I-75 PD&E Studies

from Moccasin Wallow Road
to North of Fletcher Avenue

WPI Segment Number - 419235-1

DRAFT Design Traffic Technical Memorandum

Technical Report No. 1
Evaluation of Alternatives
APPENDICES

Prepared for
Florida Department of Transportation
District Seven

September 2009

Manuel Santos, E.I.
FDOT Project Manager

INTERSTATE 75

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Prepared by
PB Americas, Inc.

September 2009

Manuel Santos, E.I.
FDOT Project Manager

INTERSTATE 75

APPENDICES **(Provided in a CD)**

Appendix A	Manual Traffic Count Data Sheets
Appendix B	Existing Year (2007) Traffic Sheets
Appendix C	Signal Timing Plans
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I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

APPENDIX A

Manual Traffic Count Data Sheets

INTERSTATE 75

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Parrish/Manatee
Weather: Clear
Comments:

File Name : moccasinwallow&i75nb
Site Code : 00007029
Start Date : 7/26/2007
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	43	16	59	5	0	35	40	12	27	0	39	138
03:15 PM	0	34	7	41	6	0	38	44	17	19	0	36	121
03:30 PM	0	31	8	39	7	0	34	41	8	25	0	33	113
03:45 PM	0	35	11	46	4	0	33	37	8	23	0	31	114
Total	0	143	42	185	22	0	140	162	45	94	0	139	486
04:00 PM	0	36	9	45	5	0	47	52	7	30	0	37	134
04:15 PM	0	41	16	57	9	0	46	55	8	30	0	38	150
04:30 PM	0	37	19	56	9	0	49	58	13	31	0	44	158
04:45 PM	0	53	14	67	3	0	53	56	16	26	0	42	165
Total	0	167	58	225	26	0	195	221	44	117	0	161	607
05:00 PM	0	48	21	69	6	0	67	73	6	42	0	48	190
05:15 PM	0	31	13	44	11	0	76	87	13	41	0	54	185
05:30 PM	0	50	9	59	10	0	66	76	21	29	0	50	185
05:45 PM	0	46	16	62	7	0	64	71	4	26	0	30	163
Total	0	175	59	234	34	0	273	307	44	138	0	182	723
06:00 PM	0	39	8	47	5	0	58	63	6	36	0	42	152
06:15 PM	0	31	6	37	7	0	46	53	5	18	0	23	113
06:30 PM	0	27	4	31	5	0	43	48	5	21	0	26	105
06:45 PM	0	47	11	58	4	0	45	49	6	17	0	23	130
Total	0	144	29	173	21	0	192	213	22	92	0	114	500
Grand Total	0	629	188	817	103	0	800	903	155	441	0	596	2316
Apprch %	0.0	77.0	23.0		11.4	0.0	88.6		26.0	74.0	0.0		
Total %	0.0	27.2	8.1	35.3	4.4	0.0	34.5	39.0	6.7	19.0	0.0	25.7	

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	0	182	57	239	30	0	262	292	56	138	0	194	725
Percent	0.0	76.2	23.8		10.3	0.0	89.7		28.9	71.1	0.0		
05:00 Volume	0	48	21	69	6	0	67	73	6	42	0	48	190
Peak Factor													0.954
High Int.	05:00 PM				05:15 PM				05:15 PM				
Volume	0	48	21	69	11	0	76	87	13	41	0	54	
Peak Factor				0.866				0.839				0.898	

Turning Movement Count
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	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:15 PM				05:00 PM				04:45 PM				
Volume	0	179	70	249	34	0	273	307	56	138	0	194	
Percent	0.0	71.9	28.1		11.1	0.0	88.9		28.9	71.1	0.0		
High Int.	05:00 PM				05:15 PM				05:15 PM				
Volume	0	48	21	69	11	0	76	87	13	41	0	54	
Peak Factor				0.902				0.882				0.898	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Parrish/Manatee
Weather: Clear
Comments:

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Start Date : 7/26/2007
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Groups Printed- Passenger Vehicles

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	37	14	51	4	0	30	34	7	23	0	30	115
03:15 PM	0	29	6	35	4	0	34	38	15	18	0	33	106
03:30 PM	0	26	8	34	6	0	32	38	7	19	0	26	98
03:45 PM	0	30	9	39	4	0	29	33	7	20	0	27	99
Total	0	122	37	159	18	0	125	143	36	80	0	116	418
04:00 PM	0	33	9	42	5	0	43	48	6	27	0	33	123
04:15 PM	0	39	15	54	8	0	44	52	6	25	0	31	137
04:30 PM	0	32	17	49	9	0	48	57	10	28	0	38	144
04:45 PM	0	52	13	65	3	0	53	56	11	24	0	35	156
Total	0	156	54	210	25	0	188	213	33	104	0	137	560
05:00 PM	0	48	17	65	4	0	64	68	4	40	0	44	177
05:15 PM	0	29	13	42	9	0	75	84	12	40	0	52	178
05:30 PM	0	49	8	57	10	0	63	73	17	29	0	46	176
05:45 PM	0	44	15	59	7	0	63	70	2	26	0	28	157
Total	0	170	53	223	30	0	265	295	35	135	0	170	688
06:00 PM	0	35	7	42	5	0	58	63	4	32	0	36	141
06:15 PM	0	31	5	36	7	0	45	52	4	18	0	22	110
06:30 PM	0	27	3	30	5	0	43	48	4	20	0	24	102
06:45 PM	0	46	9	55	4	0	42	46	5	17	0	22	123
Total	0	139	24	163	21	0	188	209	17	87	0	104	476
Grand Total	0	587	168	755	94	0	766	860	121	406	0	527	2142
Apprch %	0.0	77.7	22.3		10.9	0.0	89.1		23.0	77.0	0.0		
Total %	0.0	27.4	7.8	35.2	4.4	0.0	35.8	40.1	5.6	19.0	0.0	24.6	

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	0	170	53	223	30	0	265	295	35	135	0	170	688
Percent	0.0	76.2	23.8		10.2	0.0	89.8		20.6	79.4	0.0		
05:15 Volume	0	29	13	42	9	0	75	84	12	40	0	52	178
Peak Factor													0.966
High Int.	05:00 PM				05:15 PM				05:15 PM				
Volume	0	48	17	65	9	0	75	84	12	40	0	52	
Peak Factor				0.858				0.878				0.817	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : moccasinwallow&i75nb
Site Code : 00007029
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	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:15 PM				05:00 PM				04:45 PM				
Volume	0	171	62	233	30	0	265	295	44	133	0	177	
Percent	0.0	73.4	26.6		10.2	0.0	89.8		24.9	75.1	0.0		
High Int.	04:45 PM				05:15 PM				05:15 PM				
Volume	0	52	13	65	9	0	75	84	12	40	0	52	
Peak Factor				0.896				0.878				0.851	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Parrish/Manatee
Weather: Clear
Comments:

File Name : moccasinwallow&i75nb
Site Code : 00007029
Start Date : 7/26/2007
Page No : 1

Groups Printed- Heavy Vehicles

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	6	2	8	1	0	5	6	2	4	0	6	20
03:15 PM	0	5	1	6	2	0	4	6	1	1	0	2	14
03:30 PM	0	5	0	5	1	0	2	3	0	6	0	6	14
03:45 PM	0	5	2	7	0	0	4	4	0	3	0	3	14
Total	0	21	5	26	4	0	15	19	3	14	0	17	62
04:00 PM	0	3	0	3	0	0	4	4	1	3	0	4	11
04:15 PM	0	2	1	3	1	0	2	3	2	5	0	7	13
04:30 PM	0	5	2	7	0	0	1	1	3	3	0	6	14
04:45 PM	0	1	1	2	0	0	0	0	5	2	0	7	9
Total	0	11	4	15	1	0	7	8	11	13	0	24	47
05:00 PM	0	0	4	4	2	0	3	5	2	2	0	4	13
05:15 PM	0	2	0	2	2	0	1	3	0	1	0	1	6
05:30 PM	0	1	1	2	0	0	3	3	3	0	0	3	8
05:45 PM	0	2	1	3	0	0	1	1	2	0	0	2	6
Total	0	5	6	11	4	0	8	12	7	3	0	10	33
06:00 PM	0	4	1	5	0	0	0	0	2	4	0	6	11
06:15 PM	0	0	1	1	0	0	1	1	0	0	0	0	2
06:30 PM	0	0	1	1	0	0	0	0	1	1	0	2	3
06:45 PM	0	1	2	3	0	0	3	3	1	0	0	1	7
Total	0	5	5	10	0	0	4	4	4	5	0	9	23
Grand Total	0	42	20	62	9	0	34	43	25	35	0	60	165
Apprch %	0.0	67.7	32.3		20.9	0.0	79.1		41.7	58.3	0.0		
Total %	0.0	25.5	12.1	37.6	5.5	0.0	20.6	26.1	15.2	21.2	0.0	36.4	

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	21	5	26	4	0	15	19	3	14	0	17	62
Percent	0.0	80.8	19.2		21.1	0.0	78.9		17.6	82.4	0.0		
03:00 Volume	0	6	2	8	1	0	5	6	2	4	0	6	20
Peak Factor													0.775
High Int.	03:00 PM				03:00 PM				03:00 PM				
Volume	0	6	2	8	1	0	5	6	2	4	0	6	
Peak Factor				0.813				0.792				0.708	

Turning Movement Count
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	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				04:00 PM				
Volume	0	21	5	26	4	0	15	19	11	13	0	24	
Percent	0.0	80.8	19.2		21.1	0.0	78.9		45.8	54.2	0.0		
High Int.	03:00 PM				03:00 PM				04:15 PM				
Volume	0	6	2	8	1	0	5	6	2	5	0	7	
Peak Factor				0.813				0.792				0.857	

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City/County: Parrish/Manatee
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Groups Printed- U-Turns

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	3	0	0	3	3
03:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	6	0	0	6	6
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
05:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	2
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
Grand Total	0	0	0	0	0	0	0	0	9	0	0	9	9
Apprch %	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	

	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	0	0	0	0	0	0	0	6	0	0	6	6
Percent	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
03:00 Volume	0	0	0	0	0	0	0	0	3	0	0	3	3
Peak Factor													0.500
High Int.	2:45:00 PM				2:45:00 PM				03:00 PM				
Volume	0	0	0	0	0	0	0	0	3	0	0	3	
Peak Factor												0.500	

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	MOCCASIN WALLOW ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	0	0	0	0	6	0	0	6	
Percent	-	-	-		-	-	-		100.0	0.0	0.0		
High Int.	-				-				03:00 PM				
Volume	-	-	-	-	-	-	-	-	3	0	0	3	
Peak Factor				-				-				0.500	

Turning Movement Count
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	10	0	8	18	28	19	0	47	0	27	5	32	97
03:15 PM	10	0	8	18	27	14	0	41	0	26	9	35	94
03:30 PM	16	0	5	21	22	15	0	37	1	15	4	20	78
03:45 PM	10	0	10	20	29	11	0	40	0	21	9	30	90
Total	46	0	31	77	106	59	0	165	1	89	27	117	359
04:00 PM	14	0	3	17	25	16	0	41	0	23	6	29	87
04:15 PM	20	1	11	32	32	18	0	50	0	18	7	25	107
04:30 PM	21	0	12	33	24	22	0	46	0	23	5	28	107
04:45 PM	21	0	9	30	31	21	0	52	0	20	4	24	106
Total	76	1	35	112	112	77	0	189	0	84	22	106	407
05:00 PM	21	0	10	31	42	13	0	55	0	27	7	34	120
05:15 PM	19	0	8	27	24	19	0	43	0	36	5	41	111
05:30 PM	22	0	10	32	30	30	0	60	0	26	4	30	122
05:45 PM	18	0	10	28	28	23	0	51	0	12	2	14	93
Total	80	0	38	118	124	85	0	209	0	101	18	119	446
06:00 PM	25	0	11	36	26	15	0	41	0	16	7	23	100
06:15 PM	10	0	11	21	27	14	0	41	0	12	7	19	81
06:30 PM	12	0	4	16	17	13	0	30	0	14	1	15	61
06:45 PM	11	1	4	16	30	19	0	49	0	13	2	15	80
Total	58	1	30	89	100	61	0	161	0	55	17	72	322
Grand Total	260	2	134	396	442	282	0	724	1	329	84	414	1534
Apprch %	65.7	0.5	33.8		61.0	39.0	0.0		0.2	79.5	20.3		
Total %	16.9	0.1	8.7	25.8	28.8	18.4	0.0	47.2	0.1	21.4	5.5	27.0	

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	83	0	37	120	127	83	0	210	0	109	20	129	459
Percent	69.2	0.0	30.8		60.5	39.5	0.0		0.0	84.5	15.5		
05:30 Volume	22	0	10	32	30	30	0	60	0	26	4	30	122
Peak Factor													0.941
High Int.	05:30 PM				05:30 PM				05:15 PM				
Volume	22	0	10	32	30	30	0	60	0	36	5	41	
Peak Factor				0.938				0.875				0.787	

Turning Movement Count
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File Name : moccasinwallow&i75sb
Site Code : 00007029
Start Date : 7/26/2007
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	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:15 PM				04:45 PM				04:45 PM				
Volume	83	1	42	126	127	83	0	210	0	109	20	129	
Percent	65.9	0.8	33.3		60.5	39.5	0.0		0.0	84.5	15.5		
High Int.	04:30 PM				05:30 PM				05:15 PM				
Volume	21	0	12	33	30	30	0	60	0	36	5	41	
Peak Factor				0.955				0.875				0.787	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Parrish/Manatee
Weather: Clear
Comments:

File Name : moccasinwallow&i75sb
Site Code : 00007029
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Groups Printed- Passenger Vehicles

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	9	0	6	15	25	13	0	38	0	22	5	27	80
03:15 PM	9	0	7	16	21	11	0	32	0	25	9	34	82
03:30 PM	13	0	5	18	21	10	0	31	0	12	4	16	65
03:45 PM	9	0	6	15	26	7	0	33	0	18	9	27	75
Total	40	0	24	64	93	41	0	134	0	77	27	104	302
04:00 PM	14	0	3	17	23	15	0	38	0	19	3	22	77
04:15 PM	16	1	11	28	29	18	0	47	0	14	7	21	96
04:30 PM	20	0	11	31	21	19	0	40	0	19	4	23	94
04:45 PM	19	0	8	27	31	20	0	51	0	16	4	20	98
Total	69	1	33	103	104	72	0	176	0	68	18	86	365
05:00 PM	19	0	8	27	42	11	0	53	0	25	7	32	112
05:15 PM	19	0	7	26	21	16	0	37	0	35	5	40	103
05:30 PM	22	0	9	31	30	29	0	59	0	23	4	27	117
05:45 PM	17	0	9	26	27	22	0	49	0	11	2	13	88
Total	77	0	33	110	120	78	0	198	0	94	18	112	420
06:00 PM	20	0	11	31	24	13	0	37	0	15	7	22	90
06:15 PM	10	0	10	20	26	14	0	40	0	12	7	19	79
06:30 PM	11	0	4	15	17	13	0	30	0	13	1	14	59
06:45 PM	11	1	4	16	29	18	0	47	0	12	1	13	76
Total	52	1	29	82	96	58	0	154	0	52	16	68	304
Grand Total	238	2	119	359	413	249	0	662	0	291	79	370	1391
Apprch %	66.3	0.6	33.1		62.4	37.6	0.0		0.0	78.6	21.4		
Total %	17.1	0.1	8.6	25.8	29.7	17.9	0.0	47.6	0.0	20.9	5.7	26.6	

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	79	0	32	111	124	76	0	200	0	99	20	119	430
Percent	71.2	0.0	28.8		62.0	38.0	0.0		0.0	83.2	16.8		
05:30 Volume	22	0	9	31	30	29	0	59	0	23	4	27	117
Peak Factor													0.919
High Int.	05:30 PM				05:30 PM				05:15 PM				
Volume	22	0	9	31	30	29	0	59	0	35	5	40	
Peak Factor				0.895				0.847				0.744	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : moccasinwallow&i75sb
Site Code : 00007029
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	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:15 PM				04:45 PM				04:45 PM				
Volume	78	0	36	114	124	76	0	200	0	99	20	119	
Percent	68.4	0.0	31.6		62.0	38.0	0.0		0.0	83.2	16.8		
High Int.	05:30 PM				05:30 PM				05:15 PM				
Volume	22	0	9	31	30	29	0	59	0	35	5	40	
Peak Factor				0.919				0.847				0.744	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Parrish/Manatee
Weather: Clear
Comments:

File Name : moccasinwallow&i75sb
Site Code : 00007029
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Groups Printed- Heavy Vehicles

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	1	0	2	3	1	6	0	7	0	5	0	5	15
03:15 PM	1	0	1	2	4	3	0	7	0	1	0	1	10
03:30 PM	3	0	0	3	1	5	0	6	0	3	0	3	12
03:45 PM	1	0	4	5	3	4	0	7	0	3	0	3	15
Total	6	0	7	13	9	18	0	27	0	12	0	12	52
04:00 PM	0	0	0	0	2	1	0	3	0	4	3	7	10
04:15 PM	4	0	0	4	3	0	0	3	0	4	0	4	11
04:30 PM	1	0	1	2	2	3	0	5	0	4	1	5	12
04:45 PM	2	0	1	3	0	1	0	1	0	4	0	4	8
Total	7	0	2	9	7	5	0	12	0	16	4	20	41
05:00 PM	2	0	2	4	0	2	0	2	0	2	0	2	8
05:15 PM	0	0	1	1	2	3	0	5	0	1	0	1	7
05:30 PM	0	0	1	1	0	1	0	1	0	3	0	3	5
05:45 PM	1	0	1	2	1	1	0	2	0	1	0	1	5
Total	3	0	5	8	3	7	0	10	0	7	0	7	25
06:00 PM	5	0	0	5	2	2	0	4	0	1	0	1	10
06:15 PM	0	0	1	1	0	0	0	0	0	0	0	0	1
06:30 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
06:45 PM	0	0	0	0	0	1	0	1	0	1	1	2	3
Total	6	0	1	7	2	3	0	5	0	3	1	4	16
Grand Total	22	0	15	37	21	33	0	54	0	38	5	43	134
Apprch %	59.5	0.0	40.5		38.9	61.1	0.0		0.0	88.4	11.6		
Total %	16.4	0.0	11.2	27.6	15.7	24.6	0.0	40.3	0.0	28.4	3.7	32.1	

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	6	0	7	13	9	18	0	27	0	12	0	12	52
Percent	46.2	0.0	53.8		33.3	66.7	0.0		0.0	100.0	0.0		
03:45 Volume	1	0	4	5	3	4	0	7	0	3	0	3	15
Peak Factor													0.867
High Int.	03:45 PM				03:00 PM				03:00 PM				
Volume	1	0	4	5	1	6	0	7	0	5	0	5	
Peak Factor				0.650				0.964				0.600	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : moccasinwallow&i75sb
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	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				04:00 PM				
Volume	6	0	7	13	9	18	0	27	0	16	4	20	
Percent	46.2	0.0	53.8		33.3	66.7	0.0		0.0	80.0	20.0		
High Int.	03:45 PM				03:00 PM				04:00 PM				
Volume	1	0	4	5	1	6	0	7	0	4	3	7	
Peak Factor				0.650				0.964				0.714	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Parrish/Manatee
Weather: Clear
Comments:

File Name : moccasinwallow&i75sb
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Groups Printed- U-Turns

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
03:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
03:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	4	0	0	4	1	0	0	1	5
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	2	0	0	2	0	0	0	0	2
Grand Total	0	0	0	0	8	0	0	8	1	0	0	1	9
Apprch %	0.0	0.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	88.9	0.0	0.0	88.9	11.1	0.0	0.0	11.1	

	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	0	0	0	4	0	0	4	1	0	0	1	5
Percent	0.0	0.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
03:15 Volume	0	0	0	0	2	0	0	2	0	0	0	0	2
Peak Factor													0.625
High Int.	2:45:00 PM				03:00 PM				03:30 PM				
Volume	0	0	0	0	2	0	0	2	1	0	0	1	
Peak Factor								0.500				0.250	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

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	I-75 SOUTHBOUND RAMPS Southbound				MOCCASIN WALLOW ROAD Westbound				MOCCASIN WALLOW ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	4	0	0	4	1	0	0	1	
Percent	-	-	-		100.0	0.0	0.0		100.0	0.0	0.0		
High Int.	-				03:00 PM				03:30 PM				
Volume	-	-	-	-	2	0	0	2	1	0	0	1	
Peak Factor				-				0.500				0.250	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Sun City Ctr/Hillsborough
Weather: Clear
Comments:

File Name : sr674&i75nb
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	197	126	323	13	0	41	54	0	207	61	268	645
03:15 PM	0	202	110	312	15	0	27	42	0	247	58	305	659
03:30 PM	0	176	132	308	20	0	23	43	0	250	66	316	667
03:45 PM	0	196	104	300	26	0	23	49	0	239	51	290	639
Total	0	771	472	1243	74	0	114	188	0	943	236	1179	2610
04:00 PM	0	198	90	288	17	0	21	38	0	271	55	326	652
04:15 PM	0	184	93	277	26	0	26	52	0	237	67	304	633
04:30 PM	0	205	113	318	19	0	21	40	0	258	77	335	693
04:45 PM	0	219	110	329	27	0	23	50	0	237	58	295	674
Total	0	806	406	1212	89	0	91	180	0	1003	257	1260	2652
05:00 PM	1	224	130	355	32	0	22	54	0	255	110	365	774
05:15 PM	0	209	108	317	19	0	21	40	0	260	97	357	714
05:30 PM	0	219	104	323	30	0	20	50	0	222	76	298	671
05:45 PM	0	190	76	266	16	0	12	28	0	204	45	249	543
Total	1	842	418	1261	97	0	75	172	0	941	328	1269	2702
06:00 PM	0	154	55	209	27	0	12	39	0	242	45	287	535
06:15 PM	0	150	78	228	17	0	13	30	0	179	59	238	496
06:30 PM	0	190	78	268	24	0	22	46	0	169	41	210	524
06:45 PM	0	162	45	207	13	0	10	23	0	177	45	222	452
Total	0	656	256	912	81	0	57	138	0	767	190	957	2007
Grand Total	1	3075	1552	4628	341	0	337	678	0	3654	1011	4665	9971
Apprch %	0.0	66.4	33.5		50.3	0.0	49.7		0.0	78.3	21.7		
Total %	0.0	30.8	15.6	46.4	3.4	0.0	3.4	6.8	0.0	36.6	10.1	46.8	

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:30 PM												
Volume	1	857	461	1319	97	0	87	184	0	1010	342	1352	2855
Percent	0.1	65.0	35.0		52.7	0.0	47.3		0.0	74.7	25.3		
05:00 Volume	1	224	130	355	32	0	22	54	0	255	110	365	774
Peak Factor													0.922
High Int.	05:00 PM				05:00 PM				05:00 PM				
Volume	1	224	130	355	32	0	22	54	0	255	110	365	
Peak Factor				0.929				0.852				0.926	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : sr674&i75nb
Site Code : 00007029
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	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:45 PM				04:15 PM				04:30 PM				
Volume	1	871	452	1324	104	0	92	196	0	1010	342	1352	
Percent	0.1	65.8	34.1		53.1	0.0	46.9		0.0	74.7	25.3		
High Int.	05:00 PM				05:00 PM				05:00 PM				
Volume	1	224	130	355	32	0	22	54	0	255	110	365	
Peak Factor				0.932				0.907				0.926	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Sun City Ctr/Hillsborough
Weather: Clear
Comments:

File Name : sr674&i75nb
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Groups Printed- Passenger Vehicles

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	193	117	310	13	0	39	52	0	204	55	259	621
03:15 PM	0	196	106	302	15	0	22	37	0	239	54	293	632
03:30 PM	0	171	126	297	18	0	21	39	0	243	62	305	641
03:45 PM	0	190	100	290	20	0	21	41	0	231	48	279	610
Total	0	750	449	1199	66	0	103	169	0	917	219	1136	2504
04:00 PM	0	193	89	282	13	0	21	34	0	263	53	316	632
04:15 PM	0	181	91	272	26	0	26	52	0	231	64	295	619
04:30 PM	0	205	109	314	18	0	21	39	0	258	76	334	687
04:45 PM	0	216	109	325	26	0	21	47	0	232	58	290	662
Total	0	795	398	1193	83	0	89	172	0	984	251	1235	2600
05:00 PM	0	222	126	348	29	0	22	51	0	251	108	359	758
05:15 PM	0	205	104	309	19	0	21	40	0	258	95	353	702
05:30 PM	0	218	102	320	29	0	20	49	0	214	73	287	656
05:45 PM	0	186	74	260	15	0	11	26	0	202	43	245	531
Total	0	831	406	1237	92	0	74	166	0	925	319	1244	2647
06:00 PM	0	152	54	206	23	0	12	35	0	235	43	278	519
06:15 PM	0	150	72	222	17	0	13	30	0	175	56	231	483
06:30 PM	0	189	77	266	22	0	22	44	0	166	37	203	513
06:45 PM	0	160	45	205	13	0	10	23	0	176	45	221	449
Total	0	651	248	899	75	0	57	132	0	752	181	933	1964
Grand Total	0	3027	1501	4528	316	0	323	639	0	3578	970	4548	9715
Apprch %	0.0	66.9	33.1		49.5	0.0	50.5		0.0	78.7	21.3		
Total %	0.0	31.2	15.5	46.6	3.3	0.0	3.3	6.6	0.0	36.8	10.0	46.8	

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:30 PM												
Volume	0	848	448	1296	92	0	85	177	0	999	337	1336	2809
Percent	0.0	65.4	34.6		52.0	0.0	48.0		0.0	74.8	25.2		
05:00 Volume	0	222	126	348	29	0	22	51	0	251	108	359	758
Peak Factor													0.926
High Int.	05:00 PM				05:00 PM				05:00 PM				
Volume	0	222	126	348	29	0	22	51	0	251	108	359	
Peak Factor				0.931				0.868				0.930	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

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	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:45 PM				04:15 PM				04:30 PM				
Volume	0	861	441	1302	99	0	90	189	0	999	337	1336	
Percent	0.0	66.1	33.9		52.4	0.0	47.6		0.0	74.8	25.2		
High Int.	05:00 PM				04:15 PM				05:00 PM				
Volume	0	222	126	348	26	0	26	52	0	251	108	359	
Peak Factor				0.935				0.909				0.930	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Sun City Ctr/Hillsborough
Weather: Clear
Comments:

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Site Code : 00007029
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Groups Printed- Heavy Vehicles

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	4	9	13	0	0	2	2	0	3	6	9	24
03:15 PM	0	6	4	10	0	0	5	5	0	8	4	12	27
03:30 PM	0	5	6	11	2	0	2	4	0	7	4	11	26
03:45 PM	0	6	4	10	6	0	2	8	0	8	3	11	29
Total	0	21	23	44	8	0	11	19	0	26	17	43	106
04:00 PM	0	5	1	6	4	0	0	4	0	8	2	10	20
04:15 PM	0	3	2	5	0	0	0	0	0	6	3	9	14
04:30 PM	0	0	4	4	1	0	0	1	0	0	1	1	6
04:45 PM	0	3	1	4	1	0	2	3	0	5	0	5	12
Total	0	11	8	19	6	0	2	8	0	19	6	25	52
05:00 PM	0	2	4	6	3	0	0	3	0	4	2	6	15
05:15 PM	0	4	4	8	0	0	0	0	0	2	2	4	12
05:30 PM	0	1	2	3	1	0	0	1	0	8	3	11	15
05:45 PM	0	4	2	6	1	0	1	2	0	2	2	4	12
Total	0	11	12	23	5	0	1	6	0	16	9	25	54
06:00 PM	0	2	1	3	4	0	0	4	0	7	2	9	16
06:15 PM	0	0	6	6	0	0	0	0	0	4	3	7	13
06:30 PM	0	1	1	2	2	0	0	2	0	3	4	7	11
06:45 PM	0	2	0	2	0	0	0	0	0	1	0	1	3
Total	0	5	8	13	6	0	0	6	0	15	9	24	43
Grand Total	0	48	51	99	25	0	14	39	0	76	41	117	255
Apprch %	0.0	48.5	51.5		64.1	0.0	35.9		0.0	65.0	35.0		
Total %	0.0	18.8	20.0	38.8	9.8	0.0	5.5	15.3	0.0	29.8	16.1	45.9	

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	21	23	44	8	0	11	19	0	26	17	43	106
Percent	0.0	47.7	52.3		42.1	0.0	57.9		0.0	60.5	39.5		
03:45 Volume	0	6	4	10	6	0	2	8	0	8	3	11	29
Peak Factor													0.914
High Int.	03:00 PM				03:45 PM				03:15 PM				
Volume	0	4	9	13	6	0	2	8	0	8	4	12	
Peak Factor				0.846				0.594				0.896	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : sr674&i75nb
Site Code : 00007029
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	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:15 PM				03:15 PM				
Volume	0	21	23	44	12	0	9	21	0	31	13	44	
Percent	0.0	47.7	52.3		57.1	0.0	42.9		0.0	70.5	29.5		
High Int.	03:00 PM				03:45 PM				03:15 PM				
Volume	0	4	9	13	6	0	2	8	0	8	4	12	
Peak Factor				0.846				0.656				0.917	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Sun City Ctr/Hillsborough
Weather: Clear
Comments:

File Name : sr674&i75nb
Site Code : 00007029
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Groups Printed- U-Turns

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Apprch %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:15 PM												
Volume	1	0	0	1	0	0	0	0	0	0	0	0	1
Percent	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
05:00 Volume	1	0	0	1	0	0	0	0	0	0	0	0	1
Peak Factor													0.250
High Int.	05:00 PM				2:45:00 PM				2:45:00 PM				
Volume	1	0	0	1									
Peak Factor				0.250									

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : sr674&i75nb
Site Code : 00007029
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	SR 674 Westbound				I-75 NORTHBOUND RAMPS Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:15 PM				03:00 PM				03:00 PM				
Volume	1	0	0	1	0	0	0	0	0	0	0	0	
Percent	100.0	0.0	0.0		-	-	-		-	-	-		
High Int.	05:00 PM				-				-				
Volume	1	0	0	1	-	-	-	-	-	-	-	-	
Peak Factor				0.250				-				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Ruskin/Hillsborough
Weather: Clear
Comments:

File Name : sr674&i75sb
Site Code : 00007029
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	48	48	30	182	0	212	0	0	80	80	0	188	21	209	549
03:15 PM	0	0	66	66	19	198	0	217	0	0	97	97	0	218	14	232	612
03:30 PM	0	0	49	49	21	174	0	195	0	0	101	101	0	229	22	251	596
03:45 PM	0	0	80	80	23	198	0	221	0	0	110	110	0	200	16	216	627
Total	0	0	243	243	93	752	0	845	0	0	388	388	0	835	73	908	2384
04:00 PM	0	0	73	73	22	197	0	219	0	0	130	130	0	201	16	217	639
04:15 PM	0	0	77	77	25	179	0	204	0	0	121	121	0	204	24	228	630
04:30 PM	0	0	65	65	21	199	0	220	0	0	128	128	0	205	21	226	639
04:45 PM	0	0	70	70	22	208	0	230	0	0	110	110	0	182	18	200	610
Total	0	0	285	285	90	783	0	873	0	0	489	489	0	792	79	871	2518
05:00 PM	0	0	80	80	23	222	0	245	0	0	121	121	0	249	26	275	721
05:15 PM	0	0	99	99	11	209	0	220	0	0	125	125	0	242	16	258	702
05:30 PM	0	0	84	84	13	228	0	241	0	0	119	119	0	194	20	214	658
05:45 PM	0	0	79	79	13	199	0	212	0	0	109	109	0	157	17	174	574
Total	0	0	342	342	60	858	0	918	0	0	474	474	0	842	79	921	2655
06:00 PM	0	0	74	74	11	161	0	172	0	0	100	100	0	196	15	211	557
06:15 PM	0	0	50	50	15	149	0	164	0	0	82	82	0	162	14	176	472
06:30 PM	0	0	67	67	23	185	0	208	0	0	69	69	0	143	14	157	501
06:45 PM	0	0	59	59	13	151	0	164	0	0	67	67	0	162	7	169	459
Total	0	0	250	250	62	646	0	708	0	0	318	318	0	663	50	713	1989
Grand Total	0	0	1120	1120	305	3039	0	3344	0	0	1669	1669	0	3132	281	3413	9546
Apprch %	0.0	0.0	100.0		9.1	90.9	0.0		0.0	0.0	100.0		0.0	91.8	8.2		
Total %	0.0	0.0	11.7	11.7	3.2	31.8	0.0	35.0	0.0	0.0	17.5	17.5	0.0	32.8	2.9	35.8	

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	0	0	333	333	69	867	0	936	0	0	475	475	0	867	80	947	2691
Percent	0.0	0.0	100.0		7.4	92.6	0.0		0.0	0.0	100.0		0.0	91.6	8.4		
05:00 Volume	0	0	80	80	23	222	0	245	0	0	121	121	0	249	26	275	721
Peak Factor																	0.933
High Int.	05:15 PM				05:00 PM				05:15 PM				05:00 PM				
Volume	0	0	99	99	23	222	0	245	0	0	125	125	0	249	26	275	
Peak Factor				0.841				0.955				0.950				0.861	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : sr674&i75sb
Site Code : 00007029
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	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	05:00 PM				04:45 PM				03:45 PM				04:30 PM				
Volume	0	0	342	342	69	867	0	936	0	0	489	489	0	878	81	959	
Percent	0.0	0.0	100.0		7.4	92.6	0.0		0.0	0.0	100.0		0.0	91.6	8.4		
High Int.	05:15 PM				05:00 PM				04:00 PM				05:00 PM				
Volume	0	0	99	99	23	222	0	245	0	0	130	130	0	249	26	275	
Peak Factor				0.864				0.955				0.940				0.872	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Ruskin/Hillsborough
Weather: Clear
Comments:

File Name : sr674&i75sb
Site Code : 00007029
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Groups Printed- Passenger Vehicles

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	44	44	29	178	0	207	0	0	77	77	0	182	21	203	531
03:15 PM	0	0	63	63	18	193	0	211	0	0	93	93	0	210	12	222	589
03:30 PM	0	0	46	46	21	168	0	189	0	0	99	99	0	220	21	241	575
03:45 PM	0	0	76	76	23	191	0	214	0	0	106	106	0	190	16	206	602
Total	0	0	229	229	91	730	0	821	0	0	375	375	0	802	70	872	2297
04:00 PM	0	0	73	73	18	186	0	204	0	0	127	127	0	197	16	213	617
04:15 PM	0	0	74	74	23	178	0	201	0	0	118	118	0	198	23	221	614
04:30 PM	0	0	63	63	21	198	0	219	0	0	128	128	0	204	20	224	634
04:45 PM	0	0	64	64	20	205	0	225	0	0	109	109	0	178	17	195	593
Total	0	0	274	274	82	767	0	849	0	0	482	482	0	777	76	853	2458
05:00 PM	0	0	78	78	22	218	0	240	0	0	117	117	0	247	25	272	707
05:15 PM	0	0	97	97	11	204	0	215	0	0	125	125	0	238	16	254	691
05:30 PM	0	0	80	80	13	226	0	239	0	0	116	116	0	186	19	205	640
05:45 PM	0	0	77	77	11	196	0	207	0	0	107	107	0	154	17	171	562
Total	0	0	332	332	57	844	0	901	0	0	465	465	0	825	77	902	2600
06:00 PM	0	0	73	73	10	156	0	166	0	0	93	93	0	194	13	207	539
06:15 PM	0	0	50	50	15	149	0	164	0	0	78	78	0	159	14	173	465
06:30 PM	0	0	66	66	23	182	0	205	0	0	68	68	0	136	14	150	489
06:45 PM	0	0	59	59	13	150	0	163	0	0	67	67	0	162	7	169	458
Total	0	0	248	248	61	637	0	698	0	0	306	306	0	651	48	699	1951
Grand Total	0	0	1083	1083	291	2978	0	3269	0	0	1628	1628	0	3055	271	3326	9306
Apprch %	0.0	0.0	100.0		8.9	91.1	0.0		0.0	0.0	100.0		0.0	91.9	8.1		
Total %	0.0	0.0	11.6	11.6	3.1	32.0	0.0	35.1	0.0	0.0	17.5	17.5	0.0	32.8	2.9	35.7	

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	04:45 PM																
Volume	0	0	319	319	66	853	0	919	0	0	467	467	0	849	77	926	2631
Percent	0.0	0.0	100.0		7.2	92.8	0.0		0.0	0.0	100.0		0.0	91.7	8.3		
05:00 Volume	0	0	78	78	22	218	0	240	0	0	117	117	0	247	25	272	707
Peak Factor																	0.930
High Int.	05:15 PM				05:00 PM				05:15 PM				05:00 PM				
Volume	0	0	97	97	22	218	0	240	0	0	125	125	0	247	25	272	
Peak Factor				0.822				0.957				0.934				0.851	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : sr674&i75sb
Site Code : 00007029
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	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	05:00 PM				04:45 PM				04:00 PM				04:30 PM				
Volume	0	0	332	332	66	853	0	919	0	0	482	482	0	867	78	945	
Percent	0.0	0.0	100.0		7.2	92.8	0.0		0.0	0.0	100.0		0.0	91.7	8.3		
High Int.	05:15 PM				05:00 PM				04:30 PM				05:00 PM				
Volume	0	0	97	97	22	218	0	240	0	0	128	128	0	247	25	272	
Peak Factor				0.856				0.957				0.941				0.869	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Ruskin/Hillsborough
Weather: Clear
Comments:

File Name : sr674&i75sb
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Groups Printed- Heavy Vehicles

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	4	4	0	4	0	4	0	0	3	3	0	6	0	6	17
03:15 PM	0	0	3	3	1	5	0	6	0	0	4	4	0	8	2	10	23
03:30 PM	0	0	3	3	0	6	0	6	0	0	2	2	0	9	1	10	21
03:45 PM	0	0	4	4	0	7	0	7	0	0	4	4	0	10	0	10	25
Total	0	0	14	14	1	22	0	23	0	0	13	13	0	33	3	36	86
04:00 PM	0	0	0	0	4	11	0	15	0	0	3	3	0	4	0	4	22
04:15 PM	0	0	3	3	2	1	0	3	0	0	3	3	0	6	1	7	16
04:30 PM	0	0	2	2	0	1	0	1	0	0	0	0	0	1	1	2	5
04:45 PM	0	0	6	6	1	3	0	4	0	0	1	1	0	4	1	5	16
Total	0	0	11	11	7	16	0	23	0	0	7	7	0	15	3	18	59
05:00 PM	0	0	2	2	0	4	0	4	0	0	4	4	0	2	1	3	13
05:15 PM	0	0	2	2	0	5	0	5	0	0	0	0	0	4	0	4	11
05:30 PM	0	0	4	4	0	2	0	2	0	0	3	3	0	8	1	9	18
05:45 PM	0	0	2	2	2	3	0	5	0	0	2	2	0	3	0	3	12
Total	0	0	10	10	2	14	0	16	0	0	9	9	0	17	2	19	54
06:00 PM	0	0	1	1	1	5	0	6	0	0	7	7	0	2	2	4	18
06:15 PM	0	0	0	0	0	0	0	0	0	0	4	4	0	3	0	3	7
06:30 PM	0	0	1	1	0	3	0	3	0	0	1	1	0	7	0	7	12
06:45 PM	0	0	0	0	0	1	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	2	2	1	9	0	10	0	0	12	12	0	12	2	14	38
Grand Total	0	0	37	37	11	61	0	72	0	0	41	41	0	77	10	87	237
Apprch %	0.0	0.0	100.0		15.3	84.7	0.0		0.0	0.0	100.0		0.0	88.5	11.5		
Total %	0.0	0.0	15.6	15.6	4.6	25.7	0.0	30.4	0.0	0.0	17.3	17.3	0.0	32.5	4.2	36.7	

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	03:15 PM																
Volume	0	0	10	10	5	29	0	34	0	0	13	13	0	31	3	34	91
Percent	0.0	0.0	100.0		14.7	85.3	0.0		0.0	0.0	100.0		0.0	91.2	8.8		
03:45 Volume	0	0	4	4	0	7	0	7	0	0	4	4	0	10	0	10	25
Peak Factor																	0.910
High Int.	03:45 PM				04:00 PM				03:15 PM				03:15 PM				
Volume	0	0	4	4	4	11	0	15	0	0	4	4	0	8	2	10	
Peak Factor				0.625				0.567				0.813				0.850	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : sr674&i75sb
Site Code : 00007029
Start Date : 7/25/2007
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	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:00 PM				03:15 PM				05:30 PM				03:00 PM				
Volume	0	0	14	14	5	29	0	34	0	0	16	16	0	33	3	36	
Percent	0.0	0.0	100.0		14.7	85.3	0.0		0.0	0.0	100.0		0.0	91.7	8.3		
High Int.	03:00 PM				04:00 PM				06:00 PM				03:15 PM				
Volume	0	0	4	4	4	11	0	15	0	0	7	7	0	8	2	10	
Peak Factor				0.875				0.567				0.571				0.900	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Ruskin/Hillsborough
Weather: Clear
Comments:

File Name : sr674&i75sb
Site Code : 00007029
Start Date : 7/25/2007
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Groups Printed- U-Turns

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	3
Apprch %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	04:15 PM																
Volume	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Percent	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
05:00 Volume	0	0	0	0	1	0	0	1	0	0	0	0	0	0	0	0	1
Peak Factor																	0.500
High Int.	2:45:00 PM				04:45 PM				2:45:00 PM				2:45:00 PM				
Volume	0	0	0	0	1	0	0	1									
Peak Factor								0.500									

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : sr674&i75sb
Site Code : 00007029
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	I-75 SOUTHBOUND RAMP Southbound				SR 674 Westbound				I-75 SOUTHBOUND RAMP Northbound				SR 674 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:00 PM				04:15 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	
Percent	-	-	-		100.0	0.0	0.0		-	-	-		-	-	-		
High Int.	-				04:45 PM				-				-				
Volume	-	-	-	-	1	0	0	1	-	-	-	-	-	-	-	-	
Peak Factor				-				0.500				-				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75nb
Site Code : 00007029
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	99	102	0	201	19	0	27	46	0	186	93	279	526
03:15 PM	97	95	0	192	1	0	44	45	0	177	99	276	513
03:30 PM	104	93	0	197	11	0	50	61	0	235	103	338	596
03:45 PM	95	76	0	171	7	0	38	45	0	206	105	311	527
Total	395	366	0	761	38	0	159	197	0	804	400	1204	2162
04:00 PM	92	84	0	176	8	0	55	63	0	233	90	323	562
04:15 PM	85	82	0	167	14	0	54	68	0	247	74	321	556
04:30 PM	109	101	0	210	14	0	61	75	0	251	85	336	621
04:45 PM	79	105	0	184	12	0	62	74	0	275	73	348	606
Total	365	372	0	737	48	0	232	280	0	1006	322	1328	2345
05:00 PM	98	118	0	216	18	0	95	113	0	358	93	451	780
05:15 PM	89	116	0	205	12	0	94	106	0	407	106	513	824
05:30 PM	83	132	0	215	14	0	117	131	0	403	80	483	829
05:45 PM	89	117	0	206	5	0	120	125	0	365	83	448	779
Total	359	483	0	842	49	0	426	475	0	1533	362	1895	3212
06:00 PM	97	97	0	194	10	0	92	102	0	355	85	440	736
06:15 PM	109	96	0	205	14	0	60	74	0	281	73	354	633
06:30 PM	102	90	0	192	12	0	49	61	0	268	80	348	601
06:45 PM	74	92	0	166	7	0	60	67	0	216	75	291	524
Total	382	375	0	757	43	0	261	304	0	1120	313	1433	2494
Grand Total	1501	1596	0	3097	178	0	1078	1256	0	4463	1397	5860	10213
Apprch %	48.5	51.5	0.0		14.2	0.0	85.8		0.0	76.2	23.8		
Total %	14.7	15.6	0.0	30.3	1.7	0.0	10.6	12.3	0.0	43.7	13.7	57.4	

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	359	483	0	842	49	0	426	475	0	1533	362	1895	3212
Percent	42.6	57.4	0.0		10.3	0.0	89.7		0.0	80.9	19.1		
05:30 Volume	83	132	0	215	14	0	117	131	0	403	80	483	829
Peak Factor													0.969
High Int.	05:00 PM				05:30 PM				05:15 PM				
Volume	98	118	0	216	14	0	117	131	0	407	106	513	
Peak Factor				0.975				0.906				0.923	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : bigbend&i75nb
Site Code : 00007029
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	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				05:00 PM				05:00 PM				
Volume	359	483	0	842	49	0	426	475	0	1533	362	1895	
Percent	42.6	57.4	0.0		10.3	0.0	89.7		0.0	80.9	19.1		
High Int.	05:00 PM				05:30 PM				05:15 PM				
Volume	98	118	0	216	14	0	117	131	0	407	106	513	
Peak Factor				0.975				0.906				0.923	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75nb
Site Code : 00007029
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Groups Printed- Passenger Vehicles

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	83	91	0	174	16	0	25	41	0	167	88	255	470
03:15 PM	83	81	0	164	1	0	43	44	0	159	91	250	458
03:30 PM	85	83	0	168	11	0	48	59	0	217	98	315	542
03:45 PM	83	69	0	152	7	0	37	44	0	199	97	296	492
Total	334	324	0	658	35	0	153	188	0	742	374	1116	1962
04:00 PM	84	79	0	163	8	0	52	60	0	222	87	309	532
04:15 PM	83	77	0	160	14	0	52	66	0	238	71	309	535
04:30 PM	105	98	0	203	13	0	60	73	0	246	79	325	601
04:45 PM	73	101	0	174	12	0	61	73	0	264	71	335	582
Total	345	355	0	700	47	0	225	272	0	970	308	1278	2250
05:00 PM	91	109	0	200	17	0	94	111	0	352	90	442	753
05:15 PM	87	111	0	198	11	0	92	103	0	402	102	504	805
05:30 PM	82	129	0	211	13	0	116	129	0	395	79	474	814
05:45 PM	87	114	0	201	4	0	119	123	0	362	80	442	766
Total	347	463	0	810	45	0	421	466	0	1511	351	1862	3138
06:00 PM	93	91	0	184	10	0	92	102	0	348	84	432	718
06:15 PM	106	93	0	199	13	0	59	72	0	277	73	350	621
06:30 PM	101	86	0	187	12	0	49	61	0	262	80	342	590
06:45 PM	74	88	0	162	7	0	58	65	0	211	73	284	511
Total	374	358	0	732	42	0	258	300	0	1098	310	1408	2440
Grand Total	1400	1500	0	2900	169	0	1057	1226	0	4321	1343	5664	9790
Apprch %	48.3	51.7	0.0		13.8	0.0	86.2		0.0	76.3	23.7		
Total %	14.3	15.3	0.0	29.6	1.7	0.0	10.8	12.5	0.0	44.1	13.7	57.9	

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	347	463	0	810	45	0	421	466	0	1511	351	1862	3138
Percent	42.8	57.2	0.0		9.7	0.0	90.3		0.0	81.1	18.9		
05:30 Volume	82	129	0	211	13	0	116	129	0	395	79	474	814
Peak Factor													0.964
High Int.	05:30 PM				05:30 PM				05:15 PM				
Volume	82	129	0	211	13	0	116	129	0	402	102	504	
Peak Factor				0.960				0.903				0.924	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : bigbend&i75nb
Site Code : 00007029
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	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				05:00 PM				05:00 PM				
Volume	347	463	0	810	45	0	421	466	0	1511	351	1862	
Percent	42.8	57.2	0.0		9.7	0.0	90.3		0.0	81.1	18.9		
High Int.	05:30 PM				05:30 PM				05:15 PM				
Volume	82	129	0	211	13	0	116	129	0	402	102	504	
Peak Factor				0.960				0.903				0.924	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75nb
Site Code : 00007029
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Groups Printed- Heavy Vehicles

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	16	11	0	27	3	0	2	5	0	19	5	24	56
03:15 PM	14	14	0	28	0	0	1	1	0	18	8	26	55
03:30 PM	19	10	0	29	0	0	2	2	0	18	5	23	54
03:45 PM	12	7	0	19	0	0	1	1	0	7	8	15	35
Total	61	42	0	103	3	0	6	9	0	62	26	88	200
04:00 PM	8	5	0	13	0	0	3	3	0	11	3	14	30
04:15 PM	2	5	0	7	0	0	2	2	0	9	3	12	21
04:30 PM	4	3	0	7	1	0	1	2	0	5	6	11	20
04:45 PM	6	4	0	10	0	0	1	1	0	11	2	13	24
Total	20	17	0	37	1	0	7	8	0	36	14	50	95
05:00 PM	7	9	0	16	1	0	1	2	0	6	3	9	27
05:15 PM	2	5	0	7	1	0	2	3	0	5	4	9	19
05:30 PM	1	3	0	4	1	0	1	2	0	8	1	9	15
05:45 PM	2	3	0	5	1	0	1	2	0	3	3	6	13
Total	12	20	0	32	4	0	5	9	0	22	11	33	74
06:00 PM	4	6	0	10	0	0	0	0	0	7	1	8	18
06:15 PM	2	3	0	5	1	0	1	2	0	4	0	4	11
06:30 PM	1	4	0	5	0	0	0	0	0	6	0	6	11
06:45 PM	0	4	0	4	0	0	2	2	0	5	2	7	13
Total	7	17	0	24	1	0	3	4	0	22	3	25	53
Grand Total	100	96	0	196	9	0	21	30	0	142	54	196	422
Apprch %	51.0	49.0	0.0		30.0	0.0	70.0		0.0	72.4	27.6		
Total %	23.7	22.7	0.0	46.4	2.1	0.0	5.0	7.1	0.0	33.6	12.8	46.4	

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	61	42	0	103	3	0	6	9	0	62	26	88	200
Percent	59.2	40.8	0.0		33.3	0.0	66.7		0.0	70.5	29.5		
03:00 Volume	16	11	0	27	3	0	2	5	0	19	5	24	56
Peak Factor													0.893
High Int.	03:30 PM				03:00 PM				03:15 PM				
Volume	19	10	0	29	3	0	2	5	0	18	8	26	
Peak Factor				0.888				0.450				0.846	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

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Site Code : 00007029
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	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	61	42	0	103	3	0	6	9	0	62	26	88	
Percent	59.2	40.8	0.0		33.3	0.0	66.7		0.0	70.5	29.5		
High Int.	03:30 PM				03:00 PM				03:15 PM				
Volume	19	10	0	29	3	0	2	5	0	18	8	26	
Peak Factor				0.888				0.450				0.846	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75nb
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Groups Printed- U-Turns

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Grand Total	1	0	0	1	0	0	0	0	0	0	0	0	1
Apprch %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:30 PM												
Volume	1	0	0	1	0	0	0	0	0	0	0	0	1
Percent	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
06:15 Volume	1	0	0	1	0	0	0	0	0	0	0	0	1
Peak Factor													0.250
High Int.	06:15 PM				2:45:00 PM				2:45:00 PM				
Volume	1	0	0	1									
Peak Factor				0.250									

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : bigbend&i75nb
Site Code : 00007029
Start Date : 7/24/2007
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	BIG BEND ROAD Westbound				I-75 NORTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:30 PM				03:00 PM				03:00 PM				
Volume	1	0	0	1	0	0	0	0	0	0	0	0	
Percent	100.0	0.0	0.0		-	-	-		-	-	-		
High Int.	06:15 PM				-				-				
Volume	1	0	0	1	-	-	-	-	-	-	-	-	
Peak Factor				0.250				-				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75sb
Site Code : 00007029
Start Date : 7/24/2007
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	19	91	0	110	77	0	114	191	0	182	5	187	488
03:15 PM	21	80	0	101	99	0	103	202	0	174	1	175	478
03:30 PM	14	80	0	94	89	0	127	216	1	219	6	226	536
03:45 PM	18	76	0	94	97	0	125	222	0	159	4	163	479
Total	72	327	0	399	362	0	469	831	1	734	16	751	1981
04:00 PM	17	74	0	91	119	0	143	262	0	182	4	186	539
04:15 PM	14	80	0	94	132	0	154	286	0	168	8	176	556
04:30 PM	12	103	0	115	140	0	150	290	0	187	4	191	596
04:45 PM	23	89	0	112	158	0	145	303	0	210	2	212	627
Total	66	346	0	412	549	0	592	1141	0	747	18	765	2318
05:00 PM	26	114	0	140	138	0	203	341	0	237	9	246	727
05:15 PM	25	103	0	128	173	0	254	427	0	243	6	249	804
05:30 PM	29	110	0	139	173	0	247	420	0	257	5	262	821
05:45 PM	22	104	0	126	187	0	224	411	0	216	9	225	762
Total	102	431	0	533	671	0	928	1599	0	953	29	982	3114
06:00 PM	16	86	0	102	151	0	220	371	0	211	7	218	691
06:15 PM	20	92	0	112	141	0	174	315	0	182	5	187	614
06:30 PM	15	91	0	106	128	0	175	303	0	170	6	176	585
06:45 PM	9	88	0	97	131	0	128	259	0	162	0	162	518
Total	60	357	0	417	551	0	697	1248	0	725	18	743	2408
Grand Total	300	1461	0	1761	2133	0	2686	4819	1	3159	81	3241	9821
Apprch %	17.0	83.0	0.0		44.3	0.0	55.7		0.0	97.5	2.5		
Total %	3.1	14.9	0.0	17.9	21.7	0.0	27.3	49.1	0.0	32.2	0.8	33.0	

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	102	431	0	533	671	0	928	1599	0	953	29	982	3114
Percent	19.1	80.9	0.0		42.0	0.0	58.0		0.0	97.0	3.0		
05:30 Volume	29	110	0	139	173	0	247	420	0	257	5	262	821
Peak Factor													0.948
High Int.	05:00 PM				05:15 PM				05:30 PM				
Volume	26	114	0	140	173	0	254	427	0	257	5	262	
Peak Factor				0.952				0.936				0.937	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : bigbend&i75sb
Site Code : 00007029
Start Date : 7/24/2007
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	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				05:15 PM				05:00 PM				
Volume	102	431	0	533	684	0	945	1629	0	953	29	982	
Percent	19.1	80.9	0.0		42.0	0.0	58.0		0.0	97.0	3.0		
High Int.	05:00 PM				05:15 PM				05:30 PM				
Volume	26	114	0	140	173	0	254	427	0	257	5	262	
Peak Factor				0.952				0.954				0.937	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75sb
Site Code : 00007029
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Groups Printed- Passenger Vehicles

