O. R. GEORGE & ASSOCIATES, INC.

Traffic Engineers – Transportation Planners

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TECHNICAL MEMORANDUM

DATE: September 22, 2001

TO: His Excellency Aivis Rovis, Ambassador
Embassy of Latvia, Washington, D. C.

FROM: Osborne George

RE: Foreign Missions Board of Zoning Adjustment Application No. 16739: Proposed Republic of Latvia Chancery Site, Sheridan Circle, Northwest, Washington, D. C.

INTRODUCTION

Please refer to our memorandum dated August 15, 2001, dealing with the referenced matter. At page 1 of that memorandum, and elsewhere in the document, we noted that the schedule for submission of the supporting documents in this case necessitated that our analyses had to be performed based upon traffic data collected during August, 2001. The memorandum further proffered that the analyses would be updated based upon data that would have been collected as soon as practical after the Labor Day holiday. The earliest feasible day was September, 11, 2001. Our staff was in the field the morning of 11th September, when events necessitated that the effort be abandoned, and the prevailing circumstances over the past two weeks have made data collection during this period even more questionable.

The transportation engineering profession accepts that volumes are seasonal. Generally, traffic volumes during the Summer months are somewhat lower (by 10 – 15 %) than for other months of the year, particularly within areas strongly affected by the closure of schools and vacation schedules. This issue has been discussed with the staff of the District of Columbia Department of Transportation (Office of Policy and Planning) in other cases. The City has noted that the typical drop in volume (due to the factors noted) is offset to a considerable degree by increased visitor traffic. Based upon this consideration, it is our opinion that, except in circumstances and at locations where capacity and operational conditions are identified as major considerations, use of traffic volumes collected during the Summer months offers reasonable factors of safety. The data presented in the earlier memorandum was increased by a factor of 1.20 (i.e., a twenty percent increase) and the analysis was updated as presented below.

ANALYSIS UPDATE

Attachment 1 presents the morning and afternoon peak hour volumes factored as noted above. The peak hour volumes were analyzed using the SIDRA software as was done in the earlier memorandum. The results are summarized in the table following, and the capacity analysis worksheets are presented in Attachment 2.

BZA
Case No. 16739
Exhibit No. 42
Board of Zoning Adjustment
District of Columbia
CASE NO.16739
EXHIBIT NO.42

TABLE 2

SUMMARY OF INTERSECTION CAPACITY ANALYSIS RESULTS FOR SHERIDAN CIRCLE – CHANCERY OF LATVIA FMBZA APPLICATION

	AM PEAK HOUR		PM PEAK HOUR	
Roundabout Access Point	**Level of Service**	***Average Delay*** **(Sec/Vehicle)**	**Level of Service**	**Average Delay (Sec/Vehicle)**
• Massachusetts Ave. (East End) @ Sheridan Circle, NW	A	5.9 (5.1)	A	5.0 (4.6)
• Massachusetts Ave. (West End) @ Sheridan Circle, NW	B	14.1 (10.6)	A	7.9 (6.9)
• 23rd St @ Sheridan Circle, NW	A	4.3 (4.1)	A	3.7 (3.7)

Legend: 0.00 = Results based on adjusted data.
(0.00) = Results based upon August 2001 survey data.

Source: O. R. George & Associates.

The above table shows that the change in volumes should not result in an appreciable change in the capacity and operational efficiency of the traffic circle in the vicinity of the proposed Latvian Embassy. In addition, parking surveys conducted during the week of September 17, 2001 showed a modest increase over the levels of usage shown during the August, 2001 period. In view of the proposal to provide off-street parking, this is not considered to be of any consequence to the Applicant's request. Based upon the above, we have found that the updated analysis does not present any basis amendment of the conclusions reached in the memorandum dated August 15, 2001.

We trust that the above satisfies your requirements. Please let us know if we can be of further assistance in this matter. Thank you!

