

Table 4-1

Atlantic North

Peak Hour Intersection Levels of Service ¹ (Addendum)

Intersection	Type of Control	2005 Existing Conditions		2007 Background Conditions		2007 Total Future Conditions	
		AM	PM	PM	PM	PM	PM
Florida Avenue/Sherman Avenue/ University Dorns/Bryant Street Extension	Roundabout						
Southeastbound		C[22.4]	B[10.9]	C[32.5]	B[10.9]	E[72.3]	B[11.3]
Northwestbound		A[6.2]	A[6.4]	A[6.2]	A[6.5]	A[6.3]	A[6.6]
Southwestbound		B[11.3]	B[12.8]	B[11.4]	B[12.9]	B[11.4]	B[12.9]
Westbound		A[8.0]	B[12.1]	A[9.8]	B[11.4]	A[9.2]	B[10.7]
Southbound		B[16.7]	B[12.2]	B[17.2]	B[12.6]	C[20.9]	B[12.6]
Overall		B[15.4]	A[8.7]	B[16.0]	A[8.8]	C[24.2]	A[9.0]

Notes: ¹ Analysis performed using aaSidra 2.1.3.356

Table 4-1

Atlantic South

Peak Hour Intersection Levels of Service ¹ (Addendum)

Intersection	Type of Control	2005 Existing Conditions		2007 Background Conditions		2007 Total Future Conditions	
		AM	PM	PM	PM	PM	PM
Florida Avenue/Sherman Avenue/ University Dorns/Bryant Street Extension	Roundabout						
Southeastbound		C[22.4]	B[10.9]	C[32.7]	B[10.9]	E[72.3]	B[11.3]
Northwestbound		A[6.2]	A[6.4]	A[6.2]	A[6.5]	A[6.3]	A[6.6]
Southwestbound		B[11.3]	B[12.8]	B[11.4]	B[12.9]	B[11.4]	B[12.9]
Westbound		A[8.0]	B[12.1]	B[10.7]	B[11.4]	A[9.2]	B[10.7]
Southbound		B[16.7]	B[12.2]	B[17.1]	B[12.6]	C[20.9]	B[12.6]
Overall		B[15.4]	A[8.7]	B[16.0]	A[8.8]	C[24.2]	A[9.0]

Notes: ¹ Analysis performed using aaSidra 2.1.3.356

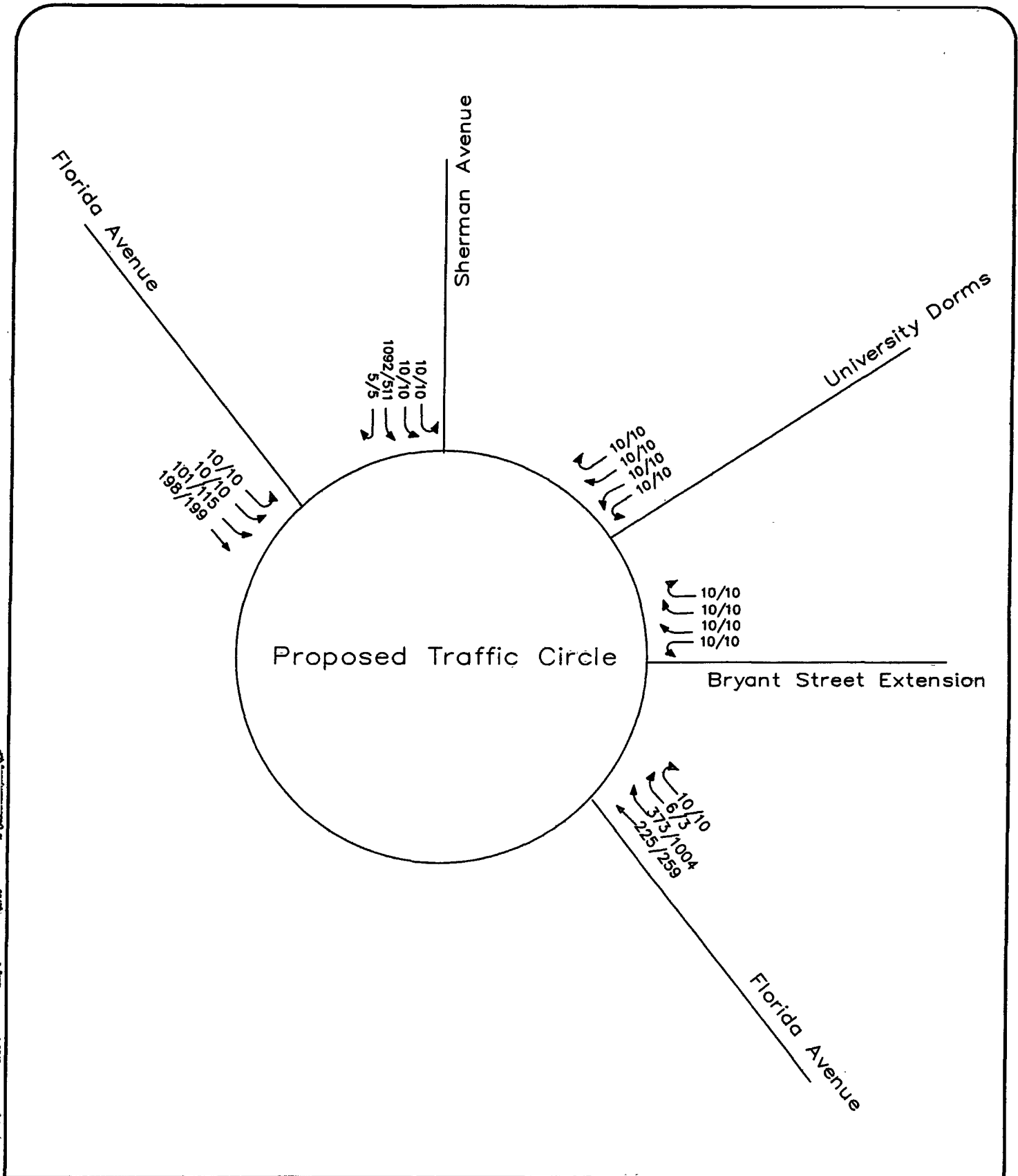


Figure E-2
Background Traffic Circle Peak Hour Volumes
(Atlantic North - Addendum)



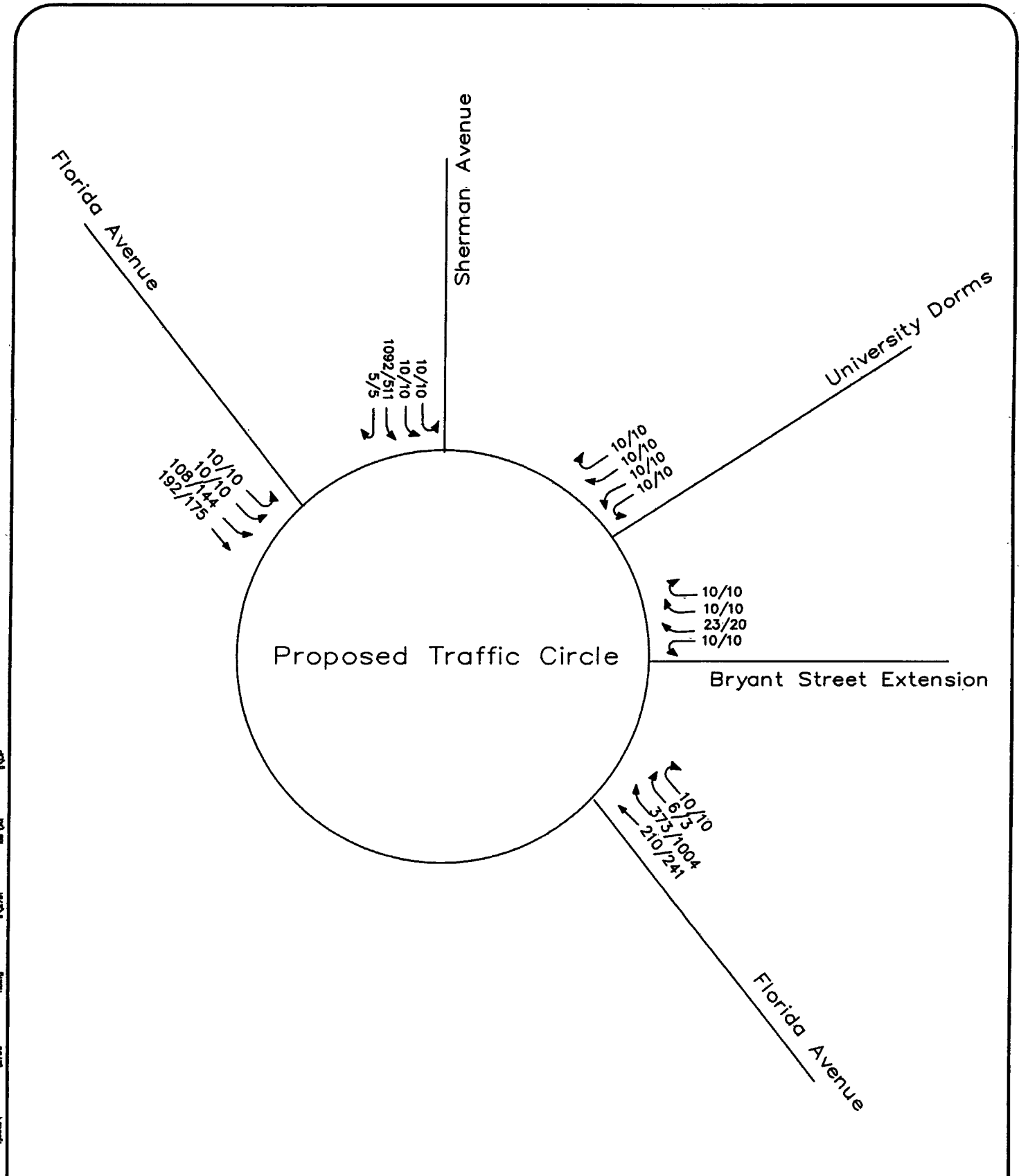


Figure E-2
Background Traffic Circle Peak Hour Volumes
(Atlantic South – Addendum)



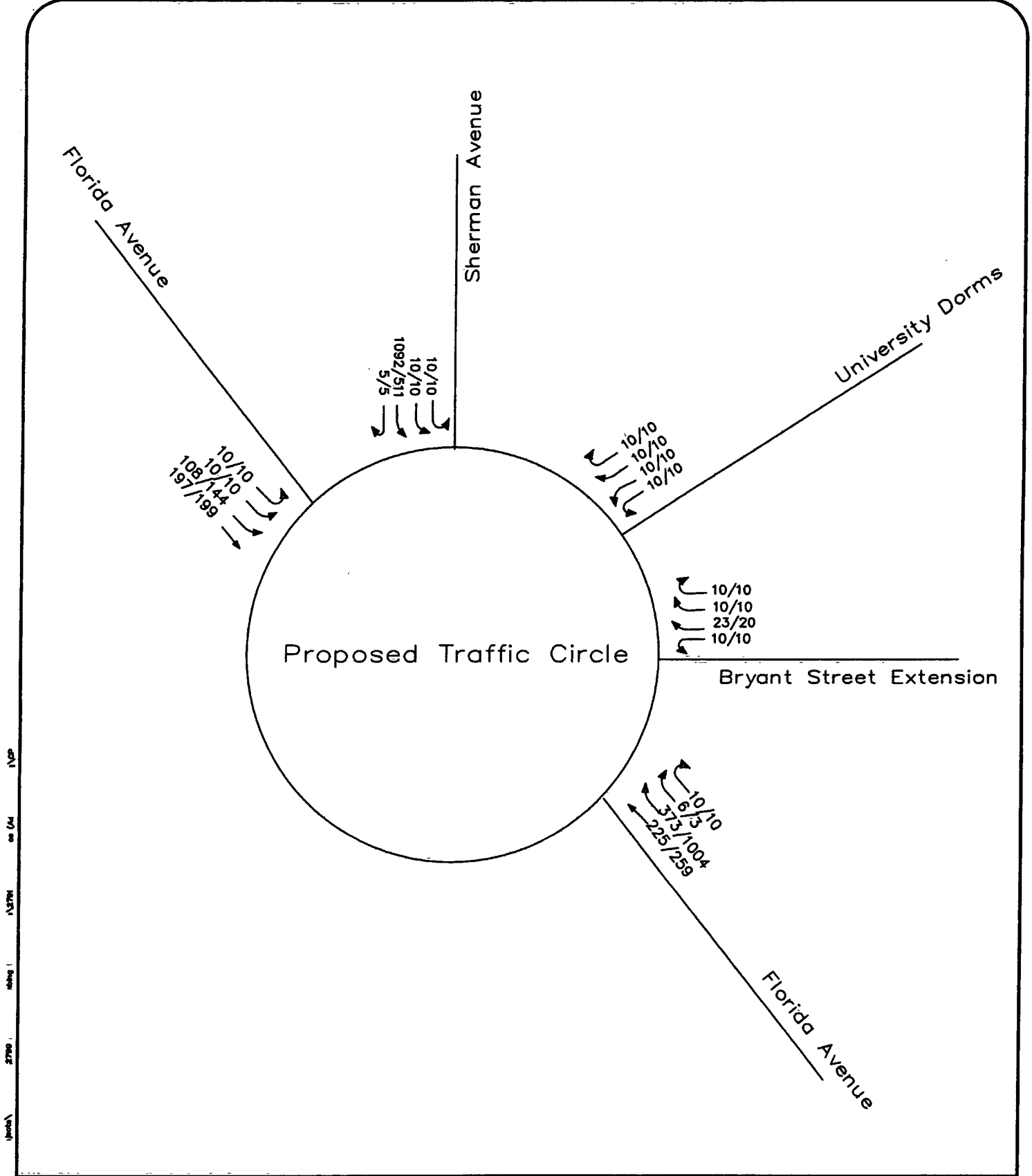


Figure E-3
Total Future Traffic Circle Peak Hour Volumes
(Atlantic North and Atlantic South - Addendum)



Wells & Associates, LLC

User ID: 38423

Licence Type: Multi Computer

Time and Date of Analysis 2:47 PM, Jan 25, 2006

Filename: C:\Documents and Settings\Catherine\Desktop\AaSidra Analysis (Addendum)\BgAM N.OUT

Title

Subtitle

Intersection ID:

Traffic SIDRA US Highway Capacity Manual (2000) Version

RUN INFORMATION

Basic Parameters:

Intersection Type: Roundabout

Driving on the right-hand side of the road

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 method)

Queue definition: Back of queue, 95th Percentile

Title

Subtitle

Intersection ID:

