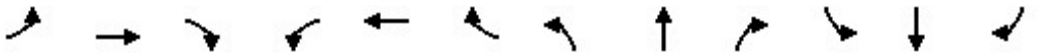


Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	100	0	45	0	0	0	0	155	350	220	560	0
Future Volume (vph)	100	0	45	0	0	0	0	155	350	220	560	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.98					1.00	0.96	1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1614	1412					1716	1394	1506	1699	
Flt Permitted		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1614	1412					1716	1394	1506	1699	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	100	0	45	0	0	0	0	155	350	220	560	0
RTOR Reduction (vph)	0	0	40	0	0	0	0	0	161	0	0	0
Lane Group Flow (vph)	0	100	5	0	0	0	0	155	189	220	560	0
Confl. Peds. (#/hr)			1	1			4		7	7		4
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)		11.5	11.5					53.9	53.9	19.6	78.5	
Effective Green, g (s)		11.5	11.5					53.9	53.9	19.6	78.5	
Actuated g/C Ratio		0.12	0.12					0.54	0.54	0.20	0.78	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		185	162					924	751	295	1333	
v/s Ratio Prot								0.09		c0.15	c0.33	
v/s Ratio Perm		0.06	0.00						0.14			
v/c Ratio		0.54	0.03					0.17	0.25	0.75	0.42	
Uniform Delay, d1		41.8	39.3					11.7	12.3	37.9	3.4	
Progression Factor		1.00	1.00					1.00	1.00	1.13	0.60	
Incremental Delay, d2		3.2	0.1					0.4	0.8	8.9	0.9	
Delay (s)		45.0	39.4					12.1	13.1	51.6	2.9	
Level of Service		D	D					B	B	D	A	
Approach Delay (s)		43.2			0.0			12.8			16.7	
Approach LOS		D			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	255	315	255	0	0	525
Future Volume (vph)	255	315	255	0	0	525
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	14	11	12	12	11
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frpb, ped/bikes	1.00	0.97	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1614	1501	1658			1627
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1614	1501	1658			1627
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	255	315	255	0	0	525
RTOR Reduction (vph)	0	247	0	0	0	0
Lane Group Flow (vph)	255	68	255	0	0	525
Confl. Peds. (#/hr)		3		7	7	
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	2%	2%	4%	4%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	21.5	21.5	68.5			68.5
Effective Green, g (s)	21.5	21.5	68.5			68.5
Actuated g/C Ratio	0.22	0.22	0.68			0.68
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	347	322	1135			1114
v/s Ratio Prot	c0.16		0.15			c0.32
v/s Ratio Perm		0.05				
v/c Ratio	0.73	0.21	0.22			0.47
Uniform Delay, d1	36.6	32.3	5.9			7.3
Progression Factor	1.00	1.00	0.20			1.00
Incremental Delay, d2	7.9	0.3	0.5			1.4
Delay (s)	44.4	32.6	1.7			8.8
Level of Service	D	C	A			A
Approach Delay (s)	37.9		1.7			8.8
Approach LOS	D		A			A

Intersection Summary			
HCM 2000 Control Delay	19.7	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.4%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps Performance by movement

Movement	EBL	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	1.5	3.5	0.0	0.0	1.0
Total Del/Veh (s)	40.6	8.7	13.7	7.9	45.1	5.5	15.8

24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	2.0	3.6	0.0	0.9	1.6
Total Del/Veh (s)	34.3	7.5	10.3	10.8	14.4

Total Network Performance

Denied Del/Veh (s)	2.1
Total Del/Veh (s)	24.6

Intersection: 23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps

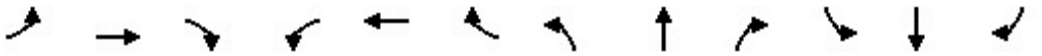
Movement	EB	EB	NB	NB	SB	SB
Directions Served	LT	R	T	R	L	T
Maximum Queue (ft)	136	63	163	144	253	176
Average Queue (ft)	63	25	43	60	140	59
95th Queue (ft)	117	52	110	123	221	139
Link Distance (ft)	708	708	1221			431
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				75	315	
Storage Blk Time (%)			3	5		0
Queuing Penalty (veh)			9	8		0

Intersection: 24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp

Movement	WB	WB	NB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	293	158	138	251
Average Queue (ft)	149	77	58	125
95th Queue (ft)	245	128	120	221
Link Distance (ft)	751		431	1383
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		400		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 16



Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	115	0	45	0	0	0	0	160	390	300	665	0
Future Volume (vph)	115	0	45	0	0	0	0	160	390	300	665	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.98					1.00	0.96	1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1614	1412					1716	1394	1506	1699	
Flt Permitted		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1614	1412					1716	1394	1506	1699	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	115	0	45	0	0	0	0	160	390	300	665	0
RTOR Reduction (vph)	0	0	39	0	0	0	0	0	207	0	0	0
Lane Group Flow (vph)	0	115	6	0	0	0	0	160	183	300	665	0
Confl. Peds. (#/hr)			1	1			4		7	7		4
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)		13.5	13.5					46.9	46.9	24.6	76.5	
Effective Green, g (s)		13.5	13.5					46.9	46.9	24.6	76.5	
Actuated g/C Ratio		0.14	0.14					0.47	0.47	0.25	0.76	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		217	190					804	653	370	1299	
v/s Ratio Prot								0.09		c0.20	c0.39	
v/s Ratio Perm		0.07	0.00						0.13			
v/c Ratio		0.53	0.03					0.20	0.28	0.81	0.51	
Uniform Delay, d1		40.3	37.6					15.5	16.2	35.5	4.5	
Progression Factor		1.00	1.00					1.00	1.00	1.07	0.96	
Incremental Delay, d2		2.3	0.1					0.6	1.1	10.3	1.1	
Delay (s)		42.6	37.6					16.1	17.3	48.4	5.5	
Level of Service		D	D					B	B	D	A	
Approach Delay (s)		41.2			0.0			17.0			18.8	
Approach LOS		D			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	265	580	275	0	0	700
Future Volume (vph)	265	580	275	0	0	700
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	14	11	12	12	11
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frpb, ped/bikes	1.00	0.97	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1614	1502	1658			1627
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1614	1502	1658			1627
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	265	580	275	0	0	700
RTOR Reduction (vph)	0	448	0	0	0	0
Lane Group Flow (vph)	265	132	275	0	0	700
Confl. Peds. (#/hr)		3		7	7	
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	2%	2%	4%	4%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	22.7	22.7	67.3			67.3
Effective Green, g (s)	22.7	22.7	67.3			67.3
Actuated g/C Ratio	0.23	0.23	0.67			0.67
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	366	340	1115			1094
v/s Ratio Prot	c0.16		0.17			c0.43
v/s Ratio Perm		0.09				
v/c Ratio	0.72	0.39	0.25			0.64
Uniform Delay, d1	35.8	32.8	6.4			9.4
Progression Factor	1.00	1.00	0.11			1.00
Incremental Delay, d2	6.9	0.7	0.5			2.9
Delay (s)	42.7	33.5	1.2			12.3
Level of Service	D	C	A			B
Approach Delay (s)	36.4		1.2			12.3
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	71.8%	ICU Level of Service	C
Analysis Period (min)	15		

c Critical Lane Group

23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps Performance by movement

Movement	EBL	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.3	0.1	1.7	3.5	0.0	0.0	1.0
Total Del/Veh (s)	41.4	12.5	18.6	12.1	40.7	9.7	18.9

24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	3.8	4.6	0.0	1.7	2.7
Total Del/Veh (s)	32.4	21.8	11.7	25.5	23.2

Total Network Performance

Denied Del/Veh (s)	2.9
Total Del/Veh (s)	33.6

Intersection: 23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps

Movement	EB	EB	NB	NB	SB	SB
Directions Served	LT	R	T	R	L	T
Maximum Queue (ft)	156	59	240	149	303	280
Average Queue (ft)	75	24	67	85	177	111
95th Queue (ft)	134	51	170	156	275	220
Link Distance (ft)	708	708	1221			431
Upstream Blk Time (%)						0
Queuing Penalty (veh)						0
Storage Bay Dist (ft)				75	315	
Storage Blk Time (%)			4	12	0	0
Queuing Penalty (veh)			16	19	2	0

Intersection: 24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp

Movement	WB	WB	NB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	404	390	141	519
Average Queue (ft)	154	201	60	251
95th Queue (ft)	296	361	122	439
Link Distance (ft)	751		431	1383
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		400		
Storage Blk Time (%)	0	1		
Queuing Penalty (veh)	0	3		

Network Summary

Network wide Queuing Penalty: 41

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	110	0	50	0	0	0	0	175	385	245	620	0
Future Volume (vph)	110	0	50	0	0	0	0	175	385	245	620	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.98					1.00	0.96	1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1614	1412					1716	1394	1506	1699	
Flt Permitted		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1614	1412					1716	1394	1506	1699	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	110	0	50	0	0	0	0	175	385	245	620	0
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	187	0	0	0
Lane Group Flow (vph)	0	110	7	0	0	0	0	175	198	245	620	0
Confl. Peds. (#/hr)			1	1			4		7	7		4
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)		13.3	13.3					51.4	51.4	20.3	76.7	
Effective Green, g (s)		13.3	13.3					51.4	51.4	20.3	76.7	
Actuated g/C Ratio		0.13	0.13					0.51	0.51	0.20	0.77	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		214	187					882	716	305	1303	
v/s Ratio Prot								0.10		c0.16	c0.36	
v/s Ratio Perm		0.07	0.00						0.14			
v/c Ratio		0.51	0.04					0.20	0.28	0.80	0.48	
Uniform Delay, d1		40.3	37.8					13.2	13.8	37.9	4.3	
Progression Factor		1.00	1.00					1.00	1.00	1.09	0.71	
Incremental Delay, d2		2.1	0.1					0.5	1.0	12.3	1.1	
Delay (s)		42.4	37.8					13.7	14.7	53.8	4.1	
Level of Service		D	D					B	B	D	A	
Approach Delay (s)		41.0			0.0			14.4			18.2	
Approach LOS		D			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	280	345	285	0	0	585
Future Volume (vph)	280	345	285	0	0	585
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	14	11	12	12	11
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frpb, ped/bikes	1.00	0.97	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1614	1501	1658			1627
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1614	1501	1658			1627
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	280	345	285	0	0	585
RTOR Reduction (vph)	0	266	0	0	0	0
Lane Group Flow (vph)	280	79	285	0	0	585
Confl. Peds. (#/hr)		3		7	7	
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	2%	2%	4%	4%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	22.9	22.9	67.1			67.1
Effective Green, g (s)	22.9	22.9	67.1			67.1
Actuated g/C Ratio	0.23	0.23	0.67			0.67
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	369	343	1112			1091
v/s Ratio Prot	c0.17		0.17			c0.36
v/s Ratio Perm		0.05				
v/c Ratio	0.76	0.23	0.26			0.54
Uniform Delay, d1	36.0	31.4	6.5			8.5
Progression Factor	1.00	1.00	0.38			1.00
Incremental Delay, d2	8.7	0.3	0.5			1.9
Delay (s)	44.6	31.7	3.0			10.3
Level of Service	D	C	A			B
Approach Delay (s)	37.5		3.0			10.3
Approach LOS	D		A			B

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.9%	ICU Level of Service	B
Analysis Period (min)	15		

c Critical Lane Group

23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps Performance by movement

Movement	EBL	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.2	0.2	1.8	3.6	0.0	0.0	1.1
Total Del/Veh (s)	43.0	11.4	15.5	9.6	47.4	6.5	17.5