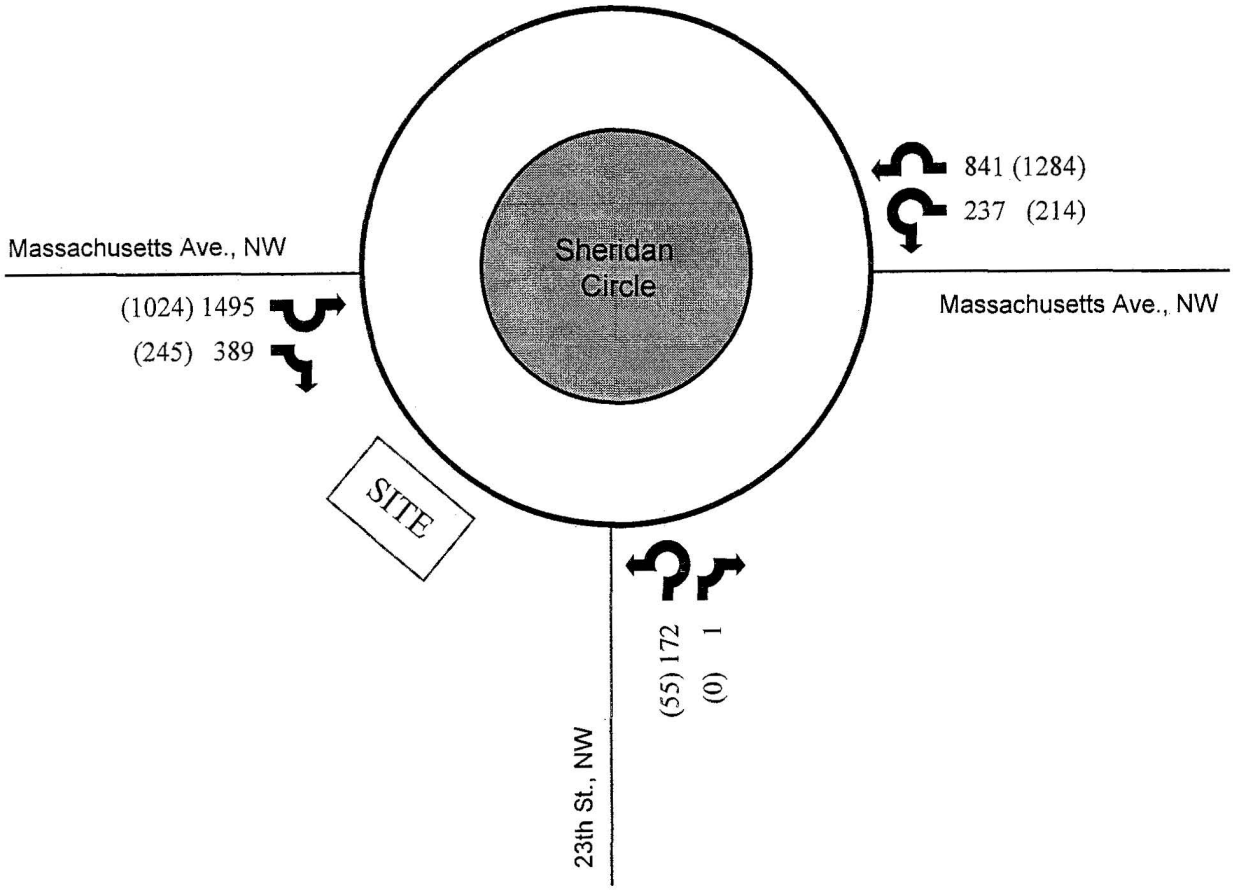
ORG/pp

Attachments: As Noted

ATTACHMENT

1

ADJUSTED TURNING MOVEMENT VOLUMES
CHANCERY OF LATVIA FMBZA APPLICATION



XXX - AM Peak Hour Volumes
(XXX) - PM Peak Hour Volumes

N

NOT TO SCALE

O. R. GEORGE &ASSOCIATES, INC.
Traffic Engineers - Transportation Planners

ATTACHMENT 1:
Adjusted Turning Movement Volumes
Chancery of Latvia - FMBZA Application

ATTACHMENT

2

ADJUSTED CAPACITY ANALYSIS WORKSHEETS
CHANCERY OF LATVIA FMBZA APPLICATION

Akcelik & Associates Pty Ltd - aaSIDRA 1.0.7

O. R. GEORGE & ASSOCIATES, INC.
10210 Greenbelt Road, Suite 310
Greenbelt, Maryland 20706

Licence Type: Professional, Multi Computer
Time and Date of Analysis 1:26 PM, Sep 24,2001