Roundabout

Table S.0 - TRAFFIC FLOW DATA

Mov No.	Left		Through		Right		Flow Scale	Peak Flow Factor
	LV	HV	LV	HV	LV	HV		
HICLES Demand flows in veh/hour as used by the program								
SouthEast: NB Florida Avenue								
72	0	0	617	13	17	1	1.00	0.95
West: Bryant Street Extension								
22	10	1	10	1	21	1	1.00	0.95
NorthEast: University Dorns								
62	21	1	0	0	21	1	1.00	0.95
North: Sherman Avenue								
42	21	1	972	20	10	1	1.00	0.95
NorthWest: SB Florida Avenue								
82	21	1	308	6	0	0	1.00	0.95

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

Title

Subtitle

Intersection ID:

Roundabout

Table R.0 - ROUNDABOUT BASIC PARAMETERS

Cent Diam (ft)	Circ Width (ft)	Insc Diam. (ft)	No.of Circ. Lanes	No.of Entry Lanes	Av.Ent Lane Width (ft)	Circulating/Exiting Stream					
						Flow (veh/ h)	%HV	Adjust. Flow (pcu/h)	%Exit Incl.	Cap. Constr. Effect	O-D Factor
SouthEast: NB Florida Avenue											
80	30	140	2	2	15.00	159	2.0	159	0	N	0.969
East: Bryant Street Extension											
80	30	140	2	1	15.00	667	2.0	667	0	N	0.952
NorthEast: University Dorns											
80	30	140	2	1	15.00	672	2.0	672	0	N	0.952
North: Sherman Avenue											
80	30	140	2	1	15.00	289	2.0	290	0	N	0.981
NorthWest: SB Florida Avenue											
80	30	140	2	1	15.00	1044	2.0	1044	0	N	0.658

Title
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Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Turn Lane	Lane No.	Lane Type	---- Circulating/Exiting Stream ----					Critical Gap		Follow-up Headway (s)
			Flow Rate (pcu/h)	Aver Speed (mph)	Aver Dist (ft)	In-Bnch Headway (s)	Prop Bunched	Hdwy (s)	Dist (ft)	
SouthEast: NB Florida Avenue										
Through	1	Subdominant	159	14.9	495.9	2.00	0.176	3.58	78.4	2.51
	2	Dominant	159	14.9	495.9	2.00	0.176	3.34	73.2	2.34
Right	2	Dominant	159	14.9	495.9	2.00	0.176	3.37	73.7	2.36
East: Bryant Street Extension										
Left	1	Dominant	667	22.1	175.0	1.08	0.354	3.43	111.3	2.69
Through	1	Dominant	667	22.1	175.0	1.08	0.354	3.43	111.3	2.69
Right	1	Dominant	667	22.1	175.0	1.08	0.354	3.30	107.1	2.58
NorthEast: University Dorns										
Left	1	Dominant	672	22.2	174.8	1.07	0.354	3.29	107.5	2.58
Right	1	Dominant	672	22.2	174.8	1.07	0.354	3.29	107.5	2.58
North: Sherman Avenue										
Left	1	Dominant	290	21.6	393.6	1.19	0.189	3.55	112.3	2.56
Through	1	Dominant	290	21.6	393.6	1.19	0.189	3.54	112.1	2.56
Right	1	Dominant	290	21.6	393.6	1.19	0.189	3.69	116.8	2.67
NorthWest: SB Florida Avenue										
Left	1	Dominant	1044	14.9	75.5	2.00	0.753	2.93	64.1	2.44
Through	1	Dominant	1044	14.9	75.5	2.00	0.753	2.92	64.0	2.44

Environment Factor: 1.00
 Entry/Circulating Flow Adjustment: Medium

Priority sharing is implied for some movements (Follow-up Headway plus
 Intra-bunch Headway is larger than the Critical Gap). The O-D Factor
 (Table R.0) allows for priority sharing and priority emphasis.

42 LTR 1025 1149 0.892 1411 22.8 1096 -4.6 999 -13.1

NorthWest: SB Florida Avenue

82 LT 336 421 0.798 743 76.5 696 65.3 524 24.5

Title

Subtitle

Intersection ID:

Roundabout

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand		Opposing Movement		Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
	Flow (veh/h)	HV (%)	Flow (veh/h)	HV (%)						
SouthEast: NB Florida Avenue										
72 TR	648	2.2	159	2.0	159	2597	0.85	241	100	0.250
West: Bryant Street Extension										
22 LTR	44	6.8	667	2.0	667	884	0.85	1608	100	0.050
NorthEast: University Dorns										
62 LR	44	4.5	672	2.0	672	907	0.85	1652	100	0.049
North: Sherman Avenue										
42 LTR	1025	2.1	289	2.0	290	1149	0.85	-5	100	0.892*
NorthWest: SB Florida Avenue										
82 LT	336	2.1	1044	2.0	1044	421	0.85	7	100	0.798

Title

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Intersection ID:

Roundabout

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	B
Worst movement Level of Service	=	C
Average intersection delay (s)	=	16.0
Largest average movement delay (s)	=	32.5
Largest back of queue, 95% (ft)	=	411
Performance Index	=	52.33
Degree of saturation (highest)	=	0.892
Practical Spare Capacity (lowest)	=	-5 %
Effective intersection capacity, (veh/h)	=	2351
Total vehicle flow (veh/h)	=	2097
Total person flow (pers/h)	=	3146
Total vehicle delay (veh-h/h)	=	9.30
Total person delay (pers-h/h)	=	13.95
Total effective vehicle stops (veh/h)	=	1800
Total effective person stops (pers/h)	=	2700
Total vehicle travel (veh-mi/h)	=	895.7
Total cost (\$/h)	=	828.48
Total fuel (gal/h)	=	35.5
Total CO2 (kg/h)	=	336.27

Title

Subtitle

Intersection ID:

Roundabout

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest 95% Back (vehs)	Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
72 TR	1.12	1.68	6.2	0.31	0.51	1.6	41	10.73	33.2
East: Bryant Street Extension									
22 LTR	0.12	0.18	9.8	0.44	0.68	0.2	6	0.82	31.3
NorthEast: University Dorns									
62 LR	0.14	0.21	11.4	0.44	0.72	0.2	5	0.85	30.5
North: Sherman Avenue									
42 LTR	4.89	7.33	17.2	0.88	0.96	16.2	411	27.14	27.8
NorthWest: SB Florida Avenue									
82 LT	3.03	4.55	32.5	1.00	1.27	11.2	284	12.79	21.7

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Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
648	0.250	1.12	1.68	6.2	0.31	0.51	41	10.73	33.2
East: Bryant Street Extension									
44	0.050	0.12	0.18	9.8	0.44	0.68	6	0.82	31.3
NorthEast: University Dorns									
44	0.049	0.14	0.21	11.4	0.44	0.72	5	0.85	30.5
North: Sherman Avenue									
1025	0.892	4.89	7.33	17.2	0.88	0.96	411	27.14	27.8
NorthWest: SB Florida Avenue									
336	0.798	3.03	4.55	32.5	1.00	1.27	284	12.79	21.7
TOTAL VEHICLES:									
097	0.892	9.30	13.95	16.0	0.71	0.86	411	52.33	28.0
INTERSECTION (persons):									
146	0.892		13.95	16.0	0.71	0.86		52.33	28.0

Queue values in this table are 95% back of queue (feet).

Title
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 Roundabout

Table S.7 - LANE PERFORMANCE

Dem

Queue

Lane No.	Mov No.	Flow (veh/h)	Cap (veh/h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	95% Back (vehs)	Back (ft)	Short Lane (ft)
SouthEast: NB Florida Avenue									
1 T	72	312	1250	0.249	6.2	0.51	1.6	40	
2 TR	72	336	1347	0.249	6.2	0.51	1.6	41	
East: Bryant Street Extension									
1 LTR	22	44	884	0.050	9.8	0.68	0.2	6	
NorthEast: University Dorms									
1 LR	62	44	907	0.048	11.4	0.72	0.2	5	
North: Sherman Avenue									
1 LTR	42	1025	1149	0.892	17.2	0.96	16.2	411	
NorthWest: SB Florida Avenue									
1 LT	82	336	421	0.799	32.5	1.27	11.2	284	

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Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h)				Min Cap (veh/h)	Tot Cap (veh/h)	Deg. Satn x	Lane Util %
		Lef	Thru	Rig	Tot	/h)	/h)		
SouthEast: NB Florida Avenue									
1 T	72	0	312	0	312	150	1250	0.249	100
2 TR	72	0	318	18	336	150	1347	0.249	100
East: Bryant Street Extension									
1 LTR	22	11	11	22	44	44	884	0.050	100
NorthEast: University Dorms									
1 LR	62	22	0	22	44	44	907	0.048	100
North: Sherman Avenue									
1 LTR	42	22	992	11	1025	150	1149	0.892	100
NorthWest: SB Florida Avenue									
1 LT	82	22	314	0	336	150	421	0.799	100

For roundabouts, the capacity value for continuous movements is obtained as the basic saturation flow without any adjustments. Saturation flow scale applies if specified.

Title
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 Roundabout

Table S.12A - FUEL CONSUMPTION, EMISSIONS AND COST - TOTAL

Mov No.	Fuel Total gal/h	Cost Total \$/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
---------	------------------	-----------------	---------------	---------------	----------------	----------------

SouthEast: NB Florida Avenue

72 TR	9.8	211.54	0.139	4.55	0.188	93.3
	9.8	211.54	0.139	4.55	0.188	93.3
West: Bryant Street Extension						
22 LTR	0.7	15.47	0.010	0.35	0.014	6.7
	0.7	15.47	0.010	0.35	0.014	6.7
NorthEast: University Dorms						
62 LR	0.7	16.07	0.011	0.36	0.014	6.9
	0.7	16.07	0.011	0.36	0.014	6.9
North: Sherman Avenue						
42 LTR	17.9	415.19	0.272	9.48	0.343	169.6
	17.9	415.19	0.272	9.48	0.343	169.6
NorthWest: SB Florida Avenue						
82 LT	6.3	170.22	0.099	3.13	0.115	59.8
	6.3	170.22	0.099	3.13	0.115	59.8
INTERSECTION:	35.5	828.48	0.531	17.87	0.674	336.3

Pump price of fuel (\$/US gal)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income (\$/h)	=	27.00
Time value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 lb)	=	1.4
Heavy vehicle mass (1000 lb)	=	11.0
Light vehicle idle fuel rate (US gal/h)	=	0.360
Heavy vehicle idle fuel rate (US gal/h)	=	0.530

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Intersection ID:
Roundabout

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Lane No.	Demand Flow (veh/h)				%HV	Adj.	Eff Grn		Deg	Aver.	Longest	Shrt
	L	T	R	Tot		Basic Satf.	1st	2nd	Sat x	Delay (sec)	Queue (ft)	Lane (ft)
SouthEast: NB Florida Avenue												
1 T		312		312	2				0.249	6.2	40	
TR		318	18	336	2				0.249	6.2	41	
	0	630	18	648	2				0.249	6.2	41	
West: Bryant Street Extension												
LTR	11	11	22	44	7				0.050	9.8	6	
	11	11	22	44	7				0.050	9.8	6	
NorthEast: University Dorms												

LR	22		22	44	5	0.048	11.4	5
	22	0	22	44	5	0.048	11.4	5
North: Sherman Avenue								
LTR	22	992	11	1025	2	0.892	17.2	411
	22	992	11	1025	2	0.892	17.2	411
NorthWest: SB Florida Avenue								
1 LT	22	314		336	2	0.799	32.5	284
	22	314	0	336	2	0.799	32.5	284
=====								
ALL VEHICLES				Total	%	Max	Aver.	Max
				Flow	HV	X	Delay	Queue
				2097	2	0.892	16.0	411
=====								

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

Queue values in this table are 95% back of queue (feet).

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

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov	Mov	Total	Total	Deg.	Aver.	LOS	Longest	Queue
o.	Typ	Flow	Cap.	of	Delay		95% Back	
		(veh	(veh	Satn	(sec)		(vehs)	(ft)
		/h)	/h)	(v/c)				
SouthEast: NB Florida Avenue								
72	TR	648	2597	0.250	6.2	A	1.6	41
		648		0.250	6.2	A	1.6	41
East: Bryant Street Extension								
22	LTR	44	884	0.050	9.8	A	0.2	6
		44		0.050	9.8	A	0.2	6
NorthEast: University Dorns								
62	LR	44	907	0.049	11.4	B	0.2	5
		44		0.049	11.4	B	0.2	5
North: Sherman Avenue								
42	LTR	1025	1149	0.892*	17.2	B	16.2	411
		1025		0.892	17.2	B	16.2	411
NorthWest: SB Florida Avenue								
82	LT	336	421	0.798	32.5	C	11.2	284
		336		0.798	32.5	C	11.2	284
=====								
LL VEHICLES:		2097		0.892	16.0	B	16.2	411
=====								

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

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 utable
 Intersection ID:
 Roundabout

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (ft)	Negn Speed (mph)	Negn Dist. (ft)	Appr. Dist. (ft)	Downstream Distance (ft)
SouthEast: NB Florida Avenue						
	East	62.7	16.0	32.8	1800	390
	NorthEast	87.1	18.2	54.5	1800	390
	North	153.9	22.5	98.5	1800	407
	NorthWest	153.9	22.5	131.4	1800	407
East: Bryant Street Extension						
	SouthEast	52.0	14.9	245.0	1800	573
	NorthEast	73.2	17.0	32.8	1800	394
	North	102.1	19.3	54.2	1800	394
	NorthWest	153.9	22.5	98.5	1800	407
NorthEast: University Dorns						
	SouthEast	52.0	14.9	204.2	1800	553
	East	52.0	14.9	245.0	1800	553
	North	73.2	17.0	32.8	1800	394
	NorthWest	102.1	19.3	54.2	1800	394
North: Sherman Avenue						
	SouthEast	52.0	14.9	163.4	1800	492
	East	52.0	14.9	204.2	1800	553
	NorthEast	52.0	14.9	245.0	1800	553
	NorthWest	73.2	17.0	32.8	1800	391
NorthWest: SB Florida Avenue						
	SouthEast	153.9	22.5	131.4	1800	442
	East	52.0	14.9	163.4	1800	442
	NorthEast	52.0	14.9	204.2	1800	553
	North	52.0	14.9	245.0	1800	553

Maximum Negotiation (Design) Speed = 50.0 mph
 Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

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 utable
 Intersection ID:
 Roundabout

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Delay (seconds/veh)								
			Stop-line Delay			Acc. Dec.	Queuing		Stopd (Idle)	Geom dig	Control dic
			1st d1	2nd d2	Total dSL	dn	Total dq	MvUp dqm	di		
SouthEast: NB Florida Avenue											
T	72	0.249	0.5	0.0	0.5	2.0	0.0	0.0	0.0	5.7	6.2

NorthWest: SB Florida Avenue

82	40.0	19.6	19.6	40.0	11.4	27.1	21.7
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"Running Speed" is the average speed excluding stopped periods.

