0	0	0	1091	176
Confl. Peds. (#/hr)			144							
Turn Type										custom
Protected Phases		4								6
Permitted Phases									6	
Actuated Green, G (s)		12.3							79.7	79.7
Effective Green, g (s)		12.3							79.7	79.7
Actuated g/C Ratio		0.12							0.80	0.80
Clearance Time (s)		4.0							4.0	4.0
Vehicle Extension (s)		3.0							3.0	3.0
Lane Grp Cap (vph)		415							2736	1262
v/s Ratio Prot		c0.07								0.11
v/s Ratio Perm									c0.32	
v/c Ratio		0.57							0.40	0.14
Uniform Delay, d1		41.3							3.0	2.3
Progression Factor		0.80							3.78	0.53
Incremental Delay, d2		1.8							0.4	0.2
Delay (s)		34.9							11.8	1.4
Level of Service		C							B	A
Approach Delay (s)		34.9			0.0		0.0		10.5	
Approach LOS		C			A		A		B	
Intersection Summary										
HCM Average Control Delay		14.1			HCM Level of Service				B	
HCM Volume to Capacity ratio		0.42								
Actuated Cycle Length (s)		100.0			Sum of lost time (s)				8.0	
Intersection Capacity Utilization		53.1%			ICU Level of Service				A	
Analysis Period (min)		15								
c Critical Lane Group										

Center for Strategic and International Studies
1: Rhode Island Avenue NW & 17th Street NW

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↔↔			↔↔			↔↔			↔↔	
Volume (vph)	7	228	19	102	529	22	74	148	316	50	240	144
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.91			0.91			0.91	
Frpb, ped/bikes		0.97			0.99			0.79			0.87	
Flpb, ped/bikes		1.00			0.97			0.97			0.98	
Frt		0.99			0.99			0.91			0.95	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3057			4323			3189			3694	
Flt Permitted		0.93			0.80			0.81			0.83	
Satd. Flow (perm)		2854			3491			2607			3072	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	8	248	21	111	575	24	80	161	343	54	261	157
RTOR Reduction (vph)	0	0	0	0	0	0	0	47	0	0	20	0
Lane Group Flow (vph)	0	277	0	0	710	0	0	537	0	0	452	0
Confl. Peds. (#/hr)	221		241	241		221	395		295	295		395
Turn Type	Perm			Perm			Perm			Perm		
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		26.6			26.6			65.4			65.4	
Effective Green, g (s)		26.6			26.6			65.4			65.4	
Actuated g/C Ratio		0.27			0.27			0.65			0.65	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		759			929			1705			2009	
v/s Ratio Prot												
v/s Ratio Perm		0.10			0.20			0.21			0.15	
v/c Ratio		0.36			0.76			0.32			0.23	
Uniform Delay, d1		29.8			33.8			7.5			7.0	
Progression Factor		1.00			0.31			1.00			1.00	
Incremental Delay, d2		0.3			3.7			0.5			0.3	
Delay (s)		30.1			14.1			8.0			7.3	
Level of Service		C			B			A			A	
Approach Delay (s)		30.1			14.1			8.0			7.3	
Approach LOS		C			B			A			A	
Intersection Summary												
HCM Average Control Delay			13.0			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.45									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)			8.0			
Intersection Capacity Utilization			72.3%			ICU Level of Service			C			
Analysis Period (min)			15									
c Critical Lane Group												

Center for Strategic and International Studies
2: Rhode Island Avenue NW & Hotel Driveway