Filename: G:\ENGINEER\SteveCh\ORG-Sheridan Circle\AMSheridan.OUT

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1

SIDRA US Highway Capacity Manual (1997) Version

RUN INFORMATION

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* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
aaSIDRA US Highway Capacity Manual (1997) Version
Input data specified in US units
Default Values File No. 11
Peak flow period (for performance): 30 minutes
Unit time (for volumes): 60 minutes (Total Flow Period)
Delay definition: Control delay
Geometric delay included
aaSIDRA Standard Delay and Queue models used
Level of Service based on: Delay (HCM)
Queue definition: Back of queue, 95th_Percentile

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Turn	Lane No.	Lane Type	Circ/ Exit Flow (pcu/h)	Intra- Bunch Headway (s)	Prop. Bunched Vehicles	Critical Gap (s)	Follow Up Headway (s)
West: EB Mass. Ave.							
Thru	1	Subdominant	263	2.00	0.462#	3.89	2.24
	2	Dominant	263	2.00	0.462#	3.20	1.84
Right	2	Dominant	263	2.00	0.462#	3.20	1.84
South: NB 23rd St.							
Left	1	Dominant	1661	1.28	0.875#	2.25	2.04

Right	1	Dominant	1661	1.28	0.875#	2.25	2.04
East: WB Mass. Ave.							
Left	1	Dominant	191	2.00	0.256#	2.84	1.83
Thru	1	Dominant	191	2.00	0.256#	2.84	1.83
	2	Subdominant	191	2.00	0.256#	3.49	2.25

"Extra" bunching (i.e. a percentage increase or decrease in the amount of bunching in the flow entering the roundabout) specified by the user has affected bunching in the circulating flow in front of this approach.

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table R.5 - ROUNDABOUT CAPACITY & LEVEL OF SERVICE - aaSIDRA & HCM MODELS

Mov No.	Arv Flow (veh /h)	aaSIDRA Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS	HCM 1997 Lower Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS	HCM 1997 Upper Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS
West: EB Mass. Ave.													
11	T 1661	2314	0.718	5.9	A	----	NA	----		----	NA	----	
13	R 432	602	0.718	6.0	A	----	NA	----		----	NA	----	
		2916	0.718	5.9	A	----	NA	----		----	NA	----	
South: NB 23rd St.													
32	LR 193	549	0.352	14.1	B	----	NA	----		----	NA	----	
		549	0.352	14.1	B	----	NA	----		----	NA	----	
East: WB Mass. Ave.													
22	L 263	659	0.399	4.4	A	----	NA	----		----	NA	----	
21	T 934	2340	0.399	4.2	A	----	NA	----		----	NA	----	
		2999	0.399	4.3	A	----	NA	----		----	NA	----	
ALL VEHICLES:		6464	0.718	5.8	A	----	NA	----		----	NA	----	

NA Values for this roundabout capacity model have not been calculated because the model was not applicable for the given roundabout conditions. Note that the HCM models are only applicable to single-lane roundabouts with circulating flows less than 1200 veh/h. Also note that results are not calculated for any of the models for slip lane or continuous movements. See aaSIDRA Output Guide Appendix Section A3.8 for roundabout limits.

Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	= A
Worst movement Level of Service	= B
Average intersection delay (s)	= 5.8
Largest average movement delay (s)	= 14.1
Largest back of queue, 95% (ft)	= 255
Performance Index	= 47.21
Degree of saturation (highest)	= 0.718
Practical Spare Capacity (lowest)	= 18 %
Total vehicle capacity, all lanes (veh/h)	= 6464
Total vehicle flow (veh/h)	= 3483
Total person flow (pers/h)	= 5225
Total vehicle delay (veh-h/h)	= 5.61
Total person delay (pers-h/h)	= 8.41
Total effective vehicle stops (veh/h)	= 1639
Total effective person stops (pers/h)	= 2458
Total vehicle travel (veh-mi/h)	= 596.6
Total cost ($/h)	= 555.29
Total fuel (ga/h)	= 25.3
Total CO2 (kg/h)	= 239.20

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Total Delay (veh-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Perf. Index	Aver. Speed (mph)
INTERSECTION:						
3483	5.61	5.8	0.405	0.47	47.21	19.7

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table S.7 - LANE PERFORMANCE

		Arv Flow	Cap	Deg. Satn	Queue Aver. Delay	Eff. Stop	95% Back	Short Lane
Lane	Mov	(veh	(veh					