--- End of aaSIDRA Output ---

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Title

Subtitle

Intersection ID:

Traffic SIDRA US Highway Capacity Manual (2000) Version

RUN INFORMATION

Basic Parameters:

Intersection Type: Roundabout

Driving on the right-hand side of the road

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 method)

Queue definition: Back of queue, 95th Percentile

Title

Subtitle

Intersection ID:

Roundabout

Table S.0 - TRAFFIC FLOW DATA

Mov No.	Left		Through		Right		Flow Scale	Peak Flow Factor	
	LV	HV	LV	HV	LV	HV			
VEHICLES Demand flows in veh/hour as used by the program									
SouthEast: NB Florida Avenue									
72	0	0	1303	27	13	1	1.00	0.95	
West: Bryant Street Extension									
22	10	1	10	1	21	1	1.00	0.95	
NorthEast: University Dorns									
62	21	1	0	0	21	1	1.00	0.95	
North: Sherman Avenue									
42	21	1	527	11	10	1	1.00	0.95	
NorthWest: SB Florida Avenue									
82	21	1	324	7	0	0	1.00	0.95	

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

Title

Subtitle

Intersection ID:

Roundabout

Table R.0 - ROUNDABOUT BASIC PARAMETERS

Cent Diam (ft)	Circ Width (ft)	Insc Diam. (ft)	No. of Circ. Lanes	No. of Entry Lanes	Av. Ent Lane Width (ft)	Circulating/Exiting Stream					
						Flow (veh/ h)	%HV	Adjust. Flow (pcu/h)	%Exit Incl.	Cap. Constr. Effect	O-D Factor
SouthEast: NB Florida Avenue											
80	30	140	2	2	15.00	174	2.0	174	0	N	0.977
East: Bryant Street Extension											
80	30	140	2	1	15.00	1364	2.0	1364	0	N	0.848
NorthEast: University Dorns											
80	30	140	2	1	15.00	1372	2.0	1372	0	N	0.848
North: Sherman Avenue											
80	30	140	2	1	15.00	325	2.0	325	0	N	0.972
NorthWest: SB Florida Avenue											
80	30	140	2	1	15.00	591	2.0	591	0	N	0.918

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Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Inn Lane No.	Lane Type	Circulating/Exiting Stream					Critical Gap		Foll-up Headway (s)
		Flow Rate (pcu/h)	Aver Speed (mph)	Aver Dist (ft)	In-Bnch Headway (s)	Prop Bunched	Hdwy (s)	Dist (ft)	
SouthEast: NB Florida Avenue									
Left	1 Subdominant	174	14.9	453.8	2.00	0.190	3.53	77.2	2.48
	2 Dominant	174	14.9	453.8	2.00	0.190	3.24	71.0	2.28
Right	2 Dominant	174	14.9	453.8	2.00	0.190	3.31	72.5	2.33
East: Bryant Street Extension									
Left	1 Dominant	1364	22.3	86.5	1.06	0.596	2.79	91.3	2.42
Through	1 Dominant	1364	22.3	86.5	1.06	0.596	2.79	91.3	2.42
Right	1 Dominant	1364	22.3	86.5	1.06	0.596	2.68	87.8	2.32
NorthEast: University Dorns									
Left	1 Dominant	1372	22.4	86.2	1.06	0.598	2.67	87.8	2.32
Right	1 Dominant	1372	22.4	86.2	1.06	0.598	2.67	87.8	2.32
North: Sherman Avenue									
Left	1 Dominant	325	21.7	352.0	1.19	0.209	3.64	115.9	2.65
Through	1 Dominant	325	21.7	352.0	1.19	0.209	3.64	115.7	2.65
Right	1 Dominant	325	21.7	352.0	1.19	0.209	3.79	120.4	2.76
NorthWest: SB Florida Avenue									
Left	1 Dominant	591	14.9	133.5	2.00	0.518	3.39	74.2	2.61
Through	1 Dominant	591	14.9	133.5	2.00	0.518	3.38	74.0	2.61

Environment Factor: 1.00
 Entry/Circulating Flow Adjustment: Medium

Priority sharing is implied for some movements (Follow-up Headway plus
 Intra-bunch Headway is larger than the Critical Gap). The O-D Factor
 (Table R.0) allows for priority sharing and priority emphasis.

Dist (Distance): Spacing, i.e. distance between the front ends of two successive vehicles across all lanes in the circulating or exiting stream

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

Mov No.	Dem Flow (veh /h)	aaSIDRA					HCM 2000 Lower					HCM 2000 Upper						
		Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS		Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS		Cap. (veh /h)	Deg. Satn x	Av. Delay (sec)	LOS			
SouthEast: NB Florida Avenue																		
72 TR	1344	2651	0.507	6.5	A	-	-	-	-	NA	-	-	-	-	NA	-	-	-
West: Bryant Street Extension																		
22 LTR	44	655	0.067	11.4	B	-	-	-	-	NA	-	-	-	-	NA	-	-	-
NorthEast: University Dorms																		
62 LR	44	673	0.065	12.9	B	-	-	-	-	NA	-	-	-	-	NA	-	-	-
North: Sherman Avenue																		
42 LTR	571	1071	0.533	12.6	B	-	-	-	-	NA	-	-	-	-	NA	-	-	-
NorthWest: SB Florida Avenue																		
82 LT	353	834	0.423	10.9	B	-	-	-	-	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 the aaSIDRA Traffic Model Reference Guide for roundabout limits.

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Table R.6 - ROUNDABOUT ALTERNATIVE CAPACITY MODELS

		aaSIDRA		NAASRA 1986		Ger. Linear		Ger. GapAcc	
Mov	Dem	Cap.	Deg.	Cap.	% Diff	Cap.	% Diff	Cap.	% Diff
O.	Flow	(veh	(veh	(veh	% Diff	(veh	% Diff	(veh	% Diff
	(veh	/h)	Satn	/h)	from	/h)	from	/h)	from
	/h)	/h)	x	/h)	aaSIDRA	/h)	aaSIDRA	/h)	aaSIDRA
uthEast: NB Florida Avenue									
72 TR	1344	2651	0.507	3112	17.4	1293	-51.2	2190	-17.4
East: Bryant Street Extension									
22 LTR	44	655	0.067	537	-18.0	542	-17.3	348	-46.9
NorthEast: University Dorms									
62 LR	44	673	0.065	558	-17.1	549	-18.4	359	-46.7
rth: Sherman Avenue									

42 LTR 571 1071 0.533 1369 27.8 1082 1.0 971 -9.3

NorthWest: SB Florida Avenue

82 LT 353 834 0.423 1095 31.3 937 12.4 778 -6.7

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Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
outhEast: NB Florida Avenue										
72 TR	1344	2.1	174	2.0	174	2651	0.85	68	100	0.507
West: Bryant Street Extension										
22 LTR	44	6.8	1364	2.0	1364	655	0.85	1165	100	0.067
NorthEast: University Dorns										
62 LR	44	4.5	1372	2.0	1372	673	0.85	1200	100	0.065
North: Sherman Avenue										
42 LTR	571	2.3	325	2.0	325	1071	0.85	59	100	0.533*
NorthWest: SB Florida Avenue										
82 LT	353	2.3	591	2.0	591	834	0.85	101	100	0.423

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Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	A
Worst movement Level of Service	=	B
Average intersection delay (s)	=	8.8
Largest average movement delay (s)	=	12.9
Largest back of queue, 95% (ft)	=	103
Performance Index	=	44.20
Degree of saturation (highest)	=	0.533
Practical Spare Capacity (lowest)	=	59 %
Effective intersection capacity, (veh/h)	=	4419
Total vehicle flow (veh/h)	=	2356
Total person flow (pers/h)	=	3534
Total vehicle delay (veh-h/h)	=	5.78
Total person delay (pers-h/h)	=	8.67
Total effective vehicle stops (veh/h)	=	1530
Total effective person stops (pers/h)	=	2294
Total vehicle travel (veh-mi/h)	=	996.8
Total cost (\$/h)	=	817.81
Total fuel (gal/h)	=	37.4
Total CO2 (kg/h)	=	354.30

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Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest 95% Back (vehs)	Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
72 TR	2.42	3.62	6.5	0.40	0.54	4.1	103	23.06	32.8
East: Bryant Street Extension									
22 LTR	0.14	0.21	11.4	0.62	0.81	0.3	9	0.90	30.7
NorthEast: University Dorns									
62 LR	0.16	0.24	12.9	0.62	0.84	0.3	8	0.94	29.9
North: Sherman Avenue									
42 LTR	2.00	2.99	12.6	0.51	0.78	3.7	95	11.85	29.8
NorthWest: SB Florida Avenue									
82 LT	1.07	1.61	10.9	0.67	0.82	3.1	80	7.45	30.8

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Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
1344	0.507	2.42	3.62	6.5	0.40	0.54	103	23.06	32.8
East: Bryant Street Extension									
44	0.067	0.14	0.21	11.4	0.62	0.81	9	0.90	30.7
NorthEast: University Dorns									
44	0.065	0.16	0.24	12.9	0.62	0.84	8	0.94	29.9
North: Sherman Avenue									
571	0.533	2.00	2.99	12.6	0.51	0.78	95	11.85	29.8
NorthWest: SB Florida Avenue									
353	0.423	1.07	1.61	10.9	0.67	0.82	80	7.45	30.8
TOTAL VEHICLES:									
1356	0.533	5.78	8.67	8.8	0.48	0.65	103	44.20	31.6
INTERSECTION (persons):									
534	0.533		8.67	8.8	0.48	0.65		44.20	31.6

Queue values in this table are 95% back of queue (feet).

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Table S.7 - LANE PERFORMANCE

Dem

Queue

LR	22		22	44	5	0.065	12.9	8
	22	0	22	44	5	0.065	12.9	8

North: Sherman Avenue								
LTR	22	538	11	571	2	0.533	12.6	95
	22	538	11	571	2	0.533	12.6	95

NorthWest: SB Florida Avenue								
1 LT	22	331		353	2	0.423	10.9	80
	22	331	0	353	2	0.423	10.9	80
=====								
ALL VEHICLES				Total	%	Max	Aver.	Max
				Flow	HV	X	Delay	Queue
				2356	2	0.533	8.8	103
=====								

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

ueue values in this table are 95% back of queue (feet).

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

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Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov	Mov	Total	Total	Deg.	Aver.	LOS	Longest Queue
Io.	Typ	Flow	Cap.	of	Delay		95% Back
		(veh	(veh	Satn	(sec)		(vehs) (ft)
		/h)	/h)	(v/c)			

outhEast: NB Florida Avenue							
72 TR		1344	2651	0.507	6.5	A	4.1 103
		1344		0.507	6.5	A	4.1 103

East: Bryant Street Extension							
22 LTR		44	655	0.067	11.4	B	0.3 9
		44		0.067	11.4	B	0.3 9

orthEast: University Dorns							
62 LR		44	673	0.065	12.9	B	0.3 8
		44		0.065	12.9	B	0.3 8

orth: Sherman Avenue							
42 LTR		571	1071	0.533*	12.6	B	3.7 95
		571		0.533	12.6	B	3.7 95

NorthWest: SB Florida Avenue							
82 LT		353	834	0.423	10.9	B	3.1 80
		353		0.423	10.9	B	3.1 80

ALL VEHICLES:		2356		0.533	8.8	A	4.1 103

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

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Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (ft)	Negn Speed (mph)	Negn Dist. (ft)	Appr. Dist. (ft)	Downstream Distance (ft)
SouthEast: NB Florida Avenue						
	East	62.7	16.0	32.8	1800	389
	NorthEast	87.1	18.2	54.5	1800	389
	North	153.9	22.5	98.5	1800	407
	NorthWest	153.9	22.5	131.4	1800	407
East: Bryant Street Extension						
	SouthEast	52.0	14.9	245.0	1800	573
	NorthEast	73.2	17.0	32.8	1800	394
	North	102.1	19.3	54.2	1800	394
	NorthWest	153.9	22.5	98.5	1800	407
NorthEast: University Dorns						
	SouthEast	52.0	14.9	204.2	1800	553
	East	52.0	14.9	245.0	1800	553
	North	73.2	17.0	32.8	1800	394
	NorthWest	102.1	19.3	54.2	1800	394
North: Sherman Avenue						
	SouthEast	52.0	14.9	163.4	1800	492
	East	52.0	14.9	204.2	1800	553
	NorthEast	52.0	14.9	245.0	1800	553
	NorthWest	73.2	17.0	32.8	1800	391
NorthWest: SB Florida Avenue						
	SouthEast	153.9	22.5	131.4	1800	445
	East	52.0	14.9	163.4	1800	445
	NorthEast	52.0	14.9	204.2	1800	553
	North	52.0	14.9	245.0	1800	553

Maximum Negotiation (Design) Speed = 50.0 mph
 Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

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Table D.1 - LANE DELAYS

		Delay (seconds/veh)									
Lane No.	Mov No.	Deg. Satn x	Stop-line Delay			Acc. Dec. dn	Queuing		Stopd (Idle) di	Geom dig	Control dic
		1st d1	2nd d2	Total dSL		Total dq	MvUp dqm				
SouthEast: NB Florida Avenue											
- T	72	0.507	0.8	0.0	0.8	2.6	0.0	0.0	0.0	5.7	6.5

2 TR	72	0.507	0.7	0.0	0.7	2.5	0.0	0.0	0.0	5.7	6.4

East: Bryant Street Extension											
1 LTR	22	0.067	3.1	0.0	3.1	3.4	0.1	0.0	0.1	8.2	11.4

NorthEast: University Dorms											
1 LR	62	0.065	3.1	0.0	3.1	3.1	0.1	0.0	0.1	9.9	12.9

North: Sherman Avenue											
1 LTR	42	0.533	1.5	0.2	1.6	2.4	0.0	0.0	0.0	11.0	12.6

NorthWest: SB Florida Avenue											
1 LT	82	0.423	3.1	0.2	3.3	3.8	0.0	0.0	0.0	7.7	10.9

dn is average stop-start delay for all vehicles queued and unqueued											

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Table D.2 - LANE STOPS

Lane No.	Deg. Satn	Effective Stop Rate				Prop. Queued	Queue Move-up
	x	he1	he2	Geom. hig	Overall h	pq	Rate hqm

SouthEast: NB Florida Avenue							
1 T	0.507	0.26	0.00	0.28	0.54	0.412	0.00
2 TR	0.507	0.25	0.00	0.29	0.53	0.399	0.00

East: Bryant Street Extension							
1 LTR	0.067	0.59	0.00	0.22	0.81	0.618	0.00

NorthEast: University Dorms							
1 LR	0.065	0.59	0.00	0.25	0.84	0.618	0.00

North: Sherman Avenue							
1 LTR	0.533	0.42	0.01	0.34	0.78	0.509	0.02

NorthWest: SB Florida Avenue							
1 LT	0.423	0.63	0.01	0.19	0.82	0.674	0.02

hig is the average value for all movements in a shared lane
 hqm is average queue move-up rate for all vehicles queued and unqueued