24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	2.3	3.7	0.0	1.2	1.8
Total Del/Veh (s)	34.8	9.2	11.8	13.2	16.1

Total Network Performance

Denied Del/Veh (s)	2.3
Total Del/Veh (s)	27.4

Intersection: 23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps

Movement	EB	EB	NB	NB	SB	SB
Directions Served	LT	R	T	R	L	T
Maximum Queue (ft)	153	72	221	150	283	216
Average Queue (ft)	71	26	64	70	162	70
95th Queue (ft)	128	58	155	143	255	159
Link Distance (ft)	708	708	1221			431
Upstream Blk Time (%)						
Queuing Penalty (veh)						
Storage Bay Dist (ft)				75	315	
Storage Blk Time (%)			4	7	0	0
Queuing Penalty (veh)			15	13	1	0

Intersection: 24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp

Movement	WB	WB	NB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	324	191	157	311
Average Queue (ft)	164	88	67	149
95th Queue (ft)	271	154	133	264
Link Distance (ft)	751		431	1383
Upstream Blk Time (%)				
Queuing Penalty (veh)				
Storage Bay Dist (ft)		400		
Storage Blk Time (%)				
Queuing Penalty (veh)				

Network Summary

Network wide Queuing Penalty: 29

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (vph)	130	0	50	0	0	0	0	180	435	340	750	0
Future Volume (vph)	130	0	50	0	0	0	0	180	435	340	750	0
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
Lane Width	12	12	12	12	12	12	12	12	12	10	12	12
Total Lost time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Lane Util. Factor		1.00	1.00					1.00	1.00	1.00	1.00	
Frpb, ped/bikes		1.00	0.98					1.00	0.96	1.00	1.00	
Flpb, ped/bikes		1.00	1.00					1.00	1.00	1.00	1.00	
Frt		1.00	0.85					1.00	0.85	1.00	1.00	
Flt Protected		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1614	1412					1716	1393	1506	1699	
Flt Permitted		0.95	1.00					1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1614	1412					1716	1393	1506	1699	
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	130	0	50	0	0	0	0	180	435	340	750	0
RTOR Reduction (vph)	0	0	43	0	0	0	0	0	247	0	0	0
Lane Group Flow (vph)	0	130	7	0	0	0	0	180	188	340	750	0
Confl. Peds. (#/hr)			1	1			4		7	7		4
Confl. Bikes (#/hr)									2			
Heavy Vehicles (%)	3%	3%	3%	0%	0%	0%	2%	2%	2%	3%	3%	3%
Turn Type	Perm	NA	Perm					NA	Perm	Prot	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4						2			
Actuated Green, G (s)		14.2	14.2					43.3	43.3	27.5	75.8	
Effective Green, g (s)		14.2	14.2					43.3	43.3	27.5	75.8	
Actuated g/C Ratio		0.14	0.14					0.43	0.43	0.28	0.76	
Clearance Time (s)		5.0	5.0					5.0	5.0	5.0	5.0	
Vehicle Extension (s)		3.0	3.0					3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		229	200					743	603	414	1287	
v/s Ratio Prot								0.10		c0.23	c0.44	
v/s Ratio Perm		0.08	0.01						0.14			
v/c Ratio		0.57	0.04					0.24	0.31	0.82	0.58	
Uniform Delay, d1		40.0	37.0					18.0	18.6	33.9	5.2	
Progression Factor		1.00	1.00					1.00	1.00	0.86	0.85	
Incremental Delay, d2		3.2	0.1					0.8	1.4	8.9	1.3	
Delay (s)		43.2	37.1					18.7	19.9	38.0	5.8	
Level of Service		D	D					B	B	D	A	
Approach Delay (s)		41.5			0.0			19.6			15.8	
Approach LOS		D			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2000 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	15.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Traffic Volume (vph)	295	640	310	0	0	795
Future Volume (vph)	295	640	310	0	0	795
Ideal Flow (vphpl)	1750	1750	1750	1750	1750	1750
Lane Width	12	14	11	12	12	11
Total Lost time (s)	5.0	5.0	5.0			5.0
Lane Util. Factor	1.00	1.00	1.00			1.00
Frpb, ped/bikes	1.00	0.97	1.00			1.00
Flpb, ped/bikes	1.00	1.00	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1614	1501	1658			1627
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1614	1501	1658			1627
Peak-hour factor, PHF	1.00	1.00	1.00	1.00	1.00	1.00
Adj. Flow (vph)	295	640	310	0	0	795
RTOR Reduction (vph)	0	422	0	0	0	0
Lane Group Flow (vph)	295	218	310	0	0	795
Confl. Peds. (#/hr)		3		7	7	
Confl. Bikes (#/hr)				2		
Heavy Vehicles (%)	3%	3%	2%	2%	4%	4%
Turn Type	Prot	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	23.7	23.7	66.3			66.3
Effective Green, g (s)	23.7	23.7	66.3			66.3
Actuated g/C Ratio	0.24	0.24	0.66			0.66
Clearance Time (s)	5.0	5.0	5.0			5.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	382	355	1099			1078
v/s Ratio Prot	c0.18		0.19			c0.49
v/s Ratio Perm		0.15				
v/c Ratio	0.77	0.61	0.28			0.74
Uniform Delay, d1	35.6	34.1	7.0			11.1
Progression Factor	1.00	1.00	1.57			1.00
Incremental Delay, d2	9.3	3.1	0.6			4.5
Delay (s)	45.0	37.2	11.6			15.6
Level of Service	D	D	B			B
Approach Delay (s)	39.7		11.6			15.6
Approach LOS	D		B			B

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2000 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.9%	ICU Level of Service	D
Analysis Period (min)	15		

c Critical Lane Group

23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps Performance by movement