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	594	0	1	673	1	0	0	0	4	0	5
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	0	646	0	1	732	1	0	0	0	4	0	5
Pedestrians		2						249			114	
Lane Width (ft)		12.0						8.0			8.0	
Walking Speed (ft/s)		4.0						4.0			4.0	
Percent Blockage		0						14			6	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		166			333							
pX, platoon unblocked	0.88			0.94			0.90	0.90	0.94	0.90	0.90	0.88
vC, conflicting volume	847			895			1148	1743	572	1171	1743	360
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	325			769			462	1121	427	487	1121	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	100			100			100	100	100	99	100	99
cM capacity (veh/h)	1009			684			317	151	468	337	151	893
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	323	323	184	366	184	0	10					
Volume Left	0	0	1	0	0	0	4					
Volume Right	0	0	0	0	1	0	5					
cSH	1009	1700	684	1700	1700	1700	515					
Volume to Capacity	0.00	0.19	0.00	0.22	0.11	0.00	0.02					
Queue Length 95th (ft)	0	0	0	0	0	0	1					
Control Delay (s)	0.0	0.0	0.1	0.0	0.0	0.0	12.1					
Lane LOS			A			A	B					
Approach Delay (s)	0.0		0.0			0.0	12.1					
Approach LOS						A	B					
Intersection Summary												
Average Delay			0.1									
Intersection Capacity Utilization			28.9%			ICU Level of Service				A		
Analysis Period (min)			15									

Center for Strategic and International Studies
3: Rhode Island Avenue NW & Bataan Street NW

Existing PM

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	5	624	2	5	650	20	3	1	8	50	0	22
Sign Control		Free			Free			Stop			Stop	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	5	678	2	5	707	22	3	1	9	54	0	24
Pedestrians					25			199			188	
Lane Width (ft)					12.0			8.0			8.0	
Walking Speed (ft/s)					4.0			4.0			4.0	
Percent Blockage					2			11			10	
Right turn flare (veh)												
Median type		None			None							
Median storage (veh)												
Upstream signal (ft)		266			233							
pX, platoon unblocked	0.86			0.95			0.88	0.88	0.95	0.88	0.88	0.86
vC, conflicting volume	916			879			1160	1816	564	1300	1807	434
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	334			773			439	1182	442	598	1171	0
tC, single (s)	4.1			4.1			7.5	6.5	6.9	7.5	6.5	6.9
tC, 2 stage (s)												
tF (s)	2.2			2.2			3.5	4.0	3.3	3.5	4.0	3.3
p0 queue free %	99			99			99	99	98	78	100	97
cM capacity (veh/h)	941			721			323	133	471	244	135	835
Direction, Lane #	EB 1	EB 2	WB 1	WB 2	WB 3	NB 1	SB 1					
Volume Total	345	341	182	353	198	13	78					
Volume Left	5	0	5	0	0	3	54					
Volume Right	0	2	0	0	22	9	24					
cSH	941	1700	721	1700	1700	355	311					
Volume to Capacity	0.01	0.20	0.01	0.21	0.12	0.04	0.25					
Queue Length 95th (ft)	0	0	1	0	0	3	24					
Control Delay (s)	0.2	0.0	0.4	0.0	0.0	15.5	20.4					
Lane LOS	A		A			C	C					
Approach Delay (s)	0.1		0.1			15.5	20.4					
Approach LOS						C	C					
Intersection Summary												
Average Delay			1.3									
Intersection Capacity Utilization			40.7%		ICU Level of Service		A					
Analysis Period (min)			15									

						
Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations	↑↑					↑
Volume (veh/h)	657	0	0	0	0	41
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)	714	0	0	0	0	45
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type	None			None		
Median storage veh						
Upstream signal (ft)				130		
pX, platoon unblocked						
vC, conflicting volume			714		714	357
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			714		714	357
tC, single (s)			4.1		6.8	6.9
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		100	93
cM capacity (veh/h)			882		366	639
Direction, Lane #	EB 1	EB 2	NB 1			
Volume Total	357	357	45			
Volume Left	0	0	0			
Volume Right	0	0	45			
cSH	1700	1700	639			
Volume to Capacity	0.21	0.21	0.07			
Queue Length 95th (ft)	0	0	6			
Control Delay (s)	0.0	0.0	11.1			
Lane LOS			B			
Approach Delay (s)	0.0		11.1			
Approach LOS			B			
Intersection Summary						
Average Delay			0.6			
Intersection Capacity Utilization			28.2%	ICU Level of Service		A
Analysis Period (min)			15			