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Table D.3A - LANE QUEUES (veh)

Lane No.	Deg. Satn x	Ovrfl. Queue No	Average (veh)			Percentile (veh)					Queue Stor. Ratio
			Nb1	Nb2	Nb	70%	85%	90%	95%	98%	
SouthEast: NB Florida Avenue											
T	0.507	0.0	1.3	0.0	1.3	2.3	2.8	3.2	4.0	4.6	0.06
TR	0.507	0.0	1.3	0.0	1.3	2.4	2.9	3.3	4.1	4.7	0.06
East: Bryant Street Extension											
LTR	0.067	0.0	0.1	0.0	0.1	0.2	0.2	0.3	0.3	0.4	0.00

NorthEast: University Dorms											
LR	0.065	0.0	0.1	0.0	0.1	0.2	0.2	0.3	0.3	0.4	0.00
North: Sherman Avenue											
LTR	0.533	0.0	1.1	0.1	1.2	2.2	2.6	3.0	3.7	4.3	0.05
NorthWest: SB Florida Avenue											
LT	0.423	0.0	1.0	0.0	1.0	1.8	2.2	2.5	3.1	3.6	0.04

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

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ble D.3B - LANE QUEUES (feet)

Lane No.	Deg. Satn	Ovrfl. Queue No	Average (feet)			Percentile (feet)					Queue Stor. Ratio
	x		Nb1	Nb2	Nb	70%	85%	90%	95%	98%	
SouthEast: NB Florida Avenue											
T	0.507	0	33	0	33	59	72	82	101	118	0.06
TR	0.507	0	33	0	33	60	73	83	103	120	0.06
East: Bryant Street Extension											
LTR	0.067	0	3	0	3	5	6	7	9	10	0.00
NorthEast: University Dorms											
LR	0.065	0	3	0	3	5	6	7	8	9	0.00
North: Sherman Avenue											
LTR	0.533	1	29	1	30	55	67	76	95	110	0.05
NorthWest: SB Florida Avenue											
LT	0.423	1	25	1	26	47	57	64	80	93	0.04

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

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Table D.4 - MOVEMENT SPEEDS (mph)

Mov No.	App. Speeds		Exit Speeds		Queue Move-up		Av. Section Spd	
	Cruise	Negn	Negn	Cruise	1st Grn	2nd Grn	Running	Overall
SouthEast: NB Florida Avenue								
72	40.0	22.5	22.5	40.0			32.8	32.8
ast: Bryant Street Extension								
22	40.0	18.4	18.4	40.0			30.7	30.7
orthEast: University Dorms								
62	40.0	16.5	16.5	40.0			30.0	29.9
orth: Sherman Avenue								
42	40.0	15.0	15.0	40.0	15.3		29.8	29.8

NorthWest: SB Florida Avenue

82	40.0	19.5	19.5	40.0	13.0	30.8	30.8
----	------	------	------	------	------	------	------

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

--- End of aaSIDRA Output ---

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Title

Subtitle

Intersection ID:

Traffic SIDRA US Highway Capacity Manual (2000) Version

TRAFFIC INFORMATION

Basic Parameters:

Intersection Type: Roundabout

Driving on the right-hand side of the road

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 method)

Queue definition: Back of queue, 95th Percentile

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Table S.0 - TRAFFIC FLOW DATA

Mov No.	Left		Through		Right		Flow Scale	Peak Flow Factor	
	LV	HV	LV	HV	LV	HV			
VEHICLES Demand flows in veh/hour as used by the program									
SouthEast: NB Florida Avenue									
72	0	0	615	13	17	1	1.00	0.95	
West: Bryant Street Extension									
22	10	1	24	1	21	1	1.00	0.95	
NorthEast: University Dorns									
62	21	1	0	0	21	1	1.00	0.95	
North: Sherman Avenue									
42	21	1	1023	21	10	1	1.00	0.95	
NorthWest: SB Florida Avenue									
82	21	1	315	6	0	0	1.00	0.95	

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

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Table R.0 - ROUNDABOUT BASIC PARAMETERS

Cent Diam (ft)	Circ Width (ft)	Insc Diam. (ft)	No.of Circ. Lanes	No.of Entry Lanes	Av.Ent Lane Width (ft)	Circulating/Exiting Stream					
						Flow (veh/ h)	%HV	Adjust. Flow (pcu/h)	%Exit Incl.	Cap. Constr. Effect	O-D Factor
SouthEast: NB Florida Avenue											
80	30	140	2	2	15.00	166	2.0	166	0	N	0.968
East: Bryant Street Extension											
80	30	140	2	1	15.00	665	2.0	665	0	N	0.950
NorthEast: University Dorns											
80	30	140	2	1	15.00	683	2.0	683	0	N	0.950
North: Sherman Avenue											
80	30	140	2	1	15.00	301	2.0	301	0	N	0.981
NorthWest: SB Florida Avenue											
80	30	140	2	1	15.00	1097	2.0	1097	0	N	0.591

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Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Turn Lane	Lane No.	Lane Type	Circulating/Exiting Stream					Critical Gap		Follow-up Headway (s)
			Flow Rate (pcu/h)	Aver Speed (mph)	Aver Dist (ft)	In-Bnch Headway (s)	Prop Bunched	Hdwy (s)	Dist (ft)	
SouthEast: NB Florida Avenue										
Thru	1	Subdominant	166	14.9	473.9	2.00	0.183	3.58	78.3	2.51
	2	Dominant	166	14.9	473.9	2.00	0.183	3.34	73.2	2.34
Right	2	Dominant	166	14.9	473.9	2.00	0.183	3.37	73.7	2.36
East: Bryant Street Extension										
Thru	1	Dominant	665	22.1	175.6	1.08	0.353	3.43	111.4	2.69
Thru	1	Dominant	665	22.1	175.6	1.08	0.353	3.30	107.0	2.58
Right	1	Dominant	665	22.1	175.6	1.08	0.353	3.30	107.1	2.59
NorthEast: University Dorns										
Left	1	Dominant	683	22.2	171.9	1.09	0.364	3.28	107.1	2.58
Right	1	Dominant	683	22.2	171.9	1.09	0.364	3.28	107.1	2.58
North: Sherman Avenue										
Left	1	Dominant	301	21.6	379.1	1.23	0.201	3.53	112.0	2.56
Thru	1	Dominant	301	21.6	379.1	1.23	0.201	3.53	111.8	2.56
Right	1	Dominant	301	21.6	379.1	1.23	0.201	3.67	116.4	2.66
NorthWest: SB Florida Avenue										
Thru	1	Dominant	1097	14.9	71.9	2.00	0.774	2.88	63.1	2.42
Thru	1	Dominant	1097	14.9	71.9	2.00	0.774	2.88	63.0	2.42

Environment Factor: 1.00
 Entry/Circulating Flow Adjustment: Medium

Priority sharing is implied for some movements (Follow-up Headway plus
 Intra-bunch Headway is larger than the Critical Gap). The O-D Factor
 (Table R.0) allows for priority sharing and priority emphasis.

Mov No.	Dem Flow (veh /h)	aaSIDRA		NAASRA 1986		Ger. Linear		Ger. GapAcc	
		Cap. (veh /h)	Deg. Satn x	Cap. (veh /h)	% Diff from aaSIDRA	Cap. (veh /h)	% Diff from aaSIDRA	Cap. (veh /h)	% Diff from aaSIDRA
SouthEast: NB Florida Avenue									
72 TR	646	2579	0.250	3132	21.4	1296	-49.7	2205	-14.5
West: Bryant Street Extension									
22 LTR	58	899	0.065	1014	12.8	889	-1.1	720	-19.9
NorthEast: University Dorms									
62 LR	44	902	0.049	1010	12.0	886	-1.8	716	-20.6
North: Sherman Avenue									

42 LTR 1077 1144 0.941 1398 22.2 1090 -4.7 990 -13.5

NorthWest: SB Florida Avenue

82 LT 343 357 0.961 710 98.9 668 87.1 528 47.9

Title
Subtitle
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Roundabout

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Flow	Demand	HV	Flow	HV	Opposing Movement Adjust. Flow	Total Cap.	Prac. Deg.	Prac. Spare Cap.	Lane Util	Deg. Satn
(veh/h)	(veh/h)	(%)	(veh/h)	(%)	(pcu/h)	(veh/h)	xp	(%)	(%)	x
SouthEast: NB Florida Avenue										
72 TR	646	2.2	166	2.0	166	2579	0.85	239	100	0.250
West: Bryant Street Extension										
22 LTR	58	5.2	665	2.0	665	899	0.85	1218	100	0.065
NorthEast: University Dorns										
62 LR	44	4.5	683	2.0	683	902	0.85	1643	100	0.049
North: Sherman Avenue										
42 LTR	1077	2.1	301	2.0	301	1144	0.85	-10	100	0.941
NorthWest: SB Florida Avenue										
82 LT	343	2.0	1097	2.0	1097	357	0.85	-12	100	0.961*

Title
Subtitle
Intersection ID:
Roundabout

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	C
Worst movement Level of Service	=	E
Average intersection delay (s)	=	24.2
Largest average movement delay (s)	=	72.3
Largest back of queue, 95% (ft)	=	572
Performance Index	=	66.41
Degree of saturation (highest)	=	0.961
Practical Spare Capacity (lowest)	=	-12 %
Effective intersection capacity, (veh/h)	=	2256
Total vehicle flow (veh/h)	=	2168
Total person flow (pers/h)	=	3252
Total vehicle delay (veh-h/h)	=	14.56
Total person delay (pers-h/h)	=	21.84
Total effective vehicle stops (veh/h)	=	2159
Total effective person stops (pers/h)	=	3238
Total vehicle travel (veh-mi/h)	=	926.3
Total cost (\$/h)	=	983.08
Total fuel (gal/h)	=	38.8
Total CO2 (kg/h)	=	367.33

Title
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Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest 95% Back (vehs)	Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
72 TR	1.12	1.68	6.3	0.32	0.51	1.6	42	10.73	33.2
East: Bryant Street Extension									
22 LTR	0.15	0.22	9.2	0.44	0.67	0.3	7	1.06	31.6
NorthEast: University Dorns									
62 LR	0.14	0.21	11.4	0.44	0.72	0.2	5	0.85	30.5
North: Sherman Avenue									
42 LTR	6.26	9.39	20.9	1.00	1.10	22.5	572	32.69	26.1
NorthWest: SB Florida Avenue									
82 LT	6.89	10.34	72.3	1.00	1.67	20.4	519	21.08	13.9

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
646	0.250	1.12	1.68	6.3	0.32	0.51	42	10.73	33.2
East: Bryant Street Extension									
58	0.065	0.15	0.22	9.2	0.44	0.67	7	1.06	31.6
NorthEast: University Dorns									
44	0.049	0.14	0.21	11.4	0.44	0.72	5	0.85	30.5
North: Sherman Avenue									
1077	0.941	6.26	9.39	20.9	1.00	1.10	572	32.69	26.1
NorthWest: SB Florida Avenue									
343	0.961	6.89	10.34	72.3	1.00	1.67	519	21.08	13.9
L VEHICLES:									
168	0.961	14.56	21.84	24.2	0.77	1.00	572	66.41	24.4
INTERSECTION (persons):									
252	0.961		21.84	24.2	0.77	1.00		66.41	24.4

Queue values in this table are 95% back of queue (feet).

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.7 - LANE PERFORMANCE

Dem	Queue
-----	-------

Lane No.	Mov No.	Flow (veh/h)	Cap (veh/h)	Deg. Satn x	Aver. Delay (sec)	Eff. Stop Rate	95% Back (vehs)	Back (ft)	Short Lane (ft)
SouthEast: NB Florida Avenue									
1 T	72	311	1242	0.251	6.2	0.51	1.6	41	
2 TR	72	335	1337	0.251	6.3	0.51	1.6	42	
East: Bryant Street Extension									
1 LTR	22	58	899	0.065	9.2	0.67	0.3	7	
NorthEast: University Dorns									
1 LR	62	44	902	0.049	11.4	0.72	0.2	5	
North: Sherman Avenue									
1 LTR	42	1077	1144	0.942	20.9	1.10	22.5	572	
NorthWest: SB Florida Avenue									
1 LT	82	343	357	0.961	72.3	1.67	20.4	519	

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Table S.8A - LANE FLOW AND CAPACITY INFORMATION

Lane No.	Mov No.	Dem Flow (veh/h)				Min Cap (veh/h)	Tot Cap (veh/h)	Deg. Satn x	Lane Util %
		Lef	Thru	Rig	Tot				
SouthEast: NB Florida Avenue									
1 T	72	0	311	0	311	150	1242	0.251	100
1 TR	72	0	317	18	335	150	1337	0.251	100
East: Bryant Street Extension									
1 LTR	22	11	25	22	58	58	899	0.065	100
NorthEast: University Dorns									
1 LR	62	22	0	22	44	44	902	0.049	100
North: Sherman Avenue									
1 LTR	42	22	1044	11	1077	150	1144	0.942	100
NorthWest: SB Florida Avenue									
1 LT	82	22	321	0	343	150	357	0.961	100

For roundabouts, the capacity value for continuous movements is obtained as the basic saturation flow without any adjustments. Saturation flow scale applies if specified.

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.12A - FUEL CONSUMPTION, EMISSIONS AND COST - TOTAL

Mov No.	Fuel Total gal/h	Cost Total \$/h	HC Total kg/h	CO Total kg/h	NOX Total kg/h	CO2 Total kg/h
---------	------------------	-----------------	---------------	---------------	----------------	----------------

SouthEast: NB Florida Avenue

72 TR	9.8	211.13	0.139	4.55	0.188	93.1
	9.8	211.13	0.139	4.55	0.188	93.1

East: Bryant Street Extension						
22 LTR	0.9	20.12	0.013	0.45	0.018	8.7
	0.9	20.12	0.013	0.45	0.018	8.7

NorthEast: University Dorms						
62 LR	0.7	16.08	0.011	0.36	0.014	6.9
	0.7	16.08	0.011	0.36	0.014	6.9

North: Sherman Avenue						
42 LTR	19.4	466.17	0.299	10.41	0.369	183.7
	19.4	466.17	0.299	10.41	0.369	183.7

NorthWest: SB Florida Avenue						
82 LT	7.9	269.59	0.134	3.59	0.128	74.9
	7.9	269.59	0.134	3.59	0.128	74.9

INTERSECTION:	38.8	983.08	0.596	19.35	0.716	367.3

Pump price of fuel (\$/US gal)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income (\$/h)	=	27.00
Time value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 lb)	=	1.4
Heavy vehicle mass (1000 lb)	=	11.0
Light vehicle idle fuel rate (US gal/h)	=	0.360
Heavy vehicle idle fuel rate (US gal/h)	=	0.530

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t1e
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Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (ft)	Shrt Lane (ft)
	L	T	R	Tot							
SouthEast: NB Florida Avenue											
1 T		311		311	2			0.251	6.2	41	
TR		317	18	335	2			0.251	6.3	42	
	0	628	18	646	2			0.251	6.3	42	
West: Bryant Street Extension											
LTR	11	25	22	58	5			0.065	9.2	7	
	11	25	22	58	5			0.065	9.2	7	
NorthEast: University Dorms											

LR	22		22	44	5	0.049	11.4	5
	22	0	22	44	5	0.049	11.4	5
North: Sherman Avenue								
LTR	22	1044	11	1077	2	0.942	20.9	572
	22	1044	11	1077	2	0.942	20.9	572
NorthWest: SB Florida Avenue								
1 LT	22	321		343	2	0.961	72.3	519
	22	321	0	343	2	0.961	72.3	519
ALL VEHICLES								
			Total	%		Max	Aver.	Max
			Flow	HV		X	Delay	Queue
			2168	2		0.961	24.2	572

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

Queue values in this table are 95% back of queue (feet).