Movement	EBL	EBR	NBT	NBR	SBL	SBT	All
Denied Del/Veh (s)	0.3	0.2	2.0	3.6	0.0	0.0	1.1
Total Del/Veh (s)	41.1	16.9	22.9	15.9	41.4	8.9	20.2

24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp Performance by movement

Movement	WBL	WBR	NBT	SBT	All
Denied Del/Veh (s)	20.1	21.0	0.0	2.1	10.5
Total Del/Veh (s)	49.8	57.3	15.7	46.8	45.8

Total Network Performance

Denied Del/Veh (s)	9.2
Total Del/Veh (s)	52.7

Intersection: 23: Des Moines Way S X/Des Moines Way S & SR 518 EB Ramps

Movement	EB	EB	NB	NB	SB	SB
Directions Served	LT	R	T	R	L	T
Maximum Queue (ft)	169	88	298	150	326	264
Average Queue (ft)	79	28	104	104	187	89
95th Queue (ft)	146	64	234	174	286	193
Link Distance (ft)	708	708	1221			431
Upstream Blk Time (%)						0
Queuing Penalty (veh)						0
Storage Bay Dist (ft)				75	315	
Storage Blk Time (%)			7	18	0	0
Queuing Penalty (veh)			30	32	3	0

Intersection: 24: Des Moines Way S/Des Moines Way S X & SR 518 WB Off-Ramp

Movement	WB	WB	NB	SB
Directions Served	L	R	T	T
Maximum Queue (ft)	780	425	220	865
Average Queue (ft)	415	336	99	419
95th Queue (ft)	881	511	185	809
Link Distance (ft)	751		431	1383
Upstream Blk Time (%)	19			
Queuing Penalty (veh)	0			
Storage Bay Dist (ft)		400		
Storage Blk Time (%)	2	29		
Queuing Penalty (veh)	12	86		

Network Summary

Network wide Queuing Penalty: 163

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2032 NA Mit)]

Network: N101 [2032 NA MIT Network 1 (Network Folder: Network 1)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2032 No Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	505	2.0	505	2.0	892	0.566	100	12.0	LOS B	5.0	127.1	Full	1600	0.0	0.0
Approach	505	2.0	505	2.0		0.566		12.0	LOS B	5.0	127.1				
North: Des Moines Memorial Dr S															
Lane 1[d]	780	3.0	780	3.0	1226	0.636	100	11.1	LOS B	0.0	0.0	Full	300	0.0	0.0
Approach	780	3.0	780	3.0		0.636		11.1	LOS B	0.0	0.0				
West: SR 518 EB Off Ramp															
Lane 1[d]	101	3.0	101	3.0	876	0.115	100	5.2	LOS A	0.6	14.5	Full	1600	0.0	0.0
Lane 2	45	3.0	45	3.0	1011	0.044	100	3.9	LOS A	0.2	4.8	Full	1600	0.0	0.0
Approach	146	3.0	146	3.0		0.115		4.8	LOS A	0.6	14.5				
Intersection	1431	2.6	1431	2.6		0.636		10.8	LOS B	5.0	127.1				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	155	350	505	2.0	892	0.566	100	NA	NA
Approach	155	350	505	2.0		0.566			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	220	560	780	3.0	1226	0.636	100	NA	NA
Approach	220	560	780	3.0		0.636			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	100	1	-	101	3.0	876	0.115	100	NA	NA

Lane 2	-	-	45	45	3.0	1011	0.044	100	NA	NA
Approach	100	1	45	146	3.0		0.115			

	Total	%HV	Deg.Satn (v/c)
Intersection	1431	2.6	0.636

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2032 NA Mit)]

Network: N101 [2032 NA MIT Network 1 (Network Folder: Network 1)]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	255	2.0	255	2.0	1294	0.197	100	4.4	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	255	2.0	255	2.0		0.197		4.4	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp															
Lane 1[d]	255	3.0	255	3.0	1119	0.228	100	5.3	LOS A	1.3	33.6	Short	225	0.0	NA
Lane 2	315	3.0	315	3.0	1119	0.282	100	5.9	LOS A	1.7	43.4	Full	1600	0.0	0.0
Approach	570	3.0	570	3.0		0.282		5.6	LOS A	1.7	43.4				
North: Des Moines Memorial Dr S															
Lane 1[d]	525	4.0	525	4.0	850	0.617	100	13.9	LOS B	7.4	190.3	Full	1600	0.0	0.0
Approach	525	4.0	525	4.0		0.617		13.9	LOS B	7.4	190.3				
Intersection	1350	3.2	1350	3.2		0.617		8.6	LOS A	7.4	190.3				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	255	255	2.0	1294	0.197	100	NA	NA
Approach	255	255	2.0		0.197			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	255	-	255	3.0	1119	0.228	100	0.0	2
Lane 2	-	315	315	3.0	1119	0.282	100	NA	NA
Approach	255	315	570	3.0		0.282			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	525	525	4.0	850	0.617	100	NA	NA	
Approach	525	525	4.0		0.617				

	Total	%HV	Deg.Satn (v/c)
Intersection	1350	3.2	0.617

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2032 PA Mit)]

Network: N101 [2032 PA MIT Network 1 (Network Folder: Network 1)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2032 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	550	2.0	550	2.0	827	0.665	100	15.9	LOS B	8.1	205.8	Full	1600	0.0	0.0
Approach	550	2.0	550	2.0		0.665		15.9	LOS B	8.1	205.8				
North: Des Moines Memorial Dr S															
Lane 1[d]	965	3.0	965	3.0	1226	0.787	100	16.7	LOS B	0.0	0.0	Full	300	0.0	0.0
Approach	965	3.0	965	3.0		0.787		16.7	LOS B	0.0	0.0				
West: SR 518 EB Off Ramp															
Lane 1[d]	116	3.0	116	3.0	749	0.155	100	6.5	LOS A	0.9	21.8	Full	1600	0.0	0.0
Lane 2	45	3.0	45	3.0	948	0.047	100	4.2	LOS A	0.2	5.4	Full	1600	0.0	0.0
Approach	161	3.0	161	3.0		0.155		5.8	LOS A	0.9	21.8				
Intersection	1676	2.7	1676	2.7		0.787		15.4	LOS B	8.1	205.8				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	160	390	550	2.0	827	0.665	100	NA	NA
Approach	160	390	550	2.0		0.665			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	300	665	965	3.0	1226	0.787	100	NA	NA
Approach	300	665	965	3.0		0.787			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	115	1	-	116	3.0	749	0.155	100	NA	NA