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	18	78	0	96	71	0	102	173	0	169	4	173	442
03:15 PM	17	67	0	84	99	0	89	188	0	163	1	164	436
03:30 PM	13	71	0	84	83	0	118	201	0	204	6	210	495
03:45 PM	17	69	0	86	95	0	121	216	0	149	4	153	455
Total	65	285	0	350	348	0	430	778	0	685	15	700	1828
04:00 PM	16	70	0	86	114	0	135	249	0	174	4	178	513
04:15 PM	12	75	0	87	129	0	149	278	0	163	7	170	535
04:30 PM	11	99	0	110	140	0	145	285	0	180	4	184	579
04:45 PM	23	85	0	108	152	0	138	290	0	205	2	207	605
Total	62	329	0	391	535	0	567	1102	0	722	17	739	2232
05:00 PM	23	105	0	128	138	0	201	339	0	230	9	239	706
05:15 PM	23	98	0	121	173	0	253	426	0	235	6	241	788
05:30 PM	29	106	0	135	173	0	244	417	0	251	3	254	806
05:45 PM	22	100	0	122	185	0	221	406	0	212	8	220	748
Total	97	409	0	506	669	0	919	1588	0	928	26	954	3048
06:00 PM	15	80	0	95	150	0	214	364	0	210	7	217	676
06:15 PM	19	88	0	107	141	0	172	313	0	180	5	185	605
06:30 PM	14	88	0	102	128	0	174	302	0	165	6	171	575
06:45 PM	8	84	0	92	127	0	126	253	0	157	0	157	502
Total	56	340	0	396	546	0	686	1232	0	712	18	730	2358
Grand Total	280	1363	0	1643	2098	0	2602	4700	0	3047	76	3123	9466
Apprch %	17.0	83.0	0.0		44.6	0.0	55.4		0.0	97.6	2.4		
Total %	3.0	14.4	0.0	17.4	22.2	0.0	27.5	49.7	0.0	32.2	0.8	33.0	

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	97	409	0	506	669	0	919	1588	0	928	26	954	3048
Percent	19.2	80.8	0.0		42.1	0.0	57.9		0.0	97.3	2.7		
05:30 Volume	29	106	0	135	173	0	244	417	0	251	3	254	806
Peak Factor													0.945
High Int.	05:30 PM				05:15 PM				05:30 PM				
Volume	29	106	0	135	173	0	253	426	0	251	3	254	
Peak Factor				0.937				0.932				0.939	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : bigbend&i75sb
Site Code : 00007029
Start Date : 7/24/2007
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	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				05:15 PM				05:00 PM				
Volume	97	409	0	506	681	0	932	1613	0	928	26	954	
Percent	19.2	80.8	0.0		42.2	0.0	57.8		0.0	97.3	2.7		
High Int.	05:30 PM				05:15 PM				05:30 PM				
Volume	29	106	0	135	173	0	253	426	0	251	3	254	
Peak Factor				0.937				0.947				0.939	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75sb
Site Code : 00007029
Start Date : 7/24/2007
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Groups Printed- Heavy Vehicles

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	1	13	0	14	6	0	12	18	0	13	1	14	46
03:15 PM	1	13	0	14	0	0	14	14	0	11	0	11	39
03:30 PM	1	9	0	10	6	0	9	15	0	15	0	15	40
03:45 PM	0	7	0	7	2	0	4	6	0	10	0	10	23
Total	3	42	0	45	14	0	39	53	0	49	1	50	148
04:00 PM	1	4	0	5	5	0	8	13	0	8	0	8	26
04:15 PM	0	5	0	5	3	0	5	8	0	5	1	6	19
04:30 PM	0	4	0	4	0	0	5	5	0	7	0	7	16
04:45 PM	0	4	0	4	6	0	7	13	0	5	0	5	22
Total	1	17	0	18	14	0	25	39	0	25	1	26	83
05:00 PM	1	9	0	10	0	0	2	2	0	7	0	7	19
05:15 PM	1	5	0	6	0	0	1	1	0	8	0	8	15
05:30 PM	0	4	0	4	0	0	3	3	0	6	2	8	15
05:45 PM	0	4	0	4	2	0	3	5	0	4	1	5	14
Total	2	22	0	24	2	0	9	11	0	25	3	28	63
06:00 PM	0	6	0	6	1	0	6	7	0	1	0	1	14
06:15 PM	0	4	0	4	0	0	2	2	0	2	0	2	8
06:30 PM	1	3	0	4	0	0	1	1	0	5	0	5	10
06:45 PM	0	4	0	4	4	0	2	6	0	5	0	5	15
Total	1	17	0	18	5	0	11	16	0	13	0	13	47
Grand Total	7	98	0	105	35	0	84	119	0	112	5	117	341
Apprch %	6.7	93.3	0.0		29.4	0.0	70.6		0.0	95.7	4.3		
Total %	2.1	28.7	0.0	30.8	10.3	0.0	24.6	34.9	0.0	32.8	1.5	34.3	

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	3	42	0	45	14	0	39	53	0	49	1	50	148
Percent	6.7	93.3	0.0		26.4	0.0	73.6		0.0	98.0	2.0		
03:00 Volume	1	13	0	14	6	0	12	18	0	13	1	14	46
Peak Factor													0.804
High Int.	03:00 PM				03:00 PM				03:30 PM				
Volume	1	13	0	14	6	0	12	18	0	15	0	15	
Peak Factor				0.804				0.736				0.833	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : bigbend&i75sb
Site Code : 00007029
Start Date : 7/24/2007
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	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	3	42	0	45	14	0	39	53	0	49	1	50	
Percent	6.7	93.3	0.0		26.4	0.0	73.6		0.0	98.0	2.0		
High Int.	03:00 PM				03:00 PM				03:30 PM				
Volume	1	13	0	14	6	0	12	18	0	15	0	15	
Peak Factor				0.804				0.736				0.833	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Apollo Beach/Hillsborough
Weather: Clear
Comments:

File Name : bigbend&i75sb
Site Code : 00007029
Start Date : 7/24/2007
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Groups Printed- U-Turns

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	3	0	0	3	0	0	0	0	0	0	0	0	3
03:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	4	0	0	4	0	0	0	0	1	0	0	1	5
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	3	0	0	0	0	0	0	0	0	3
05:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	2
05:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	3	0	0	3	0	0	0	0	0	0	0	0	3
06:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
06:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
Total	3	0	0	3	0	0	0	0	0	0	0	0	3
Grand Total	13	0	0	13	0	0	0	0	1	0	0	1	14
Apprch %	100.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	92.9	0.0	0.0	92.9	0.0	0.0	0.0	0.0	7.1	0.0	0.0	7.1	

	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	4	0	0	4	0	0	0	0	1	0	0	1	5
Percent	100.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
03:15 Volume	3	0	0	3	0	0	0	0	0	0	0	0	3
Peak Factor													0.417
High Int.	03:15 PM				2:45:00 PM				03:30 PM				
Volume	3	0	0	3	0	0	0	0	1	0	0	1	
Peak Factor				0.333								0.250	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : bigbend&i75sb
Site Code : 00007029
Start Date : 7/24/2007
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	BIG BEND ROAD Westbound				I-75 SOUTHBOUND RAMPS Northbound				BIG BEND ROAD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:15 PM				03:00 PM				03:00 PM				
Volume	5	0	0	5	0	0	0	0	1	0	0	1	
Percent	100.0	0.0	0.0		-	-	-		100.0	0.0	0.0		
High Int.	04:15 PM				-				03:30 PM				
Volume	2	0	0	2	-	-	-	-	1	0	0	1	
Peak Factor				0.625				-				0.250	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

File Name : gibsonton&i75nb
Site Code : 00007029
Start Date : 7/31/2007
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	137	108	245	14	0	52	66	57	229	0	286	597
03:15 PM	0	143	103	246	7	0	49	56	69	220	0	289	591
03:30 PM	0	152	135	287	13	0	60	73	78	212	0	290	650
03:45 PM	0	140	127	267	9	0	64	73	78	242	0	320	660
Total	0	572	473	1045	43	0	225	268	282	903	0	1185	2498
04:00 PM	0	142	95	237	21	0	77	98	56	290	0	346	681
04:15 PM	0	129	82	211	10	0	52	62	51	293	0	344	617
04:30 PM	0	135	95	230	14	0	74	88	53	330	0	383	701
04:45 PM	0	141	112	253	12	0	84	96	44	349	0	393	742
Total	0	547	384	931	57	0	287	344	204	1262	0	1466	2741
05:00 PM	0	151	135	286	16	0	74	90	54	385	0	439	815
05:15 PM	0	125	90	215	20	0	97	117	57	443	0	500	832
05:30 PM	0	147	108	255	25	0	60	85	62	367	0	429	769
05:45 PM	0	133	93	226	12	0	63	75	54	344	0	398	699
Total	0	556	426	982	73	0	294	367	227	1539	0	1766	3115
06:00 PM	0	121	85	206	14	0	52	66	50	357	0	407	679
06:15 PM	0	126	88	214	11	0	67	78	50	350	0	400	692
06:30 PM	0	134	123	257	10	0	54	64	63	281	0	344	665
06:45 PM	0	112	96	208	2	0	42	44	48	284	0	332	584
Total	0	493	392	885	37	0	215	252	211	1272	0	1483	2620
Grand Total	0	2168	1675	3843	210	0	1021	1231	924	4976	0	5900	10974
Apprch %	0.0	56.4	43.6		17.1	0.0	82.9		15.7	84.3	0.0		
Total %	0.0	19.8	15.3	35.0	1.9	0.0	9.3	11.2	8.4	45.3	0.0	53.8	

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	0	564	445	1009	73	0	315	388	217	1544	0	1761	3158
Percent	0.0	55.9	44.1		18.8	0.0	81.2		12.3	87.7	0.0		
05:15 Volume	0	125	90	215	20	0	97	117	57	443	0	500	832
Peak Factor													0.949
High Int.	05:00 PM				05:15 PM				05:15 PM				
Volume	0	151	135	286	20	0	97	117	57	443	0	500	
Peak Factor				0.882				0.829				0.881	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : gibsonton&i75nb
Site Code : 00007029
Start Date : 7/31/2007
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	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				04:30 PM				05:00 PM				
Volume	0	572	473	1045	62	0	329	391	227	1539	0	1766	
Percent	0.0	54.7	45.3		15.9	0.0	84.1		12.9	87.1	0.0		
High Int.	03:30 PM				05:15 PM				05:15 PM				
Volume	0	152	135	287	20	0	97	117	57	443	0	500	
Peak Factor				0.910				0.835				0.883	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

File Name : gibsonton&i75nb
Site Code : 00007029
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Groups Printed- Passenger Vehicles

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	134	107	241	13	0	51	64	50	224	0	274	579
03:15 PM	0	139	100	239	7	0	48	55	65	212	0	277	571
03:30 PM	0	146	130	276	13	0	58	71	76	210	0	286	633
03:45 PM	0	132	122	254	7	0	64	71	76	238	0	314	639
Total	0	551	459	1010	40	0	221	261	267	884	0	1151	2422
04:00 PM	0	138	91	229	21	0	75	96	56	286	0	342	667
04:15 PM	0	127	80	207	10	0	51	61	47	287	0	334	602
04:30 PM	0	133	94	227	14	0	73	87	50	320	0	370	684
04:45 PM	0	139	108	247	12	0	84	96	41	342	0	383	726
Total	0	537	373	910	57	0	283	340	194	1235	0	1429	2679
05:00 PM	0	150	130	280	15	0	71	86	52	376	0	428	794
05:15 PM	0	125	84	209	19	0	97	116	56	438	0	494	819
05:30 PM	0	143	107	250	24	0	60	84	58	363	0	421	755
05:45 PM	0	133	87	220	9	0	61	70	53	339	0	392	682
Total	0	551	408	959	67	0	289	356	219	1516	0	1735	3050
06:00 PM	0	121	85	206	13	0	52	65	48	355	0	403	674
06:15 PM	0	126	86	212	10	0	67	77	46	347	0	393	682
06:30 PM	0	133	120	253	8	0	53	61	61	280	0	341	655
06:45 PM	0	110	95	205	2	0	42	44	46	283	0	329	578
Total	0	490	386	876	33	0	214	247	201	1265	0	1466	2589
Grand Total	0	2129	1626	3755	197	0	1007	1204	881	4900	0	5781	10740
Apprch %	0.0	56.7	43.3		16.4	0.0	83.6		15.2	84.8	0.0		
Total %	0.0	19.8	15.1	35.0	1.8	0.0	9.4	11.2	8.2	45.6	0.0	53.8	

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	0	557	429	986	70	0	312	382	207	1519	0	1726	3094
Percent	0.0	56.5	43.5		18.3	0.0	81.7		12.0	88.0	0.0		
05:15 Volume	0	125	84	209	19	0	97	116	56	438	0	494	819
Peak Factor													0.944
High Int.	05:00 PM				05:15 PM				05:15 PM				
Volume	0	150	130	280	19	0	97	116	56	438	0	494	
Peak Factor				0.880				0.823				0.873	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : gibsonton&i75nb
Site Code : 00007029
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	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				04:30 PM				05:00 PM				
Volume	0	551	459	1010	60	0	325	385	219	1516	0	1735	
Percent	0.0	54.6	45.4		15.6	0.0	84.4		12.6	87.4	0.0		
High Int.	03:30 PM				05:15 PM				05:15 PM				
Volume	0	146	130	276	19	0	97	116	56	438	0	494	
Peak Factor				0.915				0.830				0.878	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

File Name : gibsonton&i75nb
Site Code : 00007029
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Groups Printed- Heavy Vehicles

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	3	1	4	1	0	1	2	6	5	0	11	17
03:15 PM	0	4	3	7	0	0	1	1	3	8	0	11	19
03:30 PM	0	6	5	11	0	0	2	2	2	2	0	4	17
03:45 PM	0	8	5	13	2	0	0	2	2	4	0	6	21
Total	0	21	14	35	3	0	4	7	13	19	0	32	74
04:00 PM	0	4	4	8	0	0	2	2	0	4	0	4	14
04:15 PM	0	2	2	4	0	0	1	1	3	6	0	9	14
04:30 PM	0	2	1	3	0	0	1	1	3	10	0	13	17
04:45 PM	0	2	4	6	0	0	0	0	3	7	0	10	16
Total	0	10	11	21	0	0	4	4	9	27	0	36	61
05:00 PM	0	1	5	6	1	0	3	4	2	9	0	11	21
05:15 PM	0	0	6	6	1	0	0	1	1	5	0	6	13
05:30 PM	0	4	1	5	1	0	0	1	4	4	0	8	14
05:45 PM	0	0	6	6	3	0	2	5	1	5	0	6	17
Total	0	5	18	23	6	0	5	11	8	23	0	31	65
06:00 PM	0	0	0	0	1	0	0	1	2	2	0	4	5
06:15 PM	0	0	2	2	1	0	0	1	3	3	0	6	9
06:30 PM	0	1	3	4	2	0	1	3	0	1	0	1	8
06:45 PM	0	2	1	3	0	0	0	0	2	1	0	3	6
Total	0	3	6	9	4	0	1	5	7	7	0	14	28
Grand Total	0	39	49	88	13	0	14	27	37	76	0	113	228
Apprch %	0.0	44.3	55.7		48.1	0.0	51.9		32.7	67.3	0.0		
Total %	0.0	17.1	21.5	38.6	5.7	0.0	6.1	11.8	16.2	33.3	0.0	49.6	

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	21	14	35	3	0	4	7	13	19	0	32	74
Percent	0.0	60.0	40.0		42.9	0.0	57.1		40.6	59.4	0.0		
03:45 Volume	0	8	5	13	2	0	0	2	2	4	0	6	21
Peak Factor													0.881
High Int.	03:45 PM				03:00 PM				03:00 PM				
Volume	0	8	5	13	1	0	1	2	6	5	0	11	
Peak Factor				0.673				0.875				0.727	

Turning Movement Count
Adams Traffic, Inc.
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	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:15 PM				05:00 PM				04:15 PM				
Volume	0	22	17	39	6	0	5	11	11	32	0	43	
Percent	0.0	56.4	43.6		54.5	0.0	45.5		25.6	74.4	0.0		
High Int.	03:45 PM				05:45 PM				04:30 PM				
Volume	0	8	5	13	3	0	2	5	3	10	0	13	
Peak Factor				0.750				0.550				0.827	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

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Groups Printed- U-Turns

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	2
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	1	0	0	1	1
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
06:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	3	0	0	3	3
Grand Total	0	0	0	0	0	0	0	0	6	0	0	6	6
Apprch %	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	

	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:45 PM												
Volume	0	0	0	0	0	0	0	0	3	0	0	3	3
Percent	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
06:30 Volume	0	0	0	0	0	0	0	0	2	0	0	2	2
Peak Factor													0.375
High Int.	2:45:00 PM				2:45:00 PM				06:30 PM				
Volume	0	0	0	0	0	0	0	0	2	0	0	2	
Peak Factor												0.375	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

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	GIBSONTON DRIVE Westbound				I-75 NORTHBOUND RAMP Northbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				05:45 PM				
Volume	0	0	0	0	0	0	0	0	3	0	0	3	
Percent	-	-	-		-	-	-		100.0	0.0	0.0		
High Int.	-				-				06:30 PM				
Volume	-	-	-	-	-	-	-	-	2	0	0	2	
Peak Factor				-				-				0.375	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

File Name : gibsonton&i75sb
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	117	0	65	182	41	118	0	159	0	168	23	191	532
03:15 PM	134	0	81	215	30	117	0	147	0	156	21	177	539
03:30 PM	114	0	73	187	49	130	0	179	0	191	30	221	587
03:45 PM	138	0	76	214	37	100	0	137	0	205	35	240	591
Total	503	0	295	798	157	465	0	622	0	720	109	829	2249
04:00 PM	149	0	81	230	38	138	0	176	0	175	30	205	611
04:15 PM	175	0	84	259	41	105	0	146	0	159	30	189	594
04:30 PM	211	0	100	311	41	99	0	140	0	163	28	191	642
04:45 PM	230	0	125	355	43	102	0	145	0	167	29	196	696
Total	765	0	390	1155	163	444	0	607	0	664	117	781	2543
05:00 PM	264	0	132	396	47	122	0	169	0	193	27	220	785
05:15 PM	294	0	117	411	36	107	0	143	0	193	44	237	791
05:30 PM	270	0	115	385	50	121	0	171	0	162	35	197	753
05:45 PM	271	0	102	373	42	106	0	148	0	132	28	160	681
Total	1099	0	466	1565	175	456	0	631	0	680	134	814	3010
06:00 PM	259	0	96	355	37	101	0	138	0	147	23	170	663
06:15 PM	213	0	101	314	36	105	0	141	0	183	29	212	667
06:30 PM	175	0	84	259	44	94	0	138	0	160	23	183	580
06:45 PM	178	0	71	249	25	85	0	110	0	152	20	172	531
Total	825	0	352	1177	142	385	0	527	0	642	95	737	2441
Grand Total	3192	0	1503	4695	637	1750	0	2387	0	2706	455	3161	10243
Apprch %	68.0	0.0	32.0		26.7	73.3	0.0		0.0	85.6	14.4		
Total %	31.2	0.0	14.7	45.8	6.2	17.1	0.0	23.3	0.0	26.4	4.4	30.9	

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	1058	0	489	1547	176	452	0	628	0	715	135	850	3025
Percent	68.4	0.0	31.6		28.0	72.0	0.0		0.0	84.1	15.9		
05:15 Volume	294	0	117	411	36	107	0	143	0	193	44	237	791
Peak Factor													0.956
High Int.	05:15 PM				05:30 PM				05:15 PM				
Volume	294	0	117	411	50	121	0	171	0	193	44	237	
Peak Factor				0.941				0.918				0.897	

Turning Movement Count
Adams Traffic, Inc.
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	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				03:15 PM				03:30 PM				
Volume	1099	0	466	1565	154	485	0	639	0	730	125	855	
Percent	70.2	0.0	29.8		24.1	75.9	0.0		0.0	85.4	14.6		
High Int.	05:15 PM				03:30 PM				03:45 PM				
Volume	294	0	117	411	49	130	0	179	0	205	35	240	
Peak Factor				0.952				0.892				0.891	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

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Groups Printed- Passenger Vehicles

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	113	0	60	173	39	114	0	153	0	160	21	181	507
03:15 PM	128	0	72	200	30	113	0	143	0	152	18	170	513
03:30 PM	113	0	71	184	46	125	0	171	0	188	26	214	569
03:45 PM	133	0	74	207	33	95	0	128	0	203	30	233	568
Total	487	0	277	764	148	447	0	595	0	703	95	798	2157
04:00 PM	146	0	73	219	36	134	0	170	0	175	28	203	592
04:15 PM	171	0	82	253	41	103	0	144	0	154	27	181	578
04:30 PM	205	0	97	302	40	98	0	138	0	156	26	182	622
04:45 PM	224	0	125	349	42	101	0	143	0	163	27	190	682
Total	746	0	377	1123	159	436	0	595	0	648	108	756	2474
05:00 PM	257	0	128	385	45	121	0	166	0	189	26	215	766
05:15 PM	289	0	114	403	36	106	0	142	0	192	42	234	779
05:30 PM	267	0	113	380	46	119	0	165	0	156	34	190	735
05:45 PM	269	0	102	371	41	104	0	145	0	129	27	156	672
Total	1082	0	457	1539	168	450	0	618	0	666	129	795	2952
06:00 PM	257	0	95	352	37	100	0	137	0	143	23	166	655
06:15 PM	212	0	100	312	36	104	0	140	0	179	28	207	659
06:30 PM	175	0	82	257	43	91	0	134	0	158	21	179	570
06:45 PM	178	0	70	248	24	84	0	108	0	150	20	170	526
Total	822	0	347	1169	140	379	0	519	0	630	92	722	2410
Grand Total	3137	0	1458	4595	615	1712	0	2327	0	2647	424	3071	9993
Apprch %	68.3	0.0	31.7		26.4	73.6	0.0		0.0	86.2	13.8		
Total %	31.4	0.0	14.6	46.0	6.2	17.1	0.0	23.3	0.0	26.5	4.2	30.7	

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	1037	0	480	1517	169	447	0	616	0	700	129	829	2962
Percent	68.4	0.0	31.6		27.4	72.6	0.0		0.0	84.4	15.6		
05:15 Volume	289	0	114	403	36	106	0	142	0	192	42	234	779
Peak Factor													0.951
High Int.	05:15 PM				05:00 PM				05:15 PM				
Volume	289	0	114	403	45	121	0	166	0	192	42	234	
Peak Factor				0.941				0.928				0.886	

Turning Movement Count
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	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				05:00 PM				03:30 PM				
Volume	1082	0	457	1539	168	450	0	618	0	720	111	831	
Percent	70.3	0.0	29.7		27.2	72.8	0.0		0.0	86.6	13.4		
High Int.	05:15 PM				05:00 PM				03:45 PM				
Volume	289	0	114	403	45	121	0	166	0	203	30	233	
Peak Factor				0.955				0.931				0.892	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

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Groups Printed- Heavy Vehicles

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	4	0	5	9	0	4	0	4	0	8	2	10	23
03:15 PM	6	0	9	15	0	4	0	4	0	4	3	7	26
03:30 PM	1	0	2	3	1	5	0	6	0	3	4	7	16
03:45 PM	5	0	2	7	3	5	0	8	0	2	5	7	22
Total	16	0	18	34	4	18	0	22	0	17	14	31	87
04:00 PM	3	0	8	11	2	4	0	6	0	0	2	2	19
04:15 PM	4	0	2	6	0	2	0	2	0	5	3	8	16
04:30 PM	6	0	3	9	1	1	0	2	0	7	2	9	20
04:45 PM	6	0	0	6	1	1	0	2	0	4	2	6	14
Total	19	0	13	32	4	8	0	12	0	16	9	25	69
05:00 PM	7	0	4	11	1	1	0	2	0	4	1	5	18
05:15 PM	5	0	3	8	0	1	0	1	0	1	2	3	12
05:30 PM	3	0	2	5	3	2	0	5	0	6	1	7	17
05:45 PM	2	0	0	2	1	2	0	3	0	3	1	4	9
Total	17	0	9	26	5	6	0	11	0	14	5	19	56
06:00 PM	2	0	1	3	0	1	0	1	0	4	0	4	8
06:15 PM	1	0	1	2	0	1	0	1	0	4	1	5	8
06:30 PM	0	0	2	2	0	3	0	3	0	2	2	4	9
06:45 PM	0	0	1	1	1	1	0	2	0	2	0	2	5
Total	3	0	5	8	1	6	0	7	0	12	3	15	30
Grand Total	55	0	45	100	14	38	0	52	0	59	31	90	242
Apprch %	55.0	0.0	45.0		26.9	73.1	0.0		0.0	65.6	34.4		
Total %	22.7	0.0	18.6	41.3	5.8	15.7	0.0	21.5	0.0	24.4	12.8	37.2	

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	16	0	18	34	4	18	0	22	0	17	14	31	87
Percent	47.1	0.0	52.9		18.2	81.8	0.0		0.0	54.8	45.2		
03:15 Volume	6	0	9	15	0	4	0	4	0	4	3	7	26
Peak Factor													0.837
High Int.	03:15 PM				03:45 PM				03:00 PM				
Volume	6	0	9	15	3	5	0	8	0	8	2	10	
Peak Factor				0.567				0.688				0.775	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : gibsonton&i75sb
Site Code : 00007029
Start Date : 7/31/2007
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	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:15 PM				03:15 PM				03:00 PM				
Volume	15	0	21	36	6	18	0	24	0	17	14	31	
Percent	41.7	0.0	58.3		25.0	75.0	0.0		0.0	54.8	45.2		
High Int.	03:15 PM				03:45 PM				03:00 PM				
Volume	6	0	9	15	3	5	0	8	0	8	2	10	
Peak Factor				0.600				0.750				0.775	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Gibsonton/Hillsborough
Weather: Some Rain
Comments:

File Name : gibsonton&i75sb
Site Code : 00007029
Start Date : 7/31/2007
Page No : 1

Groups Printed- U-Turns

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
03:45 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	5	0	0	5	0	0	0	0	5
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	0	0	0	2
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	0	0	0	8	0	0	8	0	0	0	0	8
Apprch %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	

	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	0	0	0	5	0	0	5	0	0	0	0	5
Percent	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
03:30 Volume	0	0	0	0	2	0	0	2	0	0	0	0	2
Peak Factor													0.625
High Int.	2:45:00 PM				03:00 PM				2:45:00 PM				
Volume	0	0	0	0	2	0	0	2					
Peak Factor								0.625					

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : gibsonton&i75sb
Site Code : 00007029
Start Date : 7/31/2007
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	I-75 SOUTHBOUND RAMP Southbound				GIBSONTON DRIVE Westbound				GIBSONTON DRIVE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	5	0	0	5	0	0	0	0	
Percent	-	-	-		100.0	0.0	0.0		-	-	-		
High Int.	-				03:00 PM				-				
Volume	-	-	-	-	2	0	0	2	-	-	-	-	
Peak Factor				-				0.625				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	15	366	0	381	0	0	41	41	0	191	139	330	0	0	47	47	799
03:15 PM	11	400	0	411	0	0	67	67	0	193	175	368	0	0	52	52	898
03:30 PM	32	545	0	577	0	0	71	71	0	181	210	391	0	0	62	62	1101
03:45 PM	31	475	0	506	0	0	58	58	0	224	163	387	0	0	51	51	1002
Total	89	1786	0	1875	0	0	237	237	0	789	687	1476	0	0	212	212	3800
04:00 PM	25	543	0	568	0	0	64	64	0	181	189	370	0	0	56	56	1058
04:15 PM	16	647	0	663	0	0	68	68	0	182	196	378	0	0	84	84	1193
04:30 PM	27	688	0	715	0	0	64	64	0	192	196	388	0	0	57	57	1224
04:45 PM	16	667	0	683	0	0	58	58	0	181	170	351	0	0	88	88	1180
Total	84	2545	0	2629	0	0	254	254	0	736	751	1487	0	0	285	285	4655
05:00 PM	37	782	0	819	0	0	72	72	0	176	177	353	0	0	67	67	1311
05:15 PM	23	843	0	866	0	0	89	89	0	185	159	344	0	0	86	86	1385
05:30 PM	15	806	0	821	0	0	78	78	0	188	165	353	0	0	98	98	1350
05:45 PM	16	679	0	695	0	0	82	82	0	198	190	388	0	0	93	93	1258
Total	91	3110	0	3201	0	0	321	321	0	747	691	1438	0	0	344	344	5304
06:00 PM	12	660	0	672	0	0	71	71	0	193	169	362	0	0	88	88	1193
06:15 PM	10	606	0	616	0	0	53	53	0	194	180	374	0	0	56	56	1099
06:30 PM	15	477	0	492	0	0	68	68	0	156	157	313	0	0	73	73	946
06:45 PM	9	469	0	478	0	0	63	63	0	184	157	341	0	0	65	65	947
Total	46	2212	0	2258	0	0	255	255	0	727	663	1390	0	0	282	282	4185
Grand Total	310	9653	0	9963	0	0	1067	1067	0	2999	2792	5791	0	0	1123	1123	17944
Apprch %	3.1	96.9	0.0		0.0	0.0	100.0		0.0	51.8	48.2		0.0	0.0	100.0		
Total %	1.7	53.8	0.0	55.5	0.0	0.0	5.9	5.9	0.0	16.7	15.6	32.3	0.0	0.0	6.3	6.3	

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	91	3110	0	3201	0	0	321	321	0	747	691	1438	0	0	344	344	5304
Percent	2.8	97.2	0.0		0.0	0.0	100.0		0.0	51.9	48.1		0.0	0.0	100.0		
05:15 Volume	23	843	0	866	0	0	89	89	0	185	159	344	0	0	86	86	1385
Peak Factor																	0.957
High Int.	05:15 PM				05:15 PM				05:45 PM				05:30 PM				
Volume	23	843	0	866	0	0	89	89	0	198	190	388	0	0	98	98	
Peak Factor				0.924				0.902				0.927				0.878	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	05:00 PM				05:00 PM				03:30 PM				05:15 PM				
Volume	91	3110	0	3201	0	0	321	321	0	768	758	1526	0	0	365	365	
Percent	2.8	97.2	0.0		0.0	0.0	100.0		0.0	50.3	49.7		0.0	0.0	100.0		
High Int.	05:15 PM				05:15 PM				03:30 PM				05:30 PM				
Volume	23	843	0	866	0	0	89	89	0	181	210	391	0	0	98	98	
Peak Factor				0.924				0.902				0.976				0.931	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- Passenger Vehicles

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	11	350	0	361	0	0	39	39	0	181	131	312	0	0	45	45	757
03:15 PM	11	384	0	395	0	0	60	60	0	182	172	354	0	0	51	51	860
03:30 PM	31	529	0	560	0	0	62	62	0	176	203	379	0	0	61	61	1062
03:45 PM	29	458	0	487	0	0	48	48	0	219	150	369	0	0	49	49	953
Total	82	1721	0	1803	0	0	209	209	0	758	656	1414	0	0	206	206	3632
04:00 PM	25	526	0	551	0	0	52	52	0	172	181	353	0	0	55	55	1011
04:15 PM	15	636	0	651	0	0	61	61	0	174	188	362	0	0	80	80	1154
04:30 PM	26	676	0	702	0	0	60	60	0	176	186	362	0	0	56	56	1180
04:45 PM	15	655	0	670	0	0	53	53	0	173	164	337	0	0	86	86	1146
Total	81	2493	0	2574	0	0	226	226	0	695	719	1414	0	0	277	277	4491
05:00 PM	37	772	0	809	0	0	66	66	0	167	175	342	0	0	66	66	1283
05:15 PM	23	833	0	856	0	0	85	85	0	181	155	336	0	0	86	86	1363
05:30 PM	15	796	0	811	0	0	72	72	0	182	157	339	0	0	94	94	1316
05:45 PM	16	671	0	687	0	0	77	77	0	192	186	378	0	0	91	91	1233
Total	91	3072	0	3163	0	0	300	300	0	722	673	1395	0	0	337	337	5195
06:00 PM	12	653	0	665	0	0	62	62	0	189	165	354	0	0	86	86	1167
06:15 PM	10	597	0	607	0	0	45	45	0	191	176	367	0	0	53	53	1072
06:30 PM	15	465	0	480	0	0	66	66	0	152	152	304	0	0	70	70	920
06:45 PM	9	459	0	468	0	0	61	61	0	183	156	339	0	0	64	64	932
Total	46	2174	0	2220	0	0	234	234	0	715	649	1364	0	0	273	273	4091
Grand Total	300	9460	0	9760	0	0	969	969	0	2890	2697	5587	0	0	1093	1093	17409
Apprch %	3.1	96.9	0.0		0.0	0.0	100.0		0.0	51.7	48.3		0.0	0.0	100.0		
Total %	1.7	54.3	0.0	56.1	0.0	0.0	5.6	5.6	0.0	16.6	15.5	32.1	0.0	0.0	6.3	6.3	

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	91	3072	0	3163	0	0	300	300	0	722	673	1395	0	0	337	337	5195
Percent	2.9	97.1	0.0		0.0	0.0	100.0		0.0	51.8	48.2		0.0	0.0	100.0		
05:15 Volume	23	833	0	856	0	0	85	85	0	181	155	336	0	0	86	86	1363
Peak Factor																	0.953
High Int.	05:15 PM				05:15 PM				05:45 PM				05:30 PM				
Volume	23	833	0	856	0	0	85	85	0	192	186	378	0	0	94	94	
Peak Factor				0.924				0.882				0.923				0.896	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	05:00 PM				05:00 PM				03:30 PM				05:15 PM				
Volume	91	3072	0	3163	0	0	300	300	0	741	722	1463	0	0	357	357	
Percent	2.9	97.1	0.0		0.0	0.0	100.0		0.0	50.6	49.4		0.0	0.0	100.0		
High Int.	05:15 PM				05:15 PM				03:30 PM				05:30 PM				
Volume	23	833	0	856	0	0	85	85	0	176	203	379	0	0	94	94	
Peak Factor				0.924				0.882				0.965				0.949	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- Heavy Vehicles

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	2	16	0	18	0	0	2	2	0	10	8	18	0	0	2	2	40
03:15 PM	0	16	0	16	0	0	7	7	0	11	3	14	0	0	1	1	38
03:30 PM	1	16	0	17	0	0	9	9	0	5	7	12	0	0	1	1	39
03:45 PM	0	17	0	17	0	0	10	10	0	5	13	18	0	0	2	2	47
Total	3	65	0	68	0	0	28	28	0	31	31	62	0	0	6	6	164
04:00 PM	0	17	0	17	0	0	12	12	0	9	8	17	0	0	1	1	47
04:15 PM	0	11	0	11	0	0	7	7	0	8	8	16	0	0	4	4	38
04:30 PM	0	12	0	12	0	0	4	4	0	16	10	26	0	0	1	1	43
04:45 PM	1	12	0	13	0	0	5	5	0	8	6	14	0	0	2	2	34
Total	1	52	0	53	0	0	28	28	0	41	32	73	0	0	8	8	162
05:00 PM	0	10	0	10	0	0	6	6	0	9	2	11	0	0	1	1	28
05:15 PM	0	10	0	10	0	0	4	4	0	4	4	8	0	0	0	0	22
05:30 PM	0	10	0	10	0	0	6	6	0	6	8	14	0	0	4	4	34
05:45 PM	0	8	0	8	0	0	5	5	0	6	4	10	0	0	2	2	25
Total	0	38	0	38	0	0	21	21	0	25	18	43	0	0	7	7	109
06:00 PM	0	7	0	7	0	0	9	9	0	4	4	8	0	0	2	2	26
06:15 PM	0	9	0	9	0	0	8	8	0	3	4	7	0	0	3	3	27
06:30 PM	0	12	0	12	0	0	2	2	0	4	5	9	0	0	3	3	26
06:45 PM	0	10	0	10	0	0	2	2	0	1	1	2	0	0	1	1	15
Total	0	38	0	38	0	0	21	21	0	12	14	26	0	0	9	9	94
Grand Total	4	193	0	197	0	0	98	98	0	109	95	204	0	0	30	30	529
Apprch %	2.0	98.0	0.0		0.0	0.0	100.0		0.0	53.4	46.6		0.0	0.0	100.0		
Total %	0.8	36.5	0.0	37.2	0.0	0.0	18.5	18.5	0.0	20.6	18.0	38.6	0.0	0.0	5.7	5.7	

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	03:45 PM																
Volume	0	57	0	57	0	0	33	33	0	38	39	77	0	0	8	8	175
Percent	0.0	100.0	0.0		0.0	0.0	100.0		0.0	49.4	50.6		0.0	0.0	100.0		
04:00 Volume	0	17	0	17	0	0	12	12	0	9	8	17	0	0	1	1	47
Peak Factor																	0.931
High Int.	03:45 PM				04:00 PM				04:30 PM				04:15 PM				
Volume	0	17	0	17	0	0	12	12	0	16	10	26	0	0	4	4	
Peak Factor				0.838				0.688				0.740				0.500	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:00 PM				03:15 PM				03:45 PM				05:30 PM				
Volume	3	65	0	68	0	0	38	38	0	38	39	77	0	0	11	11	
Percent	4.4	95.6	0.0		0.0	0.0	100.0		0.0	49.4	50.6		0.0	0.0	100.0		
High Int.	03:00 PM				04:00 PM				04:30 PM				05:30 PM				
Volume	2	16	0	18	0	0	12	12	0	16	10	26	0	0	4	4	
Peak Factor				0.944				0.792				0.740				0.688	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- U-Turns

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Total	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:30 PM	1	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	6	0	0	6	0	0	0	0	0	0	0	0	0	0	0	0	6
Apprch %	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	4
Percent	100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
03:45 Volume	2	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0	2
Peak Factor																	0.500
High Int.	03:00 PM				2:45:00 PM				2:45:00 PM				2:45:00 PM				
Volume	2	0	0	2													
Peak Factor				0.500													

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75nb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 2

	US 301 Southbound				I-75 NORTHBOUND RAMP Westbound				US 301 Northbound				I-75 NORTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:00 PM				03:00 PM				03:00 PM				03:00 PM				
Volume	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	
Percent	100.0	0.0	0.0		-	-	-		-	-	-		-	-	-		
High Int.	03:00 PM				-				-				-				
Volume	2	0	0	2	-	-	-	-	-	-	-	-	-	-	-	-	
Peak Factor				0.500				-				-				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	223	92	315	0	0	20	20	31	203	0	234	0	0	161	161	730
03:15 PM	0	221	101	322	0	0	17	17	31	228	0	259	0	0	181	181	779
03:30 PM	0	324	111	435	0	0	20	20	38	213	0	251	0	0	253	253	959
03:45 PM	0	286	130	416	0	0	27	27	54	226	0	280	0	0	226	226	949
Total	0	1054	434	1488	0	0	84	84	154	870	0	1024	0	0	821	821	3417
04:00 PM	0	316	116	432	0	0	25	25	35	214	0	249	0	0	238	238	944
04:15 PM	0	328	136	464	0	0	22	22	43	209	0	252	0	0	340	340	1078
04:30 PM	0	386	119	505	0	0	32	32	56	197	0	253	0	0	328	328	1118
04:45 PM	0	385	134	519	0	0	35	35	32	203	0	235	0	0	326	326	1115
Total	0	1415	505	1920	0	0	114	114	166	823	0	989	0	0	1232	1232	4255
05:00 PM	0	461	166	627	0	0	32	32	39	200	0	239	0	0	371	371	1269
05:15 PM	0	451	153	604	0	0	32	32	44	228	0	272	0	0	432	432	1340
05:30 PM	0	413	146	559	0	0	28	28	44	215	0	259	0	0	402	402	1248
05:45 PM	0	362	123	485	0	0	23	23	34	245	0	279	0	0	335	335	1122
Total	0	1687	588	2275	0	0	115	115	161	888	0	1049	0	0	1540	1540	4979
06:00 PM	0	333	107	440	0	0	32	32	32	235	0	267	0	0	346	346	1085
06:15 PM	0	305	125	430	0	0	41	41	30	218	0	248	0	0	315	315	1034
06:30 PM	0	261	80	341	0	0	22	22	29	195	0	224	0	0	232	232	819
06:45 PM	0	225	80	305	0	0	23	23	26	215	0	241	0	0	267	267	836
Total	0	1124	392	1516	0	0	118	118	117	863	0	980	0	0	1160	1160	3774
Grand Total	0	5280	1919	7199	0	0	431	431	598	3444	0	4042	0	0	4753	4753	16425
Apprch %	0.0	73.3	26.7		0.0	0.0	100.0		14.8	85.2	0.0		0.0	0.0	100.0		
Total %	0.0	32.1	11.7	43.8	0.0	0.0	2.6	2.6	3.6	21.0	0.0	24.6	0.0	0.0	28.9	28.9	

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	1687	588	2275	0	0	115	115	161	888	0	1049	0	0	1540	1540	4979
Percent	0.0	74.2	25.8		0.0	0.0	100.0		15.3	84.7	0.0		0.0	0.0	100.0		
05:15 Volume	0	451	153	604	0	0	32	32	44	228	0	272	0	0	432	432	1340
Peak Factor																	0.929
High Int.	05:00 PM				05:00 PM				05:45 PM				05:15 PM				
Volume	0	461	166	627	0	0	32	32	34	245	0	279	0	0	432	432	
Peak Factor				0.907				0.898				0.940				0.891	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	04:45 PM				04:30 PM				05:15 PM				05:00 PM				
Volume	0	1710	599	2309	0	0	131	131	154	923	0	1077	0	0	1540	1540	
Percent	0.0	74.1	25.9		0.0	0.0	100.0		14.3	85.7	0.0		0.0	0.0	100.0		
High Int.	05:00 PM				04:45 PM				05:45 PM				05:15 PM				
Volume	0	461	166	627	0	0	35	35	34	245	0	279	0	0	432	432	
Peak Factor				0.921				0.936				0.965				0.891	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- Passenger Vehicles

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	214	86	300	0	0	20	20	28	191	0	219	0	0	152	152	691
03:15 PM	0	217	96	313	0	0	17	17	29	211	0	240	0	0	169	169	739
03:30 PM	0	318	103	421	0	0	20	20	34	199	0	233	0	0	242	242	916
03:45 PM	0	279	125	404	0	0	27	27	50	211	0	261	0	0	216	216	908
Total	0	1028	410	1438	0	0	84	84	141	812	0	953	0	0	779	779	3254
04:00 PM	0	309	109	418	0	0	25	25	32	195	0	227	0	0	228	228	898
04:15 PM	0	323	127	450	0	0	21	21	41	193	0	234	0	0	334	334	1039
04:30 PM	0	380	115	495	0	0	32	32	54	178	0	232	0	0	322	322	1081
04:45 PM	0	380	129	509	0	0	35	35	28	193	0	221	0	0	318	318	1083
Total	0	1392	480	1872	0	0	113	113	155	759	0	914	0	0	1202	1202	4101
05:00 PM	0	458	162	620	0	0	32	32	39	185	0	224	0	0	364	364	1240
05:15 PM	0	447	148	595	0	0	31	31	44	220	0	264	0	0	426	426	1316
05:30 PM	0	410	142	552	0	0	28	28	41	204	0	245	0	0	395	395	1220
05:45 PM	0	359	115	474	0	0	23	23	32	234	0	266	0	0	330	330	1093
Total	0	1674	567	2241	0	0	114	114	156	843	0	999	0	0	1515	1515	4869
06:00 PM	0	332	104	436	0	0	32	32	31	223	0	254	0	0	340	340	1062
06:15 PM	0	305	123	428	0	0	41	41	29	207	0	236	0	0	306	306	1011
06:30 PM	0	259	78	337	0	0	21	21	28	189	0	217	0	0	222	222	797
06:45 PM	0	225	75	300	0	0	23	23	26	212	0	238	0	0	257	257	818
Total	0	1121	380	1501	0	0	117	117	114	831	0	945	0	0	1125	1125	3688
Grand Total	0	5215	1837	7052	0	0	428	428	566	3245	0	3811	0	0	4621	4621	15912
Apprch %	0.0	74.0	26.0		0.0	0.0	100.0		14.9	85.1	0.0		0.0	0.0	100.0		
Total %	0.0	32.8	11.5	44.3	0.0	0.0	2.7	2.7	3.6	20.4	0.0	24.0	0.0	0.0	29.0	29.0	

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	05:00 PM																
Volume	0	1674	567	2241	0	0	114	114	156	843	0	999	0	0	1515	1515	4869
Percent	0.0	74.7	25.3		0.0	0.0	100.0		15.6	84.4	0.0		0.0	0.0	100.0		
05:15 Volume	0	447	148	595	0	0	31	31	44	220	0	264	0	0	426	426	1316
Peak Factor																	0.925
High Int.	05:00 PM				05:00 PM				05:45 PM				05:15 PM				
Volume	0	458	162	620	0	0	32	32	32	234	0	266	0	0	426	426	
Peak Factor				0.904				0.891				0.939				0.889	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	04:45 PM				04:30 PM				05:15 PM				05:00 PM				
Volume	0	1695	581	2276	0	0	130	130	148	881	0	1029	0	0	1515	1515	
Percent	0.0	74.5	25.5		0.0	0.0	100.0		14.4	85.6	0.0		0.0	0.0	100.0		
High Int.	05:00 PM				04:45 PM				05:45 PM				05:15 PM				
Volume	0	458	162	620	0	0	35	35	32	234	0	266	0	0	426	426	
Peak Factor				0.918				0.929				0.967				0.889	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- Heavy Vehicles

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	9	6	15	0	0	0	0	1	12	0	13	0	0	9	9	37
03:15 PM	0	4	5	9	0	0	0	0	1	17	0	18	0	0	12	12	39
03:30 PM	0	6	8	14	0	0	0	0	1	14	0	15	0	0	11	11	40
03:45 PM	0	7	5	12	0	0	0	0	0	15	0	15	0	0	10	10	37
Total	0	26	24	50	0	0	0	0	3	58	0	61	0	0	42	42	153
04:00 PM	0	7	7	14	0	0	0	0	1	19	0	20	0	0	10	10	44
04:15 PM	0	5	9	14	0	0	1	1	0	16	0	16	0	0	6	6	37
04:30 PM	0	6	4	10	0	0	0	0	1	19	0	20	0	0	6	6	36
04:45 PM	0	5	5	10	0	0	0	0	3	10	0	13	0	0	8	8	31
Total	0	23	25	48	0	0	1	1	5	64	0	69	0	0	30	30	148
05:00 PM	0	3	4	7	0	0	0	0	0	15	0	15	0	0	7	7	29
05:15 PM	0	4	5	9	0	0	1	1	0	8	0	8	0	0	6	6	24
05:30 PM	0	3	4	7	0	0	0	0	1	11	0	12	0	0	7	7	26
05:45 PM	0	3	8	11	0	0	0	0	0	11	0	11	0	0	5	5	27
Total	0	13	21	34	0	0	1	1	1	45	0	46	0	0	25	25	106
06:00 PM	0	1	3	4	0	0	0	0	1	12	0	13	0	0	6	6	23
06:15 PM	0	0	2	2	0	0	0	0	0	11	0	11	0	0	9	9	22
06:30 PM	0	2	2	4	0	0	1	1	0	6	0	6	0	0	10	10	21
06:45 PM	0	0	5	5	0	0	0	0	0	3	0	3	0	0	10	10	18
Total	0	3	12	15	0	0	1	1	1	32	0	33	0	0	35	35	84
Grand Total	0	65	82	147	0	0	3	3	10	199	0	209	0	0	132	132	491
Apprch %	0.0	44.2	55.8		0.0	0.0	100.0		4.8	95.2	0.0		0.0	0.0	100.0		
Total %	0.0	13.2	16.7	29.9	0.0	0.0	0.6	0.6	2.0	40.5	0.0	42.6	0.0	0.0	26.9	26.9	

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	03:15 PM																
Volume	0	24	25	49	0	0	0	0	3	65	0	68	0	0	43	43	160
Percent	0.0	49.0	51.0		0.0	0.0	0.0		4.4	95.6	0.0		0.0	0.0	100.0		
04:00 Volume	0	7	7	14	0	0	0	0	1	19	0	20	0	0	10	10	44
Peak Factor																	0.909
High Int.	03:30 PM				2:45:00 PM				04:00 PM				03:15 PM				
Volume	0	6	8	14	0	0	0	0	1	19	0	20	0	0	12	12	
Peak Factor				0.875								0.850				0.896	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:30 PM				03:30 PM				03:45 PM				03:15 PM				
Volume	0	25	29	54	0	0	1	1	2	69	0	71	0	0	43	43	
Percent	0.0	46.3	53.7		0.0	0.0	100.0		2.8	97.2	0.0		0.0	0.0	100.0		
High Int.	03:30 PM				04:15 PM				04:00 PM				03:15 PM				
Volume	0	6	8	14	0	0	1	1	1	19	0	20	0	0	12	12	
Peak Factor				0.964				0.250				0.888				0.896	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 1

Groups Printed- U-Turns

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
03:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
03:30 PM	0	0	0	0	0	0	0	0	3	0	0	3	0	0	0	0	3
03:45 PM	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
Total	0	0	0	0	0	0	0	0	10	0	0	10	0	0	0	0	10
04:00 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
04:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
04:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
Total	0	0	0	0	0	0	0	0	6	0	0	6	0	0	0	0	6
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
05:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Total	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
06:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	0	0	0	0	1
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	2	0	0	2	0	0	0	0	2
Grand Total	0	0	0	0	0	0	0	0	22	0	0	22	0	0	0	0	22
Apprch %	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	03:30 PM																
Volume	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	11
Percent	0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
03:45 Volume	0	0	0	0	0	0	0	0	4	0	0	4	0	0	0	0	4
Peak Factor																	0.688
High Int.	2:45:00 PM				2:45:00 PM				03:45 PM				2:45:00 PM				
Volume	0	0	0	0	0	0	0	0	4	0	0	4					
Peak Factor												0.688					

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Riverview/Hillsborough
Weather: Some Rain
Comments:

File Name : us301&i75sb
Site Code : 00007029
Start Date : 8/1/2007
Page No : 2

	US 301 Southbound				I-75 SOUTHBOUND RAMP Westbound				US 301 Northbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:00 PM				03:00 PM				03:30 PM				03:00 PM				
Volume	0	0	0	0	0	0	0	0	11	0	0	11	0	0	0	0	
Percent	-	-	-		-	-	-		100.0	0.0	0.0		-	-	-		
High Int.	-				-				03:45 PM				-				
Volume	-	-	-	-	-	-	-	-	4	0	0	4	-	-	-	-	
Peak Factor				-				-				0.688				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75nb
Site Code : 00007029
Start Date : 8/2/2007
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	434	218	652	45	0	149	194	0	664	83	747	1593
03:15 PM	0	453	237	690	54	0	185	239	0	636	83	719	1648
03:30 PM	0	500	255	755	30	0	158	188	0	730	97	827	1770
03:45 PM	0	395	222	617	45	0	179	224	0	778	94	872	1713
Total	0	1782	932	2714	174	0	671	845	0	2808	357	3165	6724
04:00 PM	0	430	255	685	35	0	137	172	0	706	112	818	1675
04:15 PM	0	444	252	696	33	0	168	201	0	780	92	872	1769
04:30 PM	0	509	259	768	39	0	138	177	0	752	96	848	1793
04:45 PM	0	498	237	735	42	0	185	227	0	824	96	920	1882
Total	0	1881	1003	2884	149	0	628	777	0	3062	396	3458	7119
05:00 PM	0	484	305	789	32	0	184	216	0	834	145	979	1984
05:15 PM	0	503	254	757	44	0	217	261	0	851	112	963	1981
05:30 PM	0	483	238	721	51	0	160	211	0	854	105	959	1891
05:45 PM	0	459	202	661	37	0	181	218	0	871	70	941	1820
Total	0	1929	999	2928	164	0	742	906	0	3410	432	3842	7676
06:00 PM	0	436	210	646	20	0	152	172	0	756	96	852	1670
06:15 PM	0	418	214	632	35	0	183	218	0	766	77	843	1693
06:30 PM	0	400	221	621	32	0	155	187	0	647	52	699	1507
06:45 PM	0	326	215	541	24	0	132	156	0	637	63	700	1397
Total	0	1580	860	2440	111	0	622	733	0	2806	288	3094	6267
Grand Total	0	7172	3794	10966	598	0	2663	3261	0	12086	1473	13559	27786
Apprch %	0.0	65.4	34.6		18.3	0.0	81.7		0.0	89.1	10.9		
Total %	0.0	25.8	13.7	39.5	2.2	0.0	9.6	11.7	0.0	43.5	5.3	48.8	

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	0	1968	1034	3002	169	0	746	915	0	3363	458	3821	7738
Percent	0.0	65.6	34.4		18.5	0.0	81.5		0.0	88.0	12.0		
05:00 Volume	0	484	305	789	32	0	184	216	0	834	145	979	1984
Peak Factor													0.975
High Int.	05:00 PM				05:15 PM				05:00 PM				
Volume	0	484	305	789	44	0	217	261	0	834	145	979	
Peak Factor				0.951				0.876				0.976	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75nb
Site Code : 00007029
Start Date : 8/2/2007

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:30 PM				04:45 PM				05:00 PM				
Volume	0	1994	1055	3049	169	0	746	915	0	3410	432	3842	
Percent	0.0	65.4	34.6		18.5	0.0	81.5		0.0	88.8	11.2		
High Int.	05:00 PM				05:15 PM				05:00 PM				
Volume	0	484	305	789	44	0	217	261	0	834	145	979	
Peak Factor				0.966				0.876				0.981	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75nb
Site Code : 00007029
Start Date : 8/2/2007
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Groups Printed- Passenger Vehicles