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

File
Project
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Roundabout

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Flow	Mov	Total	Total	Deg.	Aver.	LOS	Longest Queue	
No.	Typ	Flow	Cap.	of	Delay		95% Back	
		(veh	(veh	Satn	(sec)		(vehs)	(ft)
		/h)	/h)	(v/c)				
SouthEast: NB Florida Avenue								
72	TR	646	2579	0.250	6.3	A	1.6	42
		646		0.250	6.3	A	1.6	42
East: Bryant Street Extension								
22	LTR	58	899	0.065	9.2	A	0.3	7
		58		0.065	9.2	A	0.3	7
NorthEast: University Dorns								
62	LR	44	902	0.049	11.4	B	0.2	5
		44		0.049	11.4	B	0.2	5
North: Sherman Avenue								
42	LTR	1077	1144	0.941	20.9	C	22.5	572
		1077		0.941	20.9	C	22.5	572
NorthWest: SB Florida Avenue								
82	LT	343	357	0.961*	72.3	E	20.4	519
		343		0.961	72.3	E	20.4	519
ALL VEHICLES:		2168		0.961	24.2	C	22.5	572

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

* Maximum v/c ratio, or critical green periods

Title

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Roundabout

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (ft)	Negn Speed (mph)	Negn Dist. (ft)	Appr. Dist. (ft)	Downstream Distance (ft)
SouthEast: NB Florida Avenue						
	East	62.7	16.0	32.8	1800	390
	NorthEast	87.1	18.2	54.5	1800	390
	North	153.9	22.5	98.5	1800	407
	NorthWest	153.9	22.5	131.4	1800	407
East: Bryant Street Extension						
	SouthEast	52.0	14.9	245.0	1800	573
	NorthEast	73.2	17.0	32.8	1800	394
	North	102.1	19.3	54.2	1800	394
	NorthWest	153.9	22.5	98.5	1800	407
NorthEast: University Dorns						
	SouthEast	52.0	14.9	204.2	1800	553
	East	52.0	14.9	245.0	1800	553
	North	73.2	17.0	32.8	1800	394
	NorthWest	102.1	19.3	54.2	1800	394
North: Sherman Avenue						
	SouthEast	52.0	14.9	163.4	1800	492
	East	52.0	14.9	204.2	1800	553
	NorthEast	52.0	14.9	245.0	1800	553
	NorthWest	73.2	17.0	32.8	1800	391
NorthWest: SB Florida Avenue						
	SouthEast	153.9	22.5	131.4	1800	444
	East	52.0	14.9	163.4	1800	444
	NorthEast	52.0	14.9	204.2	1800	553
	North	52.0	14.9	245.0	1800	553

Maximum Negotiation (Design) Speed = 50.0 mph

Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Title

Subtitle

Intersection ID:

Roundabout

Table D.1 - LANE DELAYS

Lane No.	Mov No.	Deg. Satn x	Stop-line Delay			Delay (seconds/veh)					Geom dig	Control dic
			1st d1	2nd d2	Total dSL	Acc. Dec. dn	Queuing		Stopd (Idle) di			
							Total dq	MvUp dqm				
SouthEast: NB Florida Avenue												
T	72	0.251	0.5	0.0	0.5	2.0	0.0	0.0	0.0	5.7	6.2	

2 TR	72	0.251	0.5	0.0	0.5	2.0	0.0	0.0	0.0	5.8	6.3

East: Bryant Street Extension											
1 LTR	22	0.065	1.6	0.0	1.6	2.5	0.0	0.0	0.0	7.6	9.2

NorthEast: University Dorms											
1 LR	62	0.049	1.6	0.0	1.6	2.2	0.0	0.0	0.0	9.9	11.4

North: Sherman Avenue											
1 LTR	42	0.942	3.2	6.7	10.0	4.7	5.3	4.1	1.2	11.0	20.9

NorthWest: SB Florida Avenue											
1 LT	82	0.961	10.8	53.9	64.7	5.7	59.0	12.0	47.0	7.6	72.3

dn is average stop-start delay for all vehicles queued and unqueued											

Title
 Subtitle
 Intersection ID:
 Roundabout

Table D.2 - LANE STOPS

	Deg.	Effective Stop Rate				Prop.	Queue
Lane	Satn.	Geom.			Overall	Queued	Move-up
No.	x	he1	he2	hig	h	pq	Rate
							hqm

SouthEast: NB Florida Avenue							
1 T	0.251	0.19	0.00	0.32	0.51	0.326	0.00
2 TR	0.251	0.19	0.00	0.33	0.51	0.320	0.00

East: Bryant Street Extension							
1 LTR	0.065	0.36	0.00	0.31	0.67	0.444	0.00

NorthEast: University Dorms							
1 LR	0.049	0.36	0.00	0.36	0.72	0.443	0.00

North: Sherman Avenue							
1 LTR	0.942	0.85	0.25	0.00	1.10	1.000	0.53

NorthWest: SB Florida Avenue							
1 LT	0.961	1.00	0.67	0.00	1.67	1.000	1.89

hig is the average value for all movements in a shared lane
 hqm is average queue move-up rate for all vehicles queued and unqueued

Title
 Subtitle
 Intersection ID:
 Roundabout

Table D.3A - LANE QUEUES (veh)

Lane No.	Deg. Satn	Ovrfl. Queue No	Average (veh)			Percentile (veh)					Queue Stor. Ratio
	x	No	Nb1	Nb2	Nb	70%	85%	90%	95%	98%	
SouthEast: NB Florida Avenue											
T	0.251	0.0	0.5	0.0	0.5	0.9	1.1	1.3	1.6	1.9	0.02
TR	0.251	0.0	0.5	0.0	0.5	1.0	1.2	1.3	1.6	1.9	0.02
East: Bryant Street Extension											
LTR	0.065	0.0	0.1	0.0	0.1	0.2	0.2	0.2	0.3	0.3	0.00

NorthEast: University Dorms											
LR	0.049	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.00
North: Sherman Avenue											
LTR	0.942	2.0	4.4	3.8	8.2	11.9	15.1	17.6	22.5	26.6	0.32
NorthWest: SB Florida Avenue											
LT	0.961	4.2	3.1	4.2	7.4	10.9	13.8	16.0	20.4	24.1	0.29

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

title
 Subtitle
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 Roundabout

Table D.3B - LANE QUEUES (feet)

Lane No.	Deg. Satn	Ovrfl. Queue	Average (feet)			Percentile (feet)					Queue Stor. Ratio
	x	No	Nb1	Nb2	Nb	70%	85%	90%	95%	98%	
SouthEast: NB Florida Avenue											
T	0.251	0	13	0	13	24	29	33	41	47	0.02
TR	0.251	0	13	0	13	24	30	34	42	48	0.02
East: Bryant Street Extension											
LTR	0.065	0	2	0	2	4	5	6	7	8	0.00
NorthEast: University Dorms											
LR	0.049	0	2	0	2	3	4	4	5	6	0.00
North: Sherman Avenue											
LTR	0.942	52	112	96	208	302	385	447	572	676	0.32
NorthWest: SB Florida Avenue											
LT	0.961	106	80	107	187	276	351	407	519	613	0.29

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

title
 Subtitle
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 Roundabout

Table D.4 - MOVEMENT SPEEDS (mph)

Mov No.	App. Speeds		Exit Speeds		Queue Move-up		Av. Section Spd	
	Cruise	Negn	Negn	Cruise	1st Grn	2nd Grn	Running	Overall
SouthEast: NB Florida Avenue								
72	40.0	22.4	22.4	40.0			33.2	33.2
East: Bryant Street Extension								
22	40.0	19.4	19.4	40.0			31.6	31.6
NorthEast: University Dorms								
62	40.0	16.5	16.5	40.0			30.5	30.5
North: Sherman Avenue								
42	40.0	15.0	15.0	40.0	16.1		26.6	26.1

NorthWest: SB Florida Avenue

82	40.0	19.5	19.5	40.0	11.3	24.1	13.9
----	------	------	------	------	------	------	------

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

--- End of aaSIDRA Output ---

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Title

Subtitle

Intersection ID:

Traffic SIDRA US Highway Capacity Manual (2000) Version

MAIN INFORMATION

Basic Parameters:

Intersection Type: Roundabout

Driving on the right-hand side of the road

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 method)

Queue definition: Back of queue, 95th Percentile

Title

Subtitle

Intersection ID:

Roundabout

Table S.0 - TRAFFIC FLOW DATA

Mov No.	Left		Through		Right		Flow Scale	Peak Flow Factor	
	LV	HV	LV	HV	LV	HV			
VEHICLES Demand flows in veh/hour as used by the program									
SouthEast: NB Florida Avenue									
72	0	0	1303	27	13	1	1.00	0.95	
West: Bryant Street Extension									
22	10	1	21	1	21	1	1.00	0.95	
NorthEast: University Dorns									
62	21	1	0	0	21	1	1.00	0.95	
North: Sherman Avenue									
42	21	1	527	11	10	1	1.00	0.95	
NorthWest: SB Florida Avenue									
82	21	1	354	7	0	0	1.00	0.95	

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

Title

Subtitle

Intersection ID:

Roundabout

Table R.0 - ROUNDABOUT BASIC PARAMETERS

Cent Island Diam (ft)	Circ Width (ft)	Insc Diam. (ft)	No.of Circ. Lanes	No.of Entry Lanes	Av.Ent Lane Width (ft)	Circulating/Exiting Stream					
						Flow (veh/ h)	%HV	Adjust. Flow (pcu/h)	%Exit Incl.	Cap. Constr. Effect	O-D Factor
SouthEast: NB Florida Avenue											
80	35	150	2	2	15.00	204	2.0	204	0	N	0.972
East: Bryant Street Extension											
80	35	150	2	1	15.00	1364	2.0	1364	0	N	0.834
NorthEast: University Dorms											
80	35	150	2	1	15.00	1382	2.0	1382	0	N	0.833
North: Sherman Avenue											
80	35	150	2	1	15.00	336	2.0	336	0	N	0.970
NorthWest: SB Florida Avenue											
80	35	150	2	1	15.00	591	2.0	591	0	N	0.917

title
 subtitle
 Intersection ID:
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Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Turn	Lane No.	Lane Type	Circulating/Exiting Stream					Critical Gap		Follow-up Headway (s)	
			Flow Rate (pcu/h)	Aver Speed (mph)	Aver Dist (ft)	In-Bnch Headway (s)	Prop Bunched	Hdwy (s)	Dist (ft)		
SouthEast: NB Florida Avenue											
Left	1	Subdominant	204	15.1	391.5	2.00	0.220	3.48	77.4	2.47	
	2	Dominant	204	15.1	391.5	2.00	0.220	3.18	70.7	2.25	
	2	Dominant	204	15.1	391.5	2.00	0.220	3.25	72.2	2.30	
East: Bryant Street Extension											
Left	1	Dominant	1364	22.5	87.0	1.06	0.597	2.74	90.4	2.38	
	Thru	1	Dominant	1364	22.5	87.0	1.06	0.597	2.64	86.9	2.28
	Right	1	Dominant	1364	22.5	87.0	1.06	0.597	2.64	86.9	2.28
NorthEast: University Dorms											
Left	1	Dominant	1382	22.5	86.1	1.07	0.605	2.62	86.7	2.28	
	Right	1	Dominant	1382	22.5	86.1	1.07	0.605	2.62	86.7	2.28
North: Sherman Avenue											
Left	1	Dominant	336	21.9	343.8	1.21	0.219	3.59	115.0	2.62	
	Thru	1	Dominant	336	21.9	343.8	1.21	0.219	3.58	114.9	2.62
	Right	1	Dominant	336	21.9	343.8	1.21	0.219	3.73	119.6	2.72
NorthWest: SB Florida Avenue											
Left	1	Dominant	591	15.1	135.4	2.00	0.518	3.34	74.1	2.57	
	Thru	1	Dominant	591	15.1	135.4	2.00	0.518	3.33	74.0	2.57

Environment Factor: 1.00
 Entry/Circulating Flow Adjustment: Medium

Priority sharing is implied for some movements (Follow-up Headway plus
 Intra-bunch Headway is larger than the Critical Gap). The O-D Factor
 (Table R.0) allows for priority sharing and priority emphasis.