Lane 2	-	-	45	45	3.0	948	0.047	100	NA	NA
Approach	115	1	45	161	3.0		0.155			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1676	2.7		0.787						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2032 PA Mit)]

Network: N101 [2032 PA MIT Network 1 (Network Folder: Network 1)]

Des Moines Memorial Dr S @ SR 518 WB Off Ramp
Site Category: 2032 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	275	2.0	275	2.0	1294	0.213	100	4.6	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	275	2.0	275	2.0		0.213		4.6	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp															
Lane 1[d]	265	3.0	265	3.0	1178	0.225	100	5.1	LOS A	1.0	26.3	Short	225	0.0	NA
Lane 2	580	3.0	580	3.0	1178	0.492	100	8.4	LOS A	2.9	75.2	Full	1600	0.0	0.0
Approach	845	3.0	845	3.0		0.492		7.4	LOS A	2.9	75.2				
North: Des Moines Memorial Dr S															
Lane 1[d]	700	4.0	700	4.0	916	0.764	100	19.3	LOS B	14.9	384.9	Full	1600	0.0	0.0
Approach	700	4.0	700	4.0		0.764		19.3	LOS B	14.9	384.9				
Intersection	1820	3.2	1820	3.2		0.764		11.5	LOS B	14.9	384.9				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	275	275	2.0	1294	0.213	100	NA	NA
Approach	275	275	2.0		0.213			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	265	-	265	3.0	1178	0.225	100	0.0	2
Lane 2	-	580	580	3.0	1178	0.492	100	NA	NA
Approach	265	580	845	3.0		0.492			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	700	700	4.0	916	0.764	100	NA	NA
Approach	700	700	4.0		0.764			

	Total	%HV	Deg.Satn (v/c)
Intersection	1820	3.2	0.764

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2037 NA Mit)]

Network: N101 [2037 NA MIT Network 1 (Network Folder: Network 1)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2037 No Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	560	2.0	560	2.0	985	0.569	100	11.2	LOS B	5.1	130.2	Full	1600	0.0	0.0
Approach	560	2.0	560	2.0		0.569		11.2	LOS B	5.1	130.2				
North: Des Moines Memorial Dr S															
Lane 1[d]	865	3.0	865	3.0	1349	0.641	100	10.5	LOS B	0.0	0.0	Full	300	0.0	0.0
Approach	865	3.0	865	3.0		0.641		10.5	LOS B	0.0	0.0				
West: SR 518 EB Off Ramp															
Lane 1[d]	111	3.0	111	3.0	945	0.117	100	4.9	LOS A	0.6	16.4	Full	1600	0.0	0.0
Lane 2	50	3.0	50	3.0	1114	0.045	100	3.6	LOS A	0.2	5.2	Full	1600	0.0	0.0
Approach	161	3.0	161	3.0		0.117		4.5	LOS A	0.6	16.4				
Intersection	1586	2.6	1586	2.6		0.641		10.1	LOS B	5.1	130.2				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	175	385	560	2.0	985	0.569	100	NA	NA
Approach	175	385	560	2.0		0.569			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	245	620	865	3.0	1349	0.641	100	NA	NA
Approach	245	620	865	3.0		0.641			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	110	1	-	111	3.0	945	0.117	100	NA	NA

Lane 2	-	-	50	50	3.0	1114	0.045	100	NA	NA
Approach	110	1	50	161	3.0		0.117			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1586	2.6		0.641						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2037 NA Mit)]

Network: N101 [2037 NA MIT Network 1 (Network Folder: Network 1)]

Des Moines Memorial Dr S @ SR 518 WB Off Ramp
Site Category: 2037 No Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	285	2.0	285	2.0	1424	0.200	100	4.2	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	285	2.0	285	2.0		0.200		4.2	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp															
Lane 1[d]	280	3.0	280	3.0	1317	0.213	100	4.5	LOS A	1.0	25.1	Short	225	0.0	NA
Lane 2	345	3.0	345	3.0	1317	0.262	100	5.0	LOS A	1.3	32.3	Full	1600	0.0	0.0
Approach	625	3.0	625	3.0		0.262		4.8	LOS A	1.3	32.3				
North: Des Moines Memorial Dr S															
Lane 1[d]	585	4.0	585	4.0	1021	0.573	100	11.0	LOS B	4.9	127.0	Full	1600	0.0	0.0
Approach	585	4.0	585	4.0		0.573		11.0	LOS B	4.9	127.0				
Intersection	1495	3.2	1495	3.2		0.573		7.1	LOS A	4.9	127.0				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	285	285	2.0	1424	0.200	100	NA	NA
Approach	285	285	2.0		0.200			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	280	-	280	3.0	1317	0.213	100	0.0	2
Lane 2	-	345	345	3.0	1317	0.262	100	NA	NA
Approach	280	345	625	3.0		0.262			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	585	585	4.0	1021	0.573	100	NA	NA
Approach	585	585	4.0		0.573			

	Total	%HV	Deg.Satn (v/c)
Intersection	1495	3.2	0.573

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2037 PA Mit)]