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	421	208	629	40	0	147	187	0	649	77	726	1542
03:15 PM	0	434	231	665	50	0	183	233	0	621	78	699	1597
03:30 PM	0	488	247	735	26	0	154	180	0	724	91	815	1730
03:45 PM	0	386	220	606	39	0	176	215	0	769	91	860	1681
Total	0	1729	906	2635	155	0	660	815	0	2763	337	3100	6550
04:00 PM	0	423	249	672	28	0	130	158	0	694	101	795	1625
04:15 PM	0	440	248	688	26	0	167	193	0	772	84	856	1737
04:30 PM	0	499	257	756	32	0	138	170	0	738	90	828	1754
04:45 PM	0	484	233	717	33	0	185	218	0	817	88	905	1840
Total	0	1846	987	2833	119	0	620	739	0	3021	363	3384	6956
05:00 PM	0	475	303	778	29	0	181	210	0	827	138	965	1953
05:15 PM	0	492	250	742	40	0	217	257	0	840	108	948	1947
05:30 PM	0	479	236	715	47	0	157	204	0	849	103	952	1871
05:45 PM	0	450	198	648	36	0	180	216	0	864	67	931	1795
Total	0	1896	987	2883	152	0	735	887	0	3380	416	3796	7566
06:00 PM	0	433	208	641	19	0	151	170	0	750	92	842	1653
06:15 PM	0	416	212	628	34	0	181	215	0	759	73	832	1675
06:30 PM	0	391	219	610	28	0	154	182	0	642	50	692	1484
06:45 PM	0	318	210	528	20	0	130	150	0	632	60	692	1370
Total	0	1558	849	2407	101	0	616	717	0	2783	275	3058	6182
Grand Total	0	7029	3729	10758	527	0	2631	3158	0	11947	1391	13338	27254
Apprch %	0.0	65.3	34.7		16.7	0.0	83.3		0.0	89.6	10.4		
Total %	0.0	25.8	13.7	39.5	1.9	0.0	9.7	11.6	0.0	43.8	5.1	48.9	

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	0	1930	1022	2952	149	0	740	889	0	3333	437	3770	7611
Percent	0.0	65.4	34.6		16.8	0.0	83.2		0.0	88.4	11.6		
05:00 Volume	0	475	303	778	29	0	181	210	0	827	138	965	1953
Peak Factor													0.974
High Int.	05:00 PM				05:15 PM				05:00 PM				
Volume	0	475	303	778	40	0	217	257	0	827	138	965	
Peak Factor				0.949				0.865				0.977	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75nb
Site Code : 00007029
Start Date : 8/2/2007

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	04:30 PM				04:45 PM				05:00 PM				
Volume	0	1950	1043	2993	149	0	740	889	0	3380	416	3796	
Percent	0.0	65.2	34.8		16.8	0.0	83.2		0.0	89.0	11.0		
High Int.	05:00 PM				05:15 PM				05:00 PM				
Volume	0	475	303	778	40	0	217	257	0	827	138	965	
Peak Factor				0.962				0.865				0.983	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75nb
Site Code : 00007029
Start Date : 8/2/2007
Page No : 1

Groups Printed- Heavy Vehicles

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	13	10	23	5	0	2	7	0	15	6	21	51
03:15 PM	0	19	6	25	4	0	2	6	0	15	5	20	51
03:30 PM	0	12	8	20	4	0	4	8	0	6	6	12	40
03:45 PM	0	9	2	11	6	0	3	9	0	9	3	12	32
Total	0	53	26	79	19	0	11	30	0	45	20	65	174
04:00 PM	0	7	6	13	7	0	7	14	0	12	11	23	50
04:15 PM	0	4	4	8	7	0	1	8	0	8	8	16	32
04:30 PM	0	10	2	12	7	0	0	7	0	14	6	20	39
04:45 PM	0	14	4	18	9	0	0	9	0	7	8	15	42
Total	0	35	16	51	30	0	8	38	0	41	33	74	163
05:00 PM	0	9	2	11	3	0	3	6	0	7	7	14	31
05:15 PM	0	11	4	15	4	0	0	4	0	11	4	15	34
05:30 PM	0	4	2	6	4	0	3	7	0	5	2	7	20
05:45 PM	0	9	4	13	1	0	1	2	0	7	3	10	25
Total	0	33	12	45	12	0	7	19	0	30	16	46	110
06:00 PM	0	3	2	5	1	0	1	2	0	6	4	10	17
06:15 PM	0	2	2	4	1	0	2	3	0	7	4	11	18
06:30 PM	0	9	2	11	4	0	1	5	0	5	2	7	23
06:45 PM	0	8	5	13	4	0	2	6	0	5	3	8	27
Total	0	22	11	33	10	0	6	16	0	23	13	36	85
Grand Total	0	143	65	208	71	0	32	103	0	139	82	221	532
Apprch %	0.0	68.8	31.3		68.9	0.0	31.1		0.0	62.9	37.1		
Total %	0.0	26.9	12.2	39.1	13.3	0.0	6.0	19.4	0.0	26.1	15.4	41.5	

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	53	26	79	19	0	11	30	0	45	20	65	174
Percent	0.0	67.1	32.9		63.3	0.0	36.7		0.0	69.2	30.8		
03:15 Volume	0	19	6	25	4	0	2	6	0	15	5	20	51
Peak Factor													0.853
High Int.	03:15 PM				03:45 PM				03:00 PM				
Volume	0	19	6	25	6	0	3	9	0	15	6	21	
Peak Factor				0.790				0.833				0.774	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75nb
Site Code : 00007029
Start Date : 8/2/2007

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:30 PM				04:00 PM				
Volume	0	53	26	79	24	0	15	39	0	41	33	74	
Percent	0.0	67.1	32.9		61.5	0.0	38.5		0.0	55.4	44.6		
High Int.	03:15 PM				04:00 PM				04:00 PM				
Volume	0	19	6	25	7	0	7	14	0	12	11	23	
Peak Factor				0.790				0.696				0.804	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
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Comments:

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Groups Printed- U-Turns

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %													

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
03:45 Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Factor													0.000
High Int.	2:45:00 PM				2:45:00 PM				2:45:00 PM				
Volume													
Peak Factor													

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75nb
Site Code : 00007029
Start Date : 8/2/2007

	SR 60 Westbound				I-75 NORTHBOUND RAMP Northbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	0	0	0	0	0	0	0	0	
Percent	-	-	-		-	-	-		-	-	-		
High Int.	-				-				-				
Volume	-	-	-	-	-	-	-	-	-	-	-	-	
Peak Factor				-				-				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	236	0	96	332	0	342	174	516	0	518	51	569	1417
03:15 PM	244	0	78	322	0	338	166	504	0	478	40	518	1344
03:30 PM	262	0	106	368	0	344	185	529	0	552	63	615	1512
03:45 PM	316	0	104	420	0	324	116	440	0	557	76	633	1493
Total	1058	0	384	1442	0	1348	641	1989	0	2105	230	2335	5766
04:00 PM	259	0	85	344	0	324	148	472	0	553	67	620	1436
04:15 PM	278	0	100	378	0	311	199	510	0	613	65	678	1566
04:30 PM	265	0	82	347	0	324	212	536	0	603	61	664	1547
04:45 PM	326	0	71	397	0	330	221	551	0	596	64	660	1608
Total	1128	0	338	1466	0	1289	780	2069	0	2365	257	2622	6157
05:00 PM	332	0	69	401	0	323	217	540	0	685	79	764	1705
05:15 PM	323	0	65	388	0	361	233	594	0	680	74	754	1736
05:30 PM	369	0	78	447	1	324	211	536	0	553	84	637	1620
05:45 PM	353	0	71	424	0	310	195	505	0	574	70	644	1573
Total	1377	0	283	1660	1	1318	856	2175	0	2492	307	2799	6634
06:00 PM	295	0	76	371	0	284	183	467	0	561	63	624	1462
06:15 PM	321	0	80	401	0	256	188	444	0	526	54	580	1425
06:30 PM	273	0	88	361	0	298	137	435	0	421	56	477	1273
06:45 PM	274	0	80	354	0	237	133	370	0	426	29	455	1179
Total	1163	0	324	1487	0	1075	641	1716	0	1934	202	2136	5339
Grand Total	4726	0	1329	6055	1	5030	2918	7949	0	8896	996	9892	23896
Apprch %	78.1	0.0	21.9		0.0	63.3	36.7		0.0	89.9	10.1		
Total %	19.8	0.0	5.6	25.3	0.0	21.0	12.2	33.3	0.0	37.2	4.2	41.4	

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	1350	0	283	1633	1	1338	882	2221	0	2514	301	2815	6669
Percent	82.7	0.0	17.3		0.0	60.2	39.7		0.0	89.3	10.7		
05:15 Volume	323	0	65	388	0	361	233	594	0	680	74	754	1736
Peak Factor													0.960
High Int.	05:30 PM				05:15 PM				05:00 PM				
Volume	369	0	78	447	0	361	233	594	0	685	79	764	
Peak Factor				0.913				0.935				0.921	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
Start Date : 8/2/2007
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	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				04:30 PM				04:30 PM				
Volume	1377	0	283	1660	0	1338	883	2221	0	2564	278	2842	
Percent	83.0	0.0	17.0		0.0	60.2	39.8		0.0	90.2	9.8		
High Int.	05:30 PM				05:15 PM				05:00 PM				
Volume	369	0	78	447	0	361	233	594	0	685	79	764	
Peak Factor				0.928				0.935				0.930	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
Start Date : 8/2/2007
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Groups Printed- Passenger Vehicles

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	232	0	87	319	0	325	170	495	0	502	46	548	1362
03:15 PM	236	0	73	309	0	319	162	481	0	464	40	504	1294
03:30 PM	262	0	95	357	0	330	183	513	0	541	60	601	1471
03:45 PM	312	0	92	404	0	312	114	426	0	549	74	623	1453
Total	1042	0	347	1389	0	1286	629	1915	0	2056	220	2276	5580
04:00 PM	252	0	79	331	0	311	146	457	0	536	64	600	1388
04:15 PM	278	0	96	374	0	302	197	499	0	597	63	660	1533
04:30 PM	260	0	76	336	0	312	207	519	0	585	59	644	1499
04:45 PM	326	0	65	391	0	314	215	529	0	584	64	648	1568
Total	1116	0	316	1432	0	1239	765	2004	0	2302	250	2552	5988
05:00 PM	327	0	62	389	0	314	213	527	0	676	77	753	1669
05:15 PM	320	0	60	380	0	347	232	579	0	667	72	739	1698
05:30 PM	367	0	77	444	0	318	209	527	0	549	83	632	1603
05:45 PM	349	0	67	416	0	303	193	496	0	568	68	636	1548
Total	1363	0	266	1629	0	1282	847	2129	0	2460	300	2760	6518
06:00 PM	294	0	73	367	0	279	183	462	0	552	60	612	1441
06:15 PM	318	0	76	394	0	254	187	441	0	518	52	570	1405
06:30 PM	270	0	81	351	0	287	135	422	0	417	55	472	1245
06:45 PM	273	0	77	350	0	227	131	358	0	418	27	445	1153
Total	1155	0	307	1462	0	1047	636	1683	0	1905	194	2099	5244
Grand Total	4676	0	1236	5912	0	4854	2877	7731	0	8723	964	9687	23330
Apprch %	79.1	0.0	20.9		0.0	62.8	37.2		0.0	90.0	10.0		
Total %	20.0	0.0	5.3	25.3	0.0	20.8	12.3	33.1	0.0	37.4	4.1	41.5	

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	1340	0	264	1604	0	1293	869	2162	0	2476	296	2772	6538
Percent	83.5	0.0	16.5		0.0	59.8	40.2		0.0	89.3	10.7		
05:15 Volume	320	0	60	380	0	347	232	579	0	667	72	739	1698
Peak Factor													0.963
High Int.	05:30 PM				05:15 PM				05:00 PM				
Volume	367	0	77	444	0	347	232	579	0	676	77	753	
Peak Factor				0.903				0.934				0.920	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
Start Date : 8/2/2007

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				04:45 PM				04:30 PM				
Volume	1363	0	266	1629	0	1293	869	2162	0	2512	272	2784	
Percent	83.7	0.0	16.3		0.0	59.8	40.2		0.0	90.2	9.8		
High Int.	05:30 PM				05:15 PM				05:00 PM				
Volume	367	0	77	444	0	347	232	579	0	676	77	753	
Peak Factor				0.917				0.934				0.924	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
Start Date : 8/2/2007
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Groups Printed- Heavy Vehicles

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	4	0	9	13	0	17	4	21	0	16	5	21	55
03:15 PM	8	0	5	13	0	19	4	23	0	14	0	14	50
03:30 PM	0	0	11	11	0	14	2	16	0	11	3	14	41
03:45 PM	4	0	12	16	0	12	2	14	0	8	2	10	40
Total	16	0	37	53	0	62	12	74	0	49	10	59	186
04:00 PM	7	0	6	13	0	13	2	15	0	17	3	20	48
04:15 PM	0	0	4	4	0	9	2	11	0	16	2	18	33
04:30 PM	5	0	6	11	0	12	5	17	0	18	2	20	48
04:45 PM	0	0	6	6	0	16	6	22	0	12	0	12	40
Total	12	0	22	34	0	50	15	65	0	63	7	70	169
05:00 PM	5	0	7	12	0	9	4	13	0	9	2	11	36
05:15 PM	3	0	5	8	0	14	1	15	0	13	2	15	38
05:30 PM	2	0	1	3	0	6	2	8	0	4	1	5	16
05:45 PM	4	0	4	8	0	7	2	9	0	6	2	8	25
Total	14	0	17	31	0	36	9	45	0	32	7	39	115
06:00 PM	1	0	3	4	0	5	0	5	0	9	3	12	21
06:15 PM	3	0	4	7	0	2	1	3	0	8	2	10	20
06:30 PM	3	0	7	10	0	11	2	13	0	4	1	5	28
06:45 PM	1	0	3	4	0	10	2	12	0	8	2	10	26
Total	8	0	17	25	0	28	5	33	0	29	8	37	95
Grand Total	50	0	93	143	0	176	41	217	0	173	32	205	565
Apprch %	35.0	0.0	65.0		0.0	81.1	18.9		0.0	84.4	15.6		
Total %	8.8	0.0	16.5	25.3	0.0	31.2	7.3	38.4	0.0	30.6	5.7	36.3	

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	16	0	37	53	0	62	12	74	0	49	10	59	186
Percent	30.2	0.0	69.8		0.0	83.8	16.2		0.0	83.1	16.9		
03:00 Volume	4	0	9	13	0	17	4	21	0	16	5	21	55
Peak Factor													0.845
High Int.	03:45 PM				03:15 PM				03:00 PM				
Volume	4	0	12	16	0	19	4	23	0	16	5	21	
Peak Factor				0.828				0.804				0.702	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
Start Date : 8/2/2007

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				04:00 PM				
Volume	16	0	37	53	0	62	12	74	0	63	7	70	
Percent	30.2	0.0	69.8		0.0	83.8	16.2		0.0	90.0	10.0		
High Int.	03:45 PM				03:15 PM				04:00 PM				
Volume	4	0	12	16	0	19	4	23	0	17	3	20	
Peak Factor				0.828				0.804				0.875	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
Start Date : 8/2/2007
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Groups Printed- U-Turns

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	1	0	0	1	0	0	0	0	1
Apprch %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	0	0	0	0	1	0	0	1	0	0	0	0	1
Percent	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
05:30 Volume	0	0	0	0	1	0	0	1	0	0	0	0	1
Peak Factor													0.250
High Int.	2:45:00 PM				05:30 PM				2:45:00 PM				
Volume	0	0	0	0	1	0	0	1					
Peak Factor								0.250					

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Brandon/Hillsborough
Weather: Some Rain
Comments:

File Name : sr60&i75sb
Site Code : 00007029
Start Date : 8/2/2007

	I-75 SOUTHBOUND RAMP Southbound				SR 60 Westbound				SR 60 Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				04:45 PM				03:00 PM				
Volume	0	0	0	0	1	0	0	1	0	0	0	0	
Percent	-	-	-		100.0	0.0	0.0		-	-	-		
High Int.	-				05:30 PM				-				
Volume	-	-	-	-	1	0	0	1	-	-	-	-	
Peak Factor				-				0.250				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	51	51	0	196	68	264	0	0	64	64	114	228	0	342	721
03:15 PM	0	0	49	49	0	193	74	267	0	0	67	67	122	275	0	397	780
03:30 PM	0	0	43	43	0	202	71	273	0	0	97	97	158	299	0	457	870
03:45 PM	0	0	50	50	0	166	74	240	0	0	61	61	140	329	0	469	820
Total	0	0	193	193	0	757	287	1044	0	0	289	289	534	1131	0	1665	3191
04:00 PM	0	0	47	47	0	228	69	297	0	0	81	81	194	341	0	535	960
04:15 PM	0	0	57	57	0	192	69	261	0	0	95	95	194	359	0	553	966
04:30 PM	0	0	39	39	0	186	73	259	0	0	84	84	217	348	0	565	947
04:45 PM	0	0	67	67	0	161	68	229	0	0	86	86	258	371	0	629	1011
Total	0	0	210	210	0	767	279	1046	0	0	346	346	863	1419	0	2282	3884
05:00 PM	0	0	53	53	0	187	68	255	0	0	107	107	238	404	0	642	1057
05:15 PM	0	0	62	62	0	200	71	271	0	0	108	108	240	436	0	676	1117
05:30 PM	0	0	67	67	0	214	56	270	0	0	99	99	252	416	0	668	1104
05:45 PM	0	0	73	73	0	187	76	263	0	0	103	103	222	404	0	626	1065
Total	0	0	255	255	0	788	271	1059	0	0	417	417	952	1660	0	2612	4343
06:00 PM	0	0	77	77	0	191	54	245	0	0	97	97	210	429	0	639	1058
06:15 PM	0	0	85	85	0	166	54	220	0	0	95	95	169	374	0	543	943
06:30 PM	0	0	81	81	0	199	63	262	0	0	81	81	188	267	0	455	879
06:45 PM	0	0	85	85	0	177	70	247	0	0	72	72	156	259	0	415	819
Total	0	0	328	328	0	733	241	974	0	0	345	345	723	1329	0	2052	3699
Grand Total	0	0	986	986	0	3045	1078	4123	0	0	1397	1397	3072	5539	0	8611	15117
Apprch %	0.0	0.0	100.0		0.0	73.9	26.1		0.0	0.0	100.0		35.7	64.3	0.0		
Total %	0.0	0.0	6.5	6.5	0.0	20.1	7.1	27.3	0.0	0.0	9.2	9.2	20.3	36.6	0.0	57.0	

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	05:15 PM																
Volume	0	0	279	279	0	792	257	1049	0	0	407	407	924	1685	0	2609	4344
Percent	0.0	0.0	100.0		0.0	75.5	24.5		0.0	0.0	100.0		35.4	64.6	0.0		
05:15 Volume	0	0	62	62	0	200	71	271	0	0	108	108	240	436	0	676	1117
Peak Factor																	0.972
High Int.	06:00 PM				05:15 PM				05:15 PM				05:15 PM				
Volume	0	0	77	77	0	200	71	271	0	0	108	108	240	436	0	676	
Peak Factor				0.906				0.968				0.942				0.965	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	06:00 PM				03:15 PM				05:00 PM				04:45 PM				
Volume	0	0	328	328	0	789	288	1077	0	0	417	417	988	1627	0	2615	
Percent	0.0	0.0	100.0		0.0	73.3	26.7		0.0	0.0	100.0		37.8	62.2	0.0		
High Int.	06:15 PM				04:00 PM				05:15 PM				05:15 PM				
Volume	0	0	85	85	0	228	69	297	0	0	108	108	240	436	0	676	
Peak Factor				0.965				0.907				0.965				0.967	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007
Page No : 1

Groups Printed- Passenger Vehicles

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	43	43	0	190	63	253	0	0	60	60	108	219	0	327	683
03:15 PM	0	0	42	42	0	185	71	256	0	0	61	61	111	269	0	380	739
03:30 PM	0	0	39	39	0	191	69	260	0	0	94	94	153	289	0	442	835
03:45 PM	0	0	45	45	0	158	70	228	0	0	61	61	132	323	0	455	789
Total	0	0	169	169	0	724	273	997	0	0	276	276	504	1100	0	1604	3046
04:00 PM	0	0	44	44	0	218	67	285	0	0	79	79	189	334	0	523	931
04:15 PM	0	0	54	54	0	183	66	249	0	0	94	94	186	355	0	541	938
04:30 PM	0	0	35	35	0	175	72	247	0	0	82	82	212	344	0	556	920
04:45 PM	0	0	63	63	0	158	67	225	0	0	84	84	254	368	0	622	994
Total	0	0	196	196	0	734	272	1006	0	0	339	339	841	1401	0	2242	3783
05:00 PM	0	0	53	53	0	182	68	250	0	0	105	105	232	398	0	630	1038
05:15 PM	0	0	59	59	0	197	70	267	0	0	105	105	238	432	0	670	1101
05:30 PM	0	0	63	63	0	209	55	264	0	0	97	97	247	414	0	661	1085
05:45 PM	0	0	71	71	0	185	75	260	0	0	102	102	216	402	0	618	1051
Total	0	0	246	246	0	773	268	1041	0	0	409	409	933	1646	0	2579	4275
06:00 PM	0	0	75	75	0	188	53	241	0	0	95	95	208	424	0	632	1043
06:15 PM	0	0	84	84	0	162	54	216	0	0	91	91	167	371	0	538	929
06:30 PM	0	0	80	80	0	195	63	258	0	0	78	78	185	263	0	448	864
06:45 PM	0	0	85	85	0	176	66	242	0	0	71	71	154	255	0	409	807
Total	0	0	324	324	0	721	236	957	0	0	335	335	714	1313	0	2027	3643
Grand Total	0	0	935	935	0	2952	1049	4001	0	0	1359	1359	2992	5460	0	8452	14747
Apprch %	0.0	0.0	100.0		0.0	73.8	26.2		0.0	0.0	100.0		35.4	64.6	0.0		
Total %	0.0	0.0	6.3	6.3	0.0	20.0	7.1	27.1	0.0	0.0	9.2	9.2	20.3	37.0	0.0	57.3	

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	05:15 PM																
Volume	0	0	268	268	0	779	253	1032	0	0	399	399	909	1672	0	2581	4280
Percent	0.0	0.0	100.0		0.0	75.5	24.5		0.0	0.0	100.0		35.2	64.8	0.0		
05:15 Volume	0	0	59	59	0	197	70	267	0	0	105	105	238	432	0	670	1101
Peak Factor																	0.972
High Int.	06:00 PM				05:15 PM				05:15 PM				05:15 PM				
Volume	0	0	75	75	0	197	70	267	0	0	105	105	238	432	0	670	
Peak Factor				0.893				0.966				0.950				0.963	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	06:00 PM				05:00 PM				05:00 PM				04:45 PM				
Volume	0	0	324	324	0	773	268	1041	0	0	409	409	971	1612	0	2583	
Percent	0.0	0.0	100.0		0.0	74.3	25.7		0.0	0.0	100.0		37.6	62.4	0.0		
High Int.	06:45 PM				05:15 PM				05:00 PM				05:15 PM				
Volume	0	0	85	85	0	197	70	267	0	0	105	105	238	432	0	670	
Peak Factor				0.953				0.975				0.974				0.964	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007
Page No : 1

Groups Printed- Heavy Vehicles

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	8	8	0	6	5	11	0	0	4	4	5	9	0	14	37
03:15 PM	0	0	7	7	0	8	3	11	0	0	6	6	10	6	0	16	40
03:30 PM	0	0	4	4	0	11	2	13	0	0	3	3	5	10	0	15	35
03:45 PM	0	0	5	5	0	8	4	12	0	0	0	0	6	6	0	12	29
Total	0	0	24	24	0	33	14	47	0	0	13	13	26	31	0	57	141
04:00 PM	0	0	3	3	0	10	2	12	0	0	2	2	3	7	0	10	27
04:15 PM	0	0	3	3	0	9	3	12	0	0	1	1	5	4	0	9	25
04:30 PM	0	0	4	4	0	11	1	12	0	0	2	2	4	4	0	8	26
04:45 PM	0	0	4	4	0	3	1	4	0	0	2	2	3	3	0	6	16
Total	0	0	14	14	0	33	7	40	0	0	7	7	15	18	0	33	94
05:00 PM	0	0	0	0	0	5	0	5	0	0	2	2	6	6	0	12	19
05:15 PM	0	0	3	3	0	3	1	4	0	0	3	3	2	4	0	6	16
05:30 PM	0	0	4	4	0	5	1	6	0	0	2	2	2	2	0	4	16
05:45 PM	0	0	2	2	0	2	1	3	0	0	1	1	3	2	0	5	11
Total	0	0	9	9	0	15	3	18	0	0	8	8	13	14	0	27	62
06:00 PM	0	0	2	2	0	3	1	4	0	0	2	2	2	5	0	7	15
06:15 PM	0	0	1	1	0	4	0	4	0	0	4	4	1	3	0	4	13
06:30 PM	0	0	1	1	0	4	0	4	0	0	3	3	1	4	0	5	13
06:45 PM	0	0	0	0	0	1	4	5	0	0	1	1	0	4	0	4	10
Total	0	0	4	4	0	12	5	17	0	0	10	10	4	16	0	20	51
Grand Total	0	0	51	51	0	93	29	122	0	0	38	38	58	79	0	137	348
Apprch %	0.0	0.0	100.0		0.0	76.2	23.8		0.0	0.0	100.0		42.3	57.7	0.0		
Total %	0.0	0.0	14.7	14.7	0.0	26.7	8.3	35.1	0.0	0.0	10.9	10.9	16.7	22.7	0.0	39.4	

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	03:00 PM																
Volume	0	0	24	24	0	33	14	47	0	0	13	13	26	31	0	57	141
Percent	0.0	0.0	100.0		0.0	70.2	29.8		0.0	0.0	100.0		45.6	54.4	0.0		
03:15 Volume	0	0	7	7	0	8	3	11	0	0	6	6	10	6	0	16	40
Peak Factor																	0.881
High Int.	03:00 PM				03:30 PM				03:15 PM				03:15 PM				
Volume	0	0	8	8	0	11	2	13	0	0	6	6	10	6	0	16	
Peak Factor				0.750				0.904				0.542				0.891	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:00 PM				03:30 PM				03:00 PM				03:00 PM				
Volume	0	0	24	24	0	38	11	49	0	0	13	13	26	31	0	57	
Percent	0.0	0.0	100.0		0.0	77.6	22.4		0.0	0.0	100.0		45.6	54.4	0.0		
High Int.	03:00 PM				03:30 PM				03:15 PM				03:15 PM				
Volume	0	0	8	8	0	11	2	13	0	0	6	6	10	6	0	16	
Peak Factor				0.750				0.942				0.542				0.891	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007
Page No : 1

Groups Printed- U-Turns

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	4	0	0	4	4
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	0	0	0	0	7	0	0	7	7
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Total	0	0	0	0	0	0	0	0	0	0	0	0	6	0	0	6	6
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	1	0	0	1	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5	5
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	22	0	0	22	22
Apprch %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
Intersection	03:45 PM																
Volume	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	8
Percent	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
04:15 Volume	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	3
Peak Factor																	0.667
High Int.	2:45:00 PM				2:45:00 PM				2:45:00 PM				04:15 PM				
Volume	0	0	0	0	0	0	0	0	0	0	0	0	3	0	0	3	
Peak Factor																0.667	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75nb
Site Code : 00007029
Start Date : 8/7/2007

	I-75 NORTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 NORTHBOUND RAMP Northbound				ML KING JR BOULEVARD Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																	
By Approach	03:00 PM				03:00 PM				03:00 PM				03:45 PM				
Volume	0	0	0	0	0	0	0	0	0	0	0	0	8	0	0	8	
Percent	-	-	-		-	-	-		-	-	-		100.0	0.0	0.0		
High Int.	-				-				-				04:15 PM				
Volume	-	-	-	-	-	-	-	-	-	-	-	-	3	0	0	3	
Peak Factor				-				-				-				0.667	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
Start Date : 8/7/2007
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	65	0	83	148	53	182	0	235	0	275	60	335	718
03:15 PM	88	0	93	181	53	196	0	249	0	310	68	378	808
03:30 PM	95	0	75	170	51	198	0	249	0	358	78	436	855
03:45 PM	93	0	61	154	54	189	0	243	0	380	91	471	868
Total	341	0	312	653	211	765	0	976	0	1323	297	1620	3249
04:00 PM	96	0	68	164	50	223	0	273	0	431	134	565	1002
04:15 PM	96	0	78	174	51	209	0	260	0	447	143	590	1024
04:30 PM	90	0	66	156	43	182	0	225	0	469	171	640	1021
04:45 PM	134	0	60	194	41	178	0	219	0	485	170	655	1068
Total	416	0	272	688	185	792	0	977	0	1832	618	2450	4115
05:00 PM	138	0	73	211	38	204	0	242	0	501	248	749	1202
05:15 PM	140	0	74	214	50	222	0	272	0	548	246	794	1280
05:30 PM	133	0	86	219	46	227	0	273	0	516	219	735	1227
05:45 PM	122	0	70	192	55	220	0	275	0	490	194	684	1151
Total	533	0	303	836	189	873	0	1062	0	2055	907	2962	4860
06:00 PM	165	0	59	224	46	224	0	270	0	468	187	655	1149
06:15 PM	136	0	52	188	57	212	0	269	0	402	142	544	1001
06:30 PM	94	0	55	149	48	234	0	282	0	345	133	478	909
06:45 PM	67	0	56	123	49	220	0	269	0	343	122	465	857
Total	462	0	222	684	200	890	0	1090	0	1558	584	2142	3916
Grand Total	1752	0	1109	2861	785	3320	0	4105	0	6768	2406	9174	16140
Apprch %	61.2	0.0	38.8		19.1	80.9	0.0		0.0	73.8	26.2		
Total %	10.9	0.0	6.9	17.7	4.9	20.6	0.0	25.4	0.0	41.9	14.9	56.8	

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	533	0	303	836	189	873	0	1062	0	2055	907	2962	4860
Percent	63.8	0.0	36.2		17.8	82.2	0.0		0.0	69.4	30.6		
05:15 Volume	140	0	74	214	50	222	0	272	0	548	246	794	1280
Peak Factor													0.949
High Int.	05:30 PM				05:45 PM				05:15 PM				
Volume	133	0	86	219	55	220	0	275	0	548	246	794	
Peak Factor				0.954				0.965				0.933	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
Start Date : 8/7/2007

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:15 PM				05:45 PM				05:00 PM				
Volume	560	0	289	849	206	890	0	1096	0	2055	907	2962	
Percent	66.0	0.0	34.0		18.8	81.2	0.0		0.0	69.4	30.6		
High Int.	06:00 PM				06:30 PM				05:15 PM				
Volume	165	0	59	224	48	234	0	282	0	548	246	794	
Peak Factor				0.948				0.972				0.933	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
Start Date : 8/7/2007
Page No : 1

Groups Printed- Passenger Vehicles

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	62	0	74	136	49	168	0	217	0	264	56	320	673
03:15 PM	87	0	84	171	50	183	0	233	0	294	65	359	763
03:30 PM	94	0	66	160	49	184	0	233	0	346	77	423	816
03:45 PM	91	0	55	146	51	179	0	230	0	370	88	458	834
Total	334	0	279	613	199	714	0	913	0	1274	286	1560	3086
04:00 PM	95	0	65	160	47	212	0	259	0	422	132	554	973
04:15 PM	96	0	68	164	48	200	0	248	0	437	137	574	986
04:30 PM	90	0	60	150	40	169	0	209	0	462	171	633	992
04:45 PM	132	0	54	186	41	171	0	212	0	481	166	647	1045
Total	413	0	247	660	176	752	0	928	0	1802	606	2408	3996
05:00 PM	136	0	68	204	36	201	0	237	0	491	246	737	1178
05:15 PM	139	0	68	207	49	217	0	266	0	543	244	787	1260
05:30 PM	132	0	80	212	46	219	0	265	0	513	218	731	1208
05:45 PM	121	0	66	187	55	215	0	270	0	486	190	676	1133
Total	528	0	282	810	186	852	0	1038	0	2033	898	2931	4779
06:00 PM	163	0	56	219	45	219	0	264	0	463	184	647	1130
06:15 PM	135	0	49	184	57	207	0	264	0	399	141	540	988
06:30 PM	94	0	54	148	47	230	0	277	0	340	132	472	897
06:45 PM	65	0	51	116	48	220	0	268	0	341	119	460	844
Total	457	0	210	667	197	876	0	1073	0	1543	576	2119	3859
Grand Total	1732	0	1018	2750	758	3194	0	3952	0	6652	2366	9018	15720
Apprch %	63.0	0.0	37.0		19.2	80.8	0.0		0.0	73.8	26.2		
Total %	11.0	0.0	6.5	17.5	4.8	20.3	0.0	25.1	0.0	42.3	15.1	57.4	

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	528	0	282	810	186	852	0	1038	0	2033	898	2931	4779
Percent	65.2	0.0	34.8		17.9	82.1	0.0		0.0	69.4	30.6		
05:15 Volume	139	0	68	207	49	217	0	266	0	543	244	787	1260
Peak Factor													0.948
High Int.	05:30 PM				05:45 PM				05:15 PM				
Volume	132	0	80	212	55	215	0	270	0	543	244	787	
Peak Factor				0.955				0.961				0.931	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
Start Date : 8/7/2007

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:15 PM				05:45 PM				05:00 PM				
Volume	555	0	270	825	204	871	0	1075	0	2033	898	2931	
Percent	67.3	0.0	32.7		19.0	81.0	0.0		0.0	69.4	30.6		
High Int.	06:00 PM				06:30 PM				05:15 PM				
Volume	163	0	56	219	47	230	0	277	0	543	244	787	
Peak Factor				0.942				0.970				0.931	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
Start Date : 8/7/2007
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Groups Printed- Heavy Vehicles

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	3	0	9	12	0	14	0	14	0	11	4	15	41
03:15 PM	1	0	9	10	2	13	0	15	0	16	3	19	44
03:30 PM	1	0	9	10	1	14	0	15	0	12	1	13	38
03:45 PM	2	0	6	8	3	10	0	13	0	10	3	13	34
Total	7	0	33	40	6	51	0	57	0	49	11	60	157
04:00 PM	1	0	3	4	2	11	0	13	0	9	2	11	28
04:15 PM	0	0	10	10	3	9	0	12	0	10	6	16	38
04:30 PM	0	0	6	6	2	13	0	15	0	7	0	7	28
04:45 PM	2	0	6	8	0	7	0	7	0	4	4	8	23
Total	3	0	25	28	7	40	0	47	0	30	12	42	117
05:00 PM	2	0	5	7	2	3	0	5	0	10	2	12	24
05:15 PM	1	0	6	7	1	5	0	6	0	5	2	7	20
05:30 PM	1	0	6	7	0	8	0	8	0	3	1	4	19
05:45 PM	1	0	4	5	0	5	0	5	0	4	4	8	18
Total	5	0	21	26	3	21	0	24	0	22	9	31	81
06:00 PM	2	0	3	5	0	5	0	5	0	5	3	8	18
06:15 PM	1	0	3	4	0	5	0	5	0	3	1	4	13
06:30 PM	0	0	1	1	1	4	0	5	0	5	1	6	12
06:45 PM	2	0	5	7	1	0	0	1	0	2	3	5	13
Total	5	0	12	17	2	14	0	16	0	15	8	23	56
Grand Total	20	0	91	111	18	126	0	144	0	116	40	156	411
Apprch %	18.0	0.0	82.0		12.5	87.5	0.0		0.0	74.4	25.6		
Total %	4.9	0.0	22.1	27.0	4.4	30.7	0.0	35.0	0.0	28.2	9.7	38.0	

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	7	0	33	40	6	51	0	57	0	49	11	60	157
Percent	17.5	0.0	82.5		10.5	89.5	0.0		0.0	81.7	18.3		
03:15 Volume	1	0	9	10	2	13	0	15	0	16	3	19	44
Peak Factor													0.892
High Int.	03:00 PM				03:15 PM				03:15 PM				
Volume	3	0	9	12	2	13	0	15	0	16	3	19	
Peak Factor				0.833				0.950				0.789	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
Start Date : 8/7/2007
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	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	7	0	33	40	6	51	0	57	0	49	11	60	
Percent	17.5	0.0	82.5		10.5	89.5	0.0		0.0	81.7	18.3		
High Int.	03:00 PM				03:15 PM				03:15 PM				
Volume	3	0	9	12	2	13	0	15	0	16	3	19	
Peak Factor				0.833				0.950				0.789	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
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Groups Printed- U-Turns

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	4	0	0	4	0	0	0	0	4
03:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
03:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	6	0	0	6	0	0	0	0	6
04:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	2	0	0	2	0	0	0	0	2
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	1	0	0	1	0	0	0	0	1
Grand Total	0	0	0	0	9	0	0	9	0	0	0	0	9
Apprch %	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	

	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	0	0	0	6	0	0	6	0	0	0	0	6
Percent	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
03:00 Volume	0	0	0	0	4	0	0	4	0	0	0	0	4
Peak Factor													0.375
High Int.	2:45:00 PM				03:00 PM				2:45:00 PM				
Volume	0	0	0	0	4	0	0	4					
Peak Factor								0.375					

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Mango/Hillsborough
Weather: Clear
Comments:

File Name : mlk&i75sb
Site Code : 00007029
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	I-75 SOUTHBOUND RAMP Southbound				ML KING JR BOULEVARD Westbound				I-75 SOUTHBOUND RAMP Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	6	0	0	6	0	0	0	0	
Percent	-	-	-		100.0	0.0	0.0		-	-	-		
High Int.	-				03:00 PM				-				
Volume	-	-	-	-	4	0	0	4	-	-	-	-	
Peak Factor				-				0.375				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fowler&i75nb
Site Code : 00007029
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	108	44	152	0	0	30	30	0	152	54	206	388
03:15 PM	0	119	50	169	0	0	40	40	0	155	58	213	422
03:30 PM	0	110	74	184	0	0	52	52	0	174	91	265	501
03:45 PM	0	122	58	180	0	0	52	52	0	164	82	246	478
Total	0	459	226	685	0	0	174	174	0	645	285	930	1789
04:00 PM	0	103	65	168	0	0	44	44	0	175	81	256	468
04:15 PM	0	132	97	229	0	0	56	56	0	191	111	302	587
04:30 PM	0	147	92	239	0	0	39	39	0	196	85	281	559
04:45 PM	0	111	116	227	0	0	53	53	0	222	87	309	589
Total	0	493	370	863	0	0	192	192	0	784	364	1148	2203
05:00 PM	0	131	125	256	0	0	72	72	0	250	130	380	708
05:15 PM	0	167	152	319	0	0	59	59	0	236	115	351	729
05:30 PM	0	147	140	287	0	0	57	57	0	252	85	337	681
05:45 PM	0	139	147	286	0	0	52	52	0	198	122	320	658
Total	0	584	564	1148	0	0	240	240	0	936	452	1388	2776
06:00 PM	0	121	95	216	0	0	34	34	0	205	116	321	571
06:15 PM	0	134	110	244	0	0	55	55	0	162	80	242	541
06:30 PM	0	101	64	165	0	0	40	40	0	140	113	253	458
06:45 PM	0	99	67	166	0	0	32	32	0	115	95	210	408
Total	0	455	336	791	0	0	161	161	0	622	404	1026	1978
Grand Total	0	1991	1496	3487	0	0	767	767	0	2987	1505	4492	8746
Apprch %	0.0	57.1	42.9		0.0	0.0	100.0		0.0	66.5	33.5		
Total %	0.0	22.8	17.1	39.9	0.0	0.0	8.8	8.8	0.0	34.2	17.2	51.4	

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	0	584	564	1148	0	0	240	240	0	936	452	1388	2776
Percent	0.0	50.9	49.1		0.0	0.0	100.0		0.0	67.4	32.6		
05:15 Volume	0	167	152	319	0	0	59	59	0	236	115	351	729
Peak Factor													0.952
High Int.	05:15 PM				05:00 PM				05:00 PM				
Volume	0	167	152	319	0	0	72	72	0	250	130	380	
Peak Factor				0.900				0.833				0.913	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : fowler&i75nb
Site Code : 00007029
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	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				04:45 PM				05:00 PM				
Volume	0	584	564	1148	0	0	241	241	0	936	452	1388	
Percent	0.0	50.9	49.1		0.0	0.0	100.0		0.0	67.4	32.6		
High Int.	05:15 PM				05:00 PM				05:00 PM				
Volume	0	167	152	319	0	0	72	72	0	250	130	380	
Peak Factor				0.900				0.837				0.913	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

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Groups Printed- Passenger Vehicles

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	103	39	142	0	0	26	26	0	144	53	197	365
03:15 PM	0	111	47	158	0	0	32	32	0	150	56	206	396
03:30 PM	0	101	71	172	0	0	45	45	0	164	90	254	471
03:45 PM	0	119	57	176	0	0	47	47	0	159	82	241	464
Total	0	434	214	648	0	0	150	150	0	617	281	898	1696
04:00 PM	0	98	64	162	0	0	41	41	0	172	81	253	456
04:15 PM	0	128	95	223	0	0	50	50	0	184	107	291	564
04:30 PM	0	140	91	231	0	0	36	36	0	192	84	276	543
04:45 PM	0	105	113	218	0	0	52	52	0	218	82	300	570
Total	0	471	363	834	0	0	179	179	0	766	354	1120	2133
05:00 PM	0	127	124	251	0	0	66	66	0	246	126	372	689
05:15 PM	0	167	152	319	0	0	56	56	0	230	112	342	717
05:30 PM	0	140	139	279	0	0	51	51	0	246	83	329	659
05:45 PM	0	134	147	281	0	0	50	50	0	193	121	314	645
Total	0	568	562	1130	0	0	223	223	0	915	442	1357	2710
06:00 PM	0	117	95	212	0	0	34	34	0	199	115	314	560
06:15 PM	0	128	109	237	0	0	52	52	0	157	79	236	525
06:30 PM	0	100	64	164	0	0	39	39	0	138	113	251	454
06:45 PM	0	99	65	164	0	0	31	31	0	112	94	206	401
Total	0	444	333	777	0	0	156	156	0	606	401	1007	1940
Grand Total	0	1917	1472	3389	0	0	708	708	0	2904	1478	4382	8479
Apprch %	0.0	56.6	43.4		0.0	0.0	100.0		0.0	66.3	33.7		
Total %	0.0	22.6	17.4	40.0	0.0	0.0	8.4	8.4	0.0	34.2	17.4	51.7	

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	0	568	562	1130	0	0	223	223	0	915	442	1357	2710
Percent	0.0	50.3	49.7		0.0	0.0	100.0		0.0	67.4	32.6		
05:15 Volume	0	167	152	319	0	0	56	56	0	230	112	342	717
Peak Factor													0.945
High Int.	05:15 PM				05:00 PM				05:00 PM				
Volume	0	167	152	319	0	0	66	66	0	246	126	372	
Peak Factor				0.886				0.845				0.912	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : fowler&i75nb
Site Code : 00007029
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	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				04:45 PM				05:00 PM				
Volume	0	568	562	1130	0	0	225	225	0	915	442	1357	
Percent	0.0	50.3	49.7		0.0	0.0	100.0		0.0	67.4	32.6		
High Int.	05:15 PM				05:00 PM				05:00 PM				
Volume	0	167	152	319	0	0	66	66	0	246	126	372	
Peak Factor				0.886				0.852				0.912	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

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Groups Printed- Heavy Vehicles

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	5	5	10	0	0	4	4	0	8	1	9	23
03:15 PM	0	8	3	11	0	0	8	8	0	5	2	7	26
03:30 PM	0	9	3	12	0	0	7	7	0	10	1	11	30
03:45 PM	0	3	1	4	0	0	5	5	0	5	0	5	14
Total	0	25	12	37	0	0	24	24	0	28	4	32	93
04:00 PM	0	5	1	6	0	0	3	3	0	3	0	3	12
04:15 PM	0	4	2	6	0	0	6	6	0	7	4	11	23
04:30 PM	0	7	1	8	0	0	3	3	0	4	1	5	16
04:45 PM	0	6	3	9	0	0	1	1	0	4	5	9	19
Total	0	22	7	29	0	0	13	13	0	18	10	28	70
05:00 PM	0	4	1	5	0	0	6	6	0	4	4	8	19
05:15 PM	0	0	0	0	0	0	3	3	0	6	3	9	12
05:30 PM	0	7	1	8	0	0	6	6	0	6	2	8	22
05:45 PM	0	5	0	5	0	0	2	2	0	5	1	6	13
Total	0	16	2	18	0	0	17	17	0	21	10	31	66
06:00 PM	0	4	0	4	0	0	0	0	0	6	1	7	11
06:15 PM	0	6	1	7	0	0	3	3	0	5	1	6	16
06:30 PM	0	1	0	1	0	0	1	1	0	2	0	2	4
06:45 PM	0	0	2	2	0	0	1	1	0	3	1	4	7
Total	0	11	3	14	0	0	5	5	0	16	3	19	38
Grand Total	0	74	24	98	0	0	59	59	0	83	27	110	267
Apprch %	0.0	75.5	24.5		0.0	0.0	100.0		0.0	75.5	24.5		
Total %	0.0	27.7	9.0	36.7	0.0	0.0	22.1	22.1	0.0	31.1	10.1	41.2	

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	25	12	37	0	0	24	24	0	28	4	32	93
Percent	0.0	67.6	32.4		0.0	0.0	100.0		0.0	87.5	12.5		
03:30 Volume	0	9	3	12	0	0	7	7	0	10	1	11	30
Peak Factor													0.775
High Int.	03:30 PM				03:15 PM				03:30 PM				
Volume	0	9	3	12	0	0	8	8	0	10	1	11	
Peak Factor				0.771				0.750				0.727	

Turning Movement Count
Adams Traffic, Inc.
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	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				04:45 PM				
Volume	0	25	12	37	0	0	24	24	0	20	14	34	
Percent	0.0	67.6	32.4		0.0	0.0	100.0		0.0	58.8	41.2		
High Int.	03:30 PM				03:15 PM				04:45 PM				
Volume	0	9	3	12	0	0	8	8	0	4	5	9	
Peak Factor				0.771				0.750				0.944	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

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Groups Printed- U-Turns

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Grand Total	0	0	0	0	0	0	0	0	0	0	0	0	0
Apprch %	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %													

	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
Percent	0.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
03:45 Volume	0	0	0	0	0	0	0	0	0	0	0	0	0
Peak Factor													0.000
High Int.	2:45:00 PM				2:45:00 PM				2:45:00 PM				
Volume													
Peak Factor													

Turning Movement Count
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	FOWLER AVENUE Westbound				I-75 NORTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	0	0	0	0	0	0	0	0	
Percent	-	-	-		-	-	-		-	-	-		
High Int.	-				-				-				
Volume	-	-	-	-	-	-	-	-	-	-	-	-	
Peak Factor				-				-				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	62	229	291	31	77	0	108	0	0	58	58	0	164	268	432	889
03:15 PM	0	0	79	216	295	33	85	0	118	0	0	47	47	0	156	296	452	912
03:30 PM	0	0	80	208	288	33	76	0	109	0	0	62	62	0	202	318	520	979
03:45 PM	0	0	71	245	316	34	85	0	119	0	0	50	50	0	196	334	530	1015
Total	0	0	292	898	1190	131	323	0	454	0	0	217	217	0	718	1216	1934	3795
04:00 PM	0	0	36	263	299	19	84	0	103	0	0	65	65	0	194	355	549	1016
04:15 PM	0	0	84	277	361	34	95	0	129	0	0	59	59	0	245	381	626	1175
04:30 PM	0	0	81	231	312	32	115	0	147	0	0	68	68	0	215	372	587	1114
04:45 PM	0	0	68	247	315	27	84	0	111	0	0	71	71	0	236	392	628	1125
Total	0	0	269	1018	1287	112	378	0	490	0	0	263	263	0	890	1500	2390	4430
05:00 PM	0	0	56	319	375	23	107	0	130	0	0	74	74	0	302	423	725	1304
05:15 PM	0	0	71	329	400	20	146	0	166	0	0	66	66	0	281	368	649	1281
05:30 PM	0	0	72	303	375	23	130	0	153	0	0	78	78	0	258	379	637	1243
05:45 PM	0	0	72	300	372	23	114	0	137	0	0	56	56	0	266	326	592	1157
Total	0	0	271	1251	1522	89	497	0	586	0	0	274	274	0	1107	1496	2603	4985
06:00 PM	0	0	66	278	344	17	107	0	124	0	0	72	72	0	248	293	541	1081
06:15 PM	0	0	84	303	387	33	98	0	131	0	0	55	55	0	191	297	488	1061
06:30 PM	0	0	54	155	209	23	81	0	104	0	0	46	46	0	211	291	502	861
06:45 PM	0	0	55	173	228	18	78	0	96	0	0	25	25	0	185	239	424	773
Total	0	0	259	909	1168	91	364	0	455	0	0	198	198	0	835	1120	1955	3776
Grand Total	0	0	1091	4076	5167	423	1562	0	1985	0	0	952	952	0	3550	5332	8882	16986
Apprch %	0.0	0.0	21.1	78.9		21.3	78.7	0.0		0.0	0.0	100.0		0.0	40.0	60.0		
Total %	0.0	0.0	6.4	24.0	30.4	2.5	9.2	0.0	11.7	0.0	0.0	5.6	5.6	0.0	20.9	31.4	52.3	

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
Intersection	05:00 PM																	
Volume	0	0	271	1251	1522	89	497	0	586	0	0	274	274	0	1107	1496	2603	4985
Percent	0.0	0.0	17.8	82.2		15.2	84.8	0.0		0.0	0.0	100.0		0.0	42.5	57.5		
05:00 Volume	0	0	56	319	375	23	107	0	130	0	0	74	74	0	302	423	725	1304
Peak Factor																		0.956
High Int.	05:15 PM					05:15 PM				05:30 PM				05:00 PM				
Volume	0	0	71	329	400	20	146	0	166	0	0	78	78	0	302	423	725	
Peak Factor					0.951				0.883				0.878				0.898	

Turning Movement Count
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	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
By Approach	05:00 PM					05:00 PM				04:45 PM				04:45 PM				
Volume	0	0	271	1251	1522	89	497	0	586	0	0	289	289	0	1077	1562	2639	
Percent	0.0	0.0	17.8	82.2		15.2	84.8	0.0		0.0	0.0	100.0		0.0	40.8	59.2		
High Int.	05:15 PM					05:15 PM				05:30 PM				05:00 PM				
Volume	0	0	71	329	400	20	146	0	166	0	0	78	78	0	302	423	725	
Peak Factor					0.951				0.883				0.926				0.910	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
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Comments:

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Groups Printed- Passenger Vehicles

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	60	225	285	27	76	0	103	0	0	52	52	0	161	264	425	865
03:15 PM	0	0	76	207	283	26	84	0	110	0	0	44	44	0	152	289	441	878
03:30 PM	0	0	78	207	285	26	74	0	100	0	0	57	57	0	196	312	508	950
03:45 PM	0	0	65	240	305	32	84	0	116	0	0	47	47	0	194	331	525	993
Total	0	0	279	879	1158	111	318	0	429	0	0	200	200	0	703	1196	1899	3686
04:00 PM	0	0	34	251	285	14	84	0	98	0	0	64	64	0	189	349	538	985
04:15 PM	0	0	84	265	349	30	95	0	125	0	0	58	58	0	238	376	614	1146
04:30 PM	0	0	80	228	308	28	112	0	140	0	0	66	66	0	211	371	582	1096
04:45 PM	0	0	66	242	308	22	83	0	105	0	0	68	68	0	230	389	619	1100
Total	0	0	264	986	1250	94	374	0	468	0	0	256	256	0	868	1485	2353	4327
05:00 PM	0	0	56	316	372	20	106	0	126	0	0	73	73	0	293	419	712	1283
05:15 PM	0	0	71	322	393	20	146	0	166	0	0	63	63	0	277	363	640	1262
05:30 PM	0	0	71	298	369	18	128	0	146	0	0	74	74	0	254	376	630	1219
05:45 PM	0	0	71	297	368	20	112	0	132	0	0	52	52	0	263	320	583	1135
Total	0	0	269	1233	1502	78	492	0	570	0	0	262	262	0	1087	1478	2565	4899
06:00 PM	0	0	66	274	340	15	105	0	120	0	0	67	67	0	247	288	535	1062
06:15 PM	0	0	79	302	381	27	97	0	124	0	0	52	52	0	188	295	483	1040
06:30 PM	0	0	54	151	205	21	81	0	102	0	0	44	44	0	211	289	500	851
06:45 PM	0	0	53	168	221	18	78	0	96	0	0	24	24	0	182	235	417	758
Total	0	0	252	895	1147	81	361	0	442	0	0	187	187	0	828	1107	1935	3711
Grand Total	0	0	1064	3993	5057	364	1545	0	1909	0	0	905	905	0	3486	5266	8752	16623
Apprch %	0.0	0.0	21.0	79.0		19.1	80.9	0.0		0.0	0.0	100.0		0.0	39.8	60.2		
Total %	0.0	0.0	6.4	24.0	30.4	2.2	9.3	0.0	11.5	0.0	0.0	5.4	5.4	0.0	21.0	31.7	52.6	

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
Intersection	05:00 PM																	
Volume	0	0	269	1233	1502	78	492	0	570	0	0	262	262	0	1087	1478	2565	4899
Percent	0.0	0.0	17.9	82.1		13.7	86.3	0.0		0.0	0.0	100.0		0.0	42.4	57.6		
05:00 Volume	0	0	56	316	372	20	106	0	126	0	0	73	73	0	293	419	712	1283
Peak Factor																		0.955
High Int.	05:15 PM					05:15 PM				05:30 PM				05:00 PM				
Volume	0	0	71	322	393	20	146	0	166	0	0	74	74	0	293	419	712	
Peak Factor					0.955				0.858				0.885				0.901	

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	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
By Approach	05:00 PM					05:00 PM				04:45 PM				04:45 PM				
Volume	0	0	269	1233	1502	78	492	0	570	0	0	278	278	0	1054	1547	2601	
Percent	0.0	0.0	17.9	82.1		13.7	86.3	0.0		0.0	0.0	100.0		0.0	40.5	59.5		
High Int.	05:15 PM					05:15 PM				05:30 PM				05:00 PM				
Volume	0	0	71	322	393	20	146	0	166	0	0	74	74	0	293	419	712	
Peak Factor					0.955				0.858				0.939				0.913	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

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Groups Printed- Heavy Vehicles