Mov Io.	Dem	aaSIDRA		NAASRA 1986		Ger. Linear		Ger. GapAcc	
	Flow (veh /h)	Cap. (veh /h)	Deg. Satn x	Cap. % (veh /h)	% Diff from aaSIDRA	Cap. % (veh /h)	% Diff from aaSIDRA	Cap. % (veh /h)	% Diff from aaSIDRA
NorthEast: NB Florida Avenue									
72 TR	1344	2611	0.515	3034	16.2	1277	-51.1	2138	-18.1
West: Bryant Street Extension									
22 LTR	55	671	0.082	552	-17.7	556	-17.1	356	-46.9
NorthEast: University Dorms									
62 LR	44	673	0.065	553	-17.8	551	-18.1	355	-47.3
North: Sherman Avenue									

42 LTR 571 1078 0.530 1357 25.9 1078 0.0 962 -10.8

NorthWest: SB Florida Avenue

82 LT 383 849 0.451 1095 29.0 937 10.4 778 -8.4

Title

Subtitle

Intersection ID:

Roundabout

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Demand		Opposing Movement		Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
	Flow (veh/h)	HV (%)	Flow (veh/h)	HV (%)						
SouthEast: NB Florida Avenue										
72 TR	1344	2.1	204	2.0	204	2611	0.85	65	100	0.515
West: Bryant Street Extension										
22 LTR	55	5.5	1364	2.0	1364	671	0.85	937	100	0.082
NorthEast: University Dorms										
62 LR	44	4.5	1382	2.0	1382	673	0.85	1200	100	0.065
North: Sherman Avenue										
42 LTR	571	2.3	336	2.0	336	1078	0.85	60	100	0.530*
NorthWest: SB Florida Avenue										
82 LT	383	2.1	591	2.0	591	849	0.85	88	100	0.451

Title

Subtitle

Intersection ID:

Roundabout

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	A
Worst movement Level of Service	=	B
Average intersection delay (s)	=	9.0
Largest average movement delay (s)	=	12.9
Largest back of queue, 95% (ft)	=	107
Performance Index	=	45.38
Degree of saturation (highest)	=	0.530
Practical Spare Capacity (lowest)	=	60 %
Effective intersection capacity, (veh/h)	=	4525
Total vehicle flow (veh/h)	=	2397
Total person flow (pers/h)	=	3596
Total vehicle delay (veh-h/h)	=	5.97
Total person delay (pers-h/h)	=	8.96
Total effective vehicle stops (veh/h)	=	1580
Total effective person stops (pers/h)	=	2371
Total vehicle travel (veh-mi/h)	=	1015.6
Total cost (\$/h)	=	836.33
Total fuel (gal/h)	=	38.2
Total CO2 (kg/h)	=	361.69

Title

Subtitle

Intersection ID:

Roundabout

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue 95% Back (vehs)	Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
72 TR	2.45	3.67	6.6	0.44	0.55	4.2	107	23.24	32.7
East: Bryant Street Extension									
22 LTR	0.16	0.25	10.7	0.63	0.79	0.4	11	1.12	30.9
NorthEast: University Dorns									
62 LR	0.16	0.24	12.9	0.63	0.84	0.3	8	0.94	29.9
North: Sherman Avenue									
42 LTR	2.00	3.00	12.6	0.51	0.78	3.7	94	11.86	29.8
NorthWest: SB Florida Avenue									
82 LT	1.21	1.81	11.3	0.69	0.84	3.5	89	8.22	30.6

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
344	0.515	2.45	3.67	6.6	0.44	0.55	107	23.24	32.7
East: Bryant Street Extension									
55	0.082	0.16	0.25	10.7	0.63	0.79	11	1.12	30.9
NorthEast: University Dorns									
44	0.065	0.16	0.24	12.9	0.63	0.84	8	0.94	29.9
North: Sherman Avenue									
571	0.530	2.00	3.00	12.6	0.51	0.78	94	11.86	29.8
NorthWest: SB Florida Avenue									
383	0.451	1.21	1.81	11.3	0.69	0.84	89	8.22	30.6
ALL VEHICLES:									
397	0.530	5.97	8.96	9.0	0.51	0.66	107	45.38	31.5
INTERSECTION (persons):									
596	0.530		8.96	9.0	0.51	0.66		45.38	31.5

queue values in this table are 95% back of queue (feet).

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.7 - LANE PERFORMANCE

Dem

Queue

72 TR	20.7	446.16	0.295	9.75	0.397	195.9
	20.7	446.16	0.295	9.75	0.397	195.9

West: Bryant Street Extension						
22 LTR	0.9	19.55	0.013	0.44	0.017	8.4
	0.9	19.55	0.013	0.44	0.017	8.4

NorthEast: University Dorms						
62 LR	0.7	16.41	0.011	0.37	0.014	7.0
	0.7	16.41	0.011	0.37	0.014	7.0

North: Sherman Avenue						
42 LTR	9.6	215.57	0.142	4.89	0.184	91.0
	9.6	215.56	0.142	4.89	0.184	91.0

NorthWest: SB Florida Avenue						
82 LT	6.3	138.65	0.092	3.14	0.121	59.4
	6.3	138.65	0.092	3.14	0.121	59.4

INTERSECTION:	38.2	836.33	0.553	18.60	0.733	361.7

Pump price of fuel (\$/US gal)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income (\$/h)	=	27.00
Time value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 lb)	=	1.4
Heavy vehicle mass (1000 lb)	=	11.0
Light vehicle idle fuel rate (US gal/h)	=	0.360
Heavy vehicle idle fuel rate (US gal/h)	=	0.530

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t1e
Subtitle
Intersection ID:
Roundabout

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Lane No.	Demand Flow (veh/h)				%HV	Adj.	Eff	Grn	Deg	Aver.	Longest	Shrt
	L	T	R	Tot		Basic Satf.	(secs)	1st 2nd	Sat x	Delay (sec)	Queue (ft)	Lane (ft)
SouthEast: NB Florida Avenue												
1 T	638			638	2				0.515	6.6	104	
TR	692	14		706	2				0.515	6.5	107	
	0	1330	14	1344	2				0.515	6.6	107	
West: Bryant Street Extension												
LTR	11	22	22	55	5				0.082	10.7	11	
	11	22	22	55	5				0.082	10.7	11	
NorthEast: University Dorms												

LR	22		22	44	5	0.065	12.9	8
	22	0	22	44	5	0.065	12.9	8
North: Sherman Avenue								
LTR	22	538	11	571	2	0.530	12.6	94
	22	538	11	571	2	0.530	12.6	94
NorthWest: SB Florida Avenue								
1 LT	22	361		383	2	0.451	11.3	89
	22	361	0	383	2	0.451	11.3	89
=====								
ALL VEHICLES				Total	%	Max	Aver.	Max
				Flow	HV	X	Delay	Queue
				2397	2	0.530	9.0	107
=====								

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

ueue values in this table are 95% back of queue (feet).

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

itle
btitle
Intersection ID:
Roundabout

Table S.15 - CAPACITY AND LEVEL OF SERVICE

lov	Mov	Total	Total	Deg.	Aver.	LOS	Longest Queue	
lo.	Typ	Flow	Cap.	of	Delay		95% Back	
		(veh	(veh	Satn	(sec)		(vehs)	(ft)
		/h)	/h)	(v/c)				
SouthEast: NB Florida Avenue								
72 TR		1344	2611	0.515	6.6	A	4.2	107
		1344		0.515	6.6	A	4.2	107
East: Bryant Street Extension								
22 LTR		55	671	0.082	10.7	B	0.4	11
		55		0.082	10.7	B	0.4	11
NorthEast: University Dorns								
62 LR		44	673	0.065	12.9	B	0.3	8
		44		0.065	12.9	B	0.3	8
North: Sherman Avenue								
42 LTR		571	1078	0.530*	12.6	B	3.7	94
		571		0.530	12.6	B	3.7	94
NorthWest: SB Florida Avenue								
82 LT		383	849	0.451	11.3	B	3.5	89
		383		0.451	11.3	B	3.5	89
ALL VEHICLES:		2397		0.530	9.0	A	4.2	107

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

title
 subtitle
 Intersection ID:
 Roundabout

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (ft)	Negn Speed (mph)	Negn Dist. (ft)	Appr. Dist. (ft)	Downstream Distance (ft)
SouthEast: NB Florida Avenue						
	East	65.4	16.3	32.8	1800	390
	NorthEast	90.5	18.4	58.4	1800	390
	North	156.6	22.7	104.9	1800	407
	NorthWest	156.6	22.7	139.9	1800	407
East: Bryant Street Extension						
	SouthEast	54.0	15.1	254.5	1800	582
	NorthEast	75.9	17.2	32.8	1800	395
	North	105.5	19.5	58.1	1800	395
	NorthWest	156.6	22.7	104.9	1800	407
NorthEast: University Dorns						
	SouthEast	54.0	15.1	212.1	1800	561
	East	54.0	15.1	254.5	1800	561
	North	75.9	17.2	32.8	1800	395
	NorthWest	105.5	19.5	58.1	1800	395
North: Sherman Avenue						
	SouthEast	54.0	15.1	169.6	1800	497
	East	54.0	15.1	212.1	1800	561
	NorthEast	54.0	15.1	254.5	1800	561
	NorthWest	75.9	17.2	32.8	1800	391
NorthWest: SB Florida Avenue						
	SouthEast	156.6	22.7	139.9	1800	456
	East	54.0	15.1	169.6	1800	456
	NorthEast	54.0	15.1	212.1	1800	561
	North	54.0	15.1	254.5	1800	561

Maximum Negotiation (Design) Speed = 50.0 mph
 Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Title
 subtitle
 Intersection ID:
 Roundabout

Table D.1 - LANE DELAYS

			Delay (seconds/veh)								
Lane	Mov	Deg. Satn x	Stop-line Delay			Acc. Dec. dn	Queuing		Stopd (Idle) di	Geom dig	Control dic
			1st d1	2nd d2	Total dSL		Total dq	MvUp dqm			

SouthEast: NB Florida Avenue											
T	72	0.515	1.0	0.0	1.0	2.8	0.0	0.0	0.0	5.7	6.6

NorthEast: University Dorms											
1 LR	0.065	0.0	0.1	0.0	0.1	0.2	0.2	0.3	0.3	0.4	0.00
North: Sherman Avenue											
1 LTR	0.530	0.0	1.1	0.1	1.2	2.1	2.6	3.0	3.7	4.3	0.05
NorthWest: SB Florida Avenue											
1 LT	0.451	0.0	1.1	0.1	1.1	2.0	2.5	2.8	3.5	4.1	0.05

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

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 Subtitle
 Intersection ID:
 Roundabout

Table D.3B - LANE QUEUES (feet)

Lane Name No.	Deg. Satn x	Ovrfl. Queue No	Average (feet)			Percentile (feet)					Queue Stor. Ratio
			Nb1	Nb2	Nb	70%	85%	90%	95%	98%	
SouthEast: NB Florida Avenue											
LT	0.515	0	34	0	34	60	74	84	104	121	0.06
TR	0.515	0	34	0	34	62	76	86	107	124	0.06
East: Bryant Street Extension											
LTR	0.082	0	3	0	3	6	8	9	11	12	0.01
NorthEast: University Dorms											
1 LR	0.065	0	3	0	3	5	6	7	8	10	0.00
North: Sherman Avenue											
1 LTR	0.530	1	29	1	30	55	67	76	94	109	0.05
NorthWest: SB Florida Avenue											
LT	0.451	1	27	1	29	52	64	72	89	104	0.05

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

Title
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 Roundabout

Table D.4 - MOVEMENT SPEEDS (mph)

Mov No.	App. Speeds		Exit Speeds		Queue Move-up		Av. Section Spd	
	Cruise	Negn	Negn	Cruise	1st Grn	2nd Grn	Running	Overall
SouthEast: NB Florida Avenue								
72	40.0	22.6	22.6	40.0			32.7	32.7
East: Bryant Street Extension								
22	40.0	19.5	19.5	40.0			30.9	30.9
NorthEast: University Dorms								
62	40.0	16.8	16.8	40.0			30.0	29.9
North: Sherman Avenue								
42	40.0	15.2	15.2	40.0	15.2		29.8	29.8

NorthWest: SB Florida Avenue

82	40.0	19.3	19.3	40.0	13.1	30.6	30.6
----	------	------	------	------	------	------	------

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

--- End of aaSIDRA Output ---

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Title

Subtitle

Intersection ID:

Traffic SIDRA US Highway Capacity Manual (2000) Version

MAIN INFORMATION

Basic Parameters:

Intersection Type: Roundabout

Driving on the right-hand side of the road

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 method)

Queue definition: Back of queue, 95th Percentile

Title

Subtitle

Intersection ID:

Roundabout

Table S.0 - TRAFFIC FLOW DATA

Mov No.	Left		Through		Right		Flow Scale	Peak Flow Factor	
	LV	HV	LV	HV	LV	HV			

HICLES	Demand flows in veh/hour as used by the program								
SouthEast: NB Florida Avenue									
72	0	0	625	13	17	1	1.00	0.95	

st: Bryant Street Extension									
22	10	1	1	1	21	1	1.00	0.95	

rthEast: University Dorns									
62	21	1	0	0	21	1	1.00	0.95	

rth: Sherman Avenue									
42	21	1	972	20	10	1	1.00	0.95	

NorthWest: SB Florida Avenue									
82	21	1	309	6	0	0	1.00	0.95	

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

Title

Subtitle

Intersection ID:

Roundabout

Table R.0 - ROUNDABOUT BASIC PARAMETERS

Entrance	Circ Width	Insc Diam.	No. of Circ. Lanes	No. of Entry Lanes	Av. Ent Lane Width (ft)	Circulating/Exiting Stream					
						Flow (veh/h)	%HV	Adjust. Flow (pcu/h)	%Exit Incl.	Cap. Constr. Effect	O-D Factor
SouthEast: NB Florida Avenue											
80 ft	30	140	2	2	15.00	159	2.0	159	0	N	0.969
East: Bryant Street Extension											
80	30	140	2	1	15.00	676	2.0	676	0	N	0.951
NorthEast: University Dorns											
80	30	140	2	1	15.00	671	2.0	671	0	N	0.951
North: Sherman Avenue											
80	30	140	2	1	15.00	288	2.0	288	0	N	0.980
NorthWest: SB Florida Avenue											
80	30	140	2	1	15.00	1044	2.0	1044	0	N	0.658

Title
 Subtitle
 Intersection ID:
 Roundabout

Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Entrance	Lane No.	Lane Type	Circulating/Exiting Stream					Critical Gap		Follow-up Headway (s)	
			Flow Rate (pcu/h)	Average Speed (mph)	Average Distance (ft)	In-Bunch Headway (s)	Proportion Bunched	Headway (s)	Distance (ft)		
SouthEast: NB Florida Avenue											
Left	1	Subdominant	159	14.9	495.9	2.00	0.176	3.58	78.4	2.51	
	2	Dominant	159	14.9	495.9	2.00	0.176	3.34	73.2	2.34	
	2	Dominant	159	14.9	495.9	2.00	0.176	3.37	73.7	2.36	
East: Bryant Street Extension											
Left	1	Dominant	676	22.1	172.9	1.07	0.357	3.42	111.0	2.68	
	Through	1	Dominant	676	22.1	172.9	1.07	0.357	4.76	154.6	3.74
	Right	1	Dominant	676	22.1	172.9	1.07	0.357	3.29	106.8	2.58
NorthEast: University Dorns											
Left	1	Dominant	671	22.2	175.1	1.06	0.350	3.30	107.5	2.58	
	Right	1	Dominant	671	22.2	175.1	1.06	0.350	3.30	107.5	2.58
North: Sherman Avenue											
Left	1	Dominant	288	21.6	395.0	1.16	0.183	3.55	112.3	2.56	
	Through	1	Dominant	288	21.6	395.0	1.16	0.183	3.54	112.1	2.56
	Right	1	Dominant	288	21.6	395.0	1.16	0.183	3.69	116.8	2.67
NorthWest: SB Florida Avenue											
Left	1	Dominant	1044	14.9	75.5	2.00	0.753	2.93	64.1	2.44	
	Through	1	Dominant	1044	14.9	75.5	2.00	0.753	2.92	64.0	2.44

Environment Factor: 1.00

Entry/Circulating Flow Adjustment: Medium

Priority sharing is implied for some movements (Follow-up Headway plus Intra-bunch Headway is larger than the Critical Gap). The O-D Factor (Table R.0) allows for priority sharing and priority emphasis.