Network: N101 [2037 PA MIT Network 1 (Network Folder: Network 1)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2037 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	615	2.0	615	2.0	904	0.681	100	15.5	LOS B	8.8	224.5	Full	1600	0.0	0.0
Approach	615	2.0	615	2.0		0.681		15.5	LOS B	8.8	224.5				
North: Des Moines Memorial Dr S															
Lane 1[d]	1090	3.0	1090	3.0	1349	0.808	100	16.8	LOS B	0.0	0.0	Full	300	0.0	0.0
Approach	1090	3.0	1090	3.0		0.808		16.8	LOS B	0.0	0.0				
West: SR 518 EB Off Ramp															
Lane 1[d]	131	3.0	131	3.0	762	0.172	100	6.6	LOS A	1.1	28.1	Full	1600	0.0	0.0
Lane 2	50	3.0	50	3.0	1027	0.049	100	3.9	LOS A	0.2	6.1	Full	1600	0.0	0.0
Approach	181	3.0	181	3.0		0.172		5.8	LOS A	1.1	28.1				
Intersection	1886	2.7	1886	2.7		0.808		15.3	LOS B	8.8	224.5				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	180	435	615	2.0	904	0.681	100	NA	NA
Approach	180	435	615	2.0		0.681			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	340	750	1090	3.0	1349	0.808	100	NA	NA
Approach	340	750	1090	3.0		0.808			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	130	1	-	131	3.0	762	0.172	100	NA	NA

Lane 2	-	-	50	50	3.0	1027	0.049	100	NA	NA
Approach	130	1	50	181	3.0		0.172			
	Total	%HV	Deg.Satn (v/c)							
Intersection	1886	2.7		0.808						

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2037 PA Mit)]

Network: N101 [2037 PA MIT Network 1 (Network Folder: Network 1)]

Des Moines Memorial Dr S @ SR 518 WB Off Ramp
Site Category: 2037 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	ARRIVAL FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S															
Lane 1[d]	310	2.0	310	2.0	1424	0.218	100	4.3	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	310	2.0	310	2.0		0.218		4.3	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp															
Lane 1[d]	295	3.0	295	3.0	1300	0.227	100	4.7	LOS A	1.1	27.4	Short	225	0.0	NA
Lane 2	640	3.0	640	3.0	1300	0.492	100	7.9	LOS A	3.0	76.7	Full	1600	0.0	0.0
Approach	935	3.0	935	3.0		0.492		6.9	LOS A	3.0	76.7				
North: Des Moines Memorial Dr S															
Lane 1[d]	795	4.0	795	4.0	1009	0.788	100	19.3	LOS B	17.0	438.1	Full	1600	0.0	0.0
Approach	795	4.0	795	4.0		0.788		19.3	LOS B	17.0	438.1				
Intersection	2040	3.2	2040	3.2		0.788		11.4	LOS B	17.0	438.1				

Site Level of Service (LOS) Method: Delay & Degree of Saturation (SIDRA). Site LOS Method is specified in the Network Data dialog (Network tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	310	310	2.0	1424	0.218	100	NA	NA
Approach	310	310	2.0		0.218			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	295	-	295	3.0	1300	0.227	100	0.0	2
Lane 2	-	640	640	3.0	1300	0.492	100	NA	NA
Approach	295	640	935	3.0		0.492			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.

Lane 1	795	795	4.0	1009	0.788	100	NA	NA
Approach	795	795	4.0		0.788			

	Total	%HV	Deg.Satn (v/c)
Intersection	2040	3.2	0.788

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2032 NA Mit)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2032 No Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	505	2.0	892	0.566	100	6.5	LOS A	4.1	104.1	Full	1600	0.0	0.0
Approach	505	2.0		0.566		6.5	LOS A	4.1	104.1				
North: Des Moines Memorial Dr S													
Lane 1[d]	780	3.0	1226	0.636	100	4.4	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	780	3.0		0.636		4.4	LOS A	0.0	0.0				
West: SR 518 EB Off Ramp													
Lane 1[d]	101	3.0	876	0.115	100	10.8	LOS B	0.6	14.5	Full	1600	0.0	0.0
Lane 2	45	3.0	1011	0.044	100	4.4	LOS A	0.2	4.8	Full	1600	0.0	0.0
Approach	146	3.0		0.115		8.8	LOS A	0.6	14.5				
Intersection	1431	2.6		0.636		5.6	LOS A	4.1	104.1				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	155	350	505	2.0	892	0.566	100	NA	NA
Approach	155	350	505	2.0		0.566			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	220	560	780	3.0	1226	0.636	100	NA	NA
Approach	220	560	780	3.0		0.636			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	100	1	-	101	3.0	876	0.115	100	NA	NA
Lane 2	-	-	45	45	3.0	1011	0.044	100	NA	NA

Approach	100	1	45	146	3.0		0.115
	Total	%HV	Deg.Satn (v/c)				
Intersection	1431	2.6		0.636			

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2032 NA Mit)]

New Site
Site Category: (None)
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	255	2.0	1294	0.197	100	2.9	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	255	2.0		0.197		2.9	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp													
Lane 1[d]	255	3.0	1119	0.228	100	4.9	LOS A	1.3	33.6	Short	225	0.0	NA
Lane 2	315	3.0	1119	0.282	100	1.7	LOS A	1.7	43.4	Full	1600	0.0	0.0
Approach	570	3.0		0.282		3.1	LOS A	1.7	43.4				
North: Des Moines Memorial Dr S													
Lane 1[d]	525	4.0	850	0.617	100	7.4	LOS A	6.1	157.7	Full	1600	0.0	0.0
Approach	525	4.0		0.617		7.4	LOS A	6.1	157.7				
Intersection	1350	3.2		0.617		4.8	LOS A	6.1	157.7				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	255	255	2.0	1294	0.197	100	NA	NA
Approach	255	255	2.0		0.197			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	255	-	255	3.0	1119	0.228	100	0.0	2
Lane 2	-	315	315	3.0	1119	0.282	100	NA	NA
Approach	255	315	570	3.0		0.282			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	525	525	4.0	850	0.617	100	NA	NA