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	2	4	6	4	1	0	5	0	0	6	6	0	3	4	7	24
03:15 PM	0	0	3	9	12	7	1	0	8	0	0	3	3	0	4	7	11	34
03:30 PM	0	0	2	1	3	7	2	0	9	0	0	5	5	0	6	6	12	29
03:45 PM	0	0	6	5	11	2	1	0	3	0	0	3	3	0	2	3	5	22
Total	0	0	13	19	32	20	5	0	25	0	0	17	17	0	15	20	35	109
04:00 PM	0	0	2	12	14	5	0	0	5	0	0	1	1	0	5	6	11	31
04:15 PM	0	0	0	12	12	4	0	0	4	0	0	1	1	0	7	5	12	29
04:30 PM	0	0	1	3	4	4	3	0	7	0	0	2	2	0	4	1	5	18
04:45 PM	0	0	2	5	7	5	1	0	6	0	0	3	3	0	6	3	9	25
Total	0	0	5	32	37	18	4	0	22	0	0	7	7	0	22	15	37	103
05:00 PM	0	0	0	3	3	3	1	0	4	0	0	1	1	0	9	4	13	21
05:15 PM	0	0	0	7	7	0	0	0	0	0	0	3	3	0	4	5	9	19
05:30 PM	0	0	1	5	6	5	2	0	7	0	0	4	4	0	4	3	7	24
05:45 PM	0	0	1	3	4	3	2	0	5	0	0	4	4	0	3	6	9	22
Total	0	0	2	18	20	11	5	0	16	0	0	12	12	0	20	18	38	86
06:00 PM	0	0	0	4	4	2	2	0	4	0	0	5	5	0	1	5	6	19
06:15 PM	0	0	5	1	6	4	1	0	5	0	0	3	3	0	3	2	5	19
06:30 PM	0	0	0	4	4	2	0	0	2	0	0	2	2	0	0	2	2	10
06:45 PM	0	0	2	5	7	0	0	0	0	0	0	1	1	0	3	4	7	15
Total	0	0	7	14	21	8	3	0	11	0	0	11	11	0	7	13	20	63
Grand Total	0	0	27	83	110	57	17	0	74	0	0	47	47	0	64	66	130	361
Apprch %	0.0	0.0	24.5	75.5		77.0	23.0	0.0		0.0	0.0	100.0		0.0	49.2	50.8		
Total %	0.0	0.0	7.5	23.0	30.5	15.8	4.7	0.0	20.5	0.0	0.0	13.0	13.0	0.0	17.7	18.3	36.0	

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
Intersection	03:15 PM																	
Volume	0	0	13	27	40	21	4	0	25	0	0	12	12	0	17	22	39	116
Percent	0.0	0.0	32.5	67.5		84.0	16.0	0.0		0.0	0.0	100.0		0.0	43.6	56.4		
03:15 Volume	0	0	3	9	12	7	1	0	8	0	0	3	3	0	4	7	11	34
Peak Factor																		0.853
High Int.	04:00 PM					03:30 PM				03:30 PM				03:30 PM				
Volume	0	0	2	12	14	7	2	0	9	0	0	5	5	0	6	6	12	
Peak Factor					0.714				0.694				0.600				0.813	

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	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
By Approach	03:45 PM					03:00 PM				03:00 PM				03:30 PM				
Volume	0	0	9	32	41	20	5	0	25	0	0	17	17	0	20	20	40	
Percent	0.0	0.0	22.0	78.0		80.0	20.0	0.0		0.0	0.0	100.0		0.0	50.0	50.0		
High Int.	04:00 PM					03:30 PM				03:00 PM				03:30 PM				
Volume	0	0	2	12	14	7	2	0	9	0	0	6	6	0	6	6	12	
Peak Factor					0.732				0.694				0.708				0.833	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fowler&i75sb
Site Code : 00007029
Start Date : 8/9/2007
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Groups Printed- U-Turns

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
05:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:15 PM	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Grand Total	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Apprch %	0.0	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	0.0	100.0	0.0	0.0	100.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	

	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
Intersection	05:30 PM																	
Volume	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Percent	0.0	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		0.0	0.0	0.0		
06:15 Volume	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	2
Peak Factor																		0.250
High Int.	2:45:00 PM					06:15 PM				2:45:00 PM				2:45:00 PM				
Volume	0	0	0	0	0	2	0	0	2									
Peak Factor									0.250									

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

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	I-75 RAMPS Southbound					FOWLER AVENUE Westbound				I-75 SOUTHBOUND RAMP Northbound				FOWLER AVENUE Eastbound				
Start Time	Left	Thru	Right - SB Ramp	Right - NB Ramp	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1																		
By Approach	03:00 PM					05:30 PM				03:00 PM				03:00 PM				
Volume	0	0	0	0	0	2	0	0	2	0	0	0	0	0	0	0	0	
Percent	-	-	-	-		100.0	0.0	0.0		-	-	-		-	-	-		
High Int.	-					06:15 PM				-				-				
Volume	-	-	-	-	-	2	0	0	2	-	-	-	-	-	-	-	-	
Peak Factor					-				0.250				-				-	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fletcher&i75nb
Site Code : 00007029
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Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	32	0	118	150	0	77	5	82	78	66	0	144	376
03:15 PM	55	0	116	171	0	78	1	79	80	67	0	147	397
03:30 PM	60	0	143	203	0	77	4	81	118	103	0	221	505
03:45 PM	76	0	140	216	0	86	1	87	102	92	0	194	497
Total	223	0	517	740	0	318	11	329	378	328	0	706	1775
04:00 PM	61	0	142	203	0	54	2	56	136	100	0	236	495
04:15 PM	88	0	165	253	0	66	2	68	119	135	0	254	575
04:30 PM	76	0	148	224	0	70	2	72	157	150	0	307	603
04:45 PM	74	0	131	205	0	70	1	71	150	206	0	356	632
Total	299	0	586	885	0	260	7	267	562	591	0	1153	2305
05:00 PM	55	0	96	151	0	66	4	70	216	233	0	449	670
05:15 PM	38	0	127	165	0	75	2	77	219	301	0	520	762
05:30 PM	40	0	132	172	0	83	4	87	203	284	0	487	746
05:45 PM	54	0	111	165	0	99	1	100	152	290	0	442	707
Total	187	0	466	653	0	323	11	334	790	1108	0	1898	2885
06:00 PM	73	0	131	204	0	78	0	78	126	263	0	389	671
06:15 PM	86	0	95	181	0	74	2	76	102	203	0	305	562
06:30 PM	90	0	109	199	0	70	2	72	89	192	0	281	552
06:45 PM	88	0	87	175	0	79	4	83	98	146	0	244	502
Total	337	0	422	759	0	301	8	309	415	804	0	1219	2287
Grand Total	1046	0	1991	3037	0	1202	37	1239	2145	2831	0	4976	9252
Apprch %	34.4	0.0	65.6		0.0	97.0	3.0		43.1	56.9	0.0		
Total %	11.3	0.0	21.5	32.8	0.0	13.0	0.4	13.4	23.2	30.6	0.0	53.8	

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:15 PM												
Volume	205	0	501	706	0	335	7	342	700	1138	0	1838	2886
Percent	29.0	0.0	71.0		0.0	98.0	2.0		38.1	61.9	0.0		
05:15 Volume	38	0	127	165	0	75	2	77	219	301	0	520	762
Peak Factor													0.947
High Int.	06:00 PM				05:45 PM				05:15 PM				
Volume	73	0	131	204	0	99	1	100	219	301	0	520	
Peak Factor				0.865				0.855				0.884	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
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	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:45 PM				05:15 PM				05:00 PM				
Volume	301	0	595	896	0	335	7	342	790	1108	0	1898	
Percent	33.6	0.0	66.4		0.0	98.0	2.0		41.6	58.4	0.0		
High Int.	04:15 PM				05:45 PM				05:15 PM				
Volume	88	0	165	253	0	99	1	100	219	301	0	520	
Peak Factor				0.885				0.855				0.913	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fletcher&i75nb
Site Code : 00007029
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Groups Printed- Passenger Vehicles

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	31	0	109	140	0	76	5	81	75	64	0	139	360
03:15 PM	55	0	113	168	0	74	1	75	75	66	0	141	384
03:30 PM	58	0	142	200	0	75	4	79	115	103	0	218	497
03:45 PM	70	0	137	207	0	81	1	82	99	91	0	190	479
Total	214	0	501	715	0	306	11	317	364	324	0	688	1720
04:00 PM	60	0	138	198	0	53	2	55	134	100	0	234	487
04:15 PM	88	0	162	250	0	65	2	67	117	135	0	252	569
04:30 PM	75	0	146	221	0	69	2	71	157	149	0	306	598
04:45 PM	73	0	128	201	0	70	1	71	148	206	0	354	626
Total	296	0	574	870	0	257	7	264	556	590	0	1146	2280
05:00 PM	54	0	95	149	0	64	4	68	215	233	0	448	665
05:15 PM	37	0	127	164	0	74	2	76	215	299	0	514	754
05:30 PM	37	0	130	167	0	82	4	86	189	281	0	470	723
05:45 PM	51	0	109	160	0	98	1	99	146	290	0	436	695
Total	179	0	461	640	0	318	11	329	765	1103	0	1868	2837
06:00 PM	70	0	129	199	0	75	0	75	124	263	0	387	661
06:15 PM	85	0	93	178	0	73	2	75	101	201	0	302	555
06:30 PM	90	0	108	198	0	69	2	71	89	192	0	281	550
06:45 PM	84	0	87	171	0	79	4	83	91	145	0	236	490
Total	329	0	417	746	0	296	8	304	405	801	0	1206	2256
Grand Total	1018	0	1953	2971	0	1177	37	1214	2090	2818	0	4908	9093
Apprch %	34.3	0.0	65.7		0.0	97.0	3.0		42.6	57.4	0.0		
Total %	11.2	0.0	21.5	32.7	0.0	12.9	0.4	13.4	23.0	31.0	0.0	54.0	

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	179	0	461	640	0	318	11	329	765	1103	0	1868	2837
Percent	28.0	0.0	72.0		0.0	96.7	3.3		41.0	59.0	0.0		
05:15 Volume	37	0	127	164	0	74	2	76	215	299	0	514	754
Peak Factor													0.941
High Int.	05:30 PM				05:45 PM				05:15 PM				
Volume	37	0	130	167	0	98	1	99	215	299	0	514	
Peak Factor				0.958				0.831				0.909	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fletcher&i75nb
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	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:45 PM				05:15 PM				05:00 PM				
Volume	293	0	583	876	0	329	7	336	765	1103	0	1868	
Percent	33.4	0.0	66.6		0.0	97.9	2.1		41.0	59.0	0.0		
High Int.	04:15 PM				05:45 PM				05:15 PM				
Volume	88	0	162	250	0	98	1	99	215	299	0	514	
Peak Factor				0.876				0.848				0.909	

Turning Movement Count
Adams Traffic, Inc.
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Weather: Clear
Comments:

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Groups Printed- Heavy Vehicles

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	9	9	0	1	0	1	0	2	0	2	12
03:15 PM	0	0	3	3	0	4	0	4	3	1	0	4	11
03:30 PM	2	0	1	3	0	2	0	2	2	0	0	2	7
03:45 PM	6	0	3	9	0	5	0	5	1	1	0	2	16
Total	8	0	16	24	0	12	0	12	6	4	0	10	46
04:00 PM	1	0	4	5	0	1	0	1	1	0	0	1	7
04:15 PM	0	0	3	3	0	1	0	1	2	0	0	2	6
04:30 PM	1	0	2	3	0	1	0	1	0	1	0	1	5
04:45 PM	1	0	3	4	0	0	0	0	1	0	0	1	5
Total	3	0	12	15	0	3	0	3	4	1	0	5	23
05:00 PM	0	0	1	1	0	2	0	2	1	0	0	1	4
05:15 PM	0	0	0	0	0	1	0	1	0	2	0	2	3
05:30 PM	2	0	2	4	0	1	0	1	1	3	0	4	9
05:45 PM	2	0	2	4	0	1	0	1	0	0	0	0	5
Total	4	0	5	9	0	5	0	5	2	5	0	7	21
06:00 PM	3	0	2	5	0	3	0	3	1	0	0	1	9
06:15 PM	1	0	2	3	0	1	0	1	0	2	0	2	6
06:30 PM	0	0	1	1	0	1	0	1	0	0	0	0	2
06:45 PM	1	0	0	1	0	0	0	0	0	1	0	1	2
Total	5	0	5	10	0	5	0	5	1	3	0	4	19
Grand Total	20	0	38	58	0	25	0	25	13	13	0	26	109
Apprch %	34.5	0.0	65.5		0.0	100.0	0.0		50.0	50.0	0.0		
Total %	18.3	0.0	34.9	53.2	0.0	22.9	0.0	22.9	11.9	11.9	0.0	23.9	

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	8	0	16	24	0	12	0	12	6	4	0	10	46
Percent	33.3	0.0	66.7		0.0	100.0	0.0		60.0	40.0	0.0		
03:45 Volume	6	0	3	9	0	5	0	5	1	1	0	2	16
Peak Factor													0.719
High Int.	03:00 PM				03:45 PM				03:15 PM				
Volume	0	0	9	9	0	5	0	5	3	1	0	4	
Peak Factor				0.667				0.600				0.625	

Turning Movement Count
Adams Traffic, Inc.
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	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				03:00 PM				03:00 PM				
Volume	8	0	16	24	0	12	0	12	6	4	0	10	
Percent	33.3	0.0	66.7		0.0	100.0	0.0		60.0	40.0	0.0		
High Int.	03:00 PM				03:45 PM				03:15 PM				
Volume	0	0	9	9	0	5	0	5	3	1	0	4	
Peak Factor				0.667				0.600				0.625	

Turning Movement Count
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Groups Printed- U-Turns

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	1	0	0	1	0	0	0	0	3	0	0	3	4
03:15 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
03:30 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
03:45 PM	0	0	0	0	0	0	0	0	2	0	0	2	2
Total	1	0	0	1	0	0	0	0	8	0	0	8	9
04:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
04:15 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
Total	0	0	0	0	0	0	0	0	2	0	0	2	2
05:00 PM	1	0	0	1	0	0	0	0	0	0	0	0	1
05:15 PM	1	0	0	1	0	0	0	0	4	0	0	4	5
05:30 PM	1	0	0	1	0	0	0	0	13	0	0	13	14
05:45 PM	1	0	0	1	0	0	0	0	6	0	0	6	7
Total	4	0	0	4	0	0	0	0	23	0	0	23	27
06:00 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
06:15 PM	0	0	0	0	0	0	0	0	1	0	0	1	1
06:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
06:45 PM	3	0	0	3	0	0	0	0	7	0	0	7	10
Total	3	0	0	3	0	0	0	0	9	0	0	9	12
Grand Total	8	0	0	8	0	0	0	0	42	0	0	42	50
Apprch %	100.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
Total %	16.0	0.0	0.0	16.0	0.0	0.0	0.0	0.0	84.0	0.0	0.0	84.0	

	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:00 PM												
Volume	4	0	0	4	0	0	0	0	23	0	0	23	27
Percent	100.0	0.0	0.0		0.0	0.0	0.0		100.0	0.0	0.0		
05:30 Volume	1	0	0	1	0	0	0	0	13	0	0	13	14
Peak Factor													0.482
High Int.	05:00 PM				2:45:00 PM				05:30 PM				
Volume	1	0	0	1	0	0	0	0	13	0	0	13	
Peak Factor				1.000								0.442	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
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Start Date : 8/8/2007
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	I-75 NORTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:00 PM				03:00 PM				05:15 PM				
Volume	4	0	0	4	0	0	0	0	24	0	0	24	
Percent	100.0	0.0	0.0		-	-	-		100.0	0.0	0.0		
High Int.	05:00 PM				-				05:30 PM				
Volume	1	0	0	1	-	-	-	-	13	0	0	13	
Peak Factor				1.000				-				0.462	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
Page No : 1

Groups Printed- Passenger Vehicles - Heavy Vehicles - U-Turns

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	4	0	36	40	42	159	0	201	0	153	171	324	565
03:15 PM	3	0	51	54	42	154	0	196	0	147	189	336	586
03:30 PM	1	0	46	47	45	170	0	215	0	224	280	504	766
03:45 PM	4	0	33	37	42	189	0	231	0	195	207	402	670
Total	12	0	166	178	171	672	0	843	0	719	847	1566	2587
04:00 PM	4	0	30	34	39	159	0	198	0	242	274	516	748
04:15 PM	0	0	29	29	34	199	0	233	0	244	271	515	777
04:30 PM	2	0	22	24	35	184	0	219	0	317	331	648	891
04:45 PM	4	0	36	40	57	146	0	203	0	339	345	684	927
Total	10	0	117	127	165	688	0	853	0	1142	1221	2363	3343
05:00 PM	1	0	24	25	45	120	0	165	0	436	383	819	1009
05:15 PM	2	0	47	49	53	149	0	202	0	498	338	836	1087
05:30 PM	13	0	89	102	60	159	0	219	0	429	271	700	1021
05:45 PM	10	0	74	84	73	132	0	205	0	404	232	636	925
Total	26	0	234	260	231	560	0	791	0	1767	1224	2991	4042
06:00 PM	6	0	43	49	77	120	0	197	0	366	219	585	831
06:15 PM	3	0	31	34	64	116	0	180	1	287	210	498	712
06:30 PM	2	0	22	24	65	112	0	177	0	273	170	443	644
06:45 PM	2	0	27	29	55	112	0	167	0	233	153	386	582
Total	13	0	123	136	261	460	0	721	1	1159	752	1912	2769
Grand Total	61	0	640	701	828	2380	0	3208	1	4787	4044	8832	12741
Apprch %	8.7	0.0	91.3		25.8	74.2	0.0		0.0	54.2	45.8		
Total %	0.5	0.0	5.0	5.5	6.5	18.7	0.0	25.2	0.0	37.6	31.7	69.3	

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	20	0	196	216	215	574	0	789	0	1702	1337	3039	4044
Percent	9.3	0.0	90.7		27.2	72.8	0.0		0.0	56.0	44.0		
05:15 Volume	2	0	47	49	53	149	0	202	0	498	338	836	1087
Peak Factor													0.930
High Int.	05:30 PM				05:30 PM				05:15 PM				
Volume	13	0	89	102	60	159	0	219	0	498	338	836	
Peak Factor				0.529				0.901				0.909	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
Page No : 2

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:15 PM				03:45 PM				04:45 PM				
Volume	31	0	253	284	150	731	0	881	0	1702	1337	3039	
Percent	10.9	0.0	89.1		17.0	83.0	0.0		0.0	56.0	44.0		
High Int.	05:30 PM				04:15 PM				05:15 PM				
Volume	13	0	89	102	34	199	0	233	0	498	338	836	
Peak Factor				0.696				0.945				0.909	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
Page No : 1

Groups Printed- Passenger Vehicles

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	4	0	36	40	40	152	0	192	0	151	168	319	551
03:15 PM	3	0	51	54	37	148	0	185	0	142	184	326	565
03:30 PM	1	0	46	47	40	169	0	209	0	223	277	500	756
03:45 PM	4	0	33	37	37	186	0	223	0	193	206	399	659
Total	12	0	166	178	154	655	0	809	0	709	835	1544	2531
04:00 PM	4	0	29	33	36	157	0	193	0	241	269	510	736
04:15 PM	0	0	29	29	32	196	0	228	0	242	268	510	767
04:30 PM	2	0	22	24	34	182	0	216	0	316	329	645	885
04:45 PM	4	0	36	40	39	143	0	182	0	338	343	681	903
Total	10	0	116	126	141	678	0	819	0	1137	1209	2346	3291
05:00 PM	1	0	24	25	31	119	0	150	0	435	382	817	992
05:15 PM	2	0	47	49	29	148	0	177	0	496	335	831	1057
05:30 PM	12	0	87	99	20	157	0	177	0	426	269	695	971
05:45 PM	10	0	73	83	43	130	0	173	0	404	231	635	891
Total	25	0	231	256	123	554	0	677	0	1761	1217	2978	3911
06:00 PM	6	0	43	49	48	118	0	166	0	365	217	582	797
06:15 PM	3	0	29	32	39	116	0	155	0	285	208	493	680
06:30 PM	2	0	22	24	42	111	0	153	0	273	168	441	618
06:45 PM	2	0	27	29	41	112	0	153	0	232	151	383	565
Total	13	0	121	134	170	457	0	627	0	1155	744	1899	2660
Grand Total	60	0	634	694	588	2344	0	2932	0	4762	4005	8767	12393
Apprch %	8.6	0.0	91.4		20.1	79.9	0.0		0.0	54.3	45.7		
Total %	0.5	0.0	5.1	5.6	4.7	18.9	0.0	23.7	0.0	38.4	32.3	70.7	

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	04:45 PM												
Volume	19	0	194	213	119	567	0	686	0	1695	1329	3024	3923
Percent	8.9	0.0	91.1		17.3	82.7	0.0		0.0	56.1	43.9		
05:15 Volume	2	0	47	49	29	148	0	177	0	496	335	831	1057
Peak Factor													0.928
High Int.	05:30 PM				04:45 PM				05:15 PM				
Volume	12	0	87	99	39	143	0	182	0	496	335	831	
Peak Factor				0.538				0.942				0.910	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
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	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:15 PM				03:45 PM				04:45 PM				
Volume	30	0	250	280	139	721	0	860	0	1695	1329	3024	
Percent	10.7	0.0	89.3		16.2	83.8	0.0		0.0	56.1	43.9		
High Int.	05:30 PM				04:15 PM				05:15 PM				
Volume	12	0	87	99	32	196	0	228	0	496	335	831	
Peak Factor				0.707				0.943				0.910	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
Page No : 1

Groups Printed- Heavy Vehicles

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	1	7	0	8	0	2	3	5	13
03:15 PM	0	0	0	0	3	6	0	9	0	5	5	10	19
03:30 PM	0	0	0	0	2	1	0	3	0	1	3	4	7
03:45 PM	0	0	0	0	5	3	0	8	0	2	1	3	11
Total	0	0	0	0	11	17	0	28	0	10	12	22	50
04:00 PM	0	0	1	1	3	2	0	5	0	1	5	6	12
04:15 PM	0	0	0	0	1	3	0	4	0	2	3	5	9
04:30 PM	0	0	0	0	1	2	0	3	0	1	2	3	6
04:45 PM	0	0	0	0	0	3	0	3	0	1	2	3	6
Total	0	0	1	1	5	10	0	15	0	5	12	17	33
05:00 PM	0	0	0	0	2	1	0	3	0	1	1	2	5
05:15 PM	0	0	0	0	0	1	0	1	0	2	3	5	6
05:30 PM	1	0	2	3	1	2	0	3	0	3	2	5	11
05:45 PM	0	0	1	1	1	2	0	3	0	0	1	1	5
Total	1	0	3	4	4	6	0	10	0	6	7	13	27
06:00 PM	0	0	0	0	3	2	0	5	0	1	2	3	8
06:15 PM	0	0	2	2	3	0	0	3	0	2	2	4	9
06:30 PM	0	0	0	0	1	1	0	2	0	0	2	2	4
06:45 PM	0	0	0	0	0	0	0	0	0	1	2	3	3
Total	0	0	2	2	7	3	0	10	0	4	8	12	24
Grand Total	1	0	6	7	27	36	0	63	0	25	39	64	134
Apprch %	14.3	0.0	85.7		42.9	57.1	0.0		0.0	39.1	60.9		
Total %	0.7	0.0	4.5	5.2	20.1	26.9	0.0	47.0	0.0	18.7	29.1	47.8	

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	03:00 PM												
Volume	0	0	0	0	11	17	0	28	0	10	12	22	50
Percent	0.0	0.0	0.0		39.3	60.7	0.0		0.0	45.5	54.5		
03:15 Volume	0	0	0	0	3	6	0	9	0	5	5	10	19
Peak Factor													0.658
High Int.	2:45:00 PM				03:15 PM				03:15 PM				
Volume	0	0	0	0	3	6	0	9	0	5	5	10	
Peak Factor								0.778				0.550	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
Page No : 2

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	05:30 PM				03:00 PM				03:15 PM				
Volume	1	0	5	6	11	17	0	28	0	9	14	23	
Percent	16.7	0.0	83.3		39.3	60.7	0.0		0.0	39.1	60.9		
High Int.	05:30 PM				03:15 PM				03:15 PM				
Volume	1	0	2	3	3	6	0	9	0	5	5	10	
Peak Factor				0.500				0.778				0.575	

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

City/County: Tampa/Hillsborough
Weather: Clear
Comments:

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
Page No : 1

Groups Printed- U-Turns

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
03:00 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
03:15 PM	0	0	0	0	2	0	0	2	0	0	0	0	2
03:30 PM	0	0	0	0	3	0	0	3	0	0	0	0	3
03:45 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
Total	0	0	0	0	6	0	0	6	0	0	0	0	6
04:00 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:15 PM	0	0	0	0	1	0	0	1	0	0	0	0	1
04:30 PM	0	0	0	0	0	0	0	0	0	0	0	0	0
04:45 PM	0	0	0	0	18	0	0	18	0	0	0	0	18
Total	0	0	0	0	19	0	0	19	0	0	0	0	19
05:00 PM	0	0	0	0	12	0	0	12	0	0	0	0	12
05:15 PM	0	0	0	0	24	0	0	24	0	0	0	0	24
05:30 PM	0	0	0	0	39	0	0	39	0	0	0	0	39
05:45 PM	0	0	0	0	29	0	0	29	0	0	0	0	29
Total	0	0	0	0	104	0	0	104	0	0	0	0	104
06:00 PM	0	0	0	0	26	0	0	26	0	0	0	0	26
06:15 PM	0	0	0	0	22	0	0	22	1	0	0	1	23
06:30 PM	0	0	0	0	22	0	0	22	0	0	0	0	22
06:45 PM	0	0	0	0	14	0	0	14	0	0	0	0	14
Total	0	0	0	0	84	0	0	84	1	0	0	1	85
Grand Total	0	0	0	0	213	0	0	213	1	0	0	1	214
Apprch %	0.0	0.0	0.0		100.0	0.0	0.0		100.0	0.0	0.0		
Total %	0.0	0.0	0.0	0.0	99.5	0.0	0.0	99.5	0.5	0.0	0.0	0.5	

	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
Intersection	05:15 PM												
Volume	0	0	0	0	118	0	0	118	0	0	0	0	118
Percent	0.0	0.0	0.0		100.0	0.0	0.0		0.0	0.0	0.0		
05:30 Volume	0	0	0	0	39	0	0	39	0	0	0	0	39
Peak Factor													0.756
High Int.	2:45:00 PM				05:30 PM				2:45:00 PM				
Volume	0	0	0	0	39	0	0	39					
Peak Factor								0.756					

Turning Movement Count
Adams Traffic, Inc.
(813) 763-7763

File Name : fletcher&i75sb
Site Code : 00007029
Start Date : 8/8/2007
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	I-75 SOUTHBOUND RAMP Southbound				FLETCHER AVENUE Westbound				FLETCHER AVENUE Eastbound				
Start Time	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Left	Thru	Right	App. Total	Int. Total
Peak Hour From 03:00 PM to 06:45 PM - Peak 1 of 1													
By Approach	03:00 PM				05:15 PM				05:30 PM				
Volume	0	0	0	0	118	0	0	118	1	0	0	1	
Percent	-	-	-		100.0	0.0	0.0		100.0	0.0	0.0		
High Int.	-				05:30 PM				06:15 PM				
Volume	-	-	-	-	39	0	0	39	1	0	0	1	
Peak Factor				-				0.756				0.250	

I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

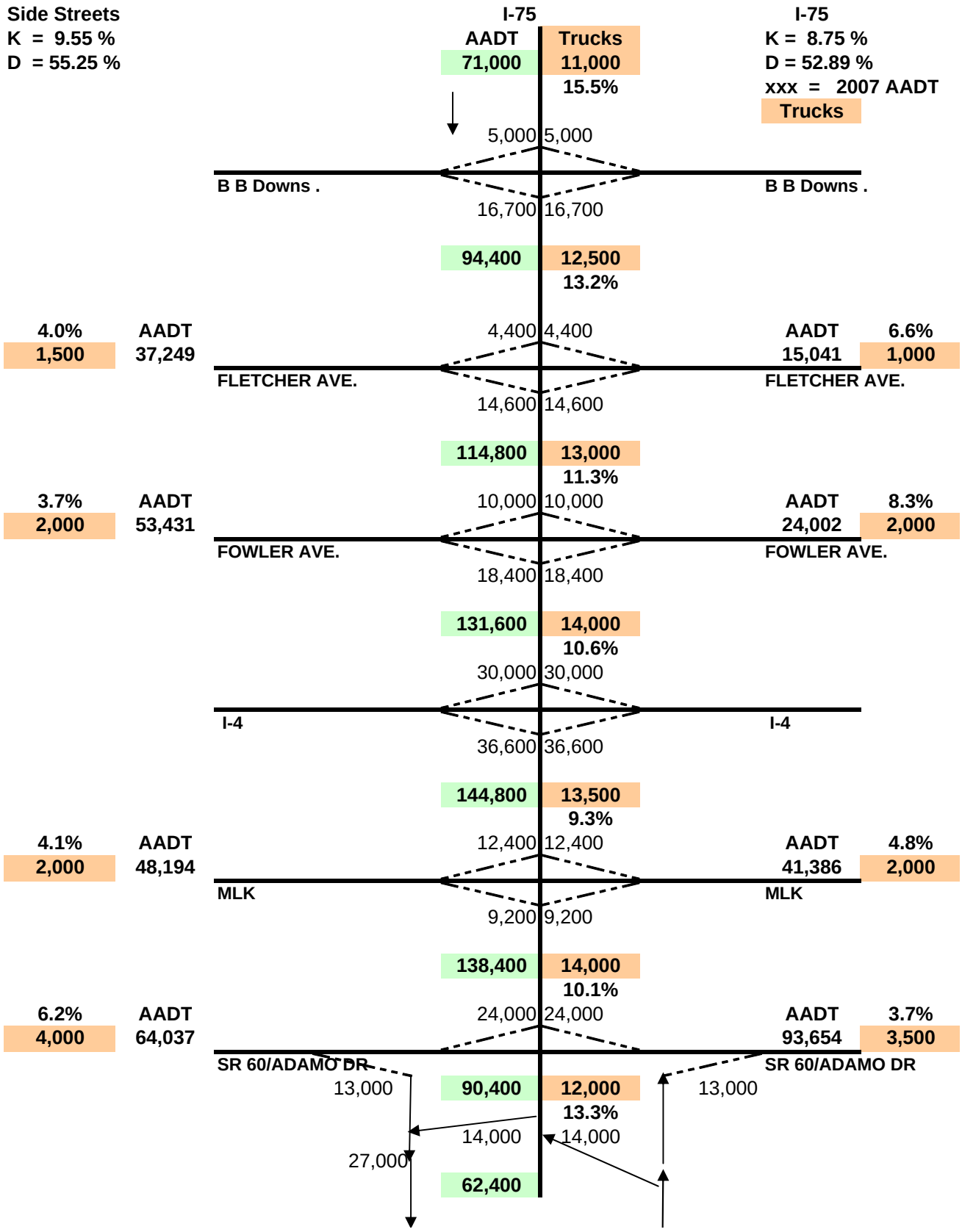
WPI Segment Number - 419235-1

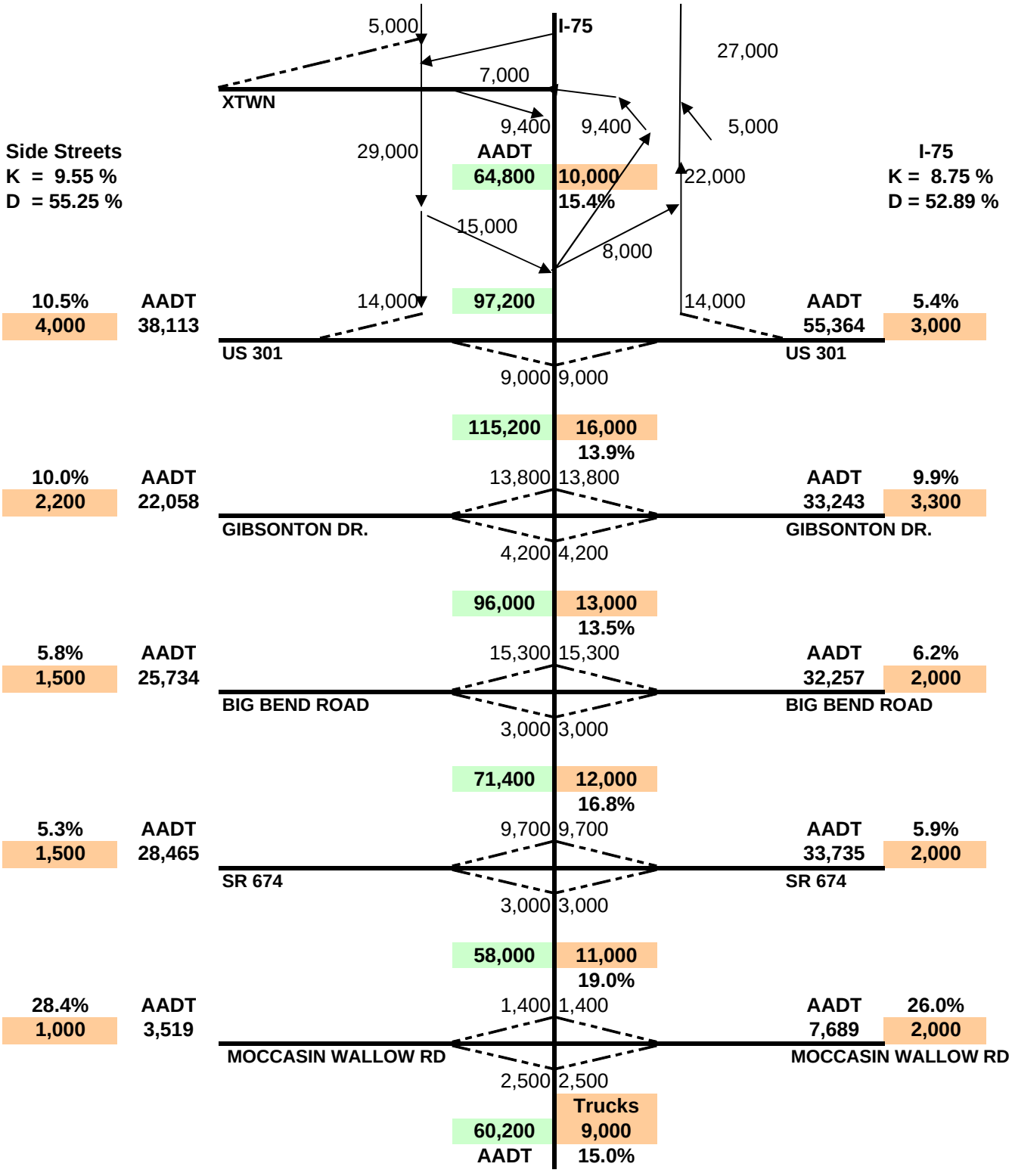
APPENDIX B

Existing Year (2007) Traffic Sheets

INTERSTATE 75

2007 AADT TRAFFIC (I-75 Mainline, Side/Cross Streets & Ramps)




5,000
I-75
27,000
7,000
XTWN
9,400
9,400
5,000
Side Streets
K = 9.55 %
D = 55.25 %
29,000
AADT
64,800
10,000
15.4%
22,000
I-75
K = 8.75 %
D = 52.89 %
15,000
8,000
10.5%
4,000
AADT
38,113
14,000
97,200
14,000
AADT
55,364
5.4%
3,000
US 301
US 301
9,000
9,000
115,200
16,000
13.9%
10.0%
2,200
AADT
22,058
13,800
13,800
AADT
33,243
9.9%
3,300
GIBSONTON DR.
GIBSONTON DR.
4,200
4,200
96,000
13,000
13.5%
5.8%
1,500
AADT
25,734
15,300
15,300
AADT
32,257
6.2%
2,000
BIG BEND ROAD
BIG BEND ROAD
3,000
3,000
71,400
12,000
16.8%
5.3%
1,500
AADT
28,465
9,700
9,700
AADT
33,735
5.9%
2,000
SR 674
SR 674
3,000
3,000
58,000
11,000
19.0%
28.4%
1,000
AADT
3,519
1,400
1,400
AADT
7,689
26.0%
2,000
MOCCASIN WALLOW RD
MOCCASIN WALLOW RD
2,500
2,500
Trucks
60,200
9,000
AADT
15.0%
I-75

I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

APPENDIX C

Signal Timing Plans

INTERSTATE 75

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

PHASE(Ø) TIMING SHEET

Location : Big Bend Rd & I-75 (west side)

Intersection # Mist # 300 **East/West :** Big Bend Rd

ID # 1300 **North/South:** I-75 (west side)

Flash	None	CKT 8
Max I	All Other Times - Default Operation	
Max II	06:45 - 08:30	CKT 14
MxPln I	17:15 - 18:00	CKT 72

MOVEMENT	Ø	MIN	EXT	CLR	RED	MAX I	MAX II	MxPln I	WLK	FDW	RECALL	LOCK On/Off
	1											
WB	2	20	4.0	5.0	2.0	40	30	30			Max	
	3											
	4											
WBLT Prot/Perm	5	5	3.0	5.0	2.0	15	15	10				
EB	6	20	4.0	5.0	2.0	40	30	30			Max	
	7											
NB Ramp	8	10	5.0	4.0	2.5	35	30	40				LOCK

Overlap	Calls
OLA =	Ø N/A
OLB =	Ø N/A
OLC =	Ø N/A
OLD =	Ø N/A

Comments:

*Clearances calculated using standards set by Section 3.6 of the TEM *

*Phase 2 in Max recall due to no loop detection *

*Program Max II Timings And On/Off Time Via Time Clock (0645-0830)	EDA	10/28/04
*Adjusted Max I Due To Ramp Backing On To I-75	JEW	1/7/05
*Adjusted Max I For Ø8	EDA/MH	5/2/05
*Adjusted Max II's	EDA/MH	8/23/05
*Designed Timing Sheet For WBLT - 5-Sect. Rest. 2 Omit 5 On & Det Sw (5/5/2)	EDA	9/29/05
*Programed Max Plan 1 (17:15 - 18:00) M-F	EDA	3/14/06

Prepared By: Edward Albritton Date: 3/14/06

Approved By: Date:

Reviewed By: Date:

Implemented By: Date:

File: G:\TS\Isolated\Big Bend Rd \I-75 (west side) Date of Print: 07/11/06 @ 13:11

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

PHASE(Ø) TIMING SHEET

Location : Gibsonton Dr. @ I-75

Intersection # Mist # 153 **System:** Gibsonton

Node # ** 91 **File Name: I-75

Flash	None	CKT 8
Max I	All Other Times - Default Operation	
Max II	M - F 15:00 to 19:00	CKT 14
MxPln I	None	CKT 72

MOVEMENT	Ø	MIN	EXT	CLR	RED	MAX I	MAX II	MxPln I	WLK	FDW	RECALL	Mem. On/Off
	1											
WB	2	20	3.0	4.7	2.3	40	35				MIN	
SBLT	3	10	6.0	4.0	2.8	40	90					LOCK
	4											
WBLT Prot/Perm	5	7	3.0	4.7	2.3	15	12					
EB	6	20	3.0	4.7	2.3	40	35				MIN	
	7											
	8											

Comments:

***Intial Timings, Clearance Timings per FDOT plans H.C. 9/3/02

***Signal Turn On, Full Operation 9-3-02

***Implemented PM Max II timings H.C. 4/16/03

***Removed Lock From WBLT(5-Section) TH 5/7/03

***Max II On 16:30-18:30-Increased Ø2/Ø6 Max II To 45 REW 9/8/03

***Increased Ø3 Ext,Max I, & II EDA 8/5/04

***Changed Max II Turn On Time To 15:30 EDA/MH 9/1/04

***Increased Ø3 Max II EDA 6/21/06

Overlap	Calls
OLA =	Ø N/A
OLB =	Ø N/A
OLC =	Ø N/A
OLD =	Ø N/A

Prepared By: Edward Albritton Date: 6/21/06

Reviewed By: Date:

Approved By: Date:

Implemented By: Date:

File: G:\TS\Isolated\ Gibsonton\I-75 Date of Print: 12/06/06 @ 11:47

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

SIGNAL TIMING SHEET

Location : Brandon Blvd (SR 60) & I-75 (east side)

Intersection # Mist # 30 **East/West :** Brandon Blvd (SR 60)

ID # 1030 **North/South:** I-75 (east side)

Flash	NONE
Max II	ON WITH COORDINATION

MOVEMENT	Ø	MIN	EXT	CLR	RED	MAX I	MAX II	WLK	FDW	RECALL	LOCK/CNA
NB Ramps	1	10	4.0	4.0	3.0	20	50				Lock
EB & WB	2	15	4.0	4.7	4.0	45	120			MIN	NON-CNA
EB inside clearance	3			4.5	2.0						
	4										
	5										
	6										
	7										
	8										

Comments:

Overlap Calls

OLA = Ø N/A

OLB = Ø N/A

OLC = Ø N/A

OLD = Ø N/A

* * * Set all Perms to 0 - 20 Seconds * * *

* * * SCM Mode ON * * *

* * * Sequence = Sequential Operation with Phases as Overlaps * * *

Phase 1 = load switch # 4 & # 7

Phase 2 = load switch # 2 & # 6

Phase 3 = load switch # 7

* * * All NB loop programmed and wired to call Phase 1 and Phase 3 * * *

FIELD WIRING TO LOAD SWITCHES

Load switch # 2 = WB
Load switch # 4 = NB to East Right Turn
Load switch # 6 = EB
Load switch # 7 = NB to West Left Turn

Prepared By: Herman Cook Date: Approved By: Date:

Reviewed By: Date: Implemented By: Date:

File:G:\TS\Systems\Brandon Blvd (SR 60) \I-75 (east side) Date of Print: 07/11/06

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

Location : Brandon Blvd (SR 60) & I-75 (east side)
Intersection # Mist # 30

Ø #	Movement
Ø1=	NB Ramps
Ø2=	EB & WB
Ø3=	EB inside clearance
Ø4=	
Ø5=	
Ø6=	
Ø7=	
Ø8=	
OLA=	Ø N/A
OLB=	Ø N/A
OLC=	Ø N/A
OLD=	Ø N/A

Day Plan # 1				
Day	Time	Cycle	Split	Offset
M-F	00:00	CKT	13	OFF
M-F	06:00	CKT	13	ON
M-F	06:00	1	1	1
M-F	09:00	2	1	1
M-F	16:00	3	1	1
M-F	19:30	2	1	1
M-F	22:00	4	1	1

Day Plan # 2				
Day	Time	Cycle	Split	Offset
Sat	00:00	CKT	13	OFF
Sat	07:00	CKT	13	ON
Sat	07:00	4	1	1
Sat	09:00	2	1	1
Sat	22:00	4	1	1
Day Plan # 3				
Sun	00:00	CKT	13	OFF
Sun	08:00	CKT	13	ON
Sun	08:00	4	1	1
Sun	11:00	2	1	1
Sun	22:00	4	1	1

Cycle Lengths				
1	2	3	4	5
150	140	150	120	

Offsets					
SECS	**Cycle 1**	**Cycle 2**	**Cycle 3**	**Cycle 4**	**Cycle 5**
Off 1	48	103	29	112	
Off 2					
Off 3					
%	**Cycle 1**	**Cycle 2**	**Cycle 3**	**Cycle 4**	**Cycle 5**
Off 1	32%	74%	19%	93%	
Off 2					
Off 3					

Phase Splits

	CYCLE 1=	150			CYCLE 2=	140			CYCLE 3=	150			CYCLE 4=	120			CYCLE 5=			
Ø	SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2	
	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec
1	25.0%	37.5			22.0%	30.8			25.0%	37.5			24%	28.8						
2	70.7%	106.1			73.4%	102.7			70.7%	106.1			71%	84.7						
3	4.3%	6.5			4.6%	6.5			4.3%	6.5			5%	6.5						
4																				
5																				
6																				
7																				
8																				

Force Offs

	CYCLE 1				CYCLE 2				CYCLE 3				CYCLE 4				CYCLE 5			
Ø	SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2	
	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec
1	30%	46			28%	39			30%	46			31%	37						
2	0%	0			0%	0			0%	0			0%	0						
3																				
4																				
5																				
6																				
7																				
8																				

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

SIGNAL TIMING SHEET

Location : Brandon Blvd (SR 60) & I-75 (west side)

Intersection # Mist # 29 **East/West :** Brandon Blvd (SR 60)

ID # 1029 **North/South:** I-75 (west side)

Flash	NONE
Max II	ON WITH COORDINATION

MOVEMENT	Ø	MIN	EXT	CLR	RED	MAX I	MAX II	WLK	FDW	RECALL	LOCK/CNA
	1										
WB	2	15	5.0	4.7	5.8	45	120			MIN	NON - CNA
	3										
	4										
	5										
EB	6	15	5.0	4.7	5.8	45	120			MIN	NON - CNA
Inside Clearance	7			4.0	3.0						
SBRT Ramp	8	10	3.0	4.0	5.9	15	55				LOCK

Comments:

Overlap Calls

OLA = SBLT Ramp

OLB = Ø N/A

OLC = Ø N/A

OLD = Ø N/A

* * * Set all Perms to 0 - 20 Seconds * * *

* * * SCM Mode ON * * *

* * * OLA = 7 + 8 * * *

* * * Phase 7 is on to provide a WB inside clearance interval * * *

* * * All SB loops programmed and wired to call Phase 7 and Phase 8 * * *

Prepared By: Herman Cook Date: Approved By: Date:

Reviewed By: Date: Implemented By: Date:

File:G:\TS\Systems\Brandon Blvd (SR 60) \I-75 (west side) Date of Print: 07/11/06

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

Location : Brandon Blvd (SR 60) & I-75 (west side)
Intersection # Mist # 29

Ø #	Movement
Ø1=	
Ø2=	WB
Ø3=	
Ø4=	
Ø5=	
Ø6=	EB
Ø7=	Inside Clearance
Ø8=	SBRT Ramp
OLA=	SBLT Ramp
OLB=	Ø N/A
OLC=	Ø N/A
OLD=	Ø N/A

Day Plan # 1				
Day	Time	Cycle	Split	Offset
M-F	00:00	CKT	13	OFF
M-F	06:00	CKT	13	ON
M-F	06:00	1	1	1
M-F	09:00	2	1	1
M-F	16:00	3	1	1
M-F	19:30	2	1	1
M-F	22:00	4	1	1

Day Plan # 2				
Day	Time	Cycle	Split	Offset
Sat	00:00	CKT	13	OFF
Sat	07:00	CKT	13	ON
Sat	07:00	4	1	1
Sat	09:00	2	1	1
Sat	22:00	4	1	1
Day Plan # 3				
Sun	00:00	CKT	13	OFF
Sun	08:00	CKT	13	ON
Sun	08:00	4	1	1
Sun	11:00	2	1	1
Sun	22:00	4	1	1

Cycle Lengths				
1	2	3	4	5
150	140	150	120	

Offsets					
SECS	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
Off 1	66	24	143	58	
Off 2					
Off 3					
%	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
Off 1	44%	17%	95%	48%	
Off 2					
Off 3					

Phase Splits

	CYCLE 1=	150			CYCLE 2=	140			CYCLE 3=	150			CYCLE 4=	120			CYCLE 5=			
Ø	SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2	
	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec
1																				
2	65.8%	98.8			64.0%	89.6			61.3%	92.0			69.7%	83.6						
3																				
4																				
5																				
6	66%	98.8			64%	89.6			61%	92.0			70%	83.6						
7	4.7%	7.0			5.0%	7.0			4.7%	7.0			5.8%	7.0						
8	30%	44.3			31%	43.4			34%	51.0			25%	29.4						

Force Offs

	CYCLE 1				CYCLE 2				CYCLE 3				CYCLE 4				CYCLE 5			
Ø	SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2	
	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec
1																				
2	0%	0			0%	0			0%	0			0%	0						
3																				
4																				
5																				
6	0%	0			0%	0			0%	0			0%	0						
7																				
8	37%	55			36%	51			39%	59			31%	37						

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

PHASE(Ø) TIMING SHEET

Flash	No Flash Times Scheduled
Max I	ALL OTHER TIMES
Max II	ON WITH COORDINATION
MxPln I	

Location : M L King Blvd (SR 574) & I-75 West Ramp

Intersection # Mist # 9 **East/West :** M L King Blvd (SR 574)

ID # 1009 **North/South:** I-75 West Ramp

MOVEMENT	Ø	MIN	EXT	CLR	RED	MAX I	MAX II	WLK	FDW	RECALL	Mem. On/Off/CNA	MxPln I
WBLT	1	5	3.0	4.7	1.0	20	30					
EB Coord Ø	2	15	4.0	4.7	1.0	60	65			MIN	NON-CNA	
	3											
SB	4	7	4.0	4.7	1.0	30	35				LOCK	
	5											
	6											
	7											
	8											

Ø Calls	Overlap
WBTH	= OLA
Ø N/A	= OLB
Ø N/A	= OLC
Ø N/A	= OLD

Comments:

	Initials	Date
* * * Enable CKT 56 - WRM / Recall Ø2 & Ø6 WRM / Perms 0-5 secs.		
* * * OLA Programmed with Ø's 1 & 2		
* * * Clearance Timings as per FDOT's TEM 3.6 (Yellow and All-Red Tables)	HA	05/09/05
* * * New Timings and Coordination patterns	HA	05/09/05

Prepared By: Helmuth Arens Date: 05/09/05 Approved By: Date:

Reviewed By: Date: Implemented By: Date: 05/18/05

HILLSBOROUGH COUNTY TRAFFIC ENGINEERING

COORDINATION TIME SHEET

Location : M L King Blvd (SR 574) & I-75 West Ramp

Intersection # Mist # 9

Ø # Movement
Ø1= WBLT
Ø2= EB
Ø3=
Ø4= SB
Ø5=
Ø6=
Ø7=
Ø8=
OLA= WBTH
OLB= Ø N/A
OLC= Ø N/A
OLD= Ø N/A

Day Plan # 1

Day	Time	Cycle	Split	Offset
M-F	00:00	CKT	13	OFF
M-F	05:30	CKT	13	ON
M-F	05:30	CKT	143	ON
M-F	05:30	1	1	1
M-F	09:00	2	1	1
M-F	15:30	3	1	1
M-F	19:30	2	1	1
M-F	22:30	CKT	13	OFF
M-F	22:30	CKT	143	OFF

Day Plan # 2

Day	Time	Cycle	Split	Offset
S-S	00:00	CKT	13	OFF
S-S	08:00	CKT	13	ON
S-S	08:00	CKT	143	ON
S-S	08:00	2	1	1
S-S	21:00	CKT	13	OFF
S-S	21:00	CKT	143	OFF

Cycle Lengths

1	2	3	4	5
120	100	120		

Offsets

SECS	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
Off 1	6	94	108		
Off 2					
Off 3					
%	Cycle 1	Cycle 2	Cycle 3	Cycle 4	Cycle 5
Off 1	5%	94%	90%		
Off 2					
Off 3					

Phase Splits

	CYCLE 1=	120			CYCLE 2=	100			CYCLE 3=	120			CYCLE 4=				CYCLE 5=			
Ø	SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2	
	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec
1	23%	28.0			21%	21.0			12%	14.4										
2	51%	61.1			51%	51.0			59%	70.2										
3																				
4	26%	31.0			28%	28.0			30%	35.4										
5																				
6																				
7																				
8																				

Force Offs

	CYCLE 1				CYCLE 2				CYCLE 3				CYCLE 4				CYCLE 5			
Ø	SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2		SPLIT 1		SPLIT 2	
	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec	%	sec
1	23%	28			21%	21			12%	14										
2	0%	0			0%	0			0%	0										
3																				
4	49%	59			49%	49			42%	50										
5																				
6																				
7																				
8																				

I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

APPENDIX D

Existing Year (2007) Conditions Traffic Analysis Data Sheets

INTERSTATE 75

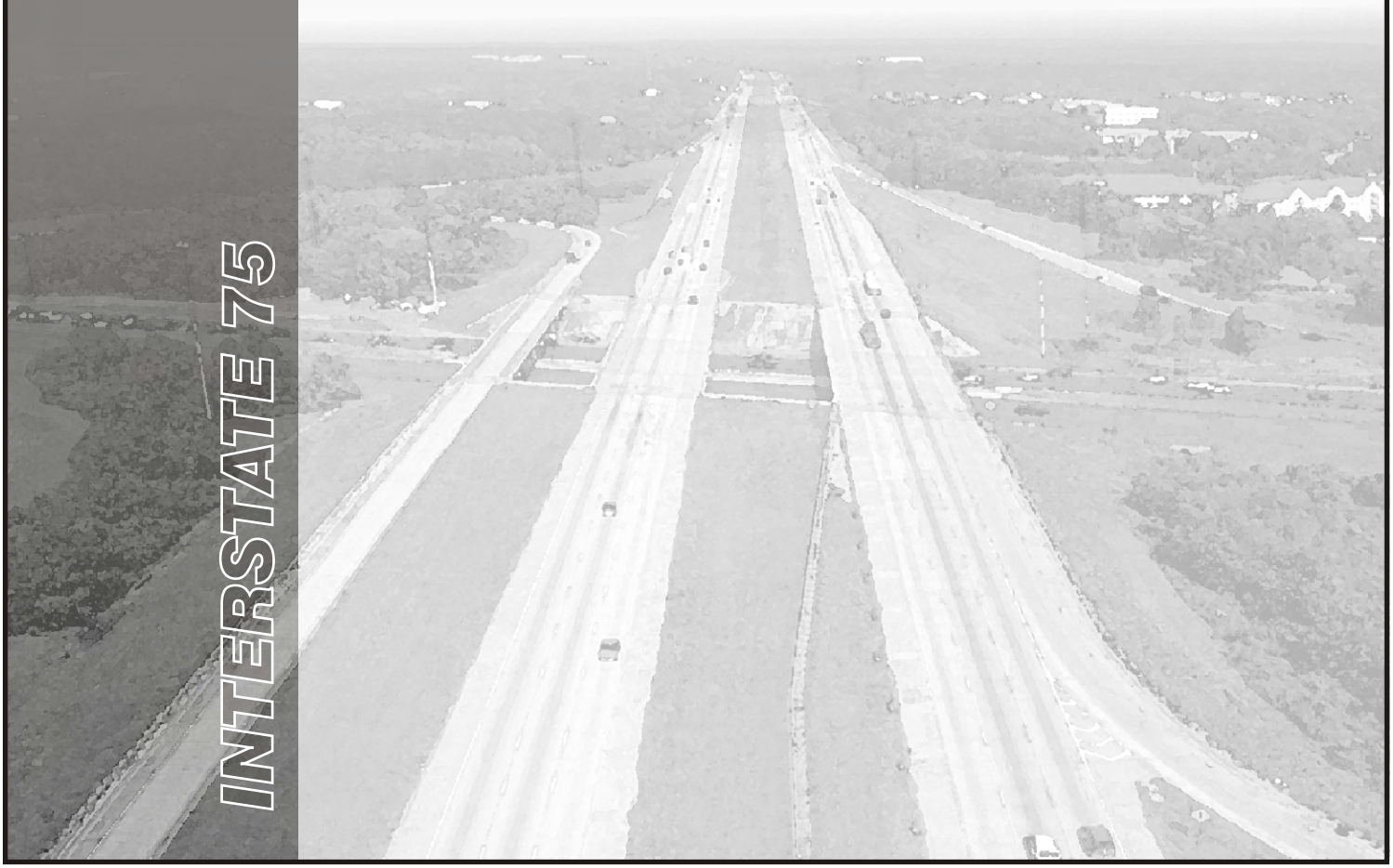
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS Signalized Intersection Result Sheets