42 LTR 1025 1150 0.891 1413 22.9 1096 -4.7 1000 -13.0

NorthWest: SB Florida Avenue

82 LT 337 421 0.800 743 76.5 696 65.3 523 24.2

Title

Subtitle

Intersection ID:

Roundabout

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov	Demand	Opposing	Movement	Total	Prac.	Prac.	Lane	Deg.
Vol.	Flow	Flow	Adjust.	Cap.	Deg.	Spare	Util	Satn
	(veh/h)	HV (%)	Flow HV (%)	(pcu/h)	(veh/h)	Cap. (%)	(%)	x
SouthEast: NB Florida Avenue								
72 TR	656	2.1	159 2.0	159	2598	0.85	237	100 0.253
West: Bryant Street Extension								
22 LTR	35	8.6	676 2.0	676	857	0.85	1981	100 0.041
NorthEast: University Drms								
62 LR	44	4.5	671 2.0	671	908	0.85	1654	100 0.048
North: Sherman Avenue								
42 LTR	1025	2.1	288 2.0	288	1150	0.85	-5	100 0.891*
NorthWest: SB Florida Avenue								
82 LT	337	2.1	1044 2.0	1044	421	0.85	6	100 0.800

Title

Subtitle

Intersection ID:

Roundabout

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	B
Worst movement Level of Service	=	C
Average intersection delay (s)	=	16.0
Largest average movement delay (s)	=	32.7
Largest back of queue, 95% (ft)	=	410
Performance Index	=	52.35
Degree of saturation (highest)	=	0.891
Practical Spare Capacity (lowest)	=	-5 %
Effective intersection capacity, (veh/h)	=	2353
Total vehicle flow (veh/h)	=	2097
Total person flow (pers/h)	=	3146
Total vehicle delay (veh-h/h)	=	9.31
Total person delay (pers-h/h)	=	13.96
Total effective vehicle stops (veh/h)	=	1800
Total effective person stops (pers/h)	=	2699
Total vehicle travel (veh-mi/h)	=	895.7
Total cost (\$/h)	=	828.72
Total fuel (gal/h)	=	35.5
Total CO2 (kg/h)	=	336.29

Title

Subtitle

Intersection ID:

Roundabout

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest 95% Back (vehs)	Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
72 TR	1.14	1.70	6.2	0.31	0.51	1.6	42	10.87	33.2
East: Bryant Street Extension									
22 LTR	0.10	0.16	10.7	0.44	0.70	0.2	5	0.67	30.9
NorthEast: University Dorns									
62 LR	0.14	0.21	11.4	0.44	0.72	0.2	5	0.85	30.5
North: Sherman Avenue									
42 LTR	4.87	7.31	17.1	0.88	0.96	16.1	410	27.09	27.8
NorthWest: SB Florida Avenue									
82 LT	3.06	4.59	32.7	1.00	1.28	11.2	286	12.87	21.6

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
656	0.253	1.14	1.70	6.2	0.31	0.51	42	10.87	33.2
East: Bryant Street Extension									
35	0.041	0.10	0.16	10.7	0.44	0.70	5	0.67	30.9
NorthEast: University Dorns									
44	0.048	0.14	0.21	11.4	0.44	0.72	5	0.85	30.5
North: Sherman Avenue									
1025	0.891	4.87	7.31	17.1	0.88	0.96	410	27.09	27.8
NorthWest: SB Florida Avenue									
337	0.800	3.06	4.59	32.7	1.00	1.28	286	12.87	21.6
L VEHICLES:									
097	0.891	9.31	13.96	16.0	0.71	0.86	410	52.35	28.0
INTERSECTION (persons):									
146	0.891		13.96	16.0	0.71	0.86		52.35	28.0

Queue values in this table are 95% back of queue (feet).

Title
 Subtitle
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Table S.7 - LANE PERFORMANCE

Dem

Queue

72 TR	10.0	214.17	0.141	4.61	0.191	94.4
	10.0	214.17	0.141	4.61	0.191	94.4

West: Bryant Street Extension						
22 LTR	0.6	12.51	0.008	0.28	0.011	5.4
	0.6	12.51	0.008	0.28	0.011	5.4

NorthEast: University Dorms						
62 LR	0.7	16.07	0.011	0.36	0.014	6.9
	0.7	16.07	0.011	0.36	0.014	6.9

North: Sherman Avenue						
42 LTR	17.9	414.75	0.271	9.47	0.343	169.5
	17.9	414.75	0.271	9.47	0.343	169.5

NorthWest: SB Florida Avenue						
82 LT	6.3	171.23	0.100	3.14	0.115	60.1
	6.3	171.23	0.100	3.14	0.115	60.1

INTERSECTION:	35.5	828.72	0.531	17.86	0.674	336.3

Pump price of fuel (\$/US gal)	=	0.900
Fuel resource cost factor	=	0.50
Ratio of running cost to fuel cost	=	3.0
Average income (\$/h)	=	27.00
Time\value factor	=	0.60
Average occupancy (persons/veh)	=	1.5
Light vehicle mass (1000 lb)	=	1.4
Heavy vehicle mass (1000 lb)	=	11.0
Light vehicle idle fuel rate (US gal/h)	=	0.360
Heavy vehicle idle fuel rate (US gal/h)	=	0.530

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Intersection ID:
Roundabout

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Lane No.	Demand Flow (veh/h)				%HV	Adj. Basic Satf.	Eff Grn 1st 2nd	Deg Sat x	Aver. Delay (sec)	Longest Queue (ft)	Shrt Lane (ft)
	L	T	R	Tot							
SouthEast: NB Florida Avenue											
1 T		316		316	2			0.252	6.2	41	
TR		322	18	340	2			0.252	6.2	42	
	0	638	18	656	2			0.252	6.2	42	
East: Bryant Street Extension											
LTR	11	2	22	35	9			0.041	10.7	5	
	11	2	22	35	9			0.041	10.7	5	
NorthEast: University Dorms											

LR	22		22	44	5	0.048	11.4	5
	22	0	22	44	5	0.048	11.4	5
North: Sherman Avenue								
LTR	22	992	11	1025	2	0.892	17.1	410
	22	992	11	1025	2	0.892	17.1	410
NorthWest: SB Florida Avenue								
1 LT	22	315		337	2	0.801	32.7	286
	22	315	0	337	2	0.801	32.7	286
=====								
ALL VEHICLES			Total	%		Max	Aver.	Max
			Flow	HV		X	Delay	Queue
			2097	2		0.891	16.0	410
=====								
Total flow period = 60 minutes. Peak flow period = 30 minutes.								
Queue values in this table are 95% back of queue (feet).								
Note: Basic Saturation Flows are not adjusted at roundabouts or sign-controlled intersections and apply only to continuous lanes.								

Title
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Table S.15 - CAPACITY AND LEVEL OF SERVICE

Flow	Mov	Total	Total	Deg.	Aver.	LOS	Longest Queue
No.	Typ	Flow	Cap.	of	Delay		95% Back
		(veh	(veh	Satn	(sec)		(vehs) (ft)
		/h)	/h)	(v/c)			
SouthEast: NB Florida Avenue							
72 TR		656	2598	0.253	6.2	A	1.6 42
		656		0.253	6.2	A	1.6 42
East: Bryant Street Extension							
22 LTR		35	857	0.041	10.7	B	0.2 5
		35		0.041	10.7	B	0.2 5
NorthEast: University Dorns							
62 LR		44	908	0.048	11.4	B	0.2 5
		44		0.048	11.4	B	0.2 5
North: Sherman Avenue							
42 LTR		1025	1150	0.891*	17.1	B	16.1 410
		1025		0.891	17.1	B	16.1 410
NorthWest: SB Florida Avenue							
82 LT		337	421	0.800	32.7	C	11.2 286
		337		0.800	32.7	C	11.2 286
ALL VEHICLES:		2097		0.891	16.0	B	16.1 410

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

title
 subtitle
 Intersection ID:
 Roundabout

Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (ft)	Negn Speed (mph)	Negn Dist. (ft)	Appr. Dist. (ft)	Downstream Distance (ft)
SouthEast: NB Florida Avenue						
	East	62.7	16.0	32.8	1800	390
	NorthEast	87.1	18.2	54.5	1800	390
	North	153.9	22.5	98.5	1800	407
	NorthWest	153.9	22.5	131.4	1800	407
East: Bryant Street Extension						
	SouthEast	52.0	14.9	245.0	1800	573
	NorthEast	73.2	17.0	32.8	1800	394
	North	102.1	19.3	54.2	1800	394
	NorthWest	153.9	22.5	98.5	1800	405
NorthEast: University Dorns						
	SouthEast	52.0	14.9	204.2	1800	553
	East	52.0	14.9	245.0	1800	553
	North	73.2	17.0	32.8	1800	394
	NorthWest	102.1	19.3	54.2	1800	394
North: Sherman Avenue						
	SouthEast	52.0	14.9	163.4	1800	492
	East	52.0	14.9	204.2	1800	553
	NorthEast	52.0	14.9	245.0	1800	553
	NorthWest	73.2	17.0	32.8	1800	391
NorthWest: SB Florida Avenue						
	SouthEast	153.9	22.5	131.4	1800	442
	East	52.0	14.9	163.4	1800	442
	NorthEast	52.0	14.9	204.2	1800	553
	North	52.0	14.9	245.0	1800	553

Maximum Negotiation (Design) Speed = 50.0 mph
 Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

Title
 subtitle
 Intersection ID:
 Roundabout

Table D.1 - LANE DELAYS

		Delay (seconds/veh)									
Lane	Mov	Deg.	Stop-line Delay			Acc.	Queuing		Stopd	Geom	Control
		Satn	1st	2nd	Total	Dec.	Total	MvUp	(Idle)		
No.	No.	x	d1	d2	dSL	dn	dq	dqm	di	dig	dic

SouthEast: NB Florida Avenue											
L T	72	0.252	0.5	0.0	0.5	2.0	0.0	0.0	0.0	5.7	6.2

1 TR	72	0.252	0.5	0.0	0.5	1.9	0.0	0.0	0.0	5.8	6.2

East: Bryant Street Extension											
1 LTR	22	0.041	1.7	0.0	1.7	2.3	0.0	0.0	0.0	9.0	10.7

NorthEast: University Dorms											
1 LR	62	0.048	1.5	0.0	1.5	2.2	0.0	0.0	0.0	9.9	11.4

North: Sherman Avenue											
1 LTR	42	0.892	2.7	3.5	6.1	4.1	2.0	2.0	0.0	11.0	17.1

NorthWest: SB Florida Avenue											
1 LT	82	0.801	8.8	16.3	25.1	5.7	19.4	5.0	14.5	7.5	32.7

dn is average stop-start delay for all vehicles queued and unqueued											

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 Subtitle
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 Roundabout

Table D.2 - LANE STOPS

	Deg.	-- Effective Stop Rate --				Queue
Lane	Satn	Geom.			Overall	Prop. Move-up
No.	x	he1	he2	hig	h	Queued Rate
						pq hqm
SouthEast: NB Florida Avenue						
T	0.252	0.19	0.00	0.32	0.51	0.318 0.00
2 TR	0.252	0.18	0.00	0.33	0.51	0.312 0.00
East: Bryant Street Extension						
LTR	0.041	0.36	0.00	0.34	0.70	0.444 0.00
NorthEast: University Dorms						
LR	0.048	0.36	0.00	0.36	0.72	0.438 0.00
North: Sherman Avenue						
LTR	0.892	0.74	0.14	0.08	0.96	0.883 0.28
NorthWest: SB Florida Avenue						
1 LT	0.801	1.00	0.28	0.00	1.28	1.000 0.78

hig is the average value for all movements in a shared lane
 hqm is average queue move-up rate for all vehicles queued and unqueued

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 Subtitle
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 Roundabout

Table D.3A - LANE QUEUES (veh)

Lane No.	Deg.	Ovrfl.	Average (veh)			Percentile (veh)					Queue
	Satn	Queue									Stor.
	x	No	Nb1	Nb2	Nb	70%	85%	90%	95%	98%	Ratio
SouthEast: NB Florida Avenue											
T	0.252	0.0	0.5	0.0	0.5	0.9	1.2	1.3	1.6	1.9	0.02
TR	0.252	0.0	0.5	0.0	0.5	1.0	1.2	1.3	1.6	1.9	0.02
East: Bryant Street Extension											
LTR	0.041	0.0	0.1	0.0	0.1	0.1	0.1	0.1	0.2	0.2	0.00

NorthEast: University Dorms											
1 LR	0.048	0.0	0.1	0.0	0.1	0.1	0.1	0.2	0.2	0.2	0.00
North: Sherman Avenue											
1 LTR	0.892	1.0	3.7	2.0	5.7	8.8	11.0	12.7	16.1	19.0	0.23
NorthWest: SB Florida Avenue											
1 LT	0.801	1.3	2.5	1.3	3.8	6.3	7.8	8.9	11.2	13.2	0.16

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

Title
 Subtitle
 Intersection ID:
 Roundabout

Table D.3B - LANE QUEUES (feet)

Lane No.	Deg. Satn	Ovrfl. Queue No	Average (feet)			Percentile (feet)					Queue Stor. Ratio
	x		Nb1	Nb2	Nb	70%	85%	90%	95%	98%	
SouthEast: NB Florida Avenue											
1 T	0.252	0	13	0	13	24	29	33	41	47	0.02
1 TR	0.252	0	13	0	13	25	30	34	42	48	0.02
East: Bryant Street Extension											
1 LTR	0.041	0	1	0	1	3	3	4	5	5	0.00
NorthEast: University Dorms											
1 LR	0.048	0	2	0	2	3	4	4	5	6	0.00
North: Sherman Avenue											
1 LTR	0.892	26	93	51	144	223	280	324	410	482	0.23
NorthWest: SB Florida Avenue											
1 LT	0.801	33	64	34	97	159	198	227	286	335	0.16

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

Title
 Subtitle
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 Roundabout

Table D.4 - MOVEMENT SPEEDS (mph)

Mov No.	App. Speeds		Exit Speeds		Queue Move-up		Av. Section Spd	
	Cruise	Negn	Negn	Cruise	1st Grn	2nd Grn	Running	Overall
SouthEast: NB Florida Avenue								
72	40.0	22.4	22.4	40.0			33.2	33.2
East: Bryant Street Extension								
22	40.0	17.2	17.2	40.0			30.9	30.9
NorthEast: University Dorms								
62	40.0	16.5	16.5	40.0			30.5	30.5
North: Sherman Avenue								
42	40.0	15.0	15.0	40.0	16.3		27.8	27.8