No.	No.	/h)	/h)	x	(sec)	Rate	(vehs)	(ft)	(ft)
West: EB Mass. Ave.									
1 T	11	933	1300	0.718	5.8	0.49	9.0	231	
2 TR	11, 13	1160	1616	0.718	6.0	0.48	10.0	255	
South: NB 23rd St.									
1 LR	32	193	549	0.352	14.1	0.77	2.3	60	
East: WB Mass. Ave.									
1 LT	22, 21	666	1669	0.399	4.4	0.40	2.4	61	
2 T	21	531	1330	0.399	4.1	0.39	2.3	58	

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	95% Back of Queue (veh)	Perf. Index
West: EB Mass. Ave.									
11	T	1661	2314	100	0.718*	5.9	0.47	10.0	24.70
13	R	432	602	100	0.718*	6.0	0.54	10.0	6.02
South: NB 23rd St.									
32	LR	193	549	100	0.352	14.1	0.77	2.3	3.44
East: WB Mass. Ave.									
22	L	263	659	100	0.399	4.4	0.43	2.4	3.16
21	T	934	2340	100	0.399	4.2	0.39	2.4	9.89

* Maximum degree of saturation

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Arrival Flow (veh/h) L	T	R	Tot	%HV	Adj. Satf.	Eff Grn 1st	2nd	Deg x	Aver. Delay (secs)	95% Queue (ft)	Shrt Lane (ft)
Basic Sat												

West: EB Mass. Ave.									
1 T		933		933	3		0.718	5.8	231
2 TR		728	432	1160	3		0.718	6.0	255
	0	1661	432	2093	3		0.718	5.9	255
South: NB 23rd St.									
1 LR	191		2	193	4		0.352	14.1	60
	191	0	2	193	4		0.352	14.1	60
East: WB Mass. Ave.									
1 LT	263	403		666	3		0.399	4.4	61
2 T		531		531	3		0.399	4.1	58
	263	934	0	1197	3		0.399	4.3	61

ALL VEHICLES	Tot Arv.	% HV	X	Max Delay	Aver. Queue	Max
	3483	3	0.718	5.8		255

Total flow period = 60 minutes. Peak flow period = 30 minutes.

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Values printed in this table are back of queue (vehicles).

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM STYLE)

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS
West: EB Mass. Ave.						
11	T	1661	2314	0.718*	5.9	A
13	R	432	602	0.718*	6.0	A
		2093	2916	0.718	5.9	A
South: NB 23rd St.						
32	LR	193	549	0.352	14.1	B
		193	549	0.352	14.1	B
East: WB Mass. Ave.						
22	L	263	659	0.399	4.4	A

21 T	934	2340	0.399	4.2	A
	1197	2999	0.399	4.3	A
ALL VEHICLES:	3483	6464	0.718	5.8	A
INTERSECTION:	3483	6464	0.718	5.8	A

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.
* Maximum v/c ratio, or critical green periods

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * AMSHERID
Roundabout Evaluation - Existing (2001) AM Peak Hour
Intersection ID: 1
Roundabout

Table D.4 - MOVEMENT SPEEDS (mph)

Mov No.	App. Speeds Cruise	App. Speeds Negn	Exit Speeds Negn	Exit Speeds Cruise	Queue Move-up 1st Grn	Queue Move-up 2nd Grn	Av. Section Spd Running	Av. Section Spd Overall
West: EB Mass. Ave.								
11	25.0	20.0	20.0	25.0			20.1	20.1
13	25.0	14.0	14.0	25.0			18.9	18.9
South: NB 23rd St.								
32	25.0	20.0	20.0	25.0			16.9	14.9
East: WB Mass. Ave.								
22	25.0	20.0	20.0	25.0			20.3	20.3
21	25.0	20.0	20.0	25.0			20.3	20.3

"Running Speed" is the average speed excluding stopped periods.