Existing Year (2007) Conditions



HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB/Old Big Bend*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*I-75 NB & Big Bend Rd*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1890*		*447*	*601*		*61*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*A*		*A*	*A*		*A*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p		*3.2*			*3.2*			*3.2*				

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *28.0*	G = *63.5*	G =	G =	G = *8.0*	G =	G =	G =
	Y = *7*	Y = *7*	Y =	Y =	Y = *6.5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2100*		*497*	*668*		*68*					
Lane Group Capacity, c		*1858*		*471*	*2883*		*117*					
v/c Ratio, X		*1.13*		*1.06*	*0.23*		*0.58*					
Total Green Ratio, g/C		*0.53*		*0.82*	*0.82*		*0.07*					
Uniform Delay, d_1		*28.3*		*41.1*	*2.4*		*54.4*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.11*		*0.17*					
Incremental Delay, d_2		*66.1*		*56.8*	*0.0*		*7.1*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*94.3*		*97.9*	*2.4*		*61.5*					
Lane Group LOS		*F*		*F*	*A*		*E*					
Approach Delay	*94.3*			*43.2*			*61.5*					
	F			*D*			*E*					

Approach LOS				
Intersection Delay	*75.8*	X_C = *1.25*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB/Old Big Bend*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*I-75 SB & Big Bend Rd - PM - Existing 2007*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1185*		*125*	*535*		*835*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*A*		*A*	*A*		*A*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *5.0*	G = *41.0*	G =	G =	G = *53.5*	G =	G =	G =
	Y = *7*	Y = *7*	Y =	Y =	Y = *6.5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1317*		*139*	*594*		*928*					
Lane Group Capacity, c		*1200*		*135*	*1551*		*781*					
v/c Ratio, X		*1.10*		*1.03*	*0.38*		*1.19*					
Total Green Ratio, g/C		*0.34*		*0.44*	*0.44*		*0.45*					
Uniform Delay, d_1		*39.5*		*31.0*	*22.5*		*33.3*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.11*		*0.50*					
Incremental Delay, d_2		*56.9*		*85.5*	*0.2*		*97.4*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*96.4*		*116.6*	*22.7*		*130.6*					
Lane Group LOS		*F*		*F*	*C*		*F*					
Approach Delay	*96.4*			*40.5*			*130.6*					

Approach LOS	*F*	*D*	*F*	
Intersection Delay	*93.3*	X_C *= 1.13*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*Gibsonton Dr. & I-75*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/3/2009*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*SB I-75 & Gibsonton Dr - PM Existing 2007*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*890*		*220*	*570*					*1315*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*A*		*A*	*A*					*A*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *7.0*	G = *27.0*	G =	G =	G = *65.0*	G =	G =	G =
	Y = *7*	Y = *7*	Y =	Y =	Y = *7*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*989*		*244*	*633*					*1461*		
Lane Group Capacity, c		*775*		*160*	*1177*					*931*		
v/c Ratio, X		*1.28*		*1.52*	*0.54*					*1.57*		
Total Green Ratio, g/C		*0.22*		*0.34*	*0.34*					*0.54*		
Uniform Delay, d_1		*46.5*		*35.1*	*31.9*					*27.5*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.14*					*0.50*		
Incremental Delay, d_2		*134.2*		*265.3*	*0.5*					*261.4*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*180.7*		*300.5*	*32.4*					*288.9*		
Lane Group LOS		*F*		*F*	*C*					*F*		
Approach Delay	*180.7*			*106.9*						*288.9*		

Approach LOS	*F*	*F*		*F*
Intersection Delay	*208.8*	X_C = *1.79*	Intersection LOS	*F*

HCS+™ Version 5.2

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HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB/SR 60*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/3/2009*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*I-75 NB & SR 60 - PM - Existing 2007*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*4*			*4*		*2*		*3*			
Lane Group		*T*			*T*		*L*		*R*			
Volume, V (vph)		*4240*			*3205*		*210*		*930*			
% Heavy Vehicles, %HV		*2*			*2*		*2*		*2*			
Peak-Hour Factor, PHF		*0.90*			*0.90*		*0.90*		*0.90*			
Pretimed (P) or Actuated (A)		*A*			*A*		*A*		*A*			
Start-up Lost Time, l_1		*2.0*			*2.0*		*2.0*		*2.0*			
Extension of Effective Green, e		*2.0*			*2.0*		*2.0*		*2.0*			
Arrival Type, AT		*3*			*3*		*3*		*3*			
Unit Extension, UE		*4.0*			*4.0*		*4.0*		*4.0*			
Filtering/Metering, I		*1.000*			*1.000*		*1.000*		*1.000*			
Initial Unmet Demand, Q_b		*0.0*			*0.0*		*0.0*		*0.0*			
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*	*0*			
Lane Width		*12.0*			*12.0*		*12.0*		*12.0*			
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*		*0*		*0*			
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *103.8*	G =	G =	G =	G = *30.5*	G =	G =	G =
	Y = *8.7*	Y =	Y =	Y =	Y = *7*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *150.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*4711*			*3561*		*233*		*1033*			
Lane Group Capacity, c		*4681*			*4681*		*699*		*877*			
v/c Ratio, X		*1.01*			*0.76*		*0.33*		*1.18*			
Total Green Ratio, g/C		*0.69*			*0.69*		*0.20*		*0.20*			
Uniform Delay, d_1		*23.1*			*15.0*		*51.1*		*59.8*			
Progression Factor, PF		*1.000*			*1.000*		*1.000*		*1.000*			
Delay Calibration, k		*0.50*			*0.33*		*0.15*		*0.50*			
Incremental Delay, d_2		*14.7*			*0.8*		*0.4*		*91.9*			
Initial Queue Delay, d_3		*0.0*			*0.0*		*0.0*		*0.0*			
Control Delay		*37.8*			*15.8*		*51.4*		*151.6*			
Lane Group LOS		*D*			*B*		*D*		*F*			

Approach Delay	*37.8*	*15.8*	*133.2*	
Approach LOS	*D*	*B*	*F*	
Intersection Delay	*42.3*	X_C = *1.05*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB/SR 60*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/3/2009*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*I-75 SB & SR 60 - PM Existing 2007*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*4*			*3*					*3*		*2*
Lane Group		*T*			*T*					*L*		*R*
Volume, V (vph)		*3129*			*1560*					*1680*		*352*
% Heavy Vehicles, %HV		*3*			*3*					*5*		*5*
Peak-Hour Factor, PHF		*0.90*			*0.90*					*0.90*		*0.90*
Pretimed (P) or Actuated (A)		*A*			*A*					*A*		*A*
Start-up Lost Time, l_1		*2.0*			*2.0*					*2.0*		*2.0*
Extension of Effective Green, e		*2.0*			*2.0*					*2.0*		*2.0*
Arrival Type, AT		*3*			*3*					*3*		*3*
Unit Extension, UE		*3.0*			*3.0*					*3.0*		*3.0*
Filtering/Metering, I		*1.000*			*1.000*					*1.000*		*1.000*
Initial Unmet Demand, Q_b		*0.0*			*0.0*					*0.0*		*0.0*
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	*13*
Lane Width		*12.0*			*12.0*					*12.0*		*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*					*0*		*0*
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	Thru Only	02	03	04	SB Only	06	07	08
Timing	G = *88.5*	G =	G =	G =	G = *41.1*	G =	G =	G =
	Y = *10.5*	Y =	Y =	Y =	Y = *9.9*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *150.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*3477*			*1733*					*1867*		*377*
Lane Group Capacity, c		*3953*			*2965*					*1283*		*746*
v/c Ratio, X		*0.88*			*0.58*					*1.46*		*0.51*
Total Green Ratio, g/C		*0.59*			*0.59*					*0.27*		*0.27*
Uniform Delay, d_1		*26.2*			*19.2*					*54.5*		*45.9*
Progression Factor, PF		*1.000*			*1.000*					*1.000*		*1.000*
Delay Calibration, k		*0.41*			*0.18*					*0.50*		*0.11*
Incremental Delay, d_2		*2.6*			*0.3*					*209.2*		*0.6*
Initial Queue Delay, d_3		*0.0*			*0.0*					*0.0*		*0.0*
Control Delay		*28.8*			*19.5*					*263.7*		*46.4*
Lane Group LOS		*C*			*B*					*F*		*D*
Approach Delay	*28.8*			*19.5*						*227.2*		

Approach LOS	*C*	*B*		*F*
Intersection Delay	*86.4*	X_C = *1.06*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB/MLK*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/3/2009*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*SB I-75 & MLK - PM Existing 2007*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*2*		*3*
Lane Group		*T*		*L*	*T*					*L*		*R*
Volume, V (vph)		*2535*		*230*	*1085*					*655*		*375*
% Heavy Vehicles, %HV		*2*		*2*	*2*					*5*		*5*
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		*0.90*
Pretimed (P) or Actuated (A)		*A*		*A*	*A*					*A*		*A*
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		*2.0*
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		*2.0*
Arrival Type, AT		*3*		*3*	*3*					*3*		*3*
Unit Extension, UE		*4.0*		*3.0*	*3.0*					*4.0*		*3.0*
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		*1.000*
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		*0.0*
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	*0*
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		*12.0*
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		*0*
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *9.0*	G = *71.9*	G =	G =	G = *22.0*	G =	G =	G =
	Y = *5.7*	Y = *5.7*	Y =	Y =	Y = *5.7*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2817*		*256*	*1206*					*728*		*417*
Lane Group Capacity, c		*2125*		*195*	*2560*					*612*		*768*
v/c Ratio, X		*1.33*		*1.31*	*0.47*					*1.19*		*0.54*
Total Green Ratio, g/C		*0.60*		*0.72*	*0.72*					*0.18*		*0.18*
Uniform Delay, d_1		*24.0*		*42.8*	*7.0*					*49.0*		*44.4*
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		*1.000*
Delay Calibration, k		*0.50*		*0.50*	*0.11*					*0.50*		*0.14*
Incremental Delay, d_2		*149.9*		*172.4*	*0.1*					*100.9*		*0.8*
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		*0.0*
Control Delay		*174.0*		*215.2*	*7.2*					*149.9*		*45.2*
Lane Group LOS		*F*		*F*	*A*					*F*		*D*
Approach Delay	*174.0*			*43.6*						*111.8*		

Approach LOS	*F*	*D*		*F*
Intersection Delay	*125.7*	X_C = *1.74*	Intersection LOS	*F*

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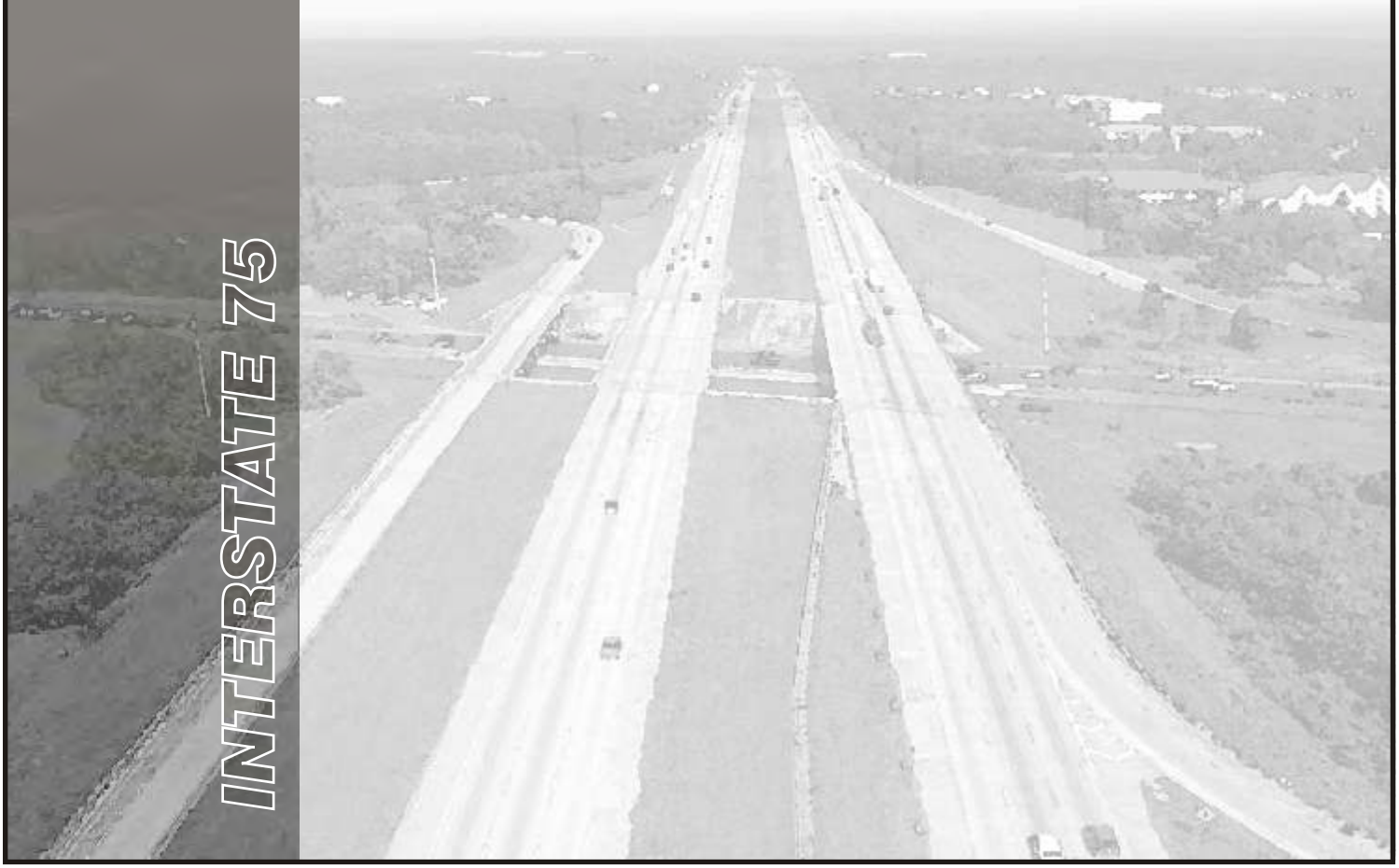
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Unsignalized Intersection Result Sheets

Existing Year (2007) Conditions



TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 NB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2007*

Project Description *I-75 northbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*70*	*172*			*226*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*77*	*191*	*0*	*0*	*251*	*0*
Percent Heavy Vehicles	*10*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*37*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*41*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*8*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*77*		*41*					
C (m) (veh/h)	*1255*		*476*					
v/c	*0.06*		*0.09*					
95% queue length	*0.20*		*0.28*					
Control Delay (s/veh)	*8.1*		*13.3*					
LOS	*A*		*B*					
Approach Delay (s/veh)	--	--	*13.3*					
Approach LOS	--	--	*B*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*3/03/2009*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 SB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2007*

Project Description *I-75 southbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*136*		*158*	*103*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*151*	*0*	*175*	*114*	*0*
Percent Heavy Vehicles	*7*	--	--	*8*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*105*		
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*116*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*10*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*175*				*116*		
C (m) (veh/h)		*1385*				*397*		
v/c		*0.13*				*0.29*		
95% queue length		*0.43*				*1.20*		
Control Delay (s/veh)		*8.0*				*17.8*		
LOS		*A*				*C*		
Approach Delay (s/veh)	--	--	*17.8*					
Approach LOS	--	--	*C*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 NB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description *I-75 northbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1245*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1383*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*121*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*134*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*8*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*134*					
C (m) (veh/h)			*158*					
v/c			*0.85*					
95% queue length			*5.75*					
Control Delay (s/veh)			*92.9*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*92.9*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*3/03/2009*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 SB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description *I-75 southbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1079*		*86*	*1100*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1198*	*0*	*95*	*1222*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						*414*
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*460*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*3*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						*R*
v (veh/h)		*95*						*460*
C (m) (veh/h)		*573*						*434*
v/c		*0.17*						*1.06*
95% queue length		*0.59*						*14.86*
Control Delay (s/veh)		*12.5*						*91.1*
LOS		*B*						*F*
Approach Delay (s/veh)	--	--	*91.1*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 NB Ramp & Gibsonton Drive*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description *I-75 northbound ramps at Gibsonton Drive*

East/West Street: *Gibsonton Drive* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*270*	*1935*			*702*	*554*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*300*	*2150*	*0*	*0*	*780*	*615*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*1*
Configuration	*L*	*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*90*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*100*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*0*	*0*	*8*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*300*		*100*					
C (m) (veh/h)	*481*		*3*					
v/c	*0.62*		*33.33*					
95% queue length	*4.19*		*14.68*					
Control Delay (s/veh)	*24.1*		*16902*					
LOS	*C*		*F*					
Approach Delay (s/veh)	--	--	*16902*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 NB Ramp & US 301*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description *I-75 northbound ramps at US 301*

East/West Street: *US 301* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*115*	*3900*			*930*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*127*	*4333*	*0*	*0*	*1033*	*0*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*4*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*							
v (veh/h)	*127*							
C (m) (veh/h)	*662*							
v/c	*0.19*							
95% queue length	*0.70*							
Control Delay (s/veh)	*11.7*							
LOS	*B*							
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*East MLK*
Jurisdiction	*T-Intersection*
Analysis Year	*2007*

Project Description *NB Ramp & MLK*

East/West Street: *MLK* | North/South Street: *Ramp to I-75*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*1140*	*2050*			*970*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*1266*	*2277*	*0*	*0*	*1077*	*0*
Percent Heavy Vehicles	*2*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*							
v (veh/h)	*1266*							
C (m) (veh/h)	*643*							
v/c	*1.97*							
95% queue length	*83.56*							
Control Delay (s/veh)	*457.7*							
LOS	*F*							
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 SB Ramp & Fowler Avenue*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description *I-75 southbound ramps at Fowler Avenue*

East/West Street: *Fowler Avenue* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1365*		*110*	*613*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*1516*	*0*	*122*	*681*	*0*
Percent Heavy Vehicles	*0*	--	--	*2*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						
v (veh/h)		*122*						
C (m) (veh/h)		*437*						
v/c		*0.28*						
95% queue length		*1.13*						
Control Delay (s/veh)		*16.4*						
LOS		*C*						
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 NB Ramp & Fletcher Avenue*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description *I-75 northbound ramps at Fletcher Avenue*

East/West Street: *Fletcher Avenue* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*865*	*1260*			*415*	*10*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*961*	*1400*	*0*	*0*	*461*	*11*
Percent Heavy Vehicles	*2*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	*TR*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*255*		
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*283*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*					*L*		
v (veh/h)	*961*					*283*		
C (m) (veh/h)	*1086*					*1*		
v/c	*0.88*					*283.00*		
95% queue length	*12.72*					*38.04*		
Control Delay (s/veh)	*27.0*							
LOS	*D*					*F*		
Approach Delay (s/veh)	--	--						
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Intersection	*I-75 SB Ramp & Fletcher Avenue*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description *I-75 southbound ramps at Fletcher Avenue*

East/West Street: *Fletcher Avenue* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2100*		*265*	*770*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*2333*	*0*	*294*	*855*	*0*
Percent Heavy Vehicles	*0*	--	--	*2*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*25*		
Peak-Hour Factor, PHF	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*27*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*2*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*294*				*27*		
C (m) (veh/h)		*209*				*0*		
v/c		*1.41*						
95% queue length		*17.08*						
Control Delay (s/veh)		*252.6*						
LOS		*F*				*F*		
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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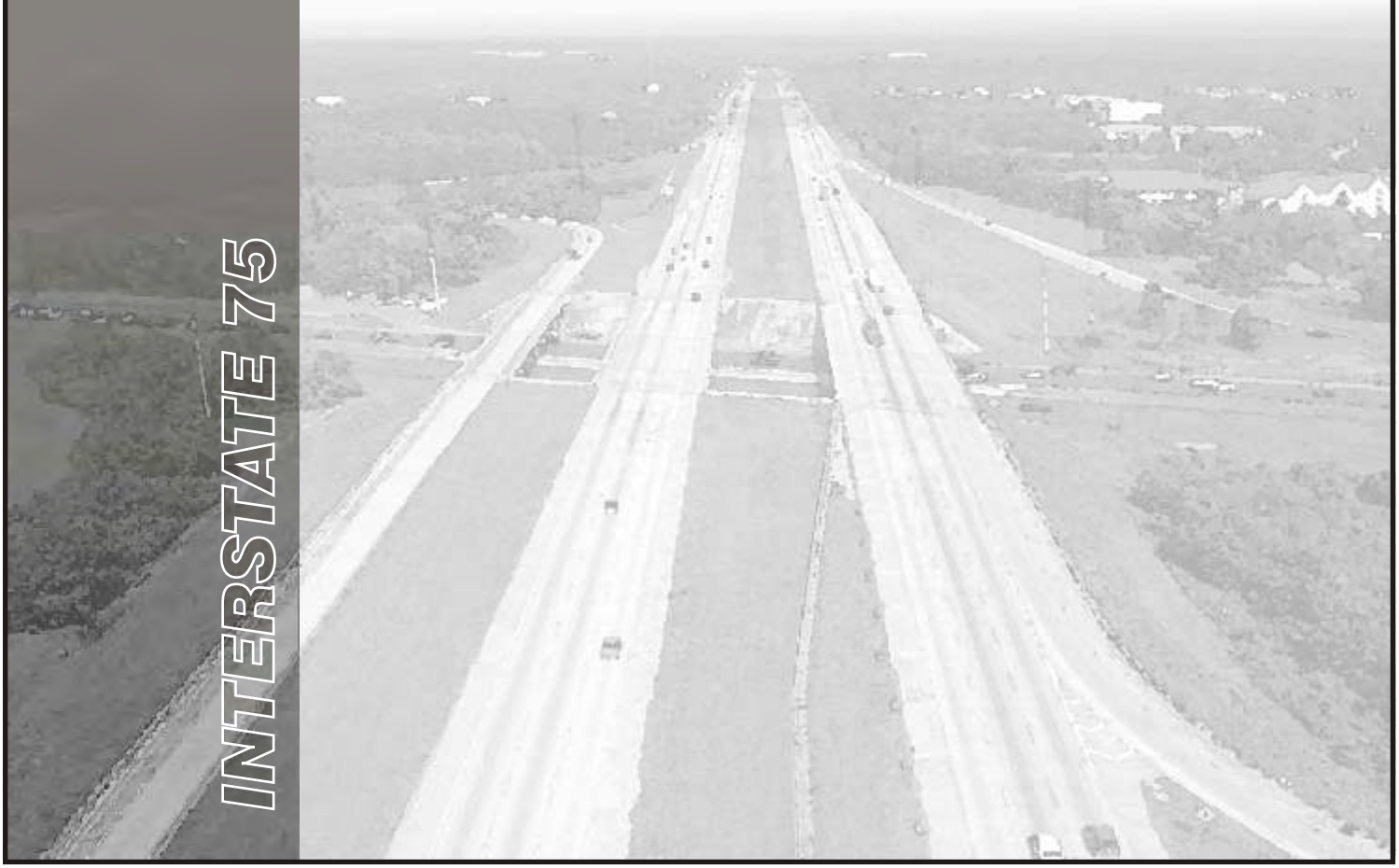
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Ramp Merge/ Diverge Result Sheets

Existing Year (2007) Conditions



RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Mocassin & I-75 NB
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 141 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2920	0.90	Level	8	0	0.962	1.00	3374
Ramp	363	0.90	Level	2	0	0.990	1.00	407
UpStream								
DownStream	141	0.90	Level	2	0	0.990	1.00	158

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 1701 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3374	9600	No
V_{12}	1701	4400:All	No
$V_{FO} = V_F - V_R$	2967	9600	No
V_R	407	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 17.4 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.335 (Exhibit 25-19)

S_R = 60.6 mph (Exhibit 25-19)

S_0 = 76.8 mph (Exhibit 25-19)

S = 67.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Mocassin & I-75 NB
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB From Mocassin Wallow WB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 363 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2560	0.90	Level	10	0	0.952	1.00	2987
Ramp	141	0.90	Level	2	0	0.990	1.00	158
UpStream	363	0.90	Level	2	0	0.990	1.00	407
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.285 using Equation (Exhibit 25-5)

V_{12} = 851 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3145	See Exhibit 25-7	No
V_{R12}	1009	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 11.1 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.300 (Exibit 25-19)

S_R= 61.6 mph (Exhibit 25-19)

S_0= 68.0 mph (Exhibit 25-19)

S = 65.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Mocassin & I-75 SB-Diverge
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 185 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2020	0.90	Level	10	0	0.952	1.00	2357
Ramp	149	0.90	Level	4	0	0.980	1.00	169
UpStream								
DownStream	185	0.90	Level	4	0	0.980	1.00	210

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.693 using Equation (Exhibit 25-11)

V_{12} = 1686 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2357	7200	No
V_{12}	1686	4400:All	No
$V_{FO} = V_F - V_R$	2188	7200	No
V_R	169	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 17.0 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.313 (Exhibit 25-19)

S_R = 61.2 mph (Exhibit 25-19)

S_0 = 76.8 mph (Exhibit 25-19)

S = 65.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Mocassin & I-75 SB Merge
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB From Mocassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 149 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1870	0.90	Level	8	0	0.962	1.00	2161
Ramp	185	0.90	Level	4	0	0.980	1.00	210
UpStream	149	0.90	Level	4	0	0.980	1.00	169
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 680.79 (Equation 25-2 or 25-3)

P_{FM} = 0.591 using Equation (Exhibit 25-5)

V_{12} = 1278 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2371	See Exhibit 25-7	No
V_{R12}	1488	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 13.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.293 (Exibit 25-19)

S_R= 61.8 mph (Exhibit 25-19)

S_0= 68.6 mph (Exhibit 25-19)

S = 64.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674 & I-75 NB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB To EB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2400 ft
V_D = 426 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2700	0.90	Level	10	0	0.952	1.00	3150
Ramp	229	0.90	Level	2	0	0.990	1.00	257
UpStream								
DownStream	426	0.90	Level	1	0	0.995	1.00	476

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.669 using Equation (Exhibit 25-11)

V_{12} = 2194 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3150	7200	No
V_{12}	2194	4400:All	No
$V_{FO} = V_F - V_R$	2893	7200	No
V_R	257	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 15.0 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.321 (Exhibit 25-19)

S_R= 61.0 mph (Exhibit 25-19)

S_0= 76.8 mph (Exhibit 25-19)

S = 65.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674 from EB to I-75 NB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB From (Loop) EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2200 ft
V_D = 574 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2470	0.90	Level	10	0	0.952	1.00	2882
Ramp	426	0.90	Level	1	0	0.995	1.00	476
UpStream								
DownStream	574	0.90	Level	1	0	0.995	1.00	641

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.594 using Equation (Exhibit 25-5)

V_{12} = 1713 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3358	See Exhibit 25-7	No
V_{R12}	2189	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 18.6 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.314 (Exibit 25-19)

S_R= 57.8 mph (Exhibit 25-19)

S_0= 62.6 mph (Exhibit 25-19)

S = 59.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674 & I-75 NB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2200 ft
V_u = 426 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2895	0.90	Level	9	0	0.957	1.00	3361
Ramp	574	0.90	Level	1	0	0.995	1.00	641
UpStream	426	0.90	Level	1	0	0.995	1.00	476
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.603 using Equation (Exhibit 25-5)

V_{12} = 2026 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4002	See Exhibit 25-7	No
V_{R12}	2667	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 20.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.296 (Exibit 25-19)

S_R= 61.7 mph (Exhibit 25-19)

S_0= 67.0 mph (Exhibit 25-19)

S = 63.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674 & I-75 SB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 591 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2840	0.90	Level	9	0	0.957	1.00	3298
Ramp	414	0.90	Level	2	0	0.990	1.00	465
UpStream								
DownStream	591	0.90	Level	1	0	0.995	1.00	660

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 756.43 (Equation 25-8 or 25-9)

P_{FD} = 0.656 using Equation (Exhibit 25-11)

V_{12} = 2324 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3298	7200	No
V_{12}	2324	4400:All	No
$V_{FO} = V_F - V_R$	2833	7200	No
V_R	465	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 14.3 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.340 (Exhibit 25-19)

S_R= 60.5 mph (Exhibit 25-19)

S_0= 76.8 mph (Exhibit 25-19)

S = 64.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674 EB from I-75 SB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB Exit (From Loop) to EB SR 674

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2200 ft
V_u = 414 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2425	0.90	Level	10	0	0.952	1.00	2829
Ramp	591	0.90	Level	1	0	0.995	1.00	660
UpStream	414	0.90	Level	2	0	0.990	1.00	465
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.659 using Equation (Exhibit 25-11)

V_{12} = 2089 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2829	7050	No
V_{12}	2089	4400:All	No
$V_{FO} = V_F - V_R$	2169	7050	No
V_R	660	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 13.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.487 (Exhibit 25-19)

S_R= 53.8 mph (Exhibit 25-19)

S_0= 71.3 mph (Exhibit 25-19)

S = 57.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674 & I-75 SB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2400 ft
V_u = 591 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1835	0.90	Level	10	0	0.952	1.00	2141
Ramp	186	0.90	Level	1	0	0.995	1.00	208
UpStream	591	0.90	Level	1	0	0.995	1.00	660
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 764.89 (Equation 25-2 or 25-3)

P_{FM} = 0.597 using Equation (Exhibit 25-5)

V_{12} = 1278 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2349	See Exhibit 25-7	No
V_{R12}	1486	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 12.6 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.275 (Exibit 25-19)

S_R= 62.3 mph (Exhibit 25-19)

S_0= 68.7 mph (Exhibit 25-19)

S = 64.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	I-75 NB Exit to EB Big Bend Rd
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 897 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3470	0.90	Level	9	0	0.957	1.00	4029
Ramp	591	0.90	Level	1	0	0.995	1.00	660
UpStream								
DownStream	897	0.90	Level	1	0	0.995	1.00	1002

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.629 using Equation (Exhibit 25-11)

V_{12} = 2779 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4029	7200	No
V_{12}	2779	4400:All	No
$V_{FO} = V_F - V_R$	3369	7200	No
V_R	660	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 26.4 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.357 (Exhibit 25-19)

S_R = 60.0 mph (Exhibit 25-19)

S_0 = 75.8 mph (Exhibit 25-19)

S = 64.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	I-75 NB Merge from EB Big Bend
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 591 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2880	0.90	Level	7	0	0.966	1.00	3312
Ramp	897	0.90	Level	1	0	0.995	1.00	1002
UpStream	591	0.90	Level	1	0	0.995	1.00	660
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 928.60 (Equation 25-2 or 25-3)

P_{FM} = 0.614 using Equation (Exhibit 25-5)

V_{12} = 2033 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4314	See Exhibit 25-7	No
V_{R12}	3035	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 20.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.311 (Exibit 25-19)

S_R = 57.8 mph (Exhibit 25-19)

S_0 = 62.2 mph (Exhibit 25-19)

S = 59.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	I-75 SB Exit to Big Bend Rd
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 163 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4665	0.90	Level	7	0	0.966	1.00	5365
Ramp	1990	0.90	Level	1	0	0.995	1.00	2222
UpStream								
DownStream	163	0.90	Level	2	0	0.990	1.00	183

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.524 using Equation (Exhibit 25-11)

V_{12} = 3868 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5365	7050	No
V_{12}	3868	4400:All	No
$V_{FO} = V_F - V_R$	3143	7050	No
V_R	2222	2000	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$

D_R = 33.9 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.628 (Exhibit 25-19)

S_R = 50.6 mph (Exhibit 25-19)

S_0 = 69.4 mph (Exhibit 25-19)

S = 54.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	I-75 SB Merge from EB Big Bend
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description EB Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 1990 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2675	0.90	Level	9	0	0.957	1.00	3106
Ramp	163	0.90	Level	2	0	0.990	1.00	183
UpStream	1990	0.90	Level	1	0	0.995	1.00	2222
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1188.05 (Equation 25-2 or 25-3)

P_{FM} = 0.611 using Equation (Exhibit 25-5)

V_{12} = 1898 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3289	See Exhibit 25-7	No
V_{R12}	2081	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 14.1 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.244 (Exibit 25-19)

S_R= 63.2 mph (Exhibit 25-19)

S_0= 67.5 mph (Exhibit 25-19)

S = 64.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB	Junction	I-75 NB Exit onto Gib Dr
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 824 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3775	0.90	Level	7	0	0.966	1.00	4341
Ramp	483	0.90	Level	1	0	0.995	1.00	539
UpStream								
DownStream	824	0.90	Level	1	0	0.995	1.00	920

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.627 using Equation (Exhibit 25-11)

V_{12} = 2922 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4341	7200	No
V_{12}	2922	4400:All	No
$V_{FO} = V_F - V_R$	3802	7200	No
V_R	539	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 27.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.347 (Exhibit 25-19)

S_R= 60.3 mph (Exhibit 25-19)

S_0= 75.2 mph (Exhibit 25-19)

S = 64.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB	Junction	I-75 SB Exit onto Gib
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 387 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6200	0.90	Level	7	0	0.966	1.00	7130
Ramp	1926	0.90	Level	1	0	0.995	1.00	2151
UpStream								
DownStream	387	0.90	Level	2	0	0.990	1.00	434

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.483 using Equation (Exhibit 25-11)

V_{12} = 4555 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7130	7200	No
V_{12}	4555	4400:All	Yes
$V_{FO} = V_F - V_R$	4979	7200	No
V_R	2151	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 43.4 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.492 (Exhibit 25-19)

S_R= 56.2 mph (Exhibit 25-19)

S_0= 70.6 mph (Exhibit 25-19)

S = 60.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	I-75 SB Merge from EB Gib
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3300 ft
V_u = 1926 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4275	0.90	Level	7	0	0.966	1.00	4916
Ramp	387	0.90	Level	2	0	0.990	1.00	434
UpStream	1926	0.90	Level	1	0	0.995	1.00	2151
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1380.46 (Equation 25-2 or 25-3)

P_{FM} = 0.595 using Equation (Exhibit 25-5)

V_{12} = 2927 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5350	See Exhibit 25-7	No
V_{R12}	3361	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 27.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.376 (Exibit 25-19)

S_R= 59.5 mph (Exhibit 25-19)

S_0= 64.6 mph (Exhibit 25-19)

S = 61.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	I-75 NB Exit onto US 301
Date Performed	3/03/2009	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB Exit to US 301 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 4300 ft
V_D = 400 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4120	0.90	Level	7	0	0.966	1.00	4738
Ramp	415	0.90	Level	1	0	0.995	1.00	463
UpStream								
DownStream	400	0.90	Level	1	0	0.995	1.00	447

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2121 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4265	9600	No
V_{12}	2121	4400:All	No
$V_{FO} = V_F - V_R$	3802	9600	No
V_R	463	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 20.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.340 (Exhibit 25-19)

S_R= 60.5 mph (Exhibit 25-19)

S_0= 76.5 mph (Exhibit 25-19)

S = 67.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB To Crosstown
Agency or Company	PB	Junction	I-75 Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 NB Diverge to Crosstown Expy

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 4000 ft
V_D = 764 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3305	0.90	Level	8	0	0.962	1.00	3819
Ramp	850	0.90	Level	2	0	0.990	1.00	954
UpStream								
DownStream	764	0.90	Level	2	0	0.990	1.00	857

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.260 using Equation (Exhibit 25-11)

V_{12} = 1699 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3819	9600	No
V_{12}	1699	4400:All	No
$V_{FO} = V_F - V_R$	2865	9600	No
V_R	954	4100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 18.9 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.384 (Exhibit 25-19)

S_R= 59.3 mph (Exhibit 25-19)

S_0= 76.6 mph (Exhibit 25-19)

S = 67.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB To CD
Agency or Company	PB	Junction	I-75 Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 NB Diverge to Crosstown-SR 60 CD

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 850 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2455	0.90	Level	8	0	0.962	1.00	2837
Ramp	764	0.90	Level	2	0	0.990	1.00	857
UpStream	850	0.90	Level	2	0	0.990	1.00	954
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.650 using Equation (Exhibit 25-11)

V_{12} = 2143 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2837	7200	No
V_{12}	2143	4400:All	No
$V_{FO} = V_F - V_R$	1980	7200	No
V_R	857	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 21.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.375 (Exhibit 25-19)

S_R= 59.5 mph (Exhibit 25-19)

S_0= 76.8 mph (Exhibit 25-19)

S = 63.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB From CD(SR 60)
Agency or Company	PB	Junction	I-75 NB ON-RAMP
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 NB ON-RAMP (I-75 NB From CD(SR 60))

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2600 ft
V_u = 764 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1690	0.90	Level	7	0	0.966	1.00	1943
Ramp	1337	0.90	Level	2	0	0.990	1.00	1500
UpStream	764	0.90	Level	2	0	0.990	1.00	857
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 852.48 (Equation 25-2 or 25-3)

P_{FM} = 0.588 using Equation (Exhibit 25-5)

V_{12} = 1142 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3443	See Exhibit 25-7	No
V_{R12}	2642	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 23.1 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.342 (Exibit 25-19)

S_R= 60.4 mph (Exhibit 25-19)

S_0= 68.9 mph (Exhibit 25-19)

S = 62.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB To CD (SR60)
Agency or Company	PB	Junction	I-75 Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 SB Diverge to CD

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3900 ft
V_u = 2032 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4680	0.90	Level	5	0	0.976	1.00	5330
Ramp	478	0.90	Level	3	0	0.985	1.00	539
UpStream	2032	0.90	Level	3	0	0.985	1.00	2292
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.602 using Equation (Exhibit 25-11)

V_{12} = 3423 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5330	7200	No
V_{12}	3423	4400:All	No
$V_{FO} = V_F - V_R$	4791	7200	No
V_R	539	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 32.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.347 (Exhibit 25-19)

S_R= 60.3 mph (Exhibit 25-19)

S_0= 73.3 mph (Exhibit 25-19)

S = 64.4 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB From Crosstown
Agency or Company	PB	Junction	I-75 On-Ramp
Date Performed	03/03/09	Jurisdiction	Hiilsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 SB Merge from Crosstown Expwy

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3100 ft
V_u = 1043 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3155	0.90	Level	7	0	0.966	1.00	3628
Ramp	898	0.90	Level	3	0	0.985	1.00	1013
UpStream	1043	0.90	Level	3	0	0.985	1.00	1176
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1610.57 (Equation 25-2 or 25-3)

P_{FM} = 0.619 using Equation (Exhibit 25-5)

V_{12} = 2248 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4641	See Exhibit 25-7	No
V_{R12}	3261	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 21.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.288 (Exibit 25-19)

S_R= 61.9 mph (Exhibit 25-19)

S_0= 66.8 mph (Exhibit 25-19)

S = 63.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	I-75 SB Merge from XTown-US301
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB Merge From XTown Expressway

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4900 ft
V_D = 932 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4055	0.90	Level	8	0	0.962	1.00	4686
Ramp	1217	0.90	Level	2	0	0.990	1.00	1366
UpStream								
DownStream	932	0.90	Level	2	0	0.990	1.00	1046

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.090 using Equation (Exhibit 25-5)

V_{12} = 424 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6052	See Exhibit 25-7	No
V_{R12}	1790	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 17.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.329 (Exibit 25-19)

S_R= 60.8 mph (Exhibit 25-19)

S_0= 64.1 mph (Exhibit 25-19)

S = 63.1 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB To CD
Agency or Company	PB	Junction	I-75 Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 SB Diverge to CD-XTown Express Way

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3100 ft
V_D = 898 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4200	0.90	Level	7	0	0.966	1.00	4830
Ramp	1043	0.90	Level	3	0	0.985	1.00	1176
UpStream								
DownStream	898	0.90	Level	3	0	0.985	1.00	1013

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.585 using Equation (Exhibit 25-11)

V_{12} = 3314 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4830	7200	No
V_{12}	3314	4400:All	No
$V_{FO} = V_F - V_R$	3654	7200	No
V_R	1176	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 31.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.404 (Exhibit 25-19)

S_R= 58.7 mph (Exhibit 25-19)

S_0= 74.8 mph (Exhibit 25-19)

S = 62.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	I-75 SB FROM US 301
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 SB Merge From US 301

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 4900 ft
V_u = 1217 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5270	0.90	Level	7	0	0.966	1.00	6060
Ramp	932	0.90	Level	1	0	0.995	1.00	1041
UpStream	1217	0.90	Level	1	0	0.995	1.00	1359
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.209 using Equation (Exhibit 25-5)

V_{12} = 1267 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7101	See Exhibit 25-7	No
V_{R12}	2308	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 9.7 (pc/mi/ln)

LOS = A (Exhibit 25-4)

Speed Estimation

M_S = 0.169 (Exibit 25-19)

S_R= 65.3 mph (Exhibit 25-19)

S_0= 62.9 mph (Exhibit 25-19)

S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB Collector Distributor
Agency or Company	PB	Junction	Crosstown EB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description I-75 NB Collector Distributor - Merge from Crosstown

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2400 ft
V_D = 1337 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1982	0.90	Level	8	0	0.962	1.00	2290
Ramp	490	0.90	Level	5	0	0.976	1.00	558
UpStream								
DownStream	1337	0.90	Level	5	0	0.976	1.00	1523

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2290 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	2848	See Exhibit 25-7	No
V_{R12}	2848	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 24.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.343 (Exibit 25-19)

S_R= 60.4 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 60.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB Collector Distributor
Agency or Company	PB	Junction	Crosstown EB ramp to I-75 NB
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description Crosstown EB ramp to I-75 NB

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2400 ft
V_u = 490 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2475	0.90	Level	8	0	0.962	1.00	2860
Ramp	1337	0.90	Level	5	0	0.976	1.00	1523
UpStream	490	0.90	Level	5	0	0.976	1.00	558
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 26530.99 (Equation 25-8 or 25-9)

P_{FD} = 0.746 using Equation (Exhibit 25-11)

V_{12} = 2520 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2860	7200	No
V_{12}	2520	4400:All	No
$V_{FO} = V_F - V_R$	1337	7200	No
V_R	1523	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 27.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.435 (Exhibit 25-19)

S_R= 57.8 mph (Exhibit 25-19)

S_0= 76.8 mph (Exhibit 25-19)

S = 58.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB From EB.SR60
Agency or Company	PB	Junction	I-75 NB On-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 NB Merge from EB SR60

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2600 ft
V_D = 1287 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3025	0.90	Level	7	0	0.966	1.00	3479
Ramp	570	0.90	Level	2	0	0.990	1.00	640
UpStream								
DownStream	1287	0.90	Level	2	0	0.990	1.00	1444

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.613 using Equation (Exhibit 25-5)

V_{12} = 2134 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4119	See Exhibit 25-7	No
V_{R12}	2774	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 18.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.294 (Exibit 25-19)

S_R= 58.2 mph (Exhibit 25-19)

S_0= 62.0 mph (Exhibit 25-19)

S = 59.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB From WB.SR60
Agency or Company	PB	Junction	I-75 NB On-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 NB Merge from WB SR60

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2600 ft
V_u = 570 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3595	0.90	Level	5	0	0.976	1.00	4094
Ramp	1287	0.90	Level	2	0	0.990	1.00	1444
UpStream	570	0.90	Level	2	0	0.990	1.00	640
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.586 using Equation (Exhibit 25-5)

V_{12} = 2399 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5538	See Exhibit 25-7	No
V_{R12}	3843	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 32.9 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.476 (Exibit 25-19)

S_R= 56.7 mph (Exhibit 25-19)

S_0= 65.7 mph (Exhibit 25-19)

S = 59.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB To SR60
Agency or Company	PB	Junction	I-75 Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description I-75 SB Diverge to SR60

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 3900 ft
V_D = 478 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6710	0.90	Level	5	0	0.976	1.00	7642
Ramp	2032	0.90	Level	3	0	0.985	1.00	2292
UpStream								
DownStream	478	0.90	Level	3	0	0.985	1.00	539

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 9156.17 (Equation 25-8 or 25-9)

P_{FD} = 0.473 using Equation (Exhibit 25-11)

V_{12} = 4821 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7642	7200	Yes
V_{12}	4821	4400:All	Yes
$V_{FO} = V_F - V_R$	5350	7200	No
V_R	2292	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 44.9 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.504 (Exhibit 25-19)

S_R= 55.9 mph (Exhibit 25-19)

S_0= 69.7 mph (Exhibit 25-19)

S = 60.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB To EB.MLK
Agency or Company	PB	Junction	I-75 Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description NB Diverge to EB MLK

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2300 ft
V_D = 344 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4880	0.90	Level	5	0	0.976	1.00	5558
Ramp	502	0.90	Level	3	0	0.985	1.00	566
UpStream								
DownStream	344	0.90	Level	3	0	0.985	1.00	388

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 508.73 (Equation 25-8 or 25-9)

P_{FD} = 0.595 using Equation (Exhibit 25-11)

V_{12} = 3536 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5558	7200	No
V_{12}	3536	4400:All	No
$V_{FO} = V_F - V_R$	4992	7200	No
V_R	566	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 34.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.349 (Exhibit 25-19)

S_R= 60.2 mph (Exhibit 25-19)

S_0= 72.8 mph (Exhibit 25-19)

S = 64.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB To WB.MLK
Agency or Company	PB	Junction	I-75 Off-Ramp To WB.MLK
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description NB Diverge to WB MLK

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 1780 ft
V_D = 1457 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4380	0.90	Level	5	0	0.976	1.00	4988
Ramp	344	0.90	Level	3	0	0.985	1.00	388
UpStream								
DownStream	1457	0.90	Level	3	0	0.985	1.00	1643

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 1940.56 (Equation 25-8 or 25-9)

P_{FD} = 0.626 using Equation (Exhibit 25-11)

V_{12} = 3270 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4988	7050	No
V_{12}	3270	4400:All	No
$V_{FO} = V_F - V_R$	4600	7050	No
V_R	388	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 24.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.463 (Exhibit 25-19)

S_R= 54.4 mph (Exhibit 25-19)

S_0= 68.5 mph (Exhibit 25-19)

S = 58.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB From MLK
Agency or Company	PB	Junction	I-75 On-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description NB Merge from MLK

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1780 ft
V_u = 344 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4035	0.90	Level	5	0	0.976	1.00	4595
Ramp	1457	0.90	Level	3	0	0.985	1.00	1643
UpStream	344	0.90	Level	3	0	0.985	1.00	388
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1952.33 (Equation 25-2 or 25-3)

P_{FM} = 0.609 using Equation (Exhibit 25-5)

V_{12} = 2796 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6238	See Exhibit 25-7	No
V_{R12}	4439	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 29.9 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.516 (Exibit 25-19)

S_R= 55.5 mph (Exhibit 25-19)

S_0= 65.3 mph (Exhibit 25-19)

S = 58.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB To MLK
Agency or Company	PB	Junction	I-75 Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description SB Diverge to MLK

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3830 ft
V_D = 1352 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6390	0.90	Level	5	0	0.976	1.00	7278
Ramp	1031	0.90	Level	2	0	0.990	1.00	1157
UpStream								
DownStream	1352	0.90	Level	2	0	0.990	1.00	1517

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.450 using Equation (Exhibit 25-11)

V_{12} = 3911 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7278	7200	Yes
V_{12}	3911	4400:All	No
$V_{FO} = V_F - V_R$	6121	7200	No
V_R	1157	4100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 35.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.402 (Exhibit 25-19)

S_R= 58.7 mph (Exhibit 25-19)

S_0= 67.6 mph (Exhibit 25-19)

S = 62.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB From MLK
Agency or Company	PB	Junction	I-75 On-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description SB Merge from MLK

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3800 ft
V_u = 1031 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5360	0.90	Level	5	0	0.976	1.00	6104
Ramp	1352	0.90	Level	2	0	0.990	1.00	1517
UpStream	1031	0.90	Level	2	0	0.990	1.00	1157
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1666.65 (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 3558 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7621	See Exhibit 25-7	Yes
V_{R12}	5075	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 43.2 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.928 (Exibit 25-19)

S_R= 44.0 mph (Exhibit 25-19)

S_0= 62.0 mph (Exhibit 25-19)

S = 48.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	Dhiraj Goverdhanam	Freeway/Dir of Travel	NB I-75 OFR @ I-4.
Agency or Company	PB	Junction	I-4 Interchange
Date Performed	3/20/2009	Jurisdiction	
Analysis Time Period		Analysis Year	2007 PM

Project Description I-75 Freeway Analysis

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	5490	0.90	Rolling	5	0	0.930	1.00	6557
Ramp	2325	0.90	Rolling	5	0	0.930	1.00	2777
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation (Exhibit 25-5)

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.260 using Equation (Exhibit 25-11)

V_{12} = 3760 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	6557	9600	No
V_{12}	3760	4400:All	No
$V_{FO} = V_F - V_R$	3780	9600	No
V_R	2777	4100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 36.6 (pc/ mi /ln)

LOS= E (Exhibit 25-4)

Speed Estimation

D_s = 0.548 (Exhibit 25-19)

S_R= 54.7 mph (Exhibit 25-19)

S_0= 75.2 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 Northbound
Agency or Company	PB	Junction	I-75 NB merge from EB I-4
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description NB Merge from I-4 EB

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1400 ft
V_D = 762 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3165	0.90	Level	6	0	0.971	1.00	3622
Ramp	987	0.90	Level	6	0	0.971	1.00	1130
UpStream								
DownStream	762	0.90	Level	6	0	0.971	1.00	872

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.581 using Equation (Exhibit 25-5)

V_{12} = 2105 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4752	See Exhibit 25-7	No
V_{R12}	3235	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 29.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.408 (Exibit 25-19)

S_R= 58.6 mph (Exhibit 25-19)

S_0= 66.3 mph (Exhibit 25-19)

S = 60.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 Northbound
Agency or Company	PB	Junction	I-75 NB merge from WB I-4
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description (41) NB Merge from I-4 WB

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1400 ft
V_u = 987 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4150	0.90	Level	6	0	0.971	1.00	4749
Ramp	762	0.90	Level	6	0	0.971	1.00	872
UpStream	987	0.90	Level	6	0	0.971	1.00	1130
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 2770 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5621	See Exhibit 25-7	No
V_{R12}	3642	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 32.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.451 (Exibit 25-19)

S_R= 57.4 mph (Exhibit 25-19)

S_0= 64.7 mph (Exhibit 25-19)

S = 59.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 Southbound
Agency or Company	PB	Junction	I-75 SB Diverge to WB I-4
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description SB Diverge to I-4

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5815	0.90	Level	6	0	0.971	1.00	6655
Ramp	1988	0.90	Level	6	0	0.971	1.00	2275
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.489 using Equation (Exhibit 25-11)

V_{12} = 4417 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6655	7200	No
V_{12}	4417	4400:All	Yes
$V_{FO} = V_F - V_R$	4380	7200	No
V_R	2275	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 41.4 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.503 (Exhibit 25-19)

S_R = 55.9 mph (Exhibit 25-19)

S_0 = 72.0 mph (Exhibit 25-19)

S = 60.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 Southbound
Agency or Company	PB	Junction	I-75 SB Merge from WB I-4
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description SB Merge from I-4 WB

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1600 ft
V_D = 1629 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3825	0.90	Level	5	0	0.976	1.00	4356
Ramp	937	0.90	Level	5	0	0.976	1.00	1067
UpStream								
DownStream	1629	0.90	Level	5	0	0.976	1.00	1855

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 using Equation (Exhibit 25-5)

V_{12} = 2546 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5423	See Exhibit 25-7	No
V_{R12}	3613	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 31.6 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.443 (Exibit 25-19)

S_R= 57.6 mph (Exhibit 25-19)

S_0= 65.3 mph (Exhibit 25-19)

S = 60.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 Southbound
Agency or Company	PB	Junction	I-75 SB Merge from EB I-4
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2007

Project Description (44) SB Merge from I-4 EB

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1600 ft
V_u = 937 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4760	0.90	Level	5	0	0.976	1.00	5421
Ramp	1629	0.90	Level	5	0	0.976	1.00	1855
UpStream	937	0.90	Level	5	0	0.976	1.00	1067
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.588 using Equation (Exhibit 25-5)

V_{12} = 3188 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7276	See Exhibit 25-7	Yes
V_{R12}	5043	4600:All	Yes

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 41.6 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.891 (Exibit 25-19)

S_R= 45.0 mph (Exhibit 25-19)

S_0= 63.8 mph (Exhibit 25-19)

S = 49.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		***Site Information***	
Analyst	Dhiraj Goverdhanam	Freeway/Dir of Travel	NB I-75 OFR @ Fowler Ave.
Agency or Company		Junction	Fowler Ave.
Date Performed	3/20/2009	Jurisdiction	
Analysis Time Period		Analysis Year	2007 PM

Project Description I-75 Freeway Analysis

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	4910	0.90	Rolling	6	0	0.917	1.00	5947
Ramp	1755	0.90	Rolling	4	0	0.943	1.00	2067
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation (Exhibit 25-5)

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.450 using Equation (Exhibit 25-11)