Approach	525	525	4.0	0.617
	Total	%HV	Deg.Satn (v/c)	
Intersection	1350	3.2	0.617	

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2032 PA Mit)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2032 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	550	2.0	827	0.665	100	9.1	LOS A	6.1	153.8	Full	1600	0.0	0.0
Approach	550	2.0		0.665		9.1	LOS A	6.1	153.8				
North: Des Moines Memorial Dr S													
Lane 1[d]	965	3.0	1226	0.787	100	4.6	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	965	3.0		0.787		4.6	LOS A	0.0	0.0				
West: SR 518 EB Off Ramp													
Lane 1[d]	116	3.0	749	0.155	100	13.0	LOS B	0.9	21.8	Full	1600	0.0	0.0
Lane 2	45	3.0	948	0.047	100	5.0	LOS A	0.2	5.4	Full	1600	0.0	0.0
Approach	161	3.0		0.155		10.8	LOS B	0.9	21.8				
Intersection	1676	2.7		0.787		6.7	LOS A	6.1	153.8				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	160	390	550	2.0	827	0.665	100	NA	NA
Approach	160	390	550	2.0		0.665			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	300	665	965	3.0	1226	0.787	100	NA	NA
Approach	300	665	965	3.0		0.787			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	115	1	-	116	3.0	749	0.155	100	NA	NA
Lane 2	-	-	45	45	3.0	948	0.047	100	NA	NA

Approach	115	1	45	161	3.0		0.155
	Total	%HV	Deg.Satn (v/c)				
Intersection	1676	2.7		0.787			

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2032 PA Mit)]

Des Moines Memorial Dr S @ SR 518 WB Off Ramp
Site Category: 2032 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	275	2.0	1294	0.213	100	2.9	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	275	2.0		0.213		2.9	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp													
Lane 1[d]	265	3.0	1178	0.225	100	4.4	LOS A	1.0	26.3	Short	225	0.0	NA
Lane 2	580	3.0	1178	0.492	100	1.8	LOS A	2.9	75.2	Full	1600	0.0	0.0
Approach	845	3.0		0.492		2.6	LOS A	2.9	75.2				
North: Des Moines Memorial Dr S													
Lane 1[d]	700	4.0	916	0.764	100	8.5	LOS A	9.2	237.9	Full	1600	0.0	0.0
Approach	700	4.0		0.764		8.5	LOS A	9.2	237.9				
Intersection	1820	3.2		0.764		4.9	LOS A	9.2	237.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	275	275	2.0	1294	0.213	100	NA	NA
Approach	275	275	2.0		0.213			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	265	-	265	3.0	1178	0.225	100	0.0	2
Lane 2	-	580	580	3.0	1178	0.492	100	NA	NA
Approach	265	580	845	3.0		0.492			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	700	700	4.0	916	0.764	100	NA	NA

Approach	700	700	4.0	0.764
	Total	%HV	Deg.Satn (v/c)	
Intersection	1820	3.2	0.764	

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2037 NA Mit)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2037 No Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	560	2.0	985	0.569	100	6.3	LOS A	4.2	107.9	Full	1600	0.0	0.0
Approach	560	2.0		0.569		6.3	LOS A	4.2	107.9				
North: Des Moines Memorial Dr S													
Lane 1[d]	865	3.0	1349	0.641	100	4.4	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	865	3.0		0.641		4.4	LOS A	0.0	0.0				
West: SR 518 EB Off Ramp													
Lane 1[d]	111	3.0	945	0.117	100	11.2	LOS B	0.6	16.4	Full	1600	0.0	0.0
Lane 2	50	3.0	1114	0.045	100	4.5	LOS A	0.2	5.2	Full	1600	0.0	0.0
Approach	161	3.0		0.117		9.1	LOS A	0.6	16.4				
Intersection	1586	2.6		0.641		5.6	LOS A	4.2	107.9				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	175	385	560	2.0	985	0.569	100	NA	NA
Approach	175	385	560	2.0		0.569			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	245	620	865	3.0	1349	0.641	100	NA	NA
Approach	245	620	865	3.0		0.641			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	110	1	-	111	3.0	945	0.117	100	NA	NA
Lane 2	-	-	50	50	3.0	1114	0.045	100	NA	NA

Approach	110	1	50	161	3.0		0.117
	Total	%HV	Deg.Satn (v/c)				
Intersection	1586	2.6		0.641			

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2037 NA Mit)]

Des Moines Memorial Dr S @ SR 518 WB Off Ramp
Site Category: 2037 No Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	285	2.0	1424	0.200	100	2.9	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	285	2.0		0.200		2.9	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp													
Lane 1[d]	280	3.0	1317	0.213	100	4.3	LOS A	1.0	25.1	Short	225	0.0	NA
Lane 2	345	3.0	1317	0.262	100	1.2	LOS A	1.3	32.3	Full	1600	0.0	0.0
Approach	625	3.0		0.262		2.6	LOS A	1.3	32.3				
North: Des Moines Memorial Dr S													
Lane 1[d]	585	4.0	1021	0.573	100	5.3	LOS A	4.3	110.0	Full	1600	0.0	0.0
Approach	585	4.0		0.573		5.3	LOS A	4.3	110.0				
Intersection	1495	3.2		0.573		3.7	LOS A	4.3	110.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	285	285	2.0	1424	0.200	100	NA	NA
Approach	285	285	2.0		0.200			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	280	-	280	3.0	1317	0.213	100	0.0	2
Lane 2	-	345	345	3.0	1317	0.262	100	NA	NA
Approach	280	345	625	3.0		0.262			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	585	585	4.0	1021	0.573	100	NA	NA