NorthWest: SB Florida Avenue

82	40.0	19.7	19.7	40.0	11.4	27.1	21.6
----	------	------	------	------	------	------	------

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

--- End of aaSIDRA Output ---

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Title

Subtitle

Intersection ID:

Traffic SIDRA US Highway Capacity Manual (2000) Version

PROJECT INFORMATION

Basic Parameters:

Intersection Type: Roundabout

Driving on the right-hand side of the road

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 method)

Queue definition: Back of queue, 95th Percentile

Title

Subtitle

Intersection ID:

Roundabout

Table S.0 - TRAFFIC FLOW DATA

Mov No.	Left		Through		Right		Flow Scale	Peak Flow Factor	
	LV	HV	LV	HV	LV	HV			
VEHICLES Demand flows in veh/hour as used by the program									
SouthEast: NB Florida Avenue									
72	0	0	1295	26	13	1	1.00	0.95	
West: Bryant Street Extension									
22	10	1	10	1	21	1	1.00	0.95	
NorthEast: University Dorms									
62	21	1	0	0	21	1	1.00	0.95	
North: Sherman Avenue									
42	21	1	527	11	10	1	1.00	0.95	
NorthWest: SB Florida Avenue									
82	21	1	329	7	0	0	1.00	0.95	

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

Title

Subtitle

Intersection ID:

Roundabout

Table R.0 - ROUNDABOUT BASIC PARAMETERS

Cent Island Diam (ft)	Circ Width (ft)	Insc Diam. (ft)	No.of Circ. Lanes	No.of Entry Lanes	Av.Ent Lane Width (ft)	Circulating/Exiting Stream					
						Flow (veh/ h)	%HV	Adjust. Flow (pcu/h)	%Exit Incl.	Cap. Constr. Effect	O-D Factor
SouthEast: NB Florida Avenue											
80	30	140	2	2	15.00	174	2.0	174	0	N	0.977
East: Bryant Street Extension											
80	30	140	2	1	15.00	1356	2.0	1356	0	N	0.850
NorthEast: University Dorms											
80	30	140	2	1	15.00	1363	2.0	1363	0	N	0.850
North: Sherman Avenue											
80	30	140	2	1	15.00	327	2.0	327	0	N	0.972
NorthWest: SB Florida Avenue											
80	30	140	2	1	15.00	591	2.0	591	0	N	0.918

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Table R.1 - ROUNDABOUT GAP ACCEPTANCE PARAMETERS

Turn	Lane No.	Lane Type	Circulating/Exiting Stream					Critical Gap		Follow-up Headway (s)
			Flow Rate (pcu/h)	Aver Speed (mph)	Aver Dist (ft)	In-Bnch Headway (s)	Prop Bunched	Hdwy (s)	Dist (ft)	
SouthEast: NB Florida Avenue										
Left	1	Subdominant	174	14.9	453.8	2.00	0.190	3.53	77.2	2.48
	2	Dominant	174	14.9	453.8	2.00	0.190	3.24	71.0	2.28
Right	2	Dominant	174	14.9	453.8	2.00	0.190	3.31	72.5	2.33
East: Bryant Street Extension										
Left	1	Dominant	1356	22.3	87.0	1.06	0.593	2.79	91.5	2.42
Left	1	Dominant	1356	22.3	87.0	1.06	0.593	2.79	91.5	2.42
Right	1	Dominant	1356	22.3	87.0	1.06	0.593	2.69	88.0	2.33
NorthEast: University Dorns										
Left	1	Dominant	1363	22.4	86.7	1.06	0.595	2.68	88.0	2.32
Right	1	Dominant	1363	22.4	86.7	1.06	0.595	2.68	88.0	2.32
North: Sherman Avenue										
Left	1	Dominant	327	21.7	349.8	1.18	0.210	3.64	115.8	2.65
Left	1	Dominant	327	21.7	349.8	1.18	0.210	3.64	115.7	2.65
Right	1	Dominant	327	21.7	349.8	1.18	0.210	3.79	120.4	2.76
NorthWest: SB Florida Avenue										
Left	1	Dominant	591	14.9	133.5	2.00	0.518	3.39	74.2	2.61
Left	1	Dominant	591	14.9	133.5	2.00	0.518	3.38	74.0	2.61

Environment Factor: 1.00

Entry/Circulating Flow Adjustment: Medium

Priority sharing is implied for some movements (Follow-up Headway plus
 Intra-bunch Headway is larger than the Critical Gap). The O-D Factor
 (Table R.0) allows for priority sharing and priority emphasis.

42 LTR 571 1069 0.534 1366 27.8 1080 1.0 969 -9.4

NorthWest: SB Florida Avenue

82 LT 358 834 0.429 1095 31.3 937 12.4 778 -6.7

Title

Subtitle

Intersection ID:

Roundabout

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mo- v Io.	Demand Flow (veh/h)	HV (%)	Opposing Movement Flow (veh/h)	HV (%)	Adjust. Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SouthEast: NB Florida Avenue										
72 TR	1335	2.0	174	2.0	174	2651	0.85	69	100	0.504
West: Bryant Street Extension										
22 LTR	44	6.8	1356	2.0	1356	658	0.85	1171	100	0.067
NorthEast: University Dorns										
62 LR	44	4.5	1363	2.0	1363	676	0.85	1206	100	0.065
North: Sherman Avenue										
42 LTR	571	2.3	327	2.0	327	1069	0.85	59	100	0.534*
NorthWest: SB Florida Avenue										
82 LT	358	2.2	591	2.0	591	834	0.85	98	100	0.429

Title

Subtitle

Intersection ID:

Roundabout

Table S.3 - INTERSECTION PARAMETERS

Intersection Level of Service	=	A
Worst movement Level of Service	=	B
Average intersection delay (s)	=	8.8
Largest average movement delay (s)	=	12.9
Largest back of queue, 95% (ft)	=	102
Performance Index	=	44.17
Degree of saturation (highest)	=	0.534
Practical Spare Capacity (lowest)	=	59 %
Effective intersection capacity, (veh/h)	=	4403
Total vehicle flow (veh/h)	=	2352
Total person flow (pers/h)	=	3528
Total vehicle delay (veh-h/h)	=	5.78
Total person delay (pers-h/h)	=	8.67
Total effective vehicle stops (veh/h)	=	1530
Total effective person stops (pers/h)	=	2296
Total vehicle travel (veh-mi/h)	=	995.1
Total cost (\$/h)	=	816.53
Total fuel (gal/h)	=	37.3
Total CO2 (kg/h)	=	353.73

Title

Subtitle

Intersection ID:

Roundabout

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest 95% Back Queue (vehs)	Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
72 TR	2.40	3.60	6.5	0.40	0.54	4.0	102	22.90	32.8
East: Bryant Street Extension									
22 LTR	0.14	0.21	11.4	0.62	0.81	0.3	8	0.90	30.7
NorthEast: University Dorns									
62 LR	0.16	0.24	12.9	0.62	0.84	0.3	8	0.93	29.9
North: Sherman Avenue									
42 LTR	2.00	3.00	12.6	0.51	0.78	3.7	95	11.86	29.8
NorthWest: SB Florida Avenue									
82 LT	1.09	1.63	10.9	0.68	0.82	3.2	82	7.57	30.8

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Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Deg. Satn x	Total Delay (veh-h/h)	Total Delay (pers-h/h)	Aver. Delay (sec)	Prop. Queued	Eff. Stop Rate	Longest Queue (ft)	Perf. Index	Aver. Speed (mph)
SouthEast: NB Florida Avenue									
1335	0.504	2.40	3.60	6.5	0.40	0.54	102	22.90	32.8
East: Bryant Street Extension									
44	0.067	0.14	0.21	11.4	0.62	0.81	8	0.90	30.7
NorthEast: University Dorns									
44	0.065	0.16	0.24	12.9	0.62	0.84	8	0.93	29.9
North: Sherman Avenue									
571	0.534	2.00	3.00	12.6	0.51	0.78	95	11.86	29.8
NorthWest: SB Florida Avenue									
358	0.429	1.09	1.63	10.9	0.68	0.82	82	7.57	30.8
ALL VEHICLES:									
1352	0.534	5.78	8.67	8.8	0.48	0.65	102	44.17	31.6
INTERSECTION (persons):									
1528	0.534		8.67	8.8	0.48	0.65		44.17	31.6

Queue values in this table are 95% back of queue (feet).

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.7 - LANE PERFORMANCE

Dem

Queue

LR	22		22	44	5	0.065	12.9	8
	22	0	22	44	5	0.065	12.9	8

North: Sherman Avenue								
LTR	22	538	11	571	2	0.534	12.6	95
	22	538	11	571	2	0.534	12.6	95

NorthWest: SB Florida Avenue								
1 LT	22	336		358	2	0.429	10.9	82
	22	336	0	358	2	0.429	10.9	82
=====								
ALL VEHICLES				Total	%	Max	Aver.	Max
				Flow	HV	X	Delay	Queue
				2352	2	0.534	8.8	102

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

Queue values in this table are 95% back of queue (feet).

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

Title
 Subtitle
 Intersection ID:
 Roundabout

Table S.15 - CAPACITY AND LEVEL OF SERVICE

Mov	Mov	Total	Total	Deg.	Aver.	LOS	Longest Queue
Io.	Typ	Flow	Cap.	of	Delay		95% Back
		(veh	(veh	Satn	(sec)		(vehs) (ft)
		/h)	/h)	(v/c)			
SouthEast: NB Florida Avenue							
72 TR		1335	2651	0.504	6.5	A	4.0 102
		1335		0.504	6.5	A	4.0 102
East: Bryant Street Extension							
22 LTR		44	658	0.067	11.4	B	0.3 8
		44		0.067	11.4	B	0.3 8
NorthEast: University Dorns							
62 LR		44	676	0.065	12.9	B	0.3 8
		44		0.065	12.9	B	0.3 8
North: Sherman Avenue							
42 LTR		571	1069	0.534*	12.6	B	3.7 95
		571		0.534	12.6	B	3.7 95
NorthWest: SB Florida Avenue							
82 LT		358	834	0.429	10.9	B	3.2 82
		358		0.429	10.9	B	3.2 82
ALL VEHICLES:		2352		0.534	8.8	A	4.0 102

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

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Table D.0 - GEOMETRIC DELAY DATA

From Approach	To Approach	Negn Radius (ft)	Negn Speed (mph)	Negn Dist. (ft)	Appr. Dist. (ft)	Downstream Distance (ft)
SouthEast: NB Florida Avenue						
	East	62.7	16.0	32.8	1800	389
	NorthEast	87.1	18.2	54.5	1800	389
	North	153.9	22.5	98.5	1800	407
	NorthWest	153.9	22.5	131.4	1800	407
East: Bryant Street Extension						
	SouthEast	52.0	14.9	245.0	1800	573
	NorthEast	73.2	17.0	32.8	1800	394
	North	102.1	19.3	54.2	1800	394
	NorthWest	153.9	22.5	98.5	1800	407
NorthEast: University Dorns						
	SouthEast	52.0	14.9	204.2	1800	553
	East	52.0	14.9	245.0	1800	553
	North	73.2	17.0	32.8	1800	394
	NorthWest	102.1	19.3	54.2	1800	394
North: Sherman Avenue						
	SouthEast	52.0	14.9	163.4	1800	492
	East	52.0	14.9	204.2	1800	553
	NorthEast	52.0	14.9	245.0	1800	553
	NorthWest	73.2	17.0	32.8	1800	391
NorthWest: SB Florida Avenue						
	SouthEast	153.9	22.5	131.4	1800	444
	East	52.0	14.9	163.4	1800	444
	NorthEast	52.0	14.9	204.2	1800	553
	North	52.0	14.9	245.0	1800	553

Maximum Negotiation (Design) Speed = 50.0 mph
 Downstream Distance calculated by aaSIDRA

Downstream distance is distance travelled from the stopline until exit cruise speed is reached (includes negotiation distance). Acceleration distance is weighted for light and heavy vehicles. The same distance applies for both stopped and unstopped vehicles.

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Table D.1 - LANE DELAYS

			Delay (seconds/veh)								
Lane	Mov	Deg.	Stop-line Delay			Acc.	Queuing	Stopd	Geom Control		
		Satn	1st	2nd	Total	Dec.	Total	MvUp			(Idle)
No.	No.	x	d1	d2	dSL	dn	dq	dqm	di	dig	dic

SouthEast: NB Florida Avenue											
1 T	72	0.504	0.8	0.0	0.8	2.6	0.0	0.0	0.0	5.7	6.5

NorthEast: University Dorms											
1 LR	0.065	0.0	0.1	0.0	0.1	0.2	0.2	0.3	0.3	0.4	0.00
North: Sherman Avenue											
1 LTR	0.534	0.0	1.1	0.1	1.2	2.2	2.6	3.0	3.7	4.3	0.05
NorthWest: SB Florida Avenue											
1 LT	0.429	0.0	1.0	0.0	1.0	1.9	2.3	2.6	3.2	3.7	0.05

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

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Table D.3B - LANE QUEUES (feet)

	Deg.	Ovrfl.	Average (feet)			Percentile (feet)					Queue
Lane	Satn	Queue									Stor.
No.	x	No	Nb1	Nb2	Nb	70%	85%	90%	95%	98%	Ratio
SouthEast: NB Florida Avenue											
1 T	0.504	0	32	0	32	58	71	81	100	116	0.06
1 TR	0.504	0	33	0	33	59	72	82	102	119	0.06
East: Bryant Street Extension											
1 LTR	0.067	0	3	0	3	5	6	7	8	10	0.00
NorthEast: University Dorms											
1 LR	0.065	0	3	0	3	5	6	7	8	9	0.00
North: Sherman Avenue											
1 LTR	0.534	1	29	1	31	55	67	77	95	110	0.05
NorthWest: SB Florida Avenue											
1 LT	0.429	1	25	1	26	48	58	66	82	95	0.05

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

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Table D.4 - MOVEMENT SPEEDS (mph)

Mov No.	App. Speeds		Exit Speeds		Queue Move-up		Av. Section Spd	
	Cruise	Negn	Negn	Cruise	1st Grn	2nd Grn	Running	Overall
SouthEast: NB Florida Avenue								
72	40.0	22.5	22.5	40.0			32.8	32.8
East: Bryant Street Extension								
22	40.0	18.4	18.4	40.0			30.7	30.7
NorthEast: University Dorms								
62	40.0	16.5	16.5	40.0			30.0	29.9
North: Sherman Avenue								
42	40.0	15.0	15.0	40.0	15.3		29.8	29.8

NorthWest: SB Florida Avenue

82	40.0	19.5	19.5	40.0	13.0	30.8	30.8
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"Running Speed" is the average speed excluding stopped periods.

--- End of aaSIDRA Output ---

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