V_{12} = 3813 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	5947	7200	No
V_{12}	3813	4400:All	No
$V_{FO} = V_F - V_R$	3880	7200	No
V_R	2067	4100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 37.0 (pc/ mi /ln)

LOS= E (Exhibit 25-4)

Speed Estimation

D_s = 0.484 (Exhibit 25-19)

S_R= 56.4 mph (Exhibit 25-19)

S_0= 72.4 mph (Exhibit 25-19)

S = 61.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	Dhiraj Goverdhanam	Freeway/Dir of Travel	NB I-75 ONR @ Fowler Ave
Agency or Company	PB	Junction	Fowler Ave.
Date Performed	3/20/2009	Jurisdiction	
Analysis Time Period		Analysis Year	2007 PM

Project Description I-75 Freeway Analysis

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 65.0 mph S_{FR} = 35.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3155	0.90	Rolling	6	0	0.917	1.00	3821
Ramp	555	0.90	Rolling	4	0	0.943	1.00	654
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= 0.577 using Equation (Exhibit 25-5)

V_{12}= 2207 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4475	7050	No
V_{R12}	2861	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 27.5 (pc/ mi /ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.389 (Exibit 25-19)

S_R= 56.0 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$		See Exhibit 25-14	
V_{12}		4400:All	
$V_{FO} = V_F - V_R$		See Exhibit 25-14	
V_R		See Exhibit 25-3	

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/ mi /ln)

LOS= (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= 57.7 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB From WB.Fowler
Agency or Company	PB	Junction	I-75 On-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description NB Merge from WB Fowler

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2000 ft
V_u = 557 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3710	0.90	Level	6	0	0.971	1.00	4246
Ramp	696	0.90	Level	4	0	0.980	1.00	789
UpStream	557	0.90	Level	4	0	0.980	1.00	631
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4246 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5035	See Exhibit 25-7	Yes
V_{R12}	5035	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 35.0 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.785 (Exibit 25-19)

S_R= 48.0 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 48.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	Dhiraj Goverdhanam	Freeway/Dir of Travel	SB I-75 OFR @ Fowler Ave.
Agency or Company	PB	Junction	Fowler Ave.
Date Performed	3/20/2009	Jurisdiction	
Analysis Time Period		Analysis Year	2007 PM

Project Description I-75 Freeway Analysis

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	4600	0.90	Rolling	6	0	0.943	1.00	5418
Ramp	740	0.90	Rolling	4	0	0.962	1.00	855
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= using Equation (Exhibit 25-5)

V_{12}= pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}		See Exhibit 25-7	
V_{R12}		4600:All	

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/ mi /ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} =0.585 using Equation (Exhibit 25-11)

V_{12} = 3525 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$	5418	7200	No
V_{12}	3525	4400:All	No
$V_{FO} = V_F - V_R$	4563	7200	No
V_R	855	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 34.6 (pc/ mi /ln)

LOS= D (Exhibit 25-4)

Speed Estimation

D_s = 0.375 (Exhibit 25-19)

S_R= 59.5 mph (Exhibit 25-19)

S_0= 73.3 mph (Exhibit 25-19)

S = 63.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information		Site Information	
Analyst	Dhiraj Goverdhanam	Freeway/Dir of Travel	SB I-75 ONR @ Fowler Ave
Agency or Company	PB	Junction	Fowler Ave.
Date Performed	3/20/2009	Jurisdiction	
Analysis Time Period	2007 PM	Analysis Year	2007 PM

Project Description I-75 Freeway Analysis

Inputs

Upstream Adj Ramp	Terrain	Downstream Adj Ramp
☐ Yes ☐ On		☐ Yes ☐ On
☐ No ☐ Off		☐ No ☐ Off
L_{up} = ft		L_{down} = ft
Vu = veh/h	S_{FF} = 70.0 mph S_{FR} = 45.0 mph Sketch (show lanes, L_A, L_D,V_R,V_f)	VD = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	Truck	%Rv	f_{HV}	f_p	v=V/PHF f_{HV} f_p
Freeway	3860	0.90	Rolling	6	0	0.917	1.00	4675
Ramp	1955	0.94	Rolling	4	0	0.943	1.00	2205
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM}= 0.555 using Equation (Exhibit 25-5)

V_{12}= 2595 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6880	7200	No
V_{R12}	4800	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 32.5 (pc/ mi /ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.660 (Exibit 25-19)

S_R= 51.5 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI}=V_F$		See Exhibit 25-14	
V_{12}		4400:All	
$V_{FO} = V_F - V_R$		See Exhibit 25-14	
V_R		See Exhibit 25-3	

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/ mi /ln)

LOS= (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S= 54.8 mph (Exhibit 25-14)	S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB To Fletcher
Agency or Company	PB	Junction	I-75 NB Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description NB Diverge to Fletcher

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 872 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4405	0.90	Level	7	0	0.966	1.00	5066
Ramp	871	0.90	Level	4	0	0.980	1.00	987
UpStream								
DownStream	872	0.90	Level	4	0	0.980	1.00	988

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.588 using Equation (Exhibit 25-11)

V_{12} = 3385 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5066	7200	No
V_{12}	3385	4400:All	No
$V_{FO} = V_F - V_R$	4079	7200	No
V_R	987	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 19.9 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.517 (Exhibit 25-19)

S_R= 55.5 mph (Exhibit 25-19)

S_0= 74.1 mph (Exhibit 25-19)

S = 60.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB From Fletcher
Agency or Company	PB	Junction	I-75 NB On-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak Hour	Analysis Year	Existing 2007

Project Description NB Merge from Fletcher

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 871 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3530	0.90	Level	7	0	0.966	1.00	4059
Ramp	872	0.90	Level	4	0	0.980	1.00	988
UpStream	871	0.90	Level	4	0	0.980	1.00	987
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 4059 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5047	See Exhibit 25-7	Yes
V_{R12}	5047	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 42.6 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.902 (Exibit 25-19)

S_R= 44.8 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 44.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB To Fletcher
Agency or Company	PB	Junction	I-75 SB Off-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description SB Diverge to Fletcher

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1914 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2950	0.90	Level	7	0	0.966	1.00	3392
Ramp	267	0.90	Level	2	0	0.990	1.00	300
UpStream								
DownStream	1914	0.90	Level	2	0	0.990	1.00	2148

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3392 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3392	4800	No
V_{12}	3392	4400:All	No
$V_{FO} = V_F - V_R$	3092	4800	No
V_R	300	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 33.1 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.325 (Exhibit 25-19)

S_R = 60.9 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 60.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB From Fletcher
Agency or Company	PB	Junction	I-75 On-Ramp
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	Existing 2007

Project Description SB Merge from Fletcher

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 267 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2685	0.90	Level	7	0	0.966	1.00	3088
Ramp	1914	0.90	Level	2	0	0.990	1.00	2148
UpStream	267	0.90	Level	2	0	0.990	1.00	300
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 3088 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5236	See Exhibit 25-7	Yes
V_{R12}	5236	4600:All	Yes

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 35.9 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.919 (Exibit 25-19)

S_R= 44.3 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 44.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

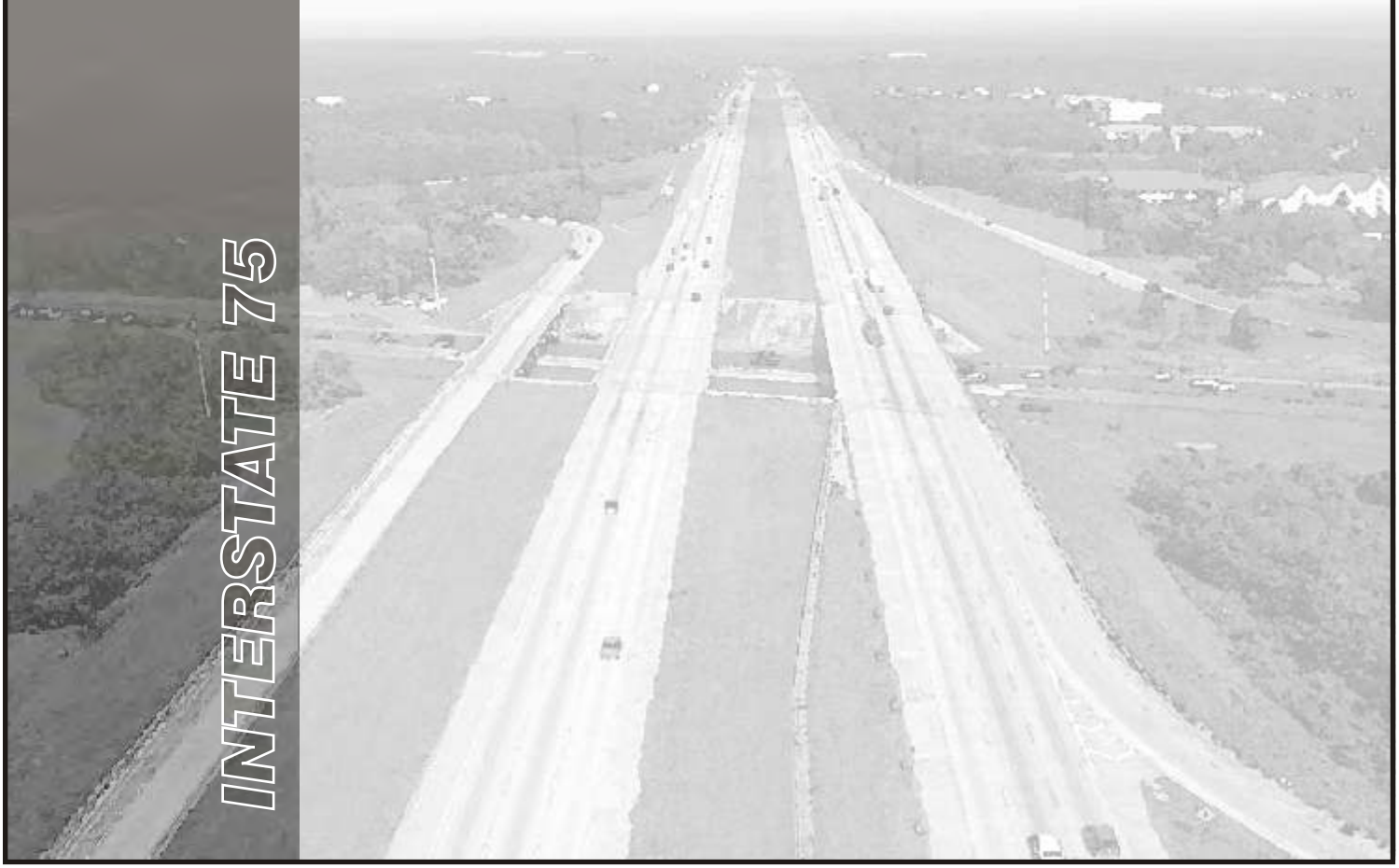
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

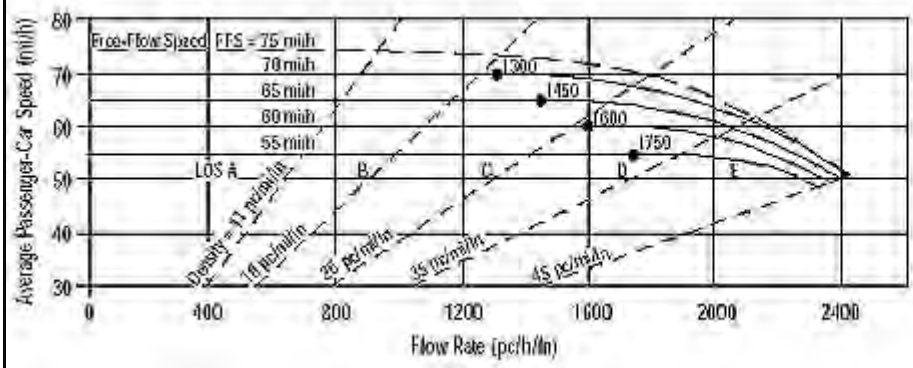
HCS & Freeway Segment Result Sheets

Existing Year (2007) Conditions



NORTHBOUND I-75 SEGMENTS

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Mocassin Wallow / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 NB From Mocassin Wallow To SR 674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2700*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1050*	pc/h/ln
S	*67.0*	mi/h
D = v_p / S	*15.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

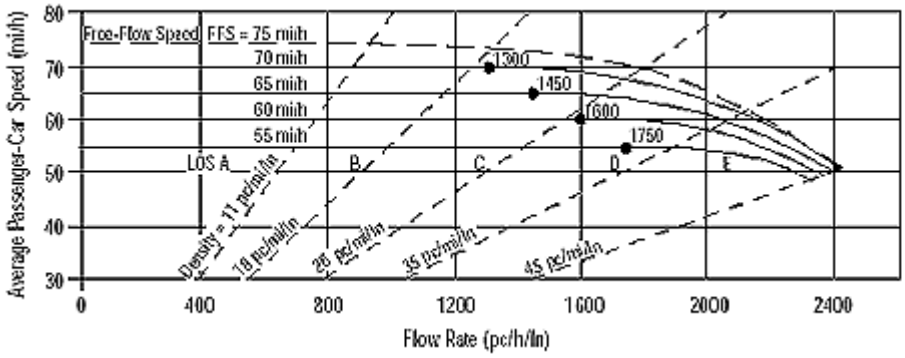
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 / Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 NB From SR 674 To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3470*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1343*	pc/h/ln
S	*67.0*	mi/h
D = v_p / S	*20.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

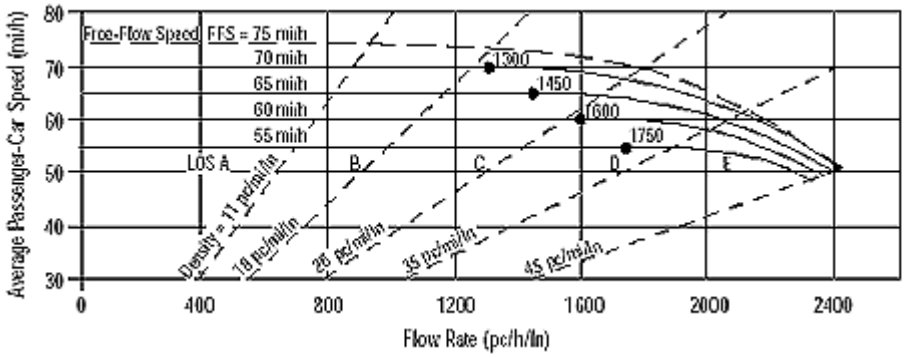
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Big Bend Road / Gibsonton Dr.*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM*	Analysis Year	*2007*

Project Description I-75 NB From Big Bend Road To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*3775*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

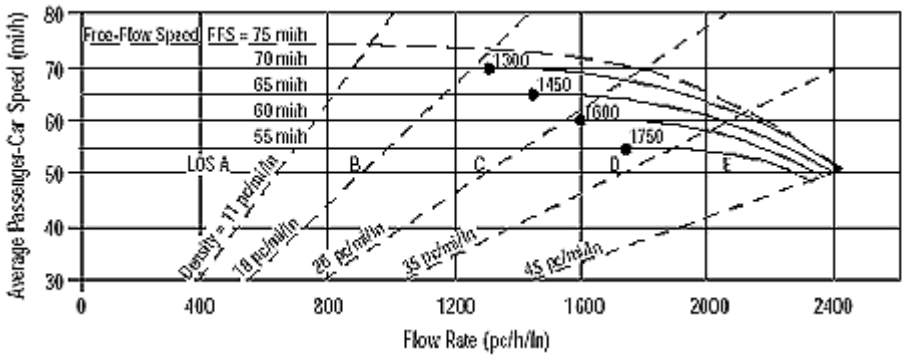
Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*0.25*	I/mi	f_{ID}	*0.0*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*67.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures			**Design (N)**	
Operational (LOS)			Design (N)	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1447*	pc/h/ln	Design LOS	
S	*67.0*	mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
D = v_p / S	*21.6*	pc/mi/ln	S	mi/h
LOS	*C*		D = v_p / S	pc/mi/ln
			Required Number of Lanes, N	

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed		

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Gibsonton Dr. / US 301*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM*	Analysis Year	*2007*

Project Description I-75 NB From Gibsonton Drive To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4120*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1184*	pc/h/ln
S	*68.5*	mi/h
D = v_p / S	*17.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

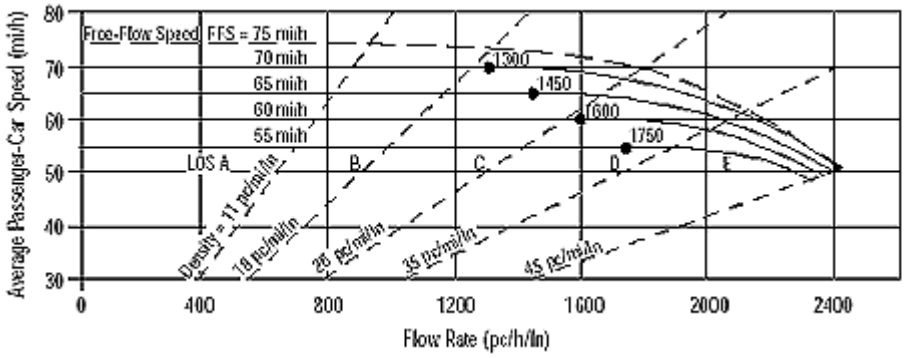
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*US 301 / XTown Expressway*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM*	Analysis Year	*2007*

Project Description I-75 NB From US 301 / XTown Expressway

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2455*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.53*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.2*	mi/h
f_N	*3.0*	mi/h
FFS	*66.8*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*946*	pc/h/ln
S	*66.8*	mi/h
D = v_p / S	*14.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

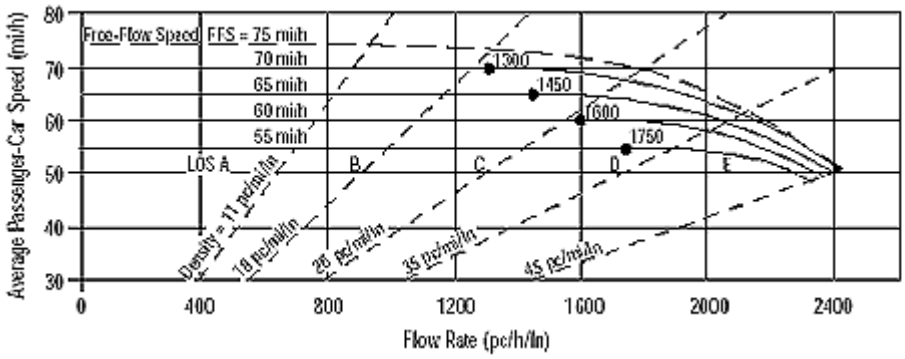
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*EJB*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*XTown Expressway / SR 60*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM*	Analysis Year	*2007*

Project Description I-75 NB From XTown Expressway To SR 60

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3025*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*3.0*	mi/h
FFS	*64.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1160*	pc/h/ln
S	*64.5*	mi/h
D = v_p / S	*18.0*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

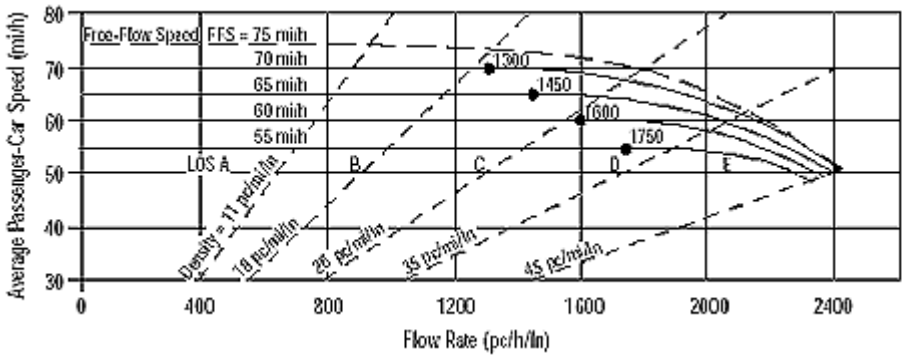
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 60 / SR 574 (MLK)*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 NB From SR 60 To SR 574 (MLK)

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4880*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*5*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.976*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.37*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1853*	pc/h/ln
S	*65.0*	mi/h
D = v_p / S	*28.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

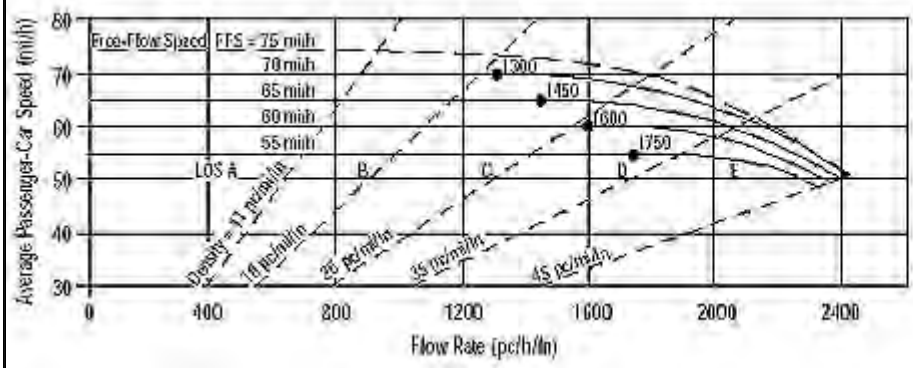
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 574 (MLK) / I-4*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 NB From SR 574 (MLK) To I-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5490*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*5*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.976*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.70*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*1.0*	mi/h
f_N	*1.5*	mi/h
FFS	*67.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1563*	pc/h/ln
S	*67.3*	mi/h
D = v_p / S	*23.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

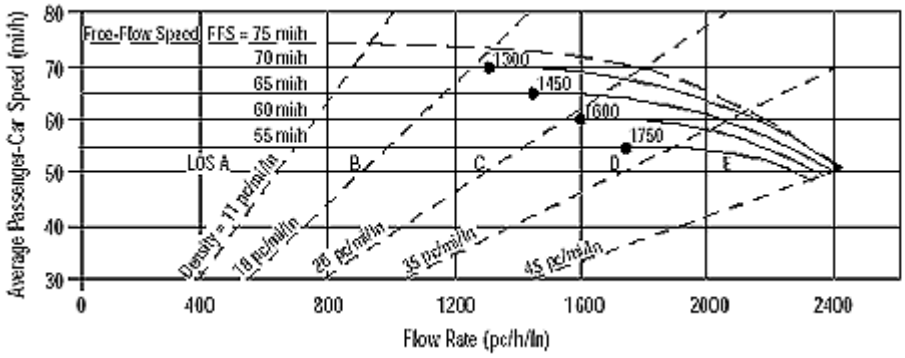
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*EJB*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*I-4 / Fowler Avenue*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 NB From I-4 To Fowler Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4910*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1873*	pc/h/ln
S	*64.7*	mi/h
D = v_p / S	*28.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

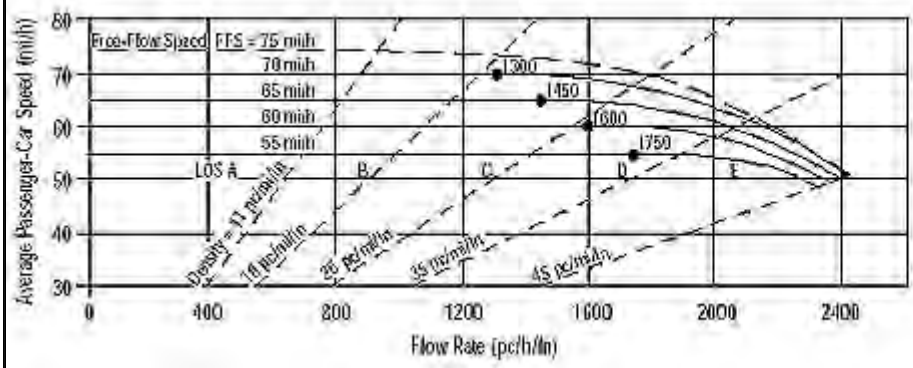
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Fowler Avenue / Fletcher*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 NB From Fowler Avenue To Fletcher

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4405*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*3.0*	mi/h
FFS	*64.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1680*	pc/h/ln
S	*64.2*	mi/h
D = v_p / S	*26.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

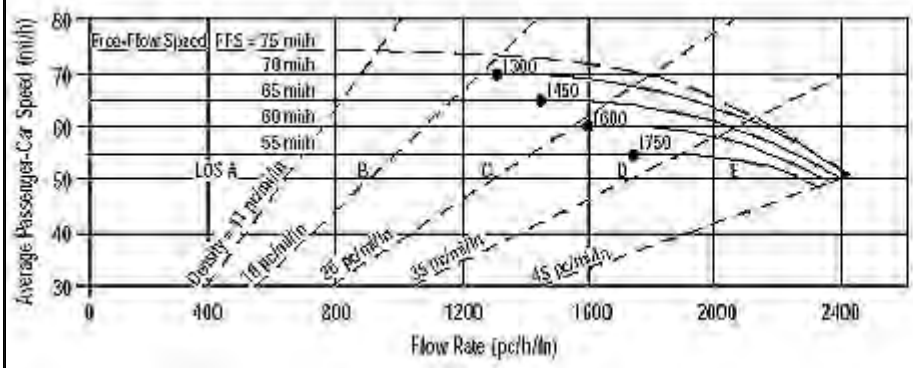
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

SOUTHBOUND I-75 SEGMENTS

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Fletcher / Fowler Avenue*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From Fletcher Ave To Fowler Ave

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4600*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*3.0*	mi/h
FFS	*64.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1755*	pc/h/ln
S	*63.8*	mi/h
D = v_p / S	*27.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

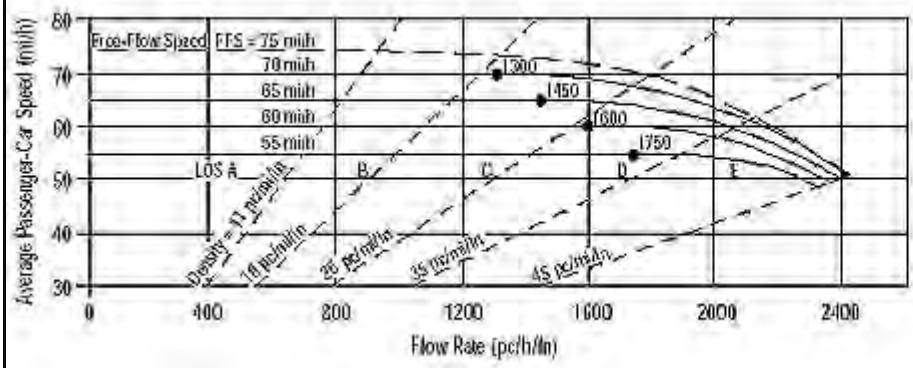
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Fowler Avenue / I-4*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From Fowler Avenue To I-4

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5815*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*6*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.971*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2218*	pc/h/ln
S	*57.8*	mi/h
D = v_p / S	*38.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

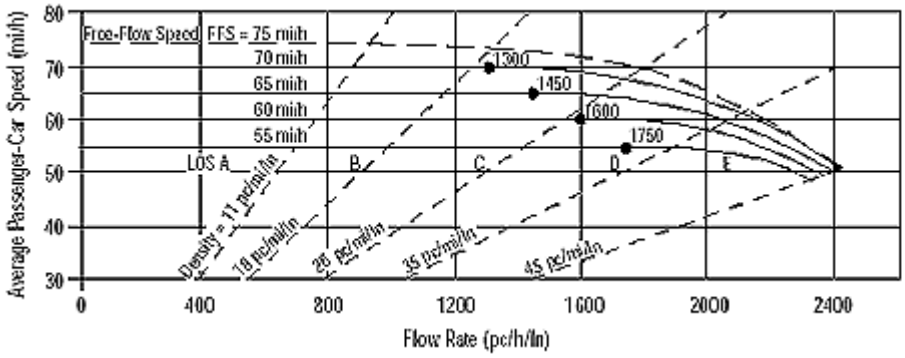
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*I-4 / SR 574(MLK)*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From I-4 To SR 574

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6390*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*5*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.976*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.70*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*1.0*	mi/h
f_N	*1.5*	mi/h
FFS	*67.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1819*	pc/h/ln
S	*65.7*	mi/h
D = v_p / S	*27.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

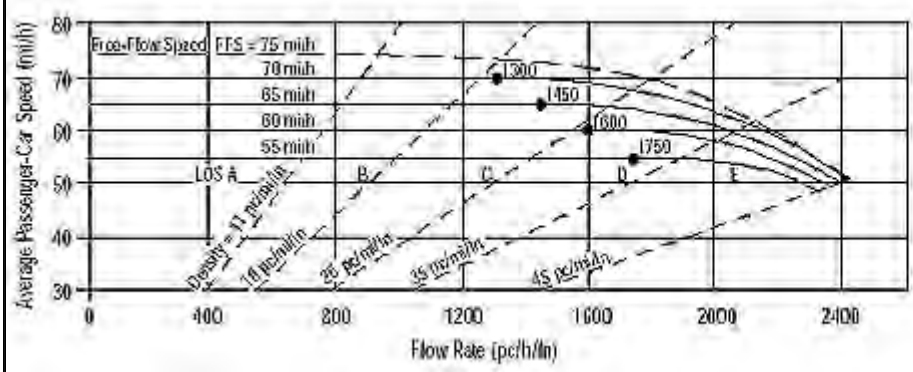
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*574(MLK) / SR 60*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From SR 574 (MLK) To SR 60

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6710*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*5*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.976*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.37*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2547*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

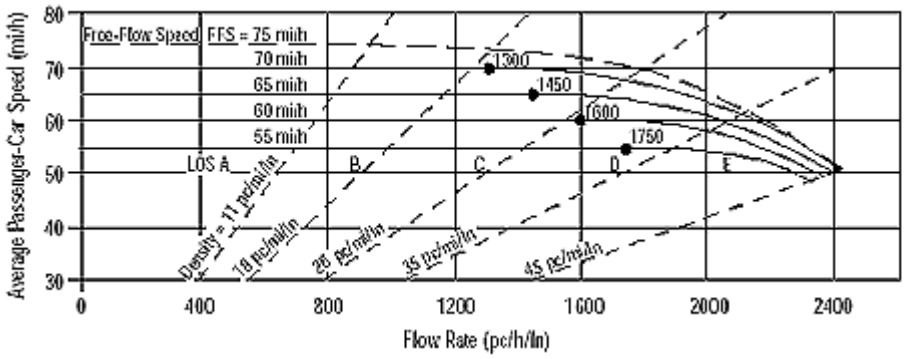
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SR 60 / Xtown Expressway*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From SR 60 To Xtown Expressway

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4200*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*3.0*	mi/h
FFS	*64.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1610*	pc/h/ln
S	*64.4*	mi/h
D = v_p / S	*25.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

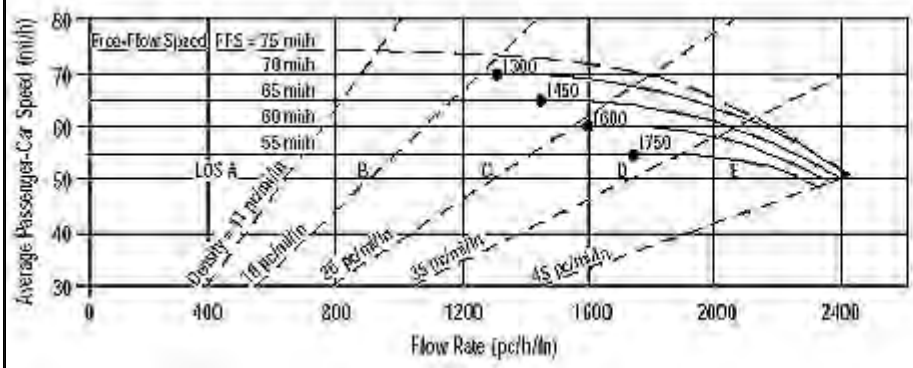
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Xtown Expressway / US 301*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From Xtown Expressway To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4055*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*8*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.962*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.53*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.2*	mi/h
f_N	*0.0*	mi/h
FFS	*69.8*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*937*	pc/h/ln
S	*69.8*	mi/h
D = v_p / S	*13.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

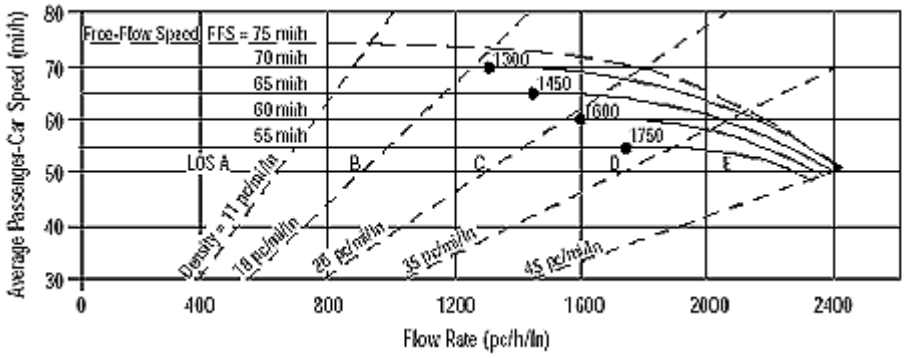
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*US 301 / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From US 301 To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6200*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1782*	pc/h/ln
S	*66.9*	mi/h
D = v_p / S	*26.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

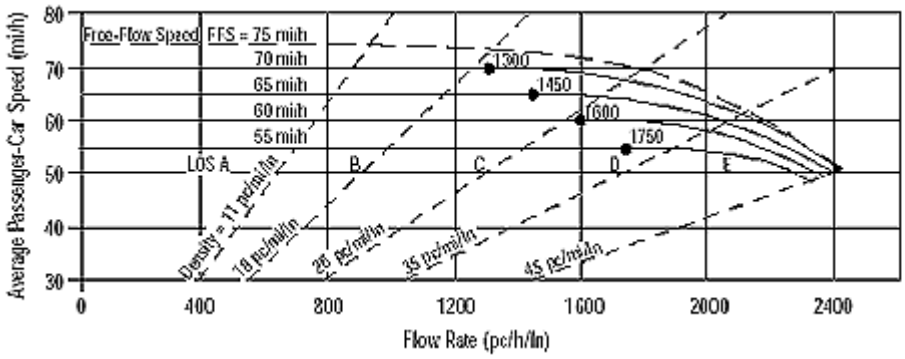
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr. / Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From Gibsonton Drive To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4665*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1788*	pc/h/ln
S	*65.6*	mi/h
D = v_p / S	*27.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

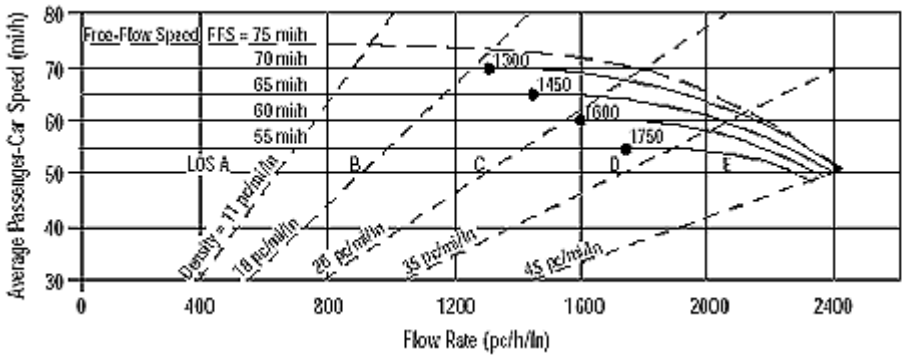
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From Big Bend Rd To (SR 674) College Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2840*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1099*	pc/h/ln
S	*67.0*	mi/h
D = v_p / S	*16.4*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

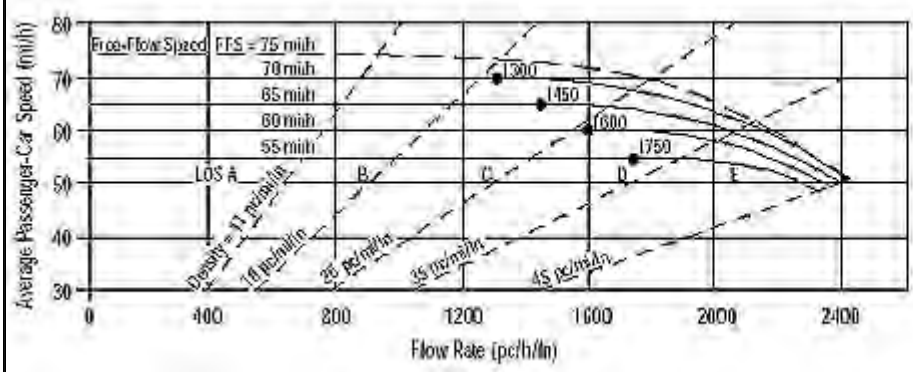
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SR 674 / Mocassin Wallow*
Jurisdiction	*Hillsborough*
Analysis Year	*2007*

Project Description I-75 SB From SR 674 To Mocassin Wallow

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2020*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*786*	pc/h/ln
S	*67.0*	mi/h
D = v_p / S	*11.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

APPENDIX E

I-75 PD&E Study
Network Model Validation Study

INTERSTATE 75

Technical Memorandum

I-75 PD&E:
Traffic and Travel Demand Studies

From Moccasin Wallow Road to North of Fletcher Avenue

Submitted to:

PARSONS BRINCKERHOFF
Team 75
Carter::Burgess

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1.0 INTRODUCTION

The primary traffic projection tool used to derive future year volumes was the Cube Voyager version of the West Central Florida Regional Planning Model (WCFRPM). Essentially, the WCFRPM is an aggregation of the Tampa Bay Regional Planning Model (TBRPM), the Polk County Model, the Sarasota/Manatee/Charlotte (SMC) model as well as the Hardee and DeSoto County Models. The model was originally developed for major regional studies. The intent of the WCFRPM is to identify how a corridor improvement in one area will impact the region as a whole. As a result, it was deemed the most appropriate means of forecasting future traffic along the I-75 corridor.

2.0 NETWORK MODEL VALIDATION

For this project, the original 2000 base year validated WCFRPM was used. Initially, the WCFRPM was based on the previous generation FSUTMS platform of TRANPLAN. Prior to the commencing this project, the TRANPLAN version of the WCFRPM was converted to the most current FSUTMS platform, Cube Voyager. The Cube Voyager version of the WCFRPM retained the network attributes and socioeconomic data of the previously validated model, which were provided by each relevant Metropolitan Planning Organization (MPO). Upon conversion, the new Cube Voyager model was run to ensure proper overall network validation. Network validation statistics are shown in **Table 1**.

Table 1: Highway Network Validation Statistics

Highway Network Summary Statistics by County							
Facility Type	**Hillsborough**	**Pinellas**	**Pasco**	**Hernando**	**Citrus**	**Other**	**Total**
Total Number of Links	4,584	3,500	1,215	583	341	2,926	**13,149**
Total System Miles	1,466	801	527	344	283	581	**4,002**
Total Lane Miles	3,983	2,572	1,271	839	660	1,395	**10,720**
Total VMT Using Volumes	9,144,813	4,707,566	1,939,800	807,484	1,161,544	1,015,435	**18,776,644**
Total VMT Using Counts	9,256,502	5,023,383	1,995,392	745,979	1,150,817	1,052,772	**19,224,846**
Total VMT Ratio	0.99	0.94	0.97	1.08	1.01	0.96	**0.98**
Total VHT Using Volumes	283,203	153,256	59,930	23,453	36,538	35,329	**591,709**
Total VHT Using Counts	288,593	164,062	61,083	21,407	35,769	35,640	**606,554**
Total VHT Ratio	0.98	0.93	0.98	1.10	1.02	0.99	**0.98**
Overall Original Speed (MPH)	34.59	33.34	34.02	34.62	34.60	33.88	**34.05**
Overall Congested Speed (MPH)	30.91	30.72	31.90	33.72	33.36	31.40	**31.25**
Overall Volume / Count Ratio	0.97	0.93	0.92	1.06	0.99	0.95	**0.95**

3.0 SUBAREA MODEL VALIDATION

Utilizing the 2000 base year model, a subarea model validation was performed in order to replicate traffic counts within the defined model subarea. The model subarea includes I-75 from Moccasin Wallow Road in Manatee County to north of Fletcher Avenue in Hillsborough County. The major steps in the subarea validation were as follows:

- Socioeconomic data review
- Network review and refinement
- Traffic count collection and review
- Subarea model validation based on existing traffic counts

Model validation describes the process used to evaluate how well a model replicates observed conditions. Model validation in the study corridor verifies the performance of the model at an individual roadway segment basis. In this process, model volumes are compared with observed traffic counts to identify places where it may be necessary to adjust the model's local parameters to further refine traffic forecasts. Based on the comparison, the overall volume to count ratio (VC) is 1.00 which is within the acceptable limits as determined by FDOT. Study area volume to count ratios for the WCFRPM is detailed in **Table 2**.

Table 2: 2000 WCFRPM – I-75 Corridor V/C Ratios

Interchange	I-75	2000 Counts	2000 Model Volumes SB	NB	Total	Model V/C	Validation Standard	Standard Met?
		37,790	25,003	24,986	49,989	**1.32**	+20% (< 50,000 VPD)	No
Bruce B. Downs			1,939	1,687				
			15,391	15,497				
		70,106	38,455	38,796	77,251	**1.10**	+10% (> 50,000 VPD)	Yes
Fletcher			3,039	2,160				
			12,462	10,893				
		88,422	47,878	47,529	95,407	**1.08**	+10% (> 50,000 VPD)	Yes
Fowler			4778	5279				
			13,559	11,404				
		107,368	56,659	53,654	110,313	**1.03**	+10% (> 50,000 VPD)	Yes
I-4			22,837	18,748				
			16,898	18,751				
		122,106	50,720	53,657	104,377	**0.85**	+10% (> 50,000 VPD)	No
MLK			10,021	9,211				
			7,133	7,438				
		109,684	47,832	51,884	99,716	**0.91**	+10% (> 50,000 VPD)	Yes
Adamo			16,027	20,426				
		70,526	31,805	31,458	63,263	**0.90**	+10% (> 50,000 VPD)	Yes
Crosstown Expressway			3,527	3,671				
			3,494					
		65,264	31,772	27,787	59,559	**0.91**	+10% (> 50,000 VPD)	Yes
US 301								
			5,572	11,957				
		73,684	37,344	39,744	77,088	**1.05**	+10% (> 50,000 VPD)	Yes
Gibsonton			11,006	14,492				
			3,313	2,005				
		68,422	29,651	27,257	56,908	**0.83**	+10% (> 50,000 VPD)	No
Big Bend			4,210	2,492				
			465	894				
		54,736	25,906	25,659	51,565	**0.94**	+10% (> 50,000 VPD)	Yes
SR 674			6,095	6,137				
			7,547	7,312				
		46,840	27,358	26,834	54,192	**1.16**	+10% (> 50,000 VPD)	No
Moccasin Wallow			262	255				
			4,633	4,387				
		51,648	31,729	30,966	62,695	**1.21**	+10% (> 50,000 VPD)	No
I-275			6,041	5,717				
			15,354	19,984				
		78,022	41,042	45,233	86,275	**1.11**	+10% (> 50,000 VPD)	No
US 301			5,025	2,707				
			10,473	1,826				
		80,220	46,490	44,352	90,842	**1.13**	+10% (> 50,000 VPD)	No
SR 64			7,268	6,471				
			5,610	7,080				
		83,516	44,832	44,961	89,793	**1.08**	+10% (> 50,000 VPD)	Yes
SR 70			8,600	7,384				
			8,697	5,704				
		86,814	44,929	43,281	88,210	**1.02**	+10% (> 50,000 VPD)	Yes
University Pkwy			8,391	8,319				
			8,014	9,357				
		95,000	44,552	44,319	88,871	**0.94**	+10% (> 50,000 VPD)	Yes
Fruitville Rd			9,514	9,928				
			9,435	2,775				
		91,668	44,473	37,166	81,639	**0.89**	+10% (> 50,000 VPD)	No
Bee Ridge Rd			8,935	8,628				
			7,591	9,590				
		84,408	43,129	38,128	81,257	**0.96**	+10% (> 50,000 VPD)	Yes
Total VC Ratio		**1,566,244**			**1,569,210**	**1.00**		

4.0 ALTERNATIVES

No- Build

This alternative assumes no widening improvements for I-75 from Moccasin Wallow Road to north of Fletcher Avenue.

Alternative 1

This alternative consists of the existing I-75 configuration plus one additional travel lane in each direction. This would expand the facility from 6 to 8 lanes to an 8 to 10 lane roadway.

Alternative 2

This alternative consists of the existing I-75 configuration plus two additional travel lanes in each direction. This would expand the facility from 6 to 8 lanes to a 10 to 12 lane roadway.

Alternative 3

This alternative considers a mix of express lanes and general purpose lanes. Specifically, I-75 south of US 301 is comprised of 3 general purpose lanes and 2 express lanes in each direction, while the section north of US 301 consists of 3 general purpose lanes and 3 express lanes in each direction.

5.0 FUTURE YEAR 2015 AND 2035 AADT FORECASTS

The future year model network was created for 2030 based on known improvements in the FDOT Districts 1 and 7 Five-Year Work Programs and the appropriate 2030 Cost-Feasible Plans. Socioeconomic data used for this project consists of datasets from 2000 and 2030 which was developed by each affected counties MPO. The future year model networks were then coded with the appropriate number of lanes to represent each of the aforementioned alternatives.

Future Annual Average Daily Traffic (AADT) volumes for 2030 were developed for each alternative in two steps. First, the Model Output Conversion Factors (MOCF) of 0.96 for I-75 and 0.95 for side streets were applied to the 2030 model volumes to derive AADT. The WCFRPM has a horizon year of 2030, while the project assumes a horizon year of 2035. As a result, year 2035 AADT volumes were calculated from the 2030 AADT volumes using a growth rate factor of 1.05, which was based on historical traffic growth for the corridor. This process is summarized as follows:

AADT = PSWADT x MOCF x GF

Where:
AADT = Average Annual Daily Traffic Volume
PSWADT = Peak Season Weekday Average Daily Traffic Volume
MOCF = Model Output Conversion Factor (0.96, 0.95)
GF = Growth Factor from 2030 to 2035 (1.05)

Once the initial I-75 corridor AADT profile was developed, the results were reviewed to ensure reasonableness. Upon review, manual adjustments to the model output were necessary to achieve reasonable results. First, select link analyses were performed at each interchange ramp location to determine the distribution of traffic utilizing the I-75 corridor. Based on the observed distribution patterns, the traffic volumes were manually adjusted using professional judgment. The results of the select link analyses are summarized in the **Appendix**. In addition, The National Cooperative Highway Research Program (NCHRP) Report 255 methodology was used to adjust future model volumes based on deviations in the base year (2000) estimates. Specifically, this methodology employs a growth factor method, which calculates the ratio of future model forecasts to base year volumes and applies the ratio to the base year traffic count. Interim year (2015) AADT volumes were developed by linearly interpolating the existing AADT volumes and the design year (2035) AADT volumes. Future year AADT volumes are shown in the **Appendix**.