Approach	585	585	4.0		0.573
	Total	%HV	Deg.Satn (v/c)		
Intersection	1495	3.2		0.573	

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 23 [23-Des Moines Memorial Dr S @ EB SR 518 Ramps (Site Folder: 2037 PA Mit)]

Des Moines Memorial Dr S @ EB SR 518 Ramps
Site Category: 2037 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	615	2.0	904	0.681	100	9.3	LOS A	6.7	170.0	Full	1600	0.0	0.0
Approach	615	2.0		0.681		9.3	LOS A	6.7	170.0				
North: Des Moines Memorial Dr S													
Lane 1[d]	1090	3.0	1349	0.808	100	4.6	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	1090	3.0		0.808		4.6	LOS A	0.0	0.0				
West: SR 518 EB Off Ramp													
Lane 1[d]	131	3.0	762	0.172	100	14.6	LOS B	1.1	28.1	Full	1600	0.0	0.0
Lane 2	50	3.0	1027	0.049	100	5.3	LOS A	0.2	6.1	Full	1600	0.0	0.0
Approach	181	3.0		0.172		12.0	LOS B	1.1	28.1				
Intersection	1886	2.7		0.808		6.8	LOS A	6.7	170.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	R2 E	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	180	435	615	2.0	904	0.681	100	NA	NA
Approach	180	435	615	2.0		0.681			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	L2 E	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	340	750	1090	3.0	1349	0.808	100	NA	NA
Approach	340	750	1090	3.0		0.808			

West: SR 518 EB Off Ramp

Mov. From W To Exit:	L2 N	T1 E	R2 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	130	1	-	131	3.0	762	0.172	100	NA	NA
Lane 2	-	-	50	50	3.0	1027	0.049	100	NA	NA

Approach	130	1	50	181	3.0		0.172
	Total	%HV	Deg.Satn (v/c)				
Intersection	1886	2.7		0.808			

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
East Exit: SR 518 EB On Ramp Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										

LANE SUMMARY

Site: 24 [24-Des Moines Memorial Dr S @ WB SR 518 Ramps (Site Folder: 2037 PA Mit)]

Des Moines Memorial Dr S @ SR 518 WB Off Ramp
Site Category: 2037 Proposed Action
Roundabout

Lane Use and Performance

	DEMAND FLOWS [Total veh/h	HV] %	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Aver. Delay sec	Level of Service	95% BACK OF QUEUE [Veh	Dist] ft	Lane Config	Lane Length ft	Cap. Adj. %	Prob. Block. %
South: Des Moines Memorial Dr S													
Lane 1[d]	310	2.0	1424	0.218	100	2.9	LOS A	0.0	0.0	Full	300	0.0	0.0
Approach	310	2.0		0.218		2.9	LOS A	0.0	0.0				
East: SR 518 WB Off Ramp													
Lane 1[d]	295	3.0	1300	0.227	100	4.4	LOS A	1.1	27.4	Short	225	0.0	NA
Lane 2	640	3.0	1300	0.492	100	1.7	LOS A	3.0	76.7	Full	1600	0.0	0.0
Approach	935	3.0		0.492		2.6	LOS A	3.0	76.7				
North: Des Moines Memorial Dr S													
Lane 1[d]	795	4.0	1009	0.788	100	8.7	LOS A	10.4	268.0	Full	1600	0.0	0.0
Approach	795	4.0		0.788		8.7	LOS A	10.4	268.0				
Intersection	2040	3.2		0.788		5.0	LOS A	10.4	268.0				

Site Level of Service (LOS) Method: Delay & v/c (HCM 6). Site LOS Method is specified in the Parameter Settings dialog (Site tab).
Roundabout LOS Method: Same as Signalised Intersections.
Lane LOS values are based on average delay and v/c ratio (degree of saturation) per lane.
LOS F will result if v/c > 1 irrespective of lane delay value (does not apply for approaches and intersection).
Intersection and Approach LOS values are based on average delay for all lanes (v/c not used as specified in HCM 6).
Roundabout Capacity Model: SIDRA Standard.
Delay Model: SIDRA Standard (Geometric Delay is included).
Queue Model: HCM Queue Formula.
Gap-Acceptance Capacity: SIDRA Standard (Akçelik M3D).
HV (%) values are calculated for All Movement Classes of All Heavy Vehicle Model Designation.

d Dominant lane on roundabout approach

Approach Lane Flows (veh/h)

South: Des Moines Memorial Dr S

Mov. From S To Exit:	T1 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	310	310	2.0	1424	0.218	100	NA	NA
Approach	310	310	2.0		0.218			

East: SR 518 WB Off Ramp

Mov. From E To Exit:	L2 S	R2 N	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	295	-	295	3.0	1300	0.227	100	0.0	2
Lane 2	-	640	640	3.0	1300	0.492	100	NA	NA
Approach	295	640	935	3.0		0.492			

North: Des Moines Memorial Dr S

Mov. From N To Exit:	T1 S	Total	%HV	Cap. veh/h	Deg. Satn v/c	Lane Util. %	Prob. SL Ov. %	Ov. Lane No.
Lane 1	795	795	4.0	1009	0.788	100	NA	NA

Approach	795	795	4.0	0.788
	Total	%HV	Deg.Satn (v/c)	
Intersection	2040	3.2	0.788	

Lane flow rates given in this report are based on the arrival flow rates subject to upstream capacity constraint where applicable.

Merge Analysis

	Exit Lane Number	Short Lane Length ft	Percent Opng in Lane %	Opposing Flow Rate veh/h	Opposing Flow Rate pcu/h	Critical Gap sec	Follow-up Headway sec	Lane Flow Rate veh/h	Capacity veh/h	Deg. Satn v/c	Min. Delay sec	Merge Delay sec
South Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										
North Exit: Des Moines Memorial Dr S Merge Type: **Not Applied**												
Full Length Lane	1	Merge Analysis not applied.										