												
Movement	SEL	SET	SER	NWL	NWT	NWR	NEL	NET	NER	SWL	SWT	SWR
Lane Configurations		↑↑↑									↑↑↑	
Volume (vph)	0	1107	4	0	0	0	0	0	0	195	655	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0									4.0	
Lane Util. Factor		0.91									0.91	
Frpb, ped/bikes		1.00									1.00	
Flpb, ped/bikes		1.00									1.00	
Frt		1.00									1.00	
Flt Protected		1.00									0.99	
Satd. Flow (prot)		5077									5028	
Flt Permitted		1.00									0.99	
Satd. Flow (perm)		5077									5028	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	1203	4	0	0	0	0	0	0	212	712	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	4	0
Lane Group Flow (vph)	0	1207	0	0	0	0	0	0	0	0	920	0
Confl. Peds. (#/hr)			190									
Turn Type										Perm		
Protected Phases											8	
Permitted Phases		6								8		
Actuated Green, G (s)		65.6									26.4	
Effective Green, g (s)		65.6									26.4	
Actuated g/C Ratio		0.66									0.26	
Clearance Time (s)		4.0									4.0	
Vehicle Extension (s)		3.0									3.0	
Lane Grp Cap (vph)		3331									1327	
v/s Ratio Prot												
v/s Ratio Perm		c0.24									0.18	
v/c Ratio		0.36									0.69	
Uniform Delay, d1		7.8									33.1	
Progression Factor		1.00									1.00	
Incremental Delay, d2		0.3									1.6	
Delay (s)		8.1									34.7	
Level of Service		A									C	
Approach Delay (s)		8.1			0.0			0.0			34.7	
Approach LOS		A			A			A			C	
Intersection Summary												
HCM Average Control Delay			19.6			HCM Level of Service				B		
HCM Volume to Capacity ratio			0.46									
Actuated Cycle Length (s)			100.0			Sum of lost time (s)				8.0		
Intersection Capacity Utilization			44.8%			ICU Level of Service				A		
Analysis Period (min)			15									
c Critical Lane Group												

											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBR	SEL	SER	
Lane Configurations									 		
Volume (vph)	0	615	40	0	0	0	0	0	1023	148	
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	
Total Lost time (s)		4.0							4.0	4.0	
Lane Util. Factor		0.95							0.97	1.00	
Frpb, ped/bikes		0.98							1.00	1.00	
Flpb, ped/bikes		1.00							1.00	1.00	
Frt		0.99							1.00	0.85	
Flt Protected		1.00							0.95	1.00	
Satd. Flow (prot)		3440							3433	1583	
Flt Permitted		1.00							0.95	1.00	
Satd. Flow (perm)		3440							3433	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	
Adj. Flow (vph)	0	668	43	0	0	0	0	0	1112	161	
RTOR Reduction (vph)	0	5	0	0	0	0	0	0	40	0	
Lane Group Flow (vph)	0	706	0	0	0	0	0	0	1072	161	
Confl. Peds. (#/hr)			188								
Turn Type										custom	
Protected Phases		4								6	
Permitted Phases									6		
Actuated Green, G (s)		26.0							66.0	66.0	
Effective Green, g (s)		26.0							66.0	66.0	
Actuated g/C Ratio		0.26							0.66	0.66	
Clearance Time (s)		4.0							4.0	4.0	
Vehicle Extension (s)		3.0							3.0	3.0	
Lane Grp Cap (vph)		894							2266	1045	
v/s Ratio Prot		c0.21								0.10	
v/s Ratio Perm									c0.31		
v/c Ratio		0.79							0.47	0.15	
Uniform Delay, d1		34.5							8.4	6.4	
Progression Factor		0.82							1.81	1.53	
Incremental Delay, d2		4.6							0.7	0.3	
Delay (s)		32.9							15.9	10.2	
Level of Service		C							B	B	
Approach Delay (s)		32.9			0.0		0.0		15.1		
Approach LOS		C			A		A		B		
Intersection Summary											
HCM Average Control Delay			21.5		HCM Level of Service				C		
HCM Volume to Capacity ratio			0.56								
Actuated Cycle Length (s)			100.0		Sum of lost time (s)				8.0		
Intersection Capacity Utilization			54.6%		ICU Level of Service				A		
Analysis Period (min)			15								
c Critical Lane Group											