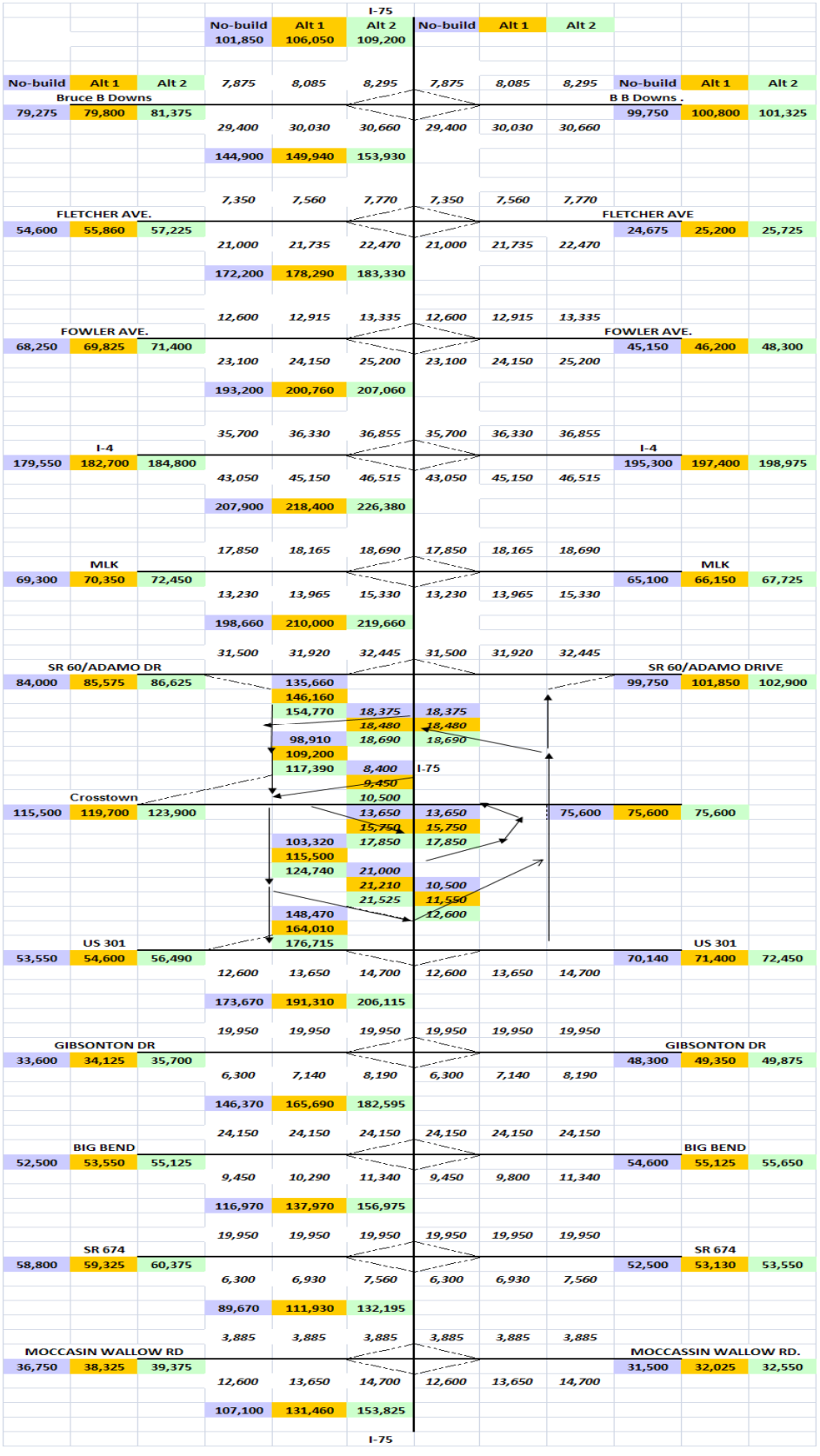
APPENDIX

I-75 Select Link Analyses

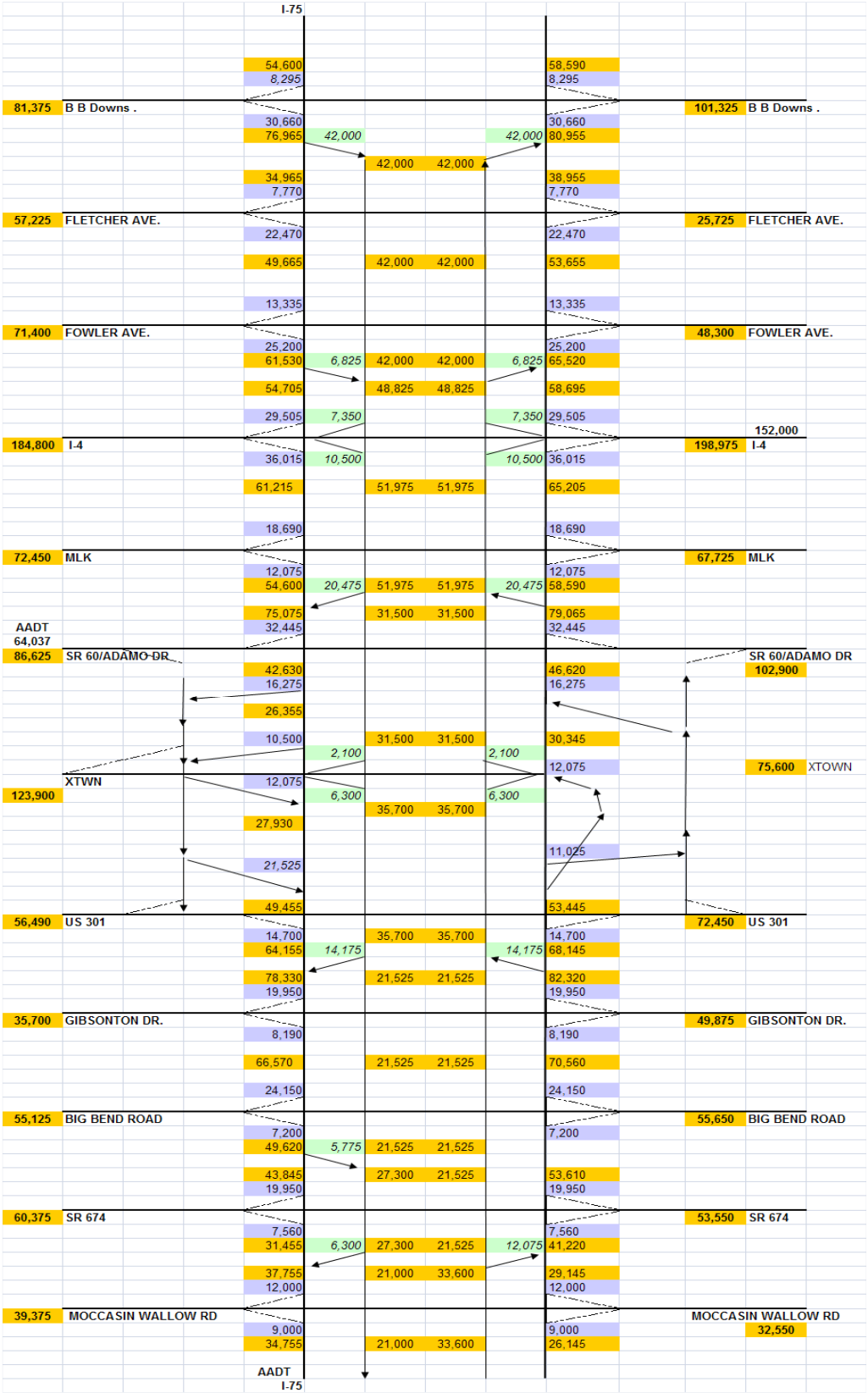
From	To (Values Shown as Percentage of Total On's)												
	Moccasin Wallow NB Off	SR 674 NB Off	Big Bend Rd NB Off	Gibsonton Rd NB Off	US 301 NB Off	Crosstown Expressway NB Off	SR 60 NB Off	MLK NB Off	I-4 NB Off	Fowler NB Off	Fletcher NB Off	Bruce B Downs NB Off	I-75 NORTH EXTERNAL
I-75 SOUTH EXTERNAL	19%	9%	1%	3%	2%	7%	2%	4%	14%	1%	3%	2%	33%
Moccasin Wallow NB On Ramp		32%	3%	5%	3%	11%	4%	5%	11%	1%	2%	2%	21%
SR 674 NB On Ramp			2%	13%	10%	15%	14%	6%	13%	3%	2%	2%	18%
Big Bend Rd NB On Ramp				13%	12%	14%	23%	9%	6%	4%	2%	2%	15%
Gibsonton Rd NB On Ramp					8%	24%	24%	8%	8%	6%	4%	4%	14%
US 301 NB On Ramp						1%	21%	20%	6%	19%	10%	10%	13%
Crosstown Expressway NB On Ramp								37%	15%	5%	10%	19%	14%
SR 60 NB On Ramp								7%	12%	20%	15%	19%	27%
MLK NB On Ramp									14%	25%	18%	23%	20%
I-4 NB On Ramp										14%	24%	22%	40%
Fowler NB On Ramp											28%	48%	24%
Fletcher NB On Ramp												49%	51%
Bruce B Downs NB On Ramp													100%

From	To (Values Shown as Percentage of Total On's)												
	Moccasin Wallow SB On	SR 674 SB On	Big Bend Rd SB On	Gibsonton Rd SB On	US 301 SB On	Crosstown Expressway SB On	SR 60 SB On	MLK SB On	I-4 SB On	Fowler SB On	Fletcher SB On	Bruce B Downs SB On	I-75 NORTH EXTERNAL
I-75 SOUTH EXTERNAL	19%	9%	1%	3%	2%	7%	2%	4%	14%	1%	3%	2%	33%
Moccasin Wallow SB Off Ramp		32%	3%	5%	3%	11%	4%	5%	11%	1%	2%	2%	21%
SR 674 SB Off Ramp			2%	13%	10%	15%	14%	6%	13%	3%	2%	2%	18%
Big Bend Rd SB Off Ramp				13%	12%	14%	23%	9%	6%	4%	2%	2%	15%
Gibsonton Rd SB Off Ramp					8%	24%	24%	8%	8%	6%	4%	4%	14%
US 301 SB Off Ramp						1%	21%	20%	6%	19%	10%	10%	13%
Crosstown Expressway SB Off Ramp								37%	15%	5%	10%	19%	14%
SR 60 SB Off Ramp								7%	12%	20%	15%	19%	27%
MLK SB Off Ramp									14%	25%	18%	23%	20%
I-4 SB Off Ramp										14%	24%	22%	40%
Fowler SB Off Ramp											28%	48%	24%
Fletcher SB Off Ramp												49%	51%
Bruce B Downs SB Off Ramp													100%

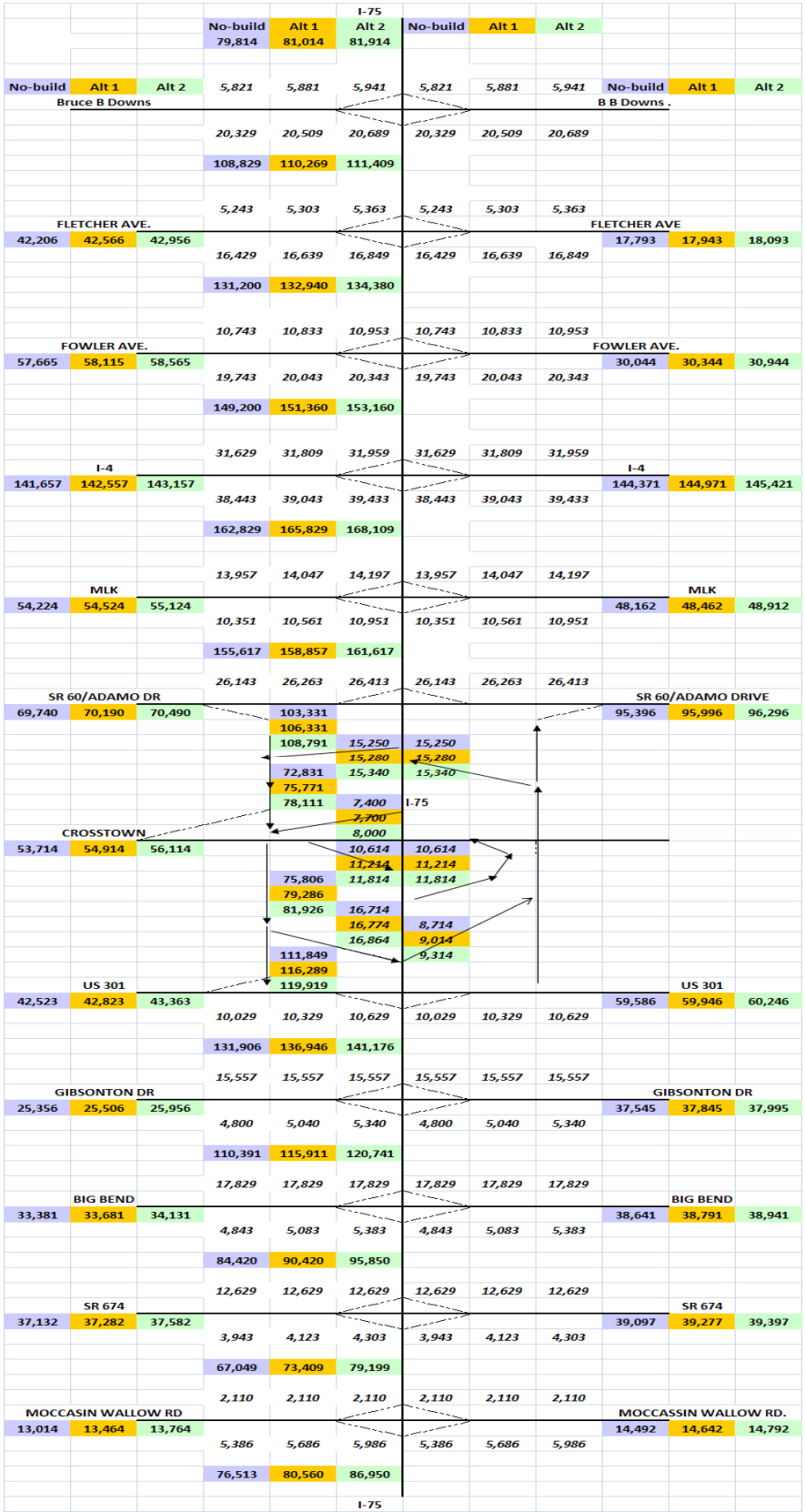
2035 AADT Volumes: No Build, Alt. 1, and Alt. 2



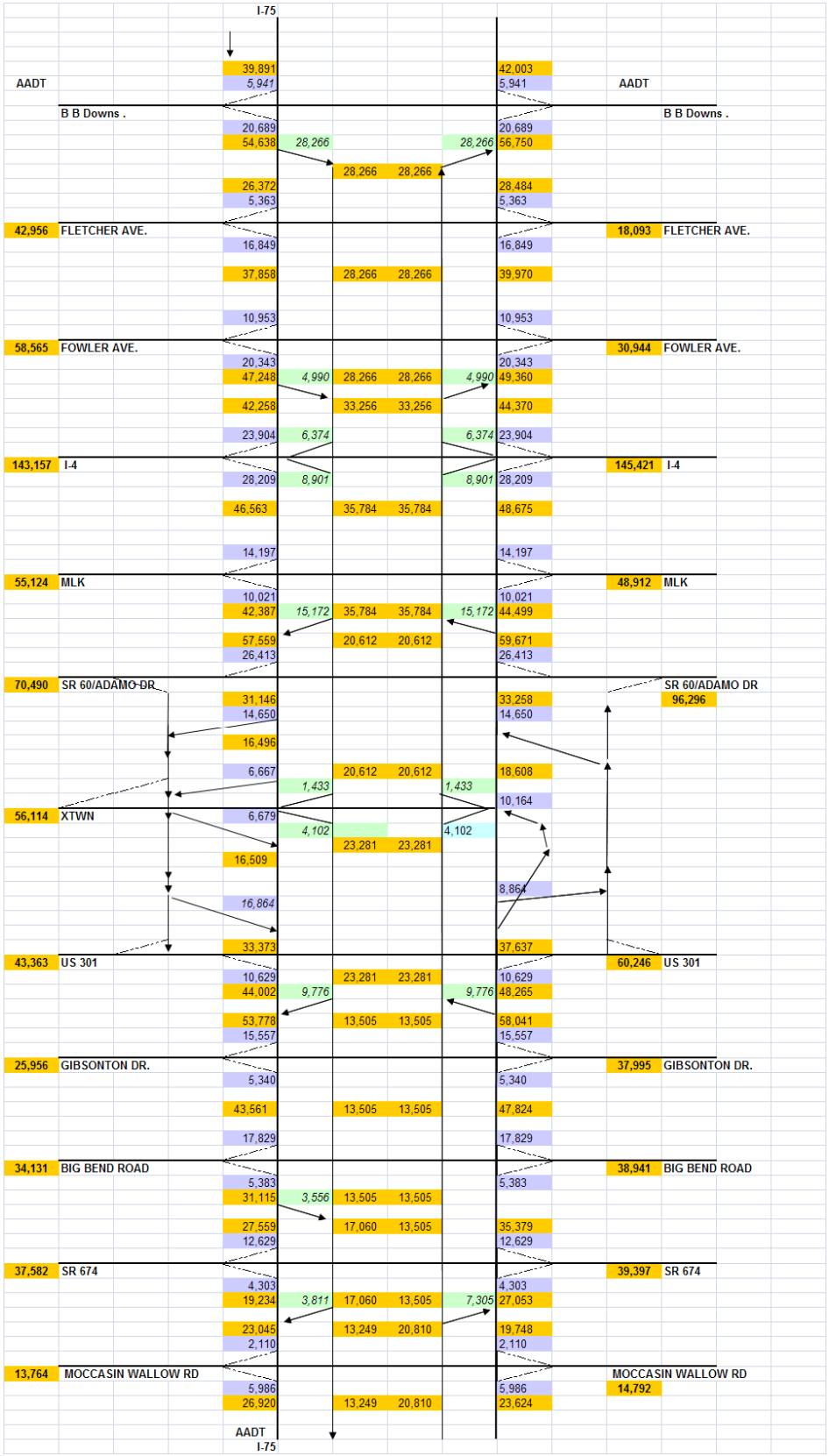
2035 AADT Volumes: Alternative 3



2015 AADT Volumes: No Build, Alt. 1, and Alt. 2



2015 AADT Volumes: Alt. 3



I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

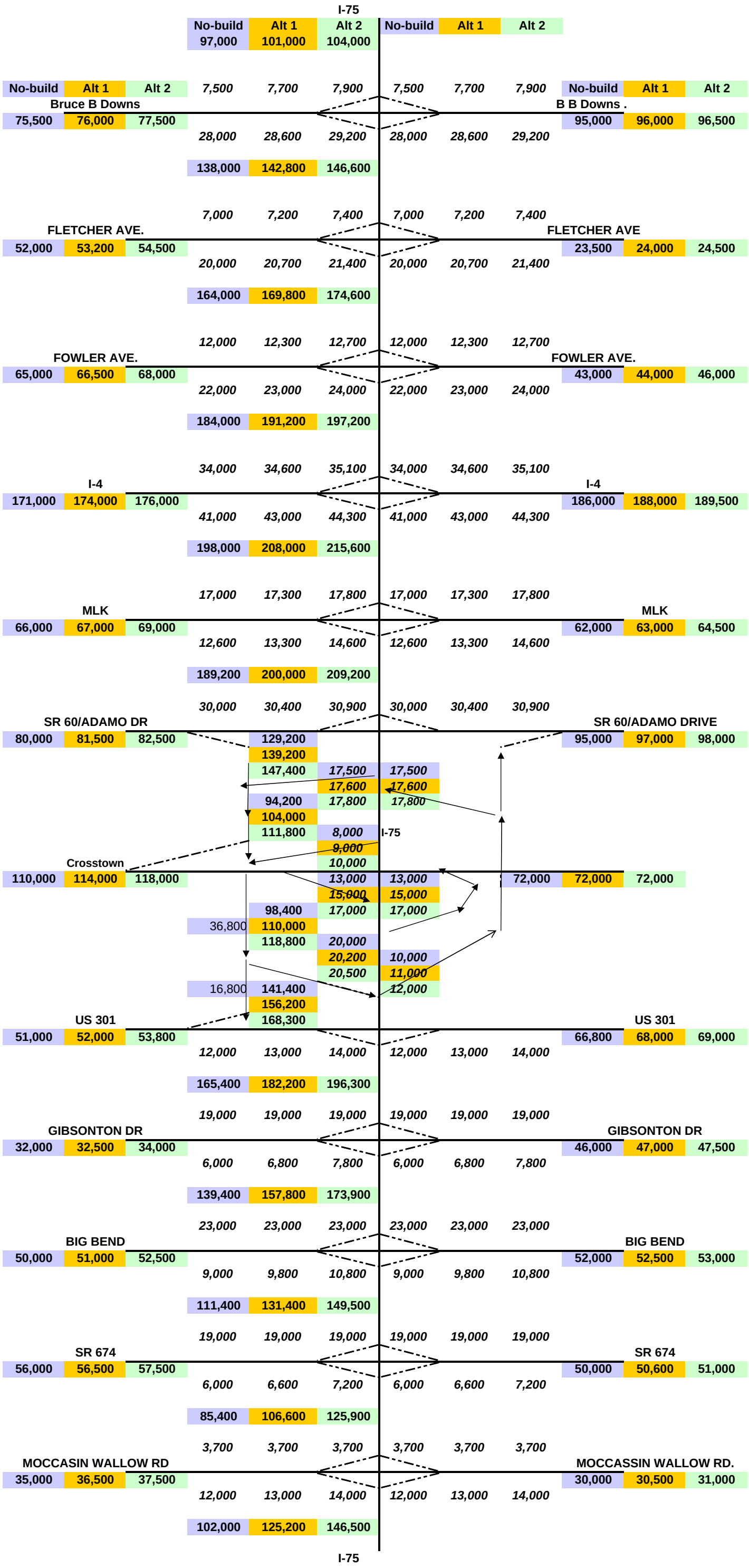
WPI Segment Number - 419235-1

APPENDIX F

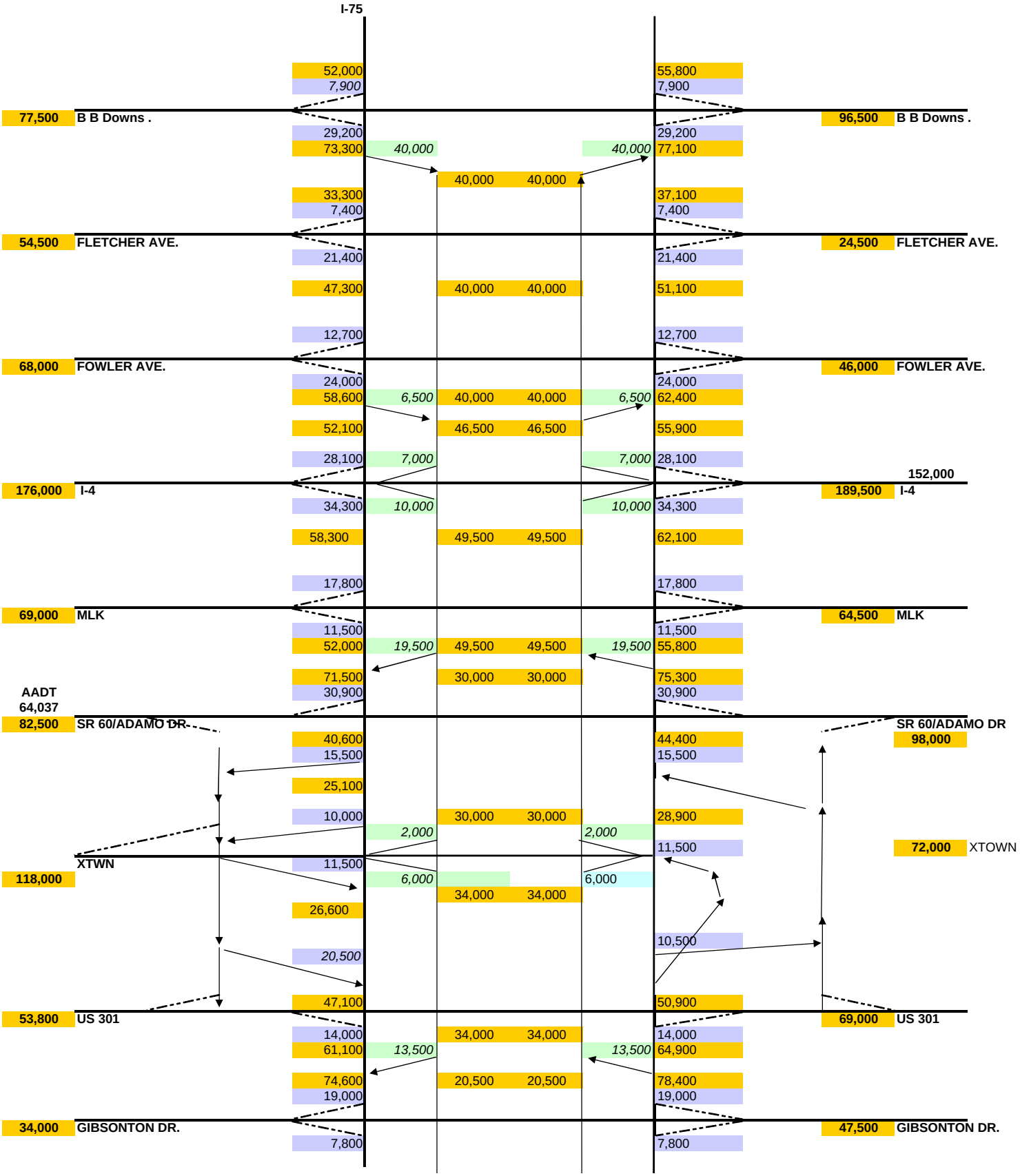
Year 2030 AADT Traffic Sheets

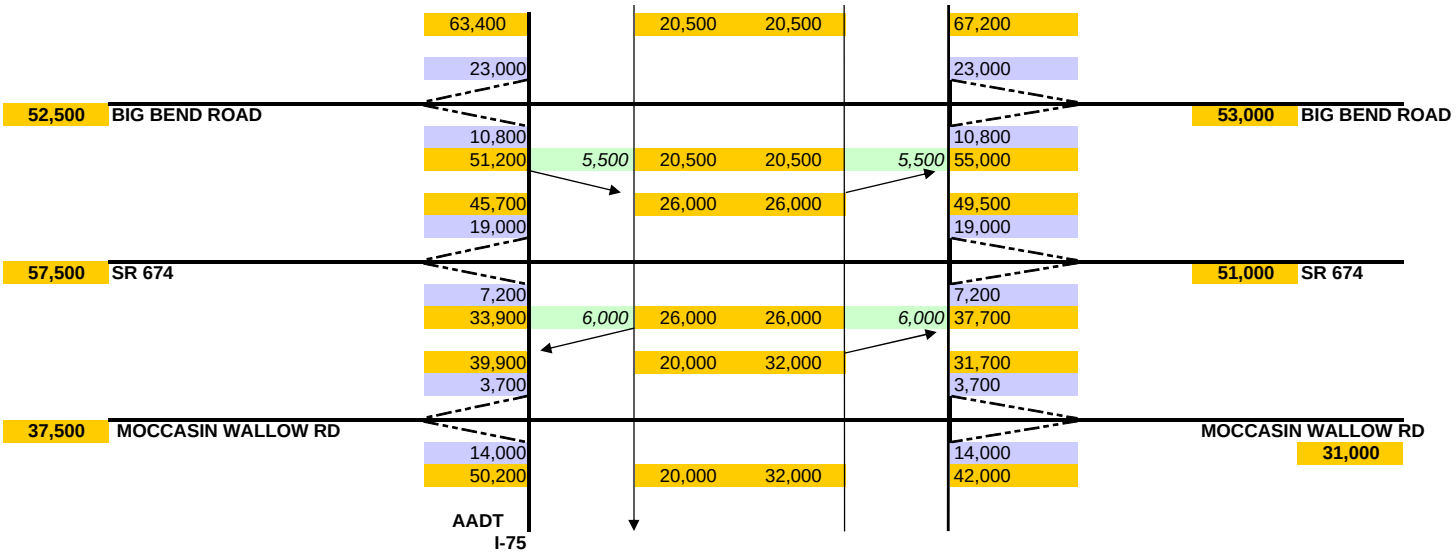
INTERSTATE 75

I-75 PD&E Study
Initial Alternatives Analysis 3/26/2008
2030 AADT TRAFFIC (I-75 Mainline, Side/Cross Streets & Ramps)



I-75 PD&E Study
Alternative 3
2030 AADT TRAFFIC (I-75 Mainline, Side/Cross Streets & Ramps)
Transmitted by Gannett Fleming on 04/15/08




63,400
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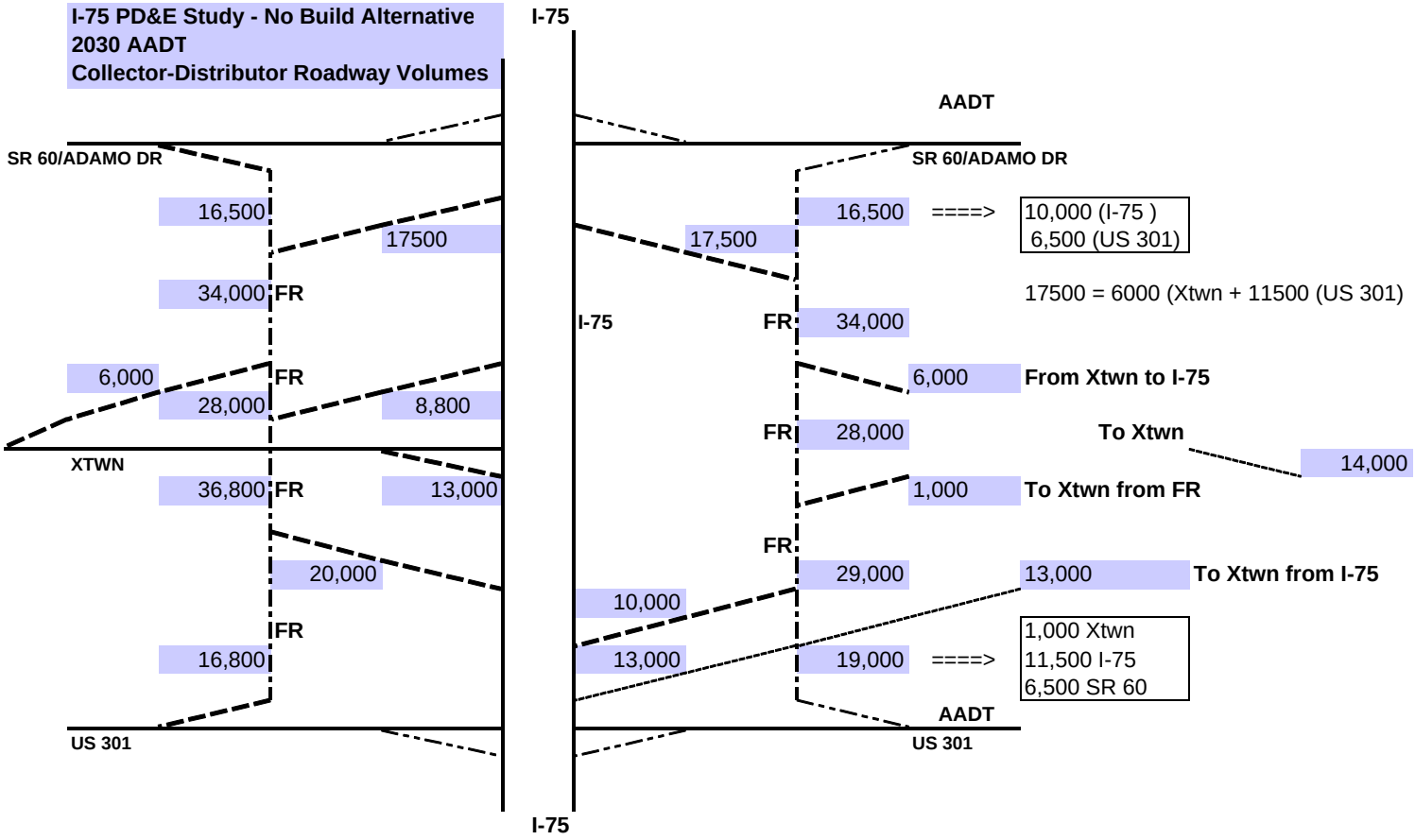
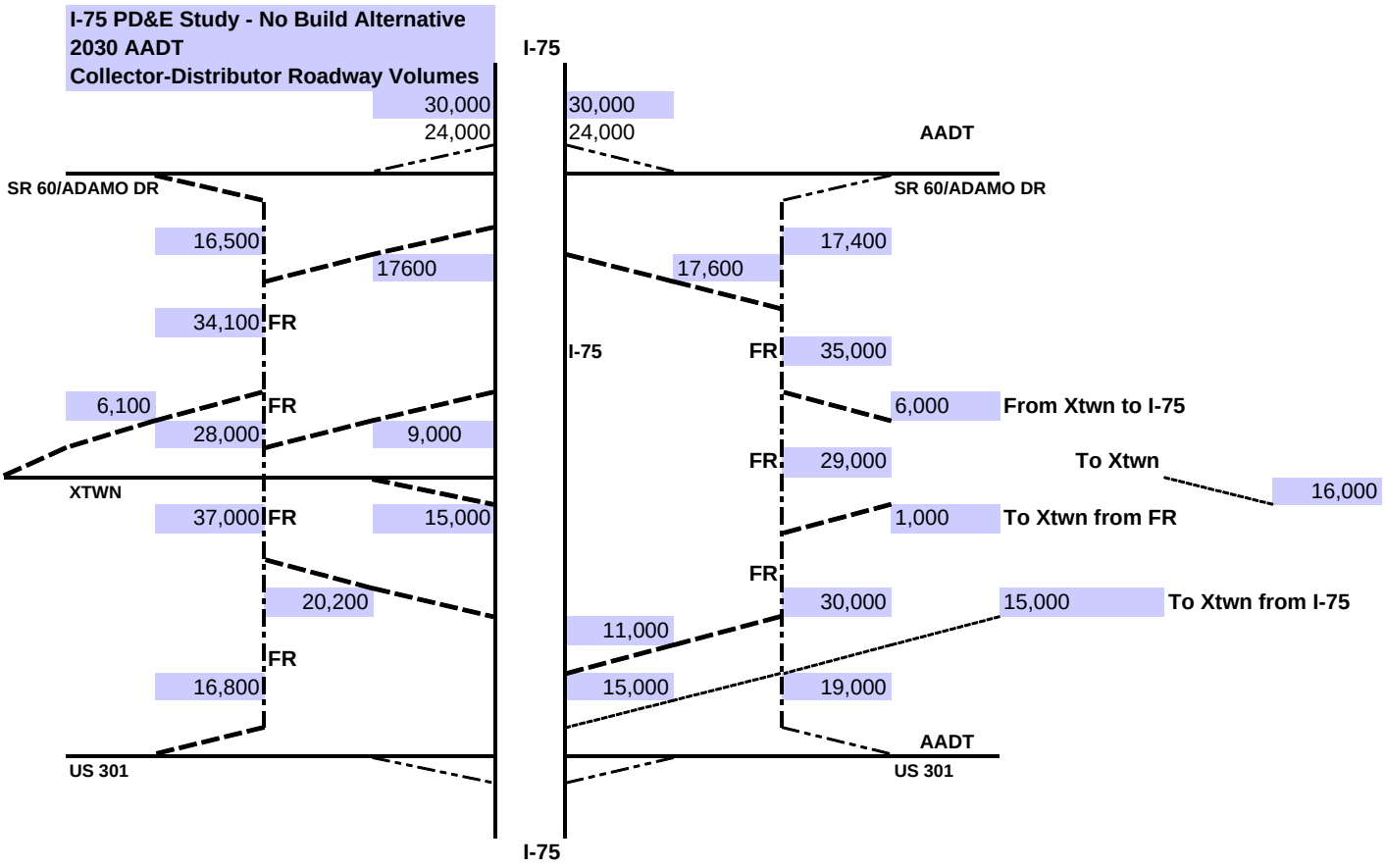
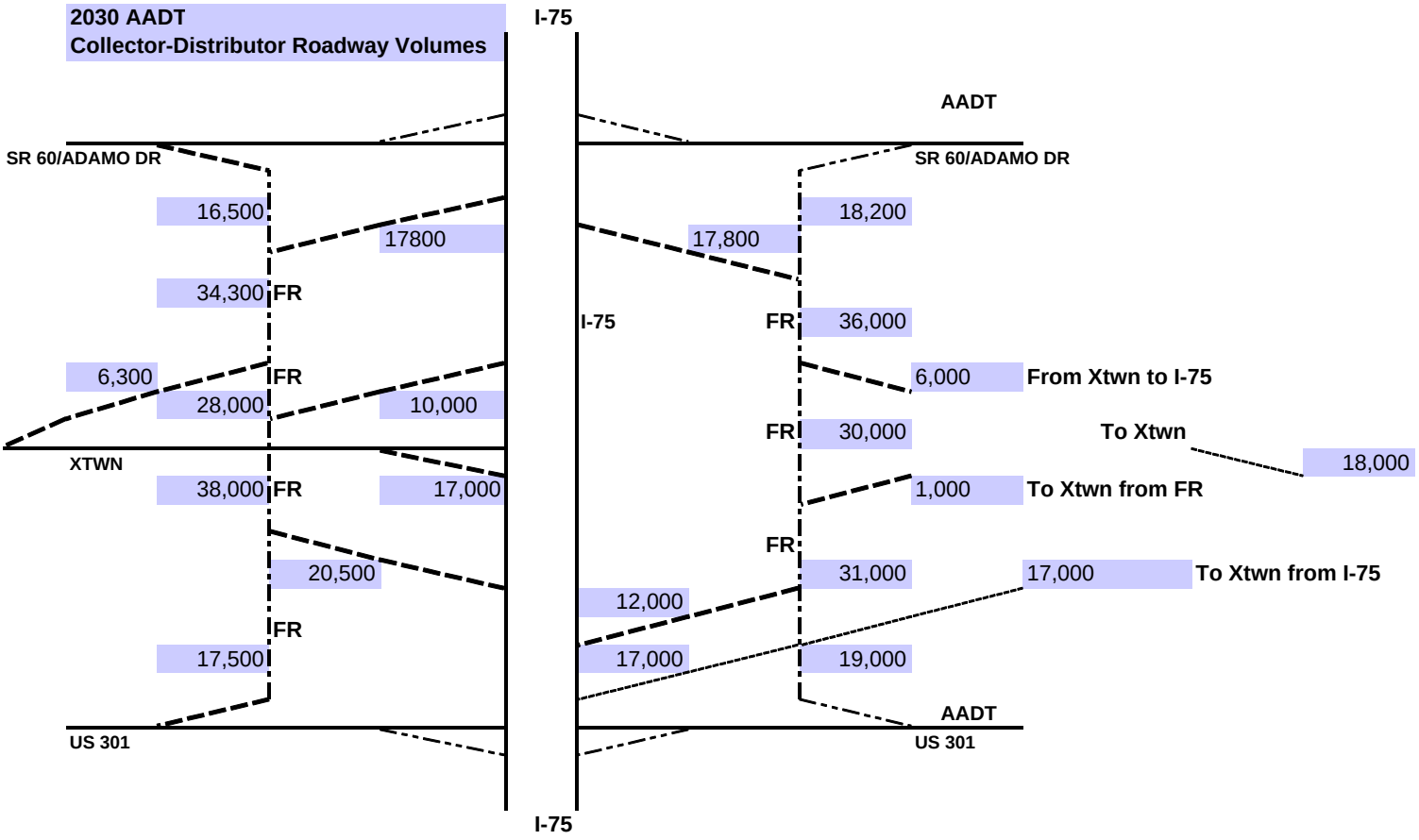
20,500
67,200
23,000
23,000
52,500
BIG BEND ROAD
53,000
BIG BEND ROAD
10,800
10,800
51,200
5,500
20,500
20,500
5,500
55,000
45,700
26,000
26,000
49,500
19,000
19,000
57,500
SR 674
51,000
SR 674
7,200
7,200
33,900
6,000
26,000
26,000
6,000
37,700
39,900
20,000
32,000
31,700
3,700
3,700
37,500
MOCCASIN WALLOW RD
MOCCASIN WALLOW RD
14,000
14,000
31,000
50,200
20,000
32,000
42,000
AADT
I-75


I-75 PD&E Study - No Build Alternative
2030 AADT
Collector-Distributor Roadway Volumes
I-75
AADT
SR 60/ADAMO DR
SR 60/ADAMO DR
16,500
17500
16,500
====>
10,000 (I-75)
6,500 (US 301)
17,500
34,000
FR
17500 = 6000 (Xtwn + 11500 (US 301)
I-75
FR
34,000
6,000
FR
6,000
From Xtwn to I-75
28,000
8,800
FR
28,000
To Xtwn
14,000
XTWN
36,800
FR
13,000
1,000
To Xtwn from FR
FR
20,000
29,000
13,000
To Xtwn from I-75
10,000
FR
16,800
13,000
19,000
====>
1,000 Xtwn
11,500 I-75
6,500 SR 60
AADT
US 301
US 301
I-75

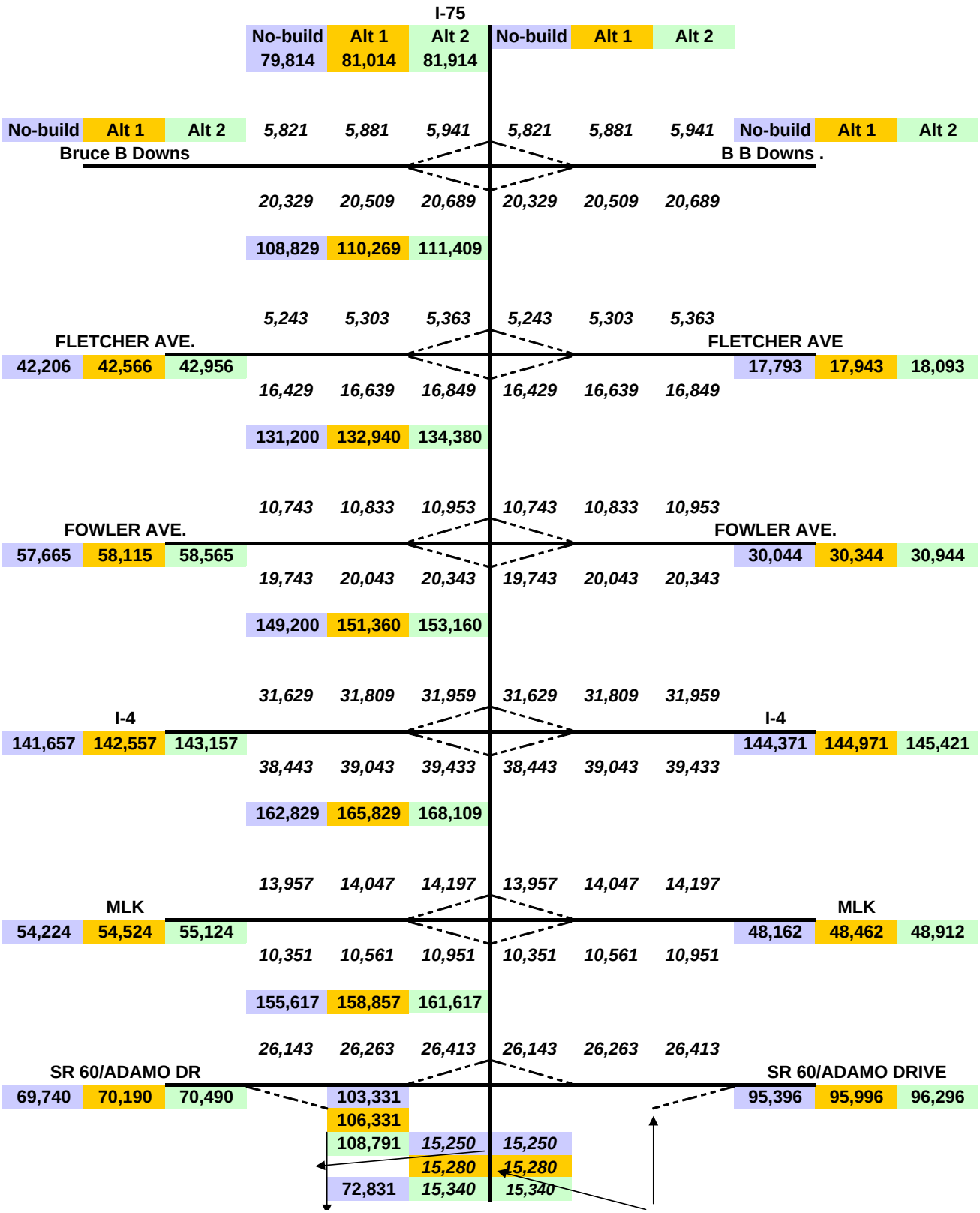

I-75 PD&E Study - No Build Alternative
2030 AADT
Collector-Distributor Roadway Volumes
I-75
30,000
24,000
30,000
24,000
AADT
SR 60/ADAMO DR
SR 60/ADAMO DR
16,500
17600
17,600
17,400
34,100
FR
I-75
FR
35,000
6,100
FR
6,000
From Xtwn to I-75
28,000
9,000
FR
29,000
To Xtwn
16,000
XTWN
37,000
FR
15,000
1,000
To Xtwn from FR
FR
20,200
30,000
15,000
To Xtwn from I-75
11,000
FR
16,800
15,000
19,000
AADT
US 301
US 301
I-75

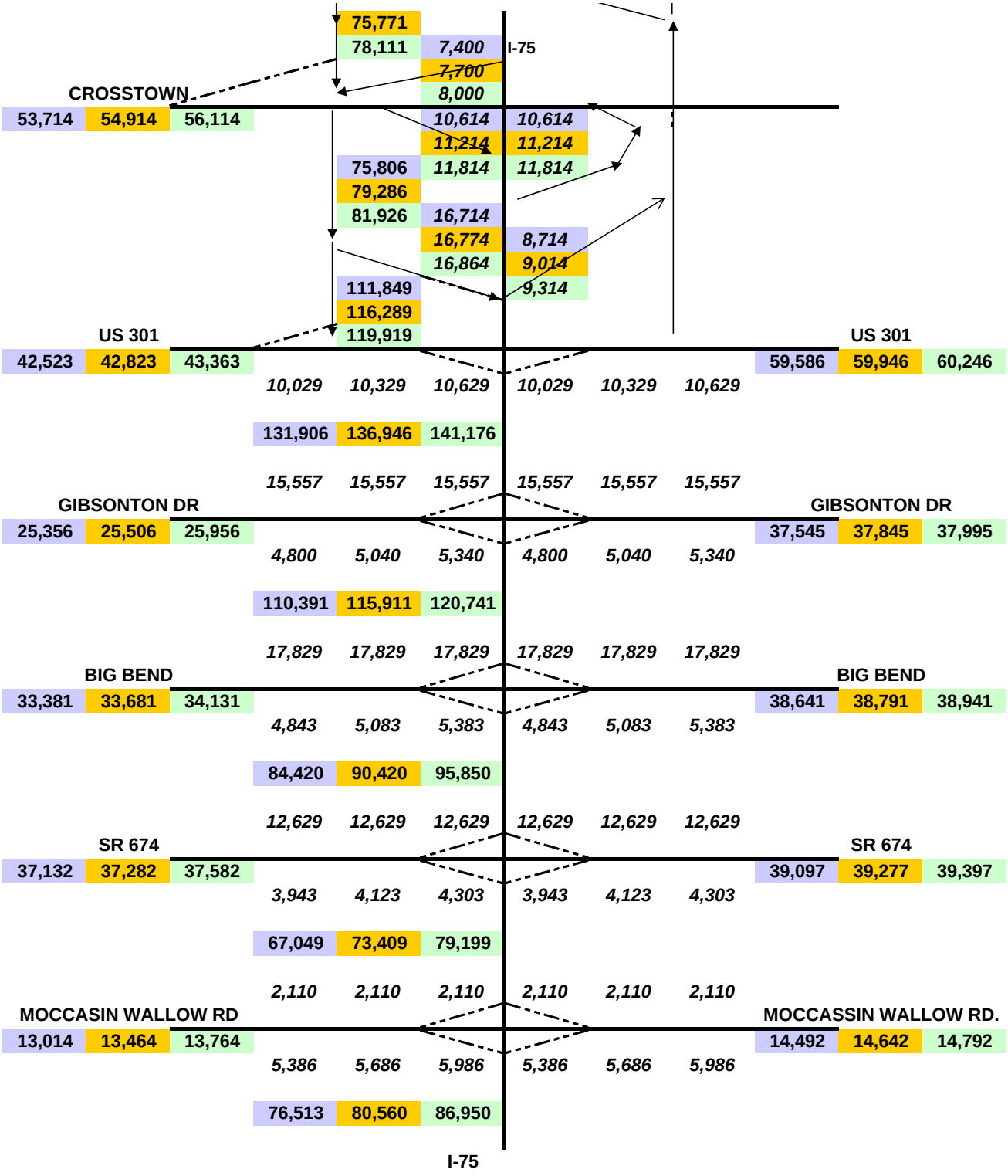

2030 AADT
Collector-Distributor Roadway Volumes
I-75
AADT
SR 60/ADAMO DR
SR 60/ADAMO DR
16,500
17800
17,800
18,200
34,300
FR
I-75
FR
36,000
6,300
FR
6,000
From Xtwn to I-75
28,000
10,000
FR
30,000
To Xtwn
XTWN
18,000
38,000
FR
17,000
1,000
To Xtwn from FR
FR
20,500
31,000
17,000
To Xtwn from I-75
12,000
FR
17,500
17,000
19,000
AADT
US 301
US 301
I-75

I-75 PD&E Study DRAFT

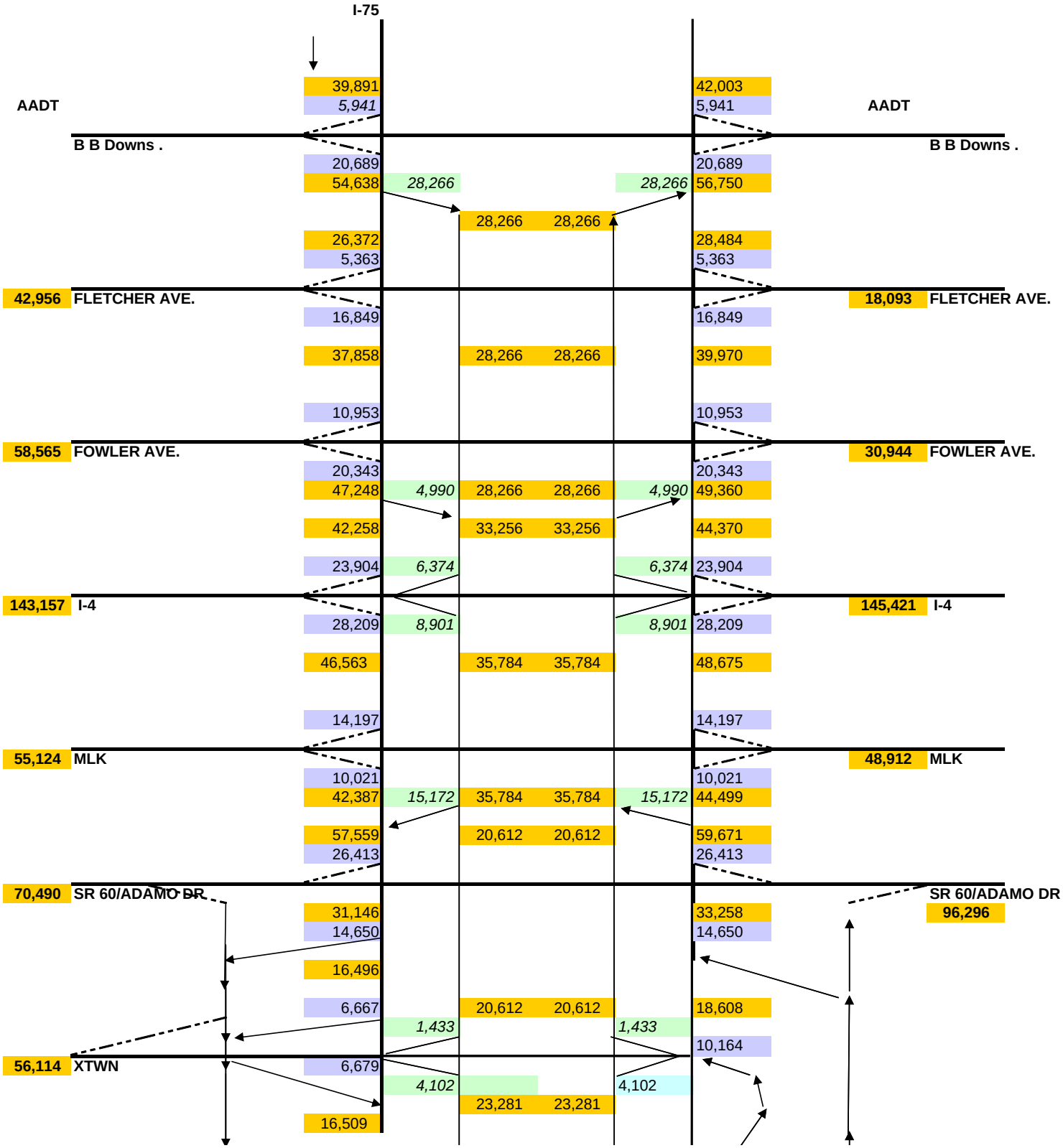
Initial Alternatives Analysis

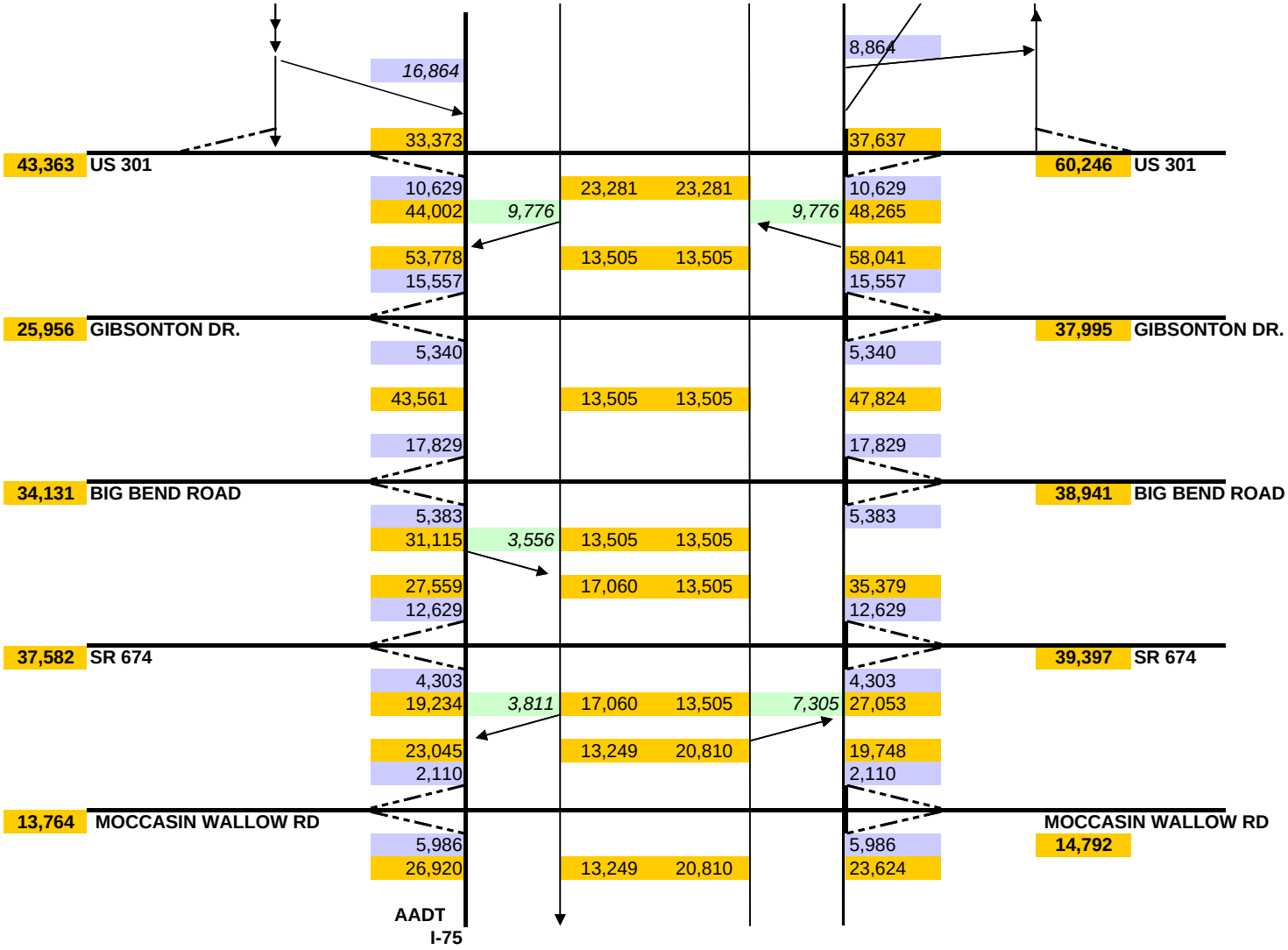
2015 AADT TRAFFIC (I-75 Mainline, Side/Cross Streets & Ramps)




75,771
78,111
7,400
I-75
7,700
8,000
CROSSTOWN
53,714
54,914
56,114
10,614
10,614
11,214
11,214
75,806
11,814
11,814
79,286
81,926
16,714
16,774
8,714
16,864
9,014
111,849
9,314
116,289
US 301
119,919
US 301
42,523
42,823
43,363
59,586
59,946
60,246
10,029
10,329
10,629
10,029
10,329
10,629
131,906
136,946
141,176
15,557
15,557
15,557
15,557
15,557
15,557
GIBSONTON DR
GIBSONTON DR
25,356
25,506
25,956
37,545
37,845
37,995
4,800
5,040
5,340
4,800
5,040
5,340
110,391
115,911
120,741
17,829
17,829
17,829
17,829
17,829
17,829
BIG BEND
BIG BEND
33,381
33,681
34,131
38,641
38,791
38,941
4,843
5,083
5,383
4,843
5,083
5,383
84,420
90,420
95,850
12,629
12,629
12,629
12,629
12,629
12,629
SR 674
SR 674
37,132
37,282
37,582
39,097
39,277
39,397
3,943
4,123
4,303
3,943
4,123
4,303
67,049
73,409
79,199
2,110
2,110
2,110
2,110
2,110
2,110
MOCCASIN WALLOW RD
MOCCASSIN WALLOW RD.
13,014
13,464
13,764
14,492
14,642
14,792
5,386
5,686
5,986
5,386
5,686
5,986
76,513
80,560
86,950
I-75

I-75 PD&E Study *DRAFT*
Alternative 3
2015 AADT TRAFFIC (I-75 Mainline, Side/Cross Streets & Ramps)




16,864
8,864
33,373
37,637
43,363 US 301
60,246 US 301
10,629
23,281 23,281
10,629
44,002 9,776
9,776 48,265
53,778
13,505 13,505
58,041
15,557
15,557
25,956 GIBSONTON DR.
37,995 GIBSONTON DR.
5,340
5,340
43,561
13,505 13,505
47,824
17,829
17,829
34,131 BIG BEND ROAD
38,941 BIG BEND ROAD
5,383
5,383
31,115 3,556
13,505 13,505
27,559
17,060 13,505
35,379
12,629
12,629
37,582 SR 674
39,397 SR 674
4,303
4,303
19,234 3,811
17,060 13,505 7,305 27,053
23,045
13,249 20,810
19,748
2,110
2,110
13,764 MOCCASIN WALLOW RD
MOCCASIN WALLOW RD
5,986
5,986
14,792
26,920
13,249 20,810
23,624
AADT
I-75

I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

APPENDIX G

VISSIM - Traffic Micro-Simulation Model Development Calibration and Application Report

INTERSTATE 75

TRAFFIC MICRO-SIMULATION MODEL DEVELOPMENT, CALIBRATION AND APPLICATION REPORT

STUDY SCOPE AND APPROACH

Study Objective

The Florida Department of Transportation (Department) is conducting two Project Development and Environment (PD&E) Studies to evaluate capacity improvements along two consecutive segments of Interstate 75 (I-75) – State Road (SR) 93. The first segment of I-75 extends from north of Moccasin Wallow Road, in Manatee County, to south of US 301, in Hillsborough County. The second segment extends from south of US 301 to north of Fletcher Avenue, in Hillsborough County.

The objective of the PD&E Studies is to document the engineering and environmental analyses that were performed for the two segments of I-75 so that the Department and the Federal Highway Administration (FHWA) can reach a decision on the type, location, and conceptual design of the necessary improvements to accommodate future traffic demand in a safe and efficient manner. The Design Traffic Technical Memorandum (DTTM) has been prepared as part of these PD&E Studies to document the existing and future traffic conditions along both segments of I-75. The DTTM includes analyses of the efficiency and safety of the current traffic operations within the study area, forecasts of the anticipated traffic demand for the design and interim years, and evaluations the design year traffic conditions for a number of improvement scenarios including the No-Build alternative.