--- End of aaSIDRA Output ---

Akcelik & Associates Pty Ltd - aaSIDRA 1.0.7

O. R. GEORGE & ASSOCIATES, INC.
10210 Greenbelt Road, Suite 310
Greenbelt, Maryland 20706

Licence Type: Professional, Multi Computer
Time and Date of Analysis 1:39 PM, Sep 24,2001

Filename: G:\ENGINEER\SteveCh\ORG-Sheridan Circle\PMSheridan.OUT

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1

SIDRA US Highway Capacity Manual (1997) Version

RUN INFORMATION

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* Basic Parameters:
Intersection Type: Roundabout
Driving on the right-hand side of the road
aaSIDRA US Highway Capacity Manual (1997) Version
Input data specified in US units
Default Values File No. 11
Peak flow period (for performance): 30 minutes
Unit time (for volumes): 60 minutes (Total Flow Period)
Delay definition: Control delay
Geometric delay included
aaSIDRA Standard Delay and Queue models used
Level of Service based on: Delay (HCM)
Queue definition: Back of queue, 95th_Percentile

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Turn	Lane No.	Lane Type	Circ/ Exit Flow (pcu/h)	Intra- Bunch Headway (s)	Prop. Bunched Vehicles	Critical Gap (s)	Follow Up Headway (s)
West: EB Mass. Ave.							
Thru	1	Subdominant	238	2.00	0.457#	3.96	2.27
	2	Dominant	238	2.00	0.457#	3.21	1.84
Right	2	Dominant	238	2.00	0.457#	3.21	1.84
South: NB 23rd St.							
Left	1	Dominant	1138	1.26	0.761#	2.47	2.25

Right	1	Dominant	1138	1.26	0.761#	2.47	2.25

East: WB Mass. Ave.

Left	1	Dominant	61	2.00	0.130#	2.88	1.81
Thru	1	Dominant	61	2.00	0.130#	2.88	1.81
	2	Subdominant	61	2.00	0.130#	3.53	2.22

"Extra" bunching (i.e. a percentage increase or decrease in the amount of bunching in the flow entering the roundabout) specified by the user has affected bunching in the circulating flow in front of this approach.

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table R.5 - ROUNDABOUT CAPACITY & LEVEL OF SERVICE - aaSIDRA & HCM MODELS

Mov No.	Arv Flow (veh /h)	aaSIDRA Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS	HCM 1997 Lower Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS	HCM 1997 Upper Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS
West: EB Mass. Ave.													
11	T 1138	2405	0.473	5.0	A	----	NA	----		----	NA	----	
13	R 272	575	0.473	5.1	A	----	NA	----		----	NA	----	
		2980	0.473	5.0	A	----	NA	----		----	NA	----	
South: NB 23rd St.													
32	LR 63	829	0.076	7.9	A	----	NA	----		----	NA	----	
		829	0.076	7.9	A	----	NA	----		----	NA	----	
East: WB Mass. Ave.													
22	L 238	485	0.491	3.8	A	----	NA	----		----	NA	----	
21	T 1427	2907	0.491	3.7	A	----	NA	----		----	NA	----	
		3392	0.491	3.7	A	----	NA	----		----	NA	----	
ALL VEHICLES:		7201	0.491	4.4	A	----	NA	----		----	NA	----	

NA Values for this roundabout capacity model have not been calculated because the model was not applicable for the given roundabout conditions. Note that the HCM models are only applicable to single-lane roundabouts with circulating flows less than 1200 veh/h. Also note that results are not calculated for any of the models for slip lane or continuous movements. See aaSIDRA Output Guide Appendix Section A3.8 for roundabout limits.

Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	= A
Worst movement Level of Service	= A
Average intersection delay (s)	= 4.4
Largest average movement delay (s)	= 7.9
Largest back of queue, 95% (ft)	= 120
Performance Index	= 36.72
Degree of saturation (highest)	= 0.491
Practical Spare Capacity (lowest)	= 73 %
Total vehicle capacity, all lanes (veh/h)	= 7201
Total vehicle flow (veh/h)	= 3138
Total person flow (pers/h)	= 4707
Total vehicle delay (veh-h/h)	= 3.83
Total person delay (pers-h/h)	= 5.75
Total effective vehicle stops (veh/h)	= 1211
Total effective person stops (pers/h)	= 1817
Total vehicle travel (veh-mi/h)	= 523.5
Total cost ($/h)	= 481.97
Total fuel (ga/h)	= 21.9
Total CO2 (kg/h)	= 206.65

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Total Delay (veh-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Perf. Index	Aver. Speed (mph)
INTERSECTION:						
3138	3.83	4.4	0.234	0.39	36.72	20.6

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table S.7 - LANE PERFORMANCE

Lane	Arv Flow Mov (veh	Cap (veh	Deg. Satn	Queue Aver. Delay	Eff. Stop	95% Back ----------	Short Lane

No.	No.	/h)	/h)	x	(sec)	Rate	(vehs)	(ft)	(ft)
West: EB Mass. Ave.									
1 T	11	623	1318	0.473	4.9	0.42	4.3	110	
2 TR	11, 13	787	1663	0.473	5.1	0.44	4.7	120	
South: NB 23rd St.									
1 LR	32	63	829	0.076	7.9	0.58	0.4	10	
East: WB Mass. Ave.									
1 LT	22, 21	920	1873	0.491	3.8	0.34	3.4	88	
2 T	21	745	1518	0.491	3.6	0.33	3.3	85	

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	95% Back of Queue (veh)	Perf. Index
West: EB Mass. Ave.									
11	T	1138	2405	100	0.473	5.0	0.41	4.7	15.14
13	R	272	575	100	0.473	5.1	0.51	4.7	3.41
South: NB 23rd St.									
32	LR	63	829	100	0.076	7.9	0.58	0.4	0.83
East: WB Mass. Ave.									
22	L	238	485	100	0.491*	3.8	0.39	3.4	2.78
21	T	1427	2907	100	0.491*	3.7	0.33	3.4	14.56

* Maximum degree of saturation

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table S.14 - SUMMARY OF INPUT AND OUTPUT DATA

Lane No.	Arrival Flow (veh/h) L	T	R	Tot	%HV	Adj. Basic Satf.	Eff Grn (secs) 1st	2nd	Deg Sat x	Aver. Delay (sec)	95% Queue (ft)	Shrt Lane (ft)

West: EB Mass. Ave.									
1 T		623		623	3		0.473	4.9	110
2 TR		515	272	787	3		0.473	5.1	120
	0	1138	272	1410	3		0.473	5.0	120
South: NB 23rd St.									
1 LR	61		2	63	5		0.076	7.9	10
	61	0	2	63	5		0.076	7.9	10
East: WB Mass. Ave.									
1 LT	238	682		920	3		0.491	3.8	88
2 T		745		745	3		0.491	3.6	85
	238	1427	0	1665	3		0.491	3.7	88

ALL VEHICLES	Tot Arv.	% HV	X	Max Aver. Delay	Max Queue
	3138	3	0.491	4.4	120

Total flow period = 60 minutes. Peak flow period = 30 minutes.

Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.

Values printed in this table are back of queue (vehicles).

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM STYLE)

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Aver. Delay (sec)	LOS
West: EB Mass. Ave.						
11	T	1138	2405	0.473	5.0	A
13	R	272	575	0.473	5.1	A
		1410	2980	0.473	5.0	A
South: NB 23rd St.						
32	LR	63	829	0.076	7.9	A
		63	829	0.076	7.9	A
East: WB Mass. Ave.						
22	L	238	485	0.491*	3.8	A

21 T	1427	2907	0.491*	3.7	A
	1665	3392	0.491	3.7	A
ALL VEHICLES:	3138	7201	0.491	4.4	A
INTERSECTION:	3138	7201	0.491	4.4	A

Level of Service calculations are based on
average control delay including geometric delay (HCM criteria),
independent of the current delay definition used.
For the criteria, refer to the "Level of Service" topic in the
aaSIDRA Output Guide or the Output section of the on-line help.

* Maximum v/c ratio, or critical green periods

Sheridan Circle - Mass. Ave. @ 23rd St., NW Wash., D.C. * PMSHERID
Roundabout Evaluation - Existing (2001) PM Peak Hour
Intersection ID: 1
Roundabout

Table D.4 - MOVEMENT SPEEDS (mph)

Mov No.	App. Speeds Cruise	App. Speeds Negn	Exit Speeds Negn	Exit Speeds Cruise	Queue Move-up 1st Grn	Queue Move-up 2nd Grn	Av. Section Spd Running	Av. Section Spd Overall
West: EB Mass. Ave.								
11	25.0	20.0	20.0	25.0			20.6	20.6
13	25.0	14.0	14.0	25.0			19.3	19.3
South: NB 23rd St.								
32	25.0	19.9	19.9	25.0			18.0	17.9
East: WB Mass. Ave.								
22	25.0	20.0	20.0	25.0			20.8	20.8
21	25.0	20.0	20.0	25.0			20.9	20.9

"Running Speed" is the average speed excluding stopped periods.

--- End of aaSIDRA Output ---