As part of the effort to prepare the DTTM, a VISSIM traffic simulation model was developed to study future-year traffic conditions for the segment from south of US 301 to north of Fletcher Avenue in Hillsborough County. The model was also used to identify problems along the freeway and future mitigation measures in addition to the proposed alternatives. The following two sections discuss the logic of selecting VISSIM as the software platform for the traffic micro-simulation model.

Study Breadth

The traffic-simulation model study area includes the freeway mainline and ramps, CD road system between US 301 and SR 60, and the ramp junctions. The model area also includes intersections of SR 60/Grand Regency Boulevard and SR 60/South Falkenburg Road because of the relationship between arterial and freeway operations in this highly congested corridor, and because substantial interchange modifications may be evaluated using the traffic-simulation model. Aside from the SR 60 arterial, the traffic simulation model does not include analysis of crossing or parallel arterial corridors beyond the ramp terminal intersections.

Future-year traffic demand was projected using the West Central Florida Regional Planning Model (WCFRPM) Version 5.2. WCFRPM was developed based on the Florida Standard Urban Transportation Modeling Structure (FSUTMS) to forecast travel demand in 11 counties in the west central Florida region, which includes Hillsborough County.

The base model was developed based upon the PM peak hour traffic volumes of 2007.

Analytical Approach and Tools

A sufficient evaluation of operations of I-75 in the study area (from south of US 301 to north of Fletcher Avenue) preclude the use of static Highway Capacity manual (HCM) based

methodologies and tools and microsimulation analysis is preferred. The strengths and limits of HCM are well documented in Traffic Analysis Toolbox Volume I: *Traffic Analysis Tools Primer*, a technical report document published by the FHWA Office of Operations. The following highlights some of the HCM analysis limitations that are relevant to this project.

- HCM analysis methodologies assume isolated freeway facilities, which means the operation of one freeway merge/diverge area does not affect the operation of adjacent or overlapping upstream or downstream facilities. This is particularly problematic in corridors with tight interchange spacing, such as exists in the I-75 corridor between I-4 and US 301. The problem will magnify in the future-year analysis because future-year traffic will be higher. The use of a traffic micro-simulation model, in which the network combines mainline, ramp and intersection analyses into one network, enables a system-wide analysis approach that can assess the impact of an improvement at one location to other upstream and downstream locations. Further, a traffic micro-simulation model can better model the impacts of weaving and lane-changing movements

- HCM assumes that the operation of one facility does not have any effect on adjacent or parallel facility. This is not true in a network environment, where traffic shift to adjacent or parallel roadway when there is congestion; likewise, traffic shift from adjacent or parallel roadway when traffic operation improves due to improvement.

- HCM cannot model driving behavior

In addition to the above limits discussed in the Traffic Analysis Toolbox document, HCM is limited to freeway facility with five (5) or less lanes, and one section in Alternative 3 exceeds this limitation. Further, since HCM assumes facilities are isolated, it cannot determine how much traffic a constrained highway network can handle. This can produce unrealistic results when traffic demand exceeds the network supply.

Based on the above discussion, it was concluded that HCM-based methods and tools are not suitable for this segment and that a traffic micro-simulation model is necessary.

Two traffic micro-simulation software, CORSIM and VISSIM were considered. The decision of developing the traffic micro-simulation model in VISSIM was based on the software capability required for evaluating network alternatives. Four (4) future-year network alternatives are evaluated in the DTTM. They are the no-build conditions and three build conditions, in which the third build network alternative includes a barrier separated facility of 6 special used lanes that runs parallel to the existing I-75 general-purpose lanes. This last alternative requires a software is capable of performing dynamic trip assignment and potentially including transit routes and vehicles in the transit assignment process; therefore, it rules out the use of any static route traffic micro-simulation model, which includes CORSIM. In a dynamic trip assignment model, drivers are presented with all possible routes (the special used lanes and the general-purposed lanes) between their origins and destinations. The drivers decide the route choice based on the travel cost of the route. The travel path and cost are updated dynamically in the assignment process. Further, VISSIM provides a system-wide operational performance measures that better captures the interaction between mainline, ramp and signal capacities and provides 3-d graphic visualizations of corridor operations that can be used to better identify operational bottlenecks or deficiencies and make appropriate improvement recommendations.

The VISSIM model also provides the ability to run dynamic trip assignment with the input of car and truck origin-destination (O-D) trip tables that were developed based upon the existing PM peak hour traffic volumes.

DATA COLLECTION AND PREPARATION

The following four (4) types of data were collected and prepared for the development of the VISSIM model.

Geometric data

Existing road geometry such length and lanes was obtained through reviewing construction drawings, Straight Line Diagram of Road Inventory (SLDs) and field reconnaissance. Description of this data are found in Section 2.1 of the Existing Conditions Report. Detail geometric data such as intersection geometry (including number of lanes by turn movement, length of turn bay, lane alignments, stop bar placement, taper lengths and length of acceleration/deceleration lane are supplemented by aerial photos

Control data

The locations of traffic control device were obtained by field reconnaissance. Since the VISSIM model was calibrated to the 2007 p.m. peak hour, signal timing was prepared in Synchro. Existing intersection geometry and turning movement volumes at the PM peak hour were input to Synchro and the resulted optimized signal timing was imported to VISSIM.

Demand data

The 2007 p.m. peak hour volumes on I-75 and the turning movement at the ramp junctions are shown in **Appendix A.** Note that the traffic data at the intersections of SR 60 at South Falkenburg Road and Grand Regency Boulevard was not available from FDOT District 7, as a results, the turning movements were estimated separately using another methodology, which is described below. All the traffic data was used to estimate the car and truck O-D trip tables. The discussion of estimating the O-D trip tables is found after the discussion of the turning movement estimation methodology.

<u>The estimation of turning movement volumes</u>

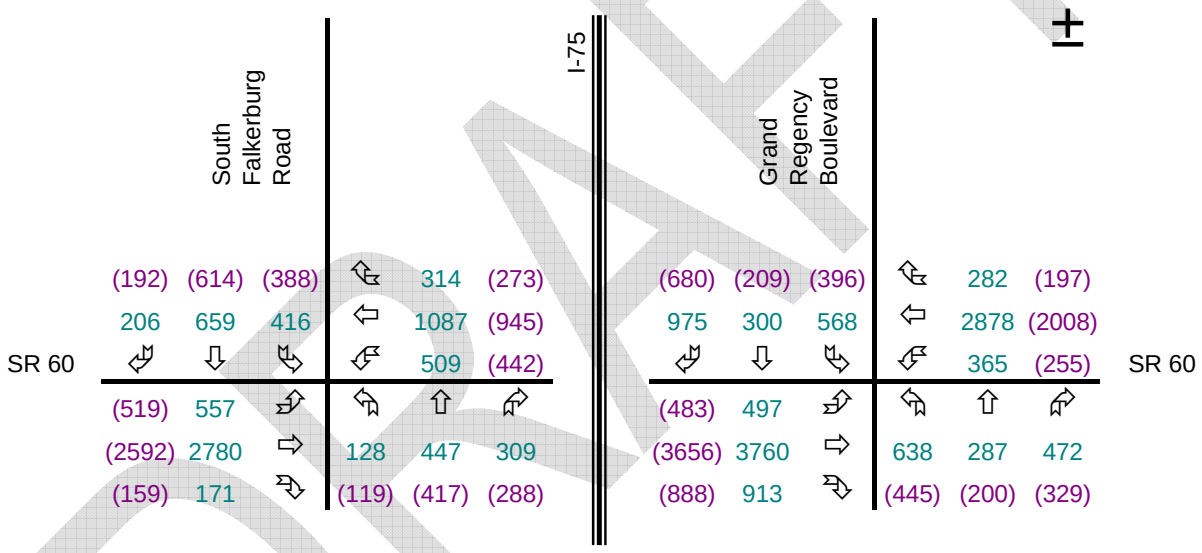
The PM peak hour turning movement volumes at the intersections of SR 60 at South Falkenburg Road and Grand Regency Boulevard were estimated based upon the a.m. and p.m. peak hour turning movement count data collected in 2003 for the I-75 Interchange Operational Study. (See **Appendix B**).

The 2003 a.m. or p.m. peak hour total volumes on SR 60 east of South Falkenburg Road and west of Grand Regency Boulevard were summarized and compared to the 2007 p.m. peak hour volume on SR 60 west of the southbound ramp junction and east of northbound ramp junction. The comparison is shown in **Table 1**. The table also shows the relationship of traffic volumes between these two common locations.

Table 1 Comparison of 2007 PM Peak Hour Volumes and 2003 AM&PM Peak Hour Volumes

	2007 PM Peak Hour	2003 AM Peak Hour	2003 PM Peak Hour
SR 60 between South Falkenburg Road and the southbound ramp junction	5,415	4,543	4,928
SR 60 between Grand Regency Boulevard and the northbound ramp junction	9,660	6,632	8,160
Ratio of Segment Volumes	0.56	0.69	0.60

The 2003 p.m. peak hour percent share of turning movements was used to estimate the turning movement volumes at the two intersections. **Figure 1** shows the 2003 p.m. peak hour traffic count data and resulted turning movement estimates.



Note: (123) 2003 PM peak hour traffic count
123 2007 PM peak hour turning movement estimates

Figure 1 2007 PM Peak Hour Turn Movement Estimates

O-D trip tables

The use of dynamic traffic assignment in VISSIM requires an input of the traffic demand in the format of a trip table. The O-D trip tables were estimated using the TFlow Fuzzy process in VISUM. Input to the O-D estimation process includes traffic count data (PM Peak), a highway network, and a seed O-D trip table.

The traffic count data consists of all the turning-movement count data and the PM peak volume. The highway network contains the same network area of the VISSIM simulation model. The seed O-D trip table is an O-D trip table that contains prior O-D information. There is no actual O-D data available for the corridor. The estimation process used the best available O-D data at the time, which is presented in **Appendix C**. Although the O-D data reflects the travel pattern of

an alternative network, it is believed that the travel pattern in the corridor should not be significantly different from the existing conditions and among alternative networks.

In order to measure the goodness of fit of estimation process, the estimated O-D trip table was assigned to the highway network and the resulted assigned volumes were compared against the traffic count data. VISUM provides four statistics to measure the goodness of fit.

- **%RMSE (percent of root mean square error)** – it measures the differences between the observed values and the estimates. Zero percent indicates the observed values and the estimates are indifferent.

- **R2 (Correlation Coefficient)** – it is the ratio between the observed value and estimate. R2 ranges from -1 to 1. 1.0 indicates the observed value and the estimate are indifferent.

- **MeanRelError% (mean relative error)** – it is the mean deviation of absolute values expressed in percentage. It is calculated as the sum of absolute errors divided by the sum of observed values.

- **Regression Line** - a slope of 1.0 and an intercept value of 0 indicate that the process is able to replicate the observed values perfectly.

Figures 2 and 3 show the plots of the assigned volumes against the PM peak hour volumes. The regression lines and other goodness of fit statistics are included in the figures as well.

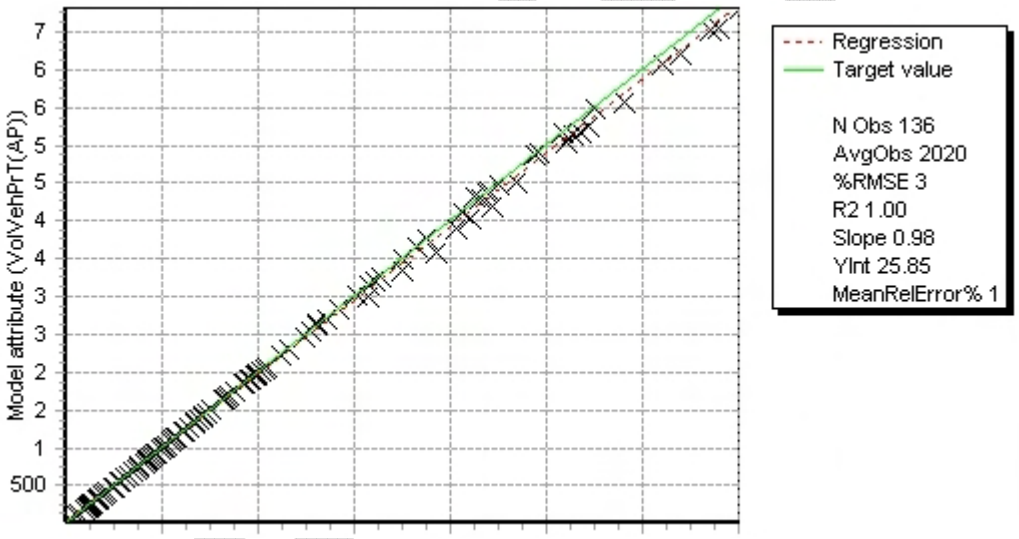


Figure 2 Assigned Link Volumes verse PM Peak Hour Volumes

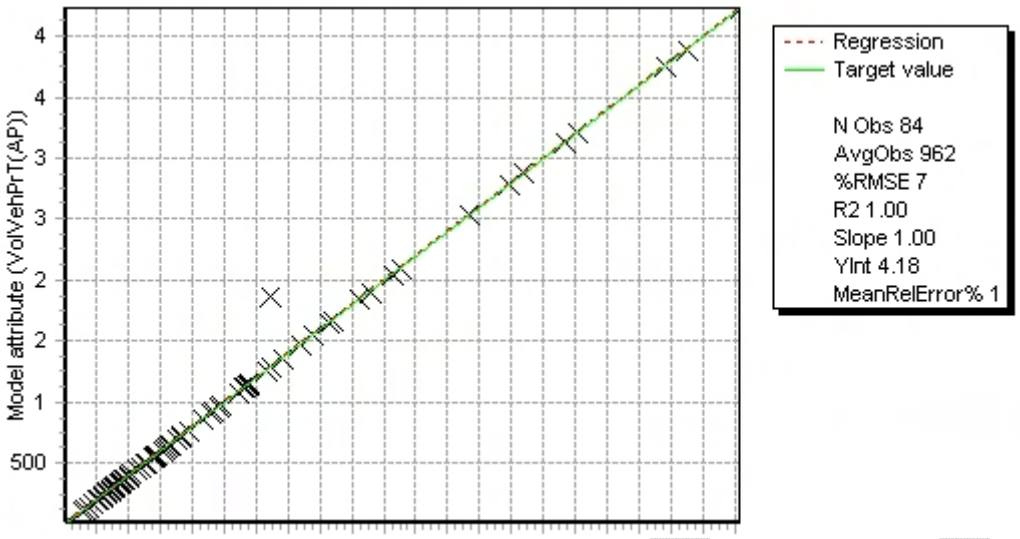


Figure 3 Assigned Turning Movement Volumes verse PM Peak Hour Turning Movement Volumes

The estimated O-D trip table includes both car and heavy truck vehicles, because the PM Peak hour volume is for all vehicles. Heavy truck refers to multi-unit truck and is classified as FHWA vehicle classes 8 and above (see **Appendix D**). The estimated O-D trip table was separated into car and truck O-D trip tables based upon the K_{30} factors shown in **Appendix E**. Using the K_{30} factors, targeted truck volumes were calculated for the links on I-75 and arterials. The truck O-D trip table was estimated by the TFlow Fuzzy procedure in VISUM using the targeted truck volumes as the traffic count data and the estimated O-D trip table (all vehicles) as the seed O-D. The resulted truck O-D trip table was assigned to the highway and the truck percent was computed and compared against the observed truck percent. **Figure 4** presents the plot and the goodness of fit statistics. The final car O-D trip table was computed by subtracting the truck trips from the trip table of all vehicles. The final tables are presented in **Appendix F**.

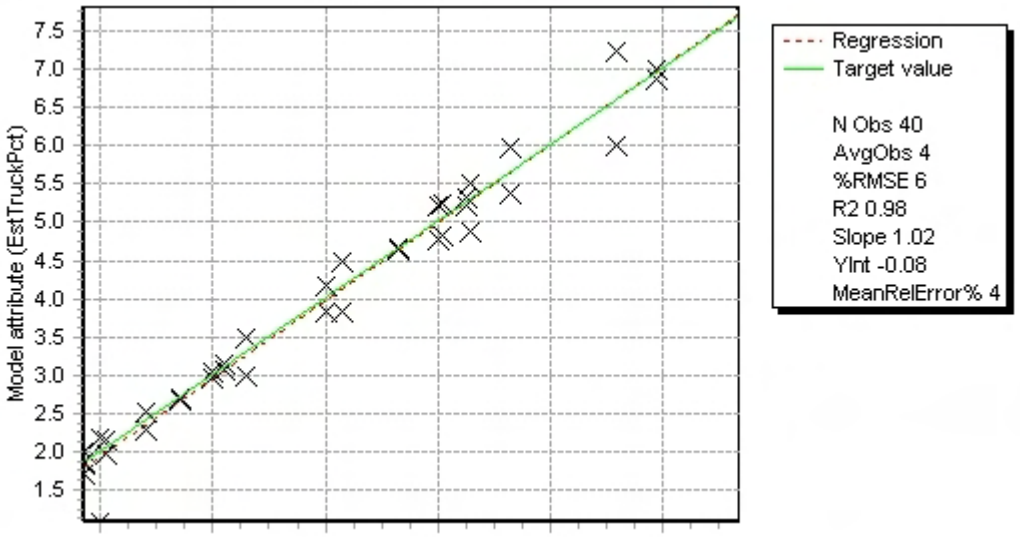


Figure 4 Estimated Truck Percent verse PM Peak Hour Truck Percent

Vehicle Mix and Vehicle Dimensions

The truck O-D trip table represents trips of heavy trucks, which multi-unit trucks. The car O-D trip table includes the rest of the vehicles that are not multi-unit trucks. Since vehicle mix data is not available, two percent of the cars is assumed light truck, and another two percent is assumed medium truck. The medium truck includes the vehicles that are classified as FHWA classes 4 to 7. (See **Appendix D**). Some of the representative vehicles of light truck are cargo van and pick-up truck, and medium truck includes delivery truck (such as UPS truck), and school bus. **Table 2** depicts the average vehicle dimensions assumed in the VISSIM model.

Table 2 Vehicle Dimensions

Vehicle Type	Average Vehicle Dimension
Car	19 feet
Medium Trucks	30 feet
Heavy Trucks	68.5 feet

Calibration Data

Traffic volumes

The 2007 p.m. peak hour volume is the target of traffic volume.

Travel time data

Travel time data was collected in the I-75 corridor between US 301 and Fletcher Avenue during the PM peak hours using a Global Positioning System (GPS) mounted in a test vehicle. The driver of the test vehicle was instructed to use the "floating-car" collection technique, to keep up with average vehicle speeds in the corridor such that the test vehicle traveled at 50th percentile speeds. The GPS data was downloaded and processed to provide travel time and delay time summaries along the corridor. **Table 3** shows the observed travel time observed from 4:00 p.m. to 5:30 p.m. A total of six travel time runs (three runs in each direction) was conducted on I-75. The overall traffic conditions during the observed time period were close to free-flow. The travel time generated by the VISSIM model should be worse than the observed travel time.

Field observations were also made to visually inspect intersection and freeway conditions during the peak period to ensure a proper understanding of congestion hot-spots and bottlenecks in the corridor.

Table 3 Observed Travel Time Data

Direction	Checkpoint Start	Checkpoint End	Distance (mi)	Avg Speed (mph)	Avg Travel Time (min)
I-75 SB	(Route Start)	Fowler Ave	0.8	71.3	0.7
I-75 SB	Fowler Ave	I-4 Underpass	4.07	72.9	3.4
I-75 SB	I-4 Underpass	MLK Blvd	1.43	74.6	1.2
I-75 SB	MLK Blvd	Adamo Dr / Brandon Blvd	2.74	68.4	2.4
I-75 SB	Adamo Dr / Brandon Blvd	Crosstown Expressway	0.97	66.6	0.9
I-75 SB	Crosstown Expressway	(Route End)	1.41	65.3	1.3
I-75 NB	(Route Start)	Crosstown Expressway	0.7	70.0	0.6

I-75 NB	Crosstown Expressway	Adamo Dr / Brandon Blvd	0.96	71.7	0.8
I-75 NB	Adamo Dr / Brandon Blvd	MLK Blvd	2.75	71.1	2.3
I-75 NB	MLK Blvd	I-4 Underpass	1.43	71.5	1.2
I-75 NB	I-4 Underpass	Fowler Ave	4.07	41.8	5.8
I-75 NB	Fowler Ave	(Route End)	1.16	32.6	2.1

BASE MODEL DEVELOPMENT

Model Blue Print

The model network was first developed in VISUM because the TFlow Fuzzy procedure (for estimating the O-D trip table) requires an input of the highway network. The link and geometry data of number lanes and link length as well as legal turning movements were coded to the highway network. Arial photo was overlaid as a background of the highway network for verifying the geometric data. A link-node diagram of the network is presented in **Appendix G**.

The VISUM network was exported to VISSIM where the network was fine-tuned to include the details of acceleration/deceleration lanes and the corresponding length, turn bay, control device (type and location), and signal timing.

Traffic Demand Data

The estimated car and truck O-D trip tables of the 2007 p.m. peak hour were input of the dynamic trip assignment.

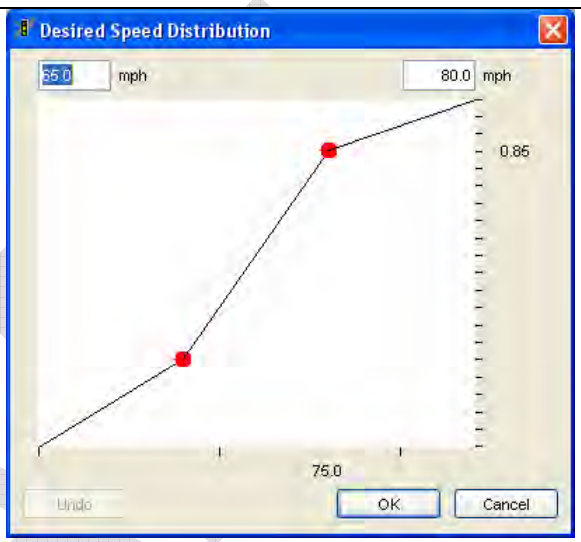
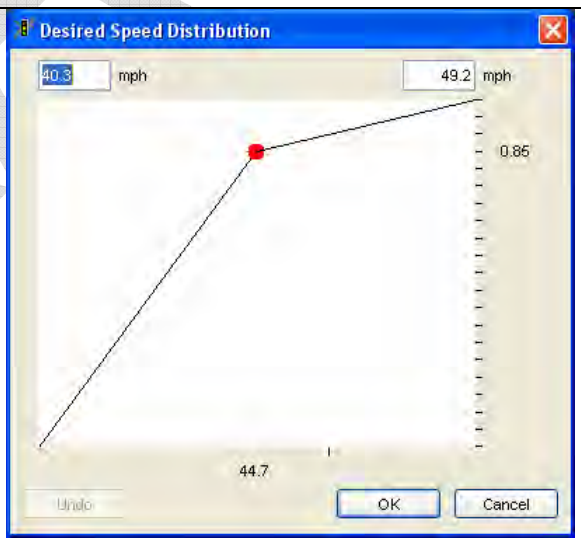
Base Data

Pertinent base model input data includes the vehicle type data, driving behavior, and the desired speed distribution curves. Two vehicle types were assumed by the model – car (includes two percent light truck and two percent medium truck) and heavy truck. The discussions of vehicle mix and vehicle dimensions are found in the previous section. The software default values of freeway, urban, and aggressive lane change driving behavior are assumed. Due to the lack of data, the best available driving behavior data is the software defaults and that they remain unchanged in the calibration process.

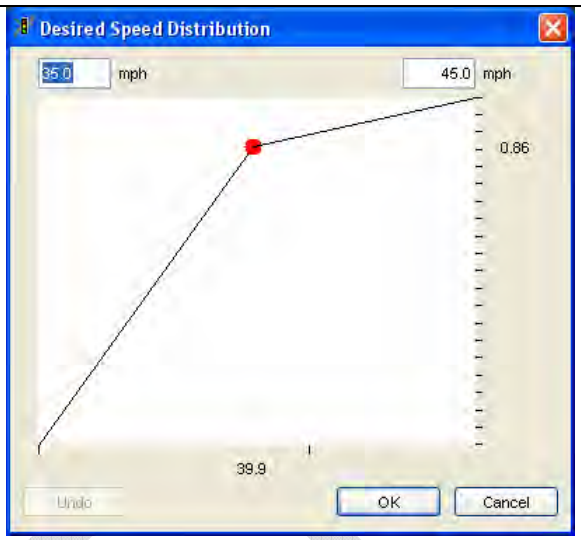
The desired speed distribution curves affect the speed and lane changing decision; thus, affect the model outcome. Similar to driving behavior data, speed data is not available for the PM peak hour nor any other time of the day. As a starting point, the desired speed curves of the

VISSIM traffic micro-simulation model that was developed for I-75 in Atlanta, GA were borrowed. The curve that was used for the Interstate freeway was validated using spot speed data collected in the freeway. In order to adapt the curve to I-75 in Tampa, FL, the threshold speeds were adjusted to about twenty (20) percent above and below the posted speed limits. Similar approach was taken for the curves used by arterials. The break-point of eight-five (85) percent in the curves used for arterials is a common practice. **Figure 5** depicts the desired speed distribution curves used in the VISSIM model.

Figure 5 Desired Speed Distributions

I-75 and I-4	
US 301, Crosstown Expressway, Fowler Avenue, and Fletcher Avenue	

SR 60 and MLK



Simulation Run Control

The O-D trip tables reflect one hour of traffic. The simulation time is one hour and fifteen minutes in which the first fifteen (15) minutes are the initialization period. The trip tables were factored up to reflect seventy-five (75) minutes of traffic. **Table 4** summarizes the total number of trips in the PM peak hour trip tables and the trip tables used in the simulation.

Table 4 O-D Trip Table Summary

	Total Trips PM Peak (60 minutes)	Total Trips in Simulation (75 minutes)
Car	49,499	61,874
Heavy Truck	1,811	2,264
Total	51,310	64,138

CALIBRATION

Calibration Approach

Before adjusting any of the base model input data, the network geometric data (such as lane and length) and control data (such as the type and location of control device were checked and verified. Signal timing was optimized to improve the intersection operation.

As discussed in the previous section, the software defaults of the driving behavior was remain unchanged due to the lack of available specific data to override driver behavior values. The desired speed distribution curves could be tweaked if the comparison results between the VISSIM output and calibration data suggest that tweaking is necessary. The traffic data was used as the primary calibration data and the travel time data was used as point of reference to evaluate the reasonableness of the VISSIM model output.

Since there is no route choice in the network, the calibration was focus on the objective of minimizing the number of vehicles that are unable to enter the network due to congestion. By accomplishing this objective, no congestion should begin and end outside the simulation period.

It is important to note that the calibrated parameters will remain unchanged when the VISSIM model is applied for future-year alternative analysis.

Calibration Adjustments

After optimizing the intersection signal timing, the VISSIM model output was reasonable compared to the PM peak hour volumes and travel time data. (The comparisons are discussed in the next section). No adjustment was necessary for the desired speed distribution curves.

Calibration Results

This section discusses comparisons between the VISSIM model output and the calibration data.

Number of vehicles able to enter the network

The total number of vehicle that was able to enter the network during the entire simulation period was reported in the network performance report. 58,634 vehicles were able to enter the network, in which 51,247 vehicles (87%) were able to leave the network at the end of the simulation period. Compare to the total number of trips shown in **Table 4**, 5,506 vehicles (or approximately 9% of the total trips in the simulation period) were unable to enter the network. **Table 5** shows the locations where vehicles were unable to enter the network and the reasons why these vehicles could not enter the network.

Table 5 Locations and Reasons of Vehicles Unable to Enter Network

Location		Vehicles Unable to Enter Network (1)	Total Vehicles (1)	%Vehicles Unable to Enter Network (1)	Reason (2)
Zone 10	SR 60 EB entering	435	4,389	9.9%	Poor intersection operation (approach volume= 3510 veh/hr, approach LOS = F)
Zone 11	Intersection East of SR 60 SB	677	2,299	29.5%	Poor intersection operation (approach volume= 1840 veh/hr, approach LOS = F)
Zone 12	Intersection East of SR 60 NB	700	1,741	40.2%	Poor intersection operation (approach volume= 1340 veh/hr, approach LOS = F)
Zone 13	Intersection West of SR 60 SB	67	1,595	4.2%	Poor intersection operation (approach volume= 1280 veh/hr, approach LOS = F)
Zone 16	SR 574 (MLK) EB entering	1,088	4,579	23.8%	Poor intersection operation (approach volume= 3655 veh/hr, approach LOS = F)
Zone 19	I-4 EB Entering	2,509	8,518	29.5%	I-75 SB on-ramp from I-4 EB cannot be handled by one lane ramp (PM Peak=2620 veh/hr)
Total		5,506	26,789	20.6%	

Note: (1) Number of vehicles in the simulation period
(2) Number of vehicles during the PM Peak hour

The table shows that there are six (6) problem locations where vehicles were unable to enter the network. The problems can be grouped into three major problems:

- I-75 southbound traffic from I-4 EB cannot be handled by one lane (on-ramp).
- SR574 (MLK) EB traffic is so high that the intersection failed to operate.
- SR 60 traffic is so high that the intersections failed to operate. The p.m. peak hour turning movement volumes were estimated based on the 2007 p.m. peak hour volumes on SR 60 east and west of the I-75 interchange and the 2003 p.m. peak hour turning movement counts. The 2003 approach and exit volumes on SR 60 east of South Falkenburg Road and west of Grand Regency Boulevard were first adjusted to match the 2007 p.m. peak hour volumes for these two segments; then the turning movement volumes were calculated based on the 2003 turning movement relationship. Using the methodology, the westbound traffic on SR 60 increased by about 6 percent per year from 2003 to 2007, while the eastbound traffic grew by about 1 percent per year. As a result, some of the turning movement volumes estimated for the PM peak hour increased by 6 percent per year, which caused the intersection to fail.

As discussed above, the reason of why vehicles were unable to enter the network was due to the high volume of PM peak hour. The problem cannot be eliminated by changing any of the model parameters. The lane and intersection geometry cannot be changed because they reflect the existing conditions. It was concluded that no further improvement can be made to improve the VISSIM model.

Traffic volume on I-75 mainline

Table 6 compares the I-75 mainline traffic volumes and the PM Peak volumes. The comparison excludes the VISSIM traffic volumes in the initialization period. The table shows that the VISSIM traffic volumes in the northbound direction are eighty-five (85) percent to hundred (100) percent of the PM peak volumes. In the southbound direction, the traffic volumes in the simulation period are between eighty-two (82) percent to hundred (100) percent of the PM peak volumes.

Table 6 Comparison of Traffic Volumes on I-75 Mainline

I-75 Mainline Segment	PM Peak Hour Vol		VISSIM Processed		% Processed	
	SB	NB	SB	NB	SB	NB
North of Fletcher Ave	2,610	4,405	2,669	3,757	102%	85%
Fletcher Ave - Fowler Ave	4,260	4,405	4,294	3,903	101%	89%
Fowler Ave - I-4	5,815	4,910	5,514	4,770	95%	97%
I-4 - MLK	6,390	5,490	5,537	4,800	87%	87%
MLK - SR 60	6,710	4,880	5,622	4,410	84%	90%
SR 60 - Crosstown Exp.	6,910	4,165	5,668	3,667	82%	88%
Crosstown Exp. - US 301	7,330	3,675	6,188	3,444	84%	94%
South of US 301	6,200	4,120	5,372	4,131	87%	100%

Travel Time

Table 7 compares the travel time collected in the VISSIM model and the observed travel time data. The VISSIM travel time (or speed) is expected to be worse than the observed data because the travel time run was conducted from 4:00 p.m. to 5:30 p.m. which is earlier than the p.m. peak hour. The bottlenecks on I-75 NB between I-4, Fowler Ave and Fletcher Ave were observed during the VISSIM simulation, which is consistent with the field observations.

Table 7 Comparison of Travel Time

				Travel Time Data		VISSIM Travel Time	
Direction	Checkpoint Start	Checkpoint End	Distance (mi)	Avg. Speed (mph)	Avg. Travel Time (min)	Avg. Speed (mph)	Avg. Travel Time (min)
I-75 SB	(Route Start)	Fowler Ave	0.80	71.3	0.7	66.6	0.7
I-75 SB	Fowler Ave	I-4 Underpass	4.07	72.9	3.4	68.0	3.6
I-75 SB	I-4 Underpass	MLK Blvd	1.43	74.6	1.2	67.3	1.3
I-75 SB	MLK Blvd	Adamo Dr / Brandon Blvd	2.74	68.4	2.4	66.0	2.5
I-75 SB	Adamo Dr / Brandon Blvd	Crosstown Expressway	0.97	66.6	0.9	70.1	0.9
I-75 SB	Crosstown Expressway	(Route End)	1.41	65.3	1.3		
I-75 NB	(Route Start)	Crosstown Expressway	0.70	70.0	0.6		
I-75 NB	Crosstown Expressway	Adamo Dr / Brandon Blvd	0.96	71.7	0.8	70.2	0.8
I-75 NB	Adamo Dr / Brandon Blvd	MLK Blvd	2.75	71.1	2.3	68.7	2.4
I-75 NB	MLK Blvd	I-4 Underpass	1.43	71.5	1.2	70.0	1.2
I-75 NB	I-4 Underpass	Fowler Ave	4.07	41.8	5.8	27.8	8.7
I-75 NB	Fowler Ave	(Route End)	1.16	32.6	2.1	15.5	4.4

APPLICATION

The calibrated VISSIM model was executed using the existing year PM peak volume. Traffic operational performance in terms of level of service (LOS) is presented in **Appendix H**. Note that the reported densities, delays, and LOS grades presented in **Appendix H** were computed using VISSIM output and that they are not the same as those reported in the Existing Conditions Report. The existing traffic analysis was performed using HCM methodology that uses different assumptions and calculation procedures. The differences in computation methodology is discussed in great detail in Section 2 in Traffic Analysis Toolbox Volume II: *Decision Support Methodology for Selecting Traffic Analysis Tools*, another technical report document published by the FHWA Office of Operations. Although the report is for a traffic micro-simulation model in general, the discussion is valid for a VISSIM traffic micro-simulation model. In addition, the fact that about twenty (20) percent of the total demand was unable to enter the network (see the discussion of **Number of vehicles able to enter the network** in the section of **Calibration Results**) means different traffic volumes were used in the performance measure calculations.

The calibrated VISSIM model was applied for the future-year alternative analysis. Four alternatives were studied in TTM. 2035 traffic demand volumes for the a.m. and p.m. peak hours were developed based on results of the WCFRPM. Following the same methodology for estimating the O-D trip tables, the a.m. and p.m. peak hour cars and trucks O-D trip tables were

developed in VISUM. Note that the demand may exceed what the transportation system can accommodate. It is the objective of the alternative analysis to evaluate which alternative can best accommodate the demand. Further improvements were identified during the evaluation process in addition to the proposed improvements for each alternative. The VISSIM network calibrated to the existing conditions was updated to reflect the conditions for each of the alternatives.

This report does not discuss the alternative analysis results. Please refer to the TTM for the detail discussion of the alternative analysis results

Future-Year Alternatives

The TTM studied the following four alternatives:

- No-build alternative - The No-build is the same as the existing conditions.
- Alternative 1 - The Build Alternative 1 adds one travel lane in each direction from Moccasin Wallow Road to Fletcher Avenue. This would result in I-75 within the study area having a two-way cross section of between eight and ten continuous mainline lanes from Moccasin Wallow Road to Fletcher Avenue compared to the present six to eight lanes.
- Alternative 2 - The Build Alternative 2 adds two travel lanes in each direction from Moccasin Wallow Road to Fletcher Avenue. This would result in I-75 within the study area having a two-way cross section of between ten and 12 continuous mainline lanes from Moccasin Wallow Road to Fletcher Avenue compared to the present six to eight lanes.
- Alternative 3 - The Build Alternative 3 adds two SULs in each direction from Moccasin Wallow Road to South of US 301, adds three SULs in each direction from US 301 to Fletcher Avenue and maintains the existing number of general use lanes throughout the corridor. This would result in I-75 within the study area having a two-way cross-section of between ten and 14 continuous mainline lanes (neglecting CD roadway lanes) from Moccasin Wallow Road to Fletcher Avenue compared to the present six to eight lanes.

Demand Forecasts

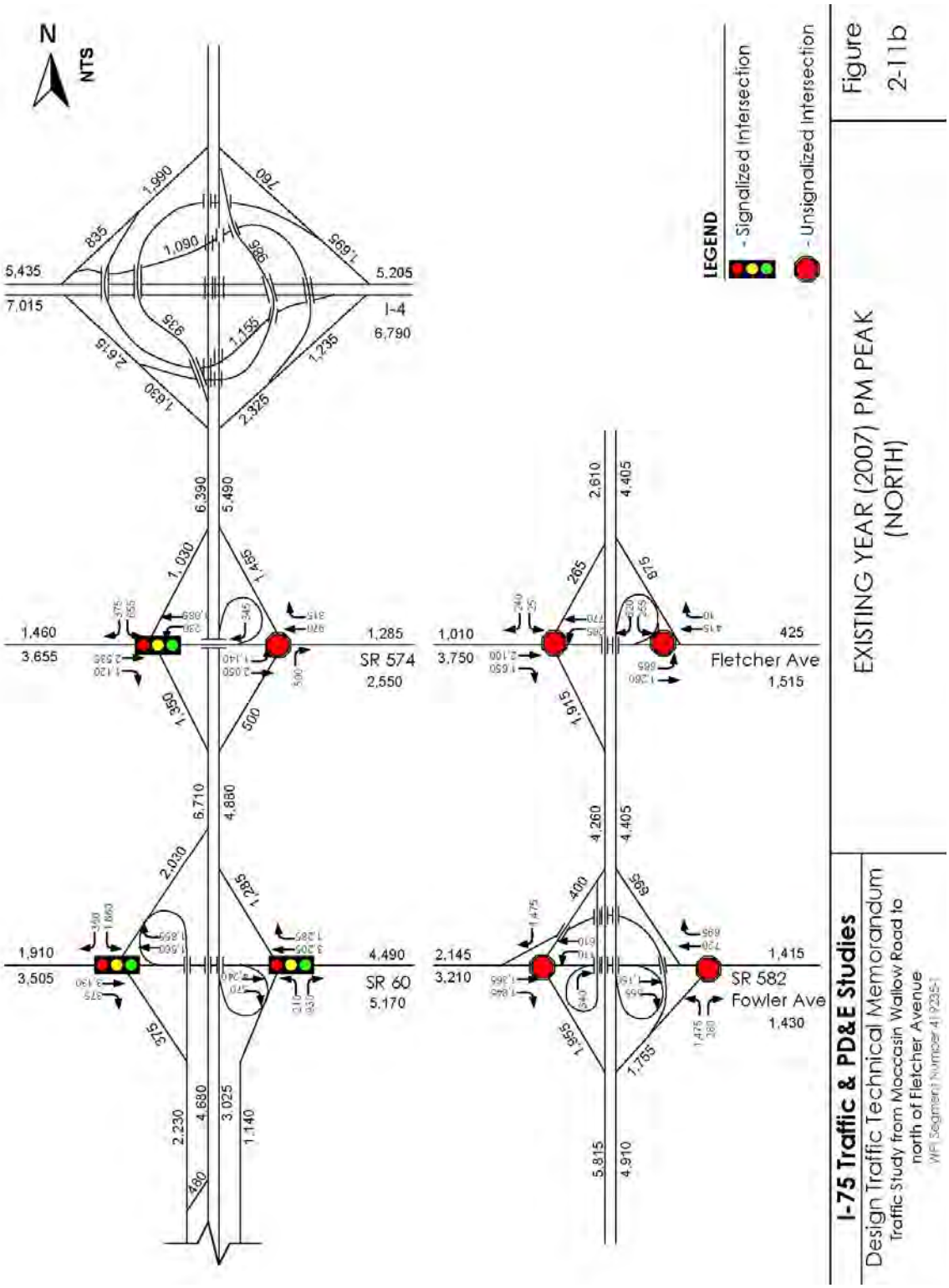
Future-year traffic demand volumes for the a.m. and p.m. peak hours were developed based on results of the WCFRPM. The demand traffic volumes of all the alternatives are documented in the TTM. Following the same methodology for estimating the existing p.m. peak O-D trip tables, the 2035 a.m. and p.m. peak hour cars and trucks O-D trip tables were developed in VISUM for the No-Build Alternative, Alternative 1, and Alternative 2. The resulted O-D trip tables are presented in **Appendix I**.

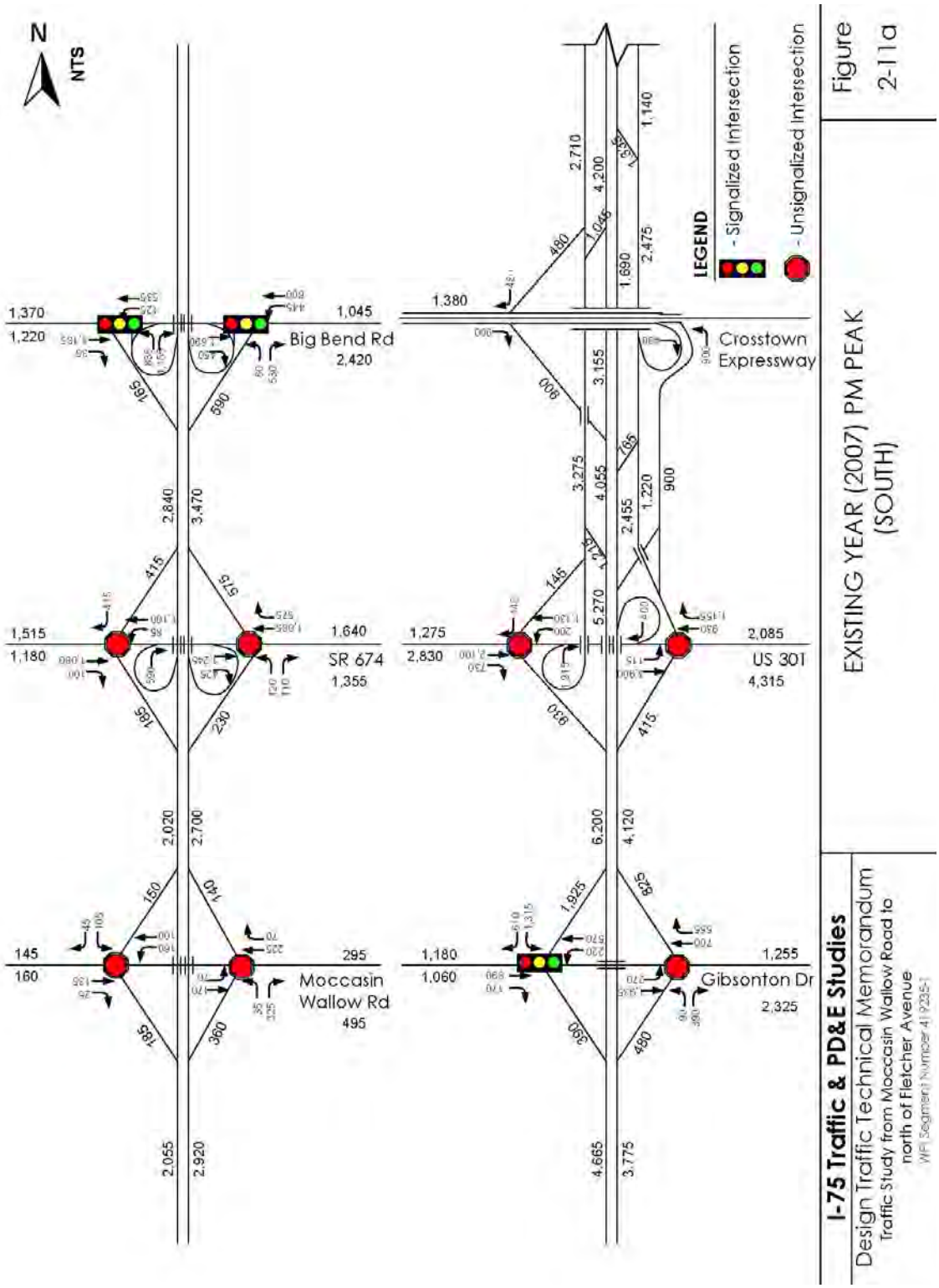
The methodology for estimating the O-D trip tables 3 was modified for Alternative 3. An additional step was performed after estimating the car and truck O-D trip tables to estimate a third O-D trip table for those trips that have choices of traveling on either the general-purpose lanes or the SUL. As a result, three O-D trip tables were developed:

- Car O-D trip table contains trips that have no access to the SUL.
- SUL O-D trip table contains trips that have access to both the GP lane and the SUL
- Truck O-D trip table contains the heavy truck trips which have no access to the SUL

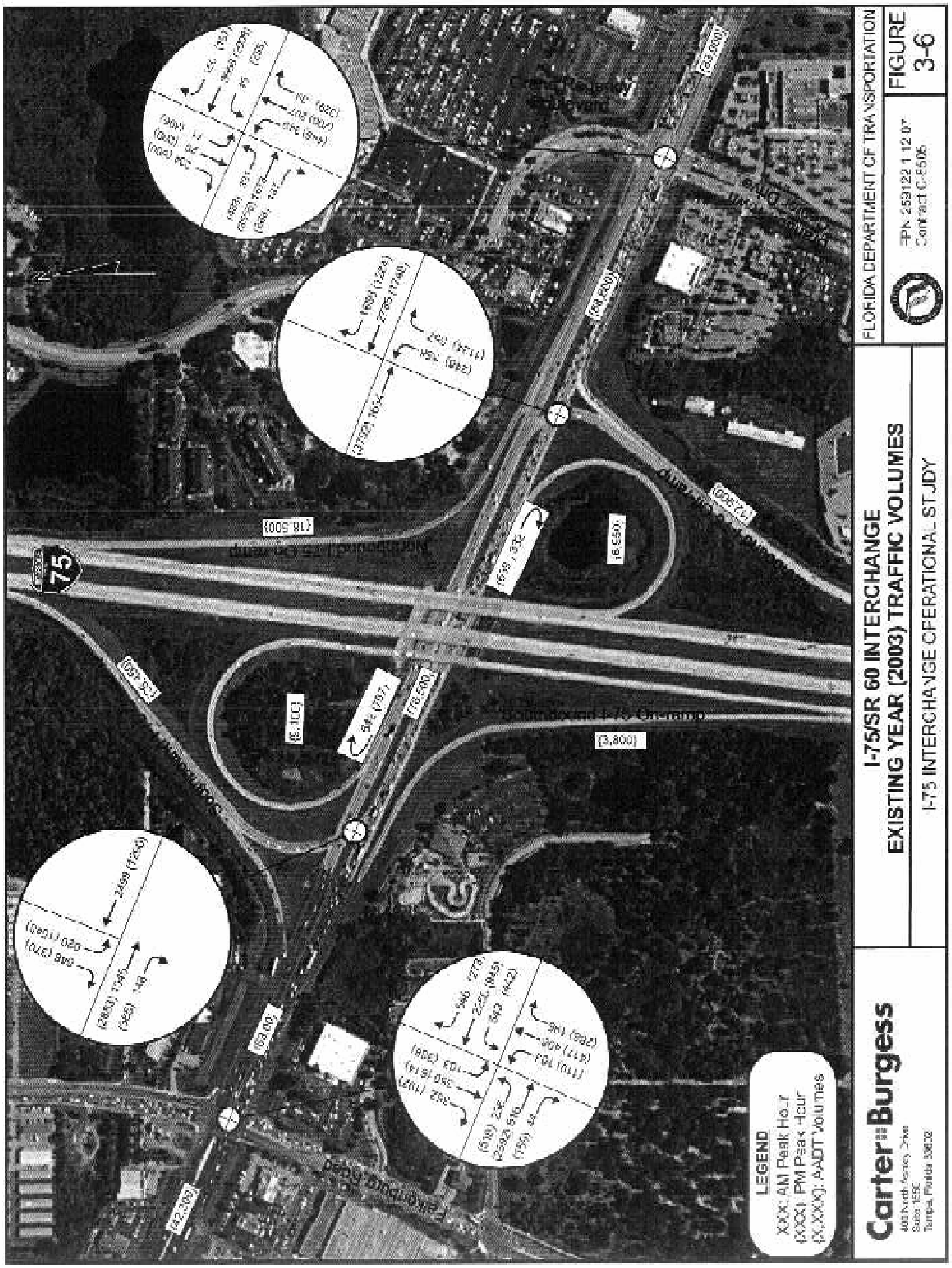
These O-D trip tables are also presented in **Appendix I**.

APPENDIX A


N
NTS
LEGEND
- Signalized Intersection
- Unsignalized Intersection
I-4
5,435
7,015
5,205
6,790
SR 574
1,460
3,655
1,285
2,550
SR 60
1,910
3,505
4,490
5,170
Fletcher Ave
1,010
3,750
425
1,515
SR 582
Fowler Ave
2,145
3,210
1,415
1,430
EXISTING YEAR (2007) PM PEAK
(NORTH)
Figure
2-11b
I-75 Traffic & PD&E Studies
Design Traffic Technical Memorandum
Traffic Study from Moccasin Wallow Road to
north of Fletcher Avenue
WPI Segment Number 41935-1


N
NTS
LEGEND
- Signalized Intersection
- Unsignalized Intersection
Big Bend Rd
Crosstown Expressway
SR 674
US 301
Moccasin Wallow Rd
Gibsonton Dr
EXISTING YEAR (2007) PM PEAK (SOUTH)
Figure 2-11a
I-75 Traffic & PD&E Studies
Design Traffic Technical Memorandum
Traffic Study from Moccasin Wallow Road to north of Fletcher Avenue
WPI Segment Number 419235-1

APPENDIX B


FLORIDA DEPARTMENT OF TRANSPORTATION
FIGURE
3-6
I-75/SR 60 INTERCHANGE
EXISTING YEAR (2003) TRAFFIC VOLUMES
I-75 INTERCHANGE OPERATIONAL STUDY
LEGEND
XXX: AM Peak Hour
(XXX): PM Peak Hour
(X,XXX): AADT Volumes
Carter::Burgess
Southbound I-75 On-ramp
(3,800)
Falkenburg Road
75

I-75 PD&E Study
Corridor Access Analysis - Alternative 2

From	To (Values Shown as Percentage of Total On's)												
	Moccasin Wallow NB Off	SR 674 NB Off	Big Bend Rd NB Off	Gibsonton Rd NB Off	US 301 NB Off	Crosstown Expressway NB Off	SR 60 NB Off	MLK NB Off	I-4 NB Off	Fowler NB Off	Fletcher NB Off	Bruce B Downs NB Off	I-75 NORTH EXTERNAL
I-75 SOUTH EXTERNAL	19%	9%	1%	3%	2%	7%	2%	4%	14%	1%	3%	2%	33%
Moccasin Wallow NB On Ramp		32%	3%	5%	3%	11%	4%	5%	11%	1%	2%	2%	21%
SR 674 NB On Ramp			2%	13%	10%	15%	14%	6%	13%	3%	2%	2%	18%
Big Bend Rd NB On Ramp				13%	12%	14%	23%	9%	6%	4%	2%	2%	15%
Gibsonton Rd NB On Ramp					8%	24%	24%	8%	8%	6%	4%	4%	14%
US 301 NB On Ramp						1%	21%	20%	6%	19%	10%	10%	13%
Crosstown Expressway NB On Ramp								37%	15%	5%	10%	19%	14%
SR 60 NB On Ramp								7%	12%	20%	15%	19%	27%
MLK NB On Ramp									14%	25%	18%	23%	20%
I-4 NB On Ramp										14%	24%	22%	40%
Fowler NB On Ramp											28%	48%	24%
Fletcher NB On Ramp												49%	51%
Bruce B Downs NB On Ramp													100%

APPENDIX C

APPENDIX D

FHWA Vehicle Classes with Definitions

1. Motorcycles -- All two or three-wheeled motorized vehicles. Typical vehicles in this category have saddle type seats and are steered by handlebars rather than steering wheels. This category includes motorcycles, motor scooters, mopeds, motor-powered bicycles, and three-wheel motorcycles.

2. Passenger Cars -- All sedans, coupes, and station wagons manufactured primarily for the purpose of carrying passengers and including those passenger cars pulling recreational or other light trailers.

3. Other Two-Axle, Four-Tire Single Unit Vehicles -- All two-axle, four-tire, vehicles, other than passenger cars. Included in this classification are pickups, panels, vans, and other vehicles such as campers, motor homes, ambulances, hearses, carryalls, and minibuses. Other two-axle, four-tire single-unit vehicles pulling recreational or other light trailers are included in this classification. Because automatic vehicle classifiers have difficulty distinguishing class 3 from class 2, these two classes may be combined into class 2.

4. Buses -- All vehicles manufactured as traditional passenger-carrying buses with two axles and six tires or three or more axles. This category includes only traditional buses (including school buses) functioning as passenger-carrying vehicles. Modified buses should be considered to be a truck and should be appropriately classified.

NOTE: In reporting information on trucks the following criteria should be used:

Truck tractor units traveling without a trailer will be considered single-unit trucks.

A truck tractor unit pulling other such units in a "saddle mount" configuration will be considered one single-unit truck and will be defined only by the axles on the pulling unit.

Vehicles are defined by the number of axles in contact with the road. Therefore, "floating" axles are counted only when in the down position.

The term "trailer" includes both semi- and full trailers.

5. Two-Axle, Six-Tire, Single-Unit Trucks -- All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., with two axles and dual rear wheels.

6. Three-Axle Single-Unit Trucks -- All vehicles on a single frame including trucks, camping and recreational vehicles, motor homes, etc., with three axles.

7. Four or More Axle Single-Unit Trucks -- All trucks on a single frame with four or more axles.

8. Four or Fewer Axle Single-Trailer Trucks -- All vehicles with four or fewer axles consisting of two units, one of which is a tractor or straight truck power unit.

9. Five-Axle Single-Trailer Trucks -- All five-axle vehicles consisting of two units, one of which is a tractor or straight truck power unit.

10. Six or More Axle Single-Trailer Trucks -- All vehicles with six or more axles consisting of two units, one of which is a tractor or straight truck power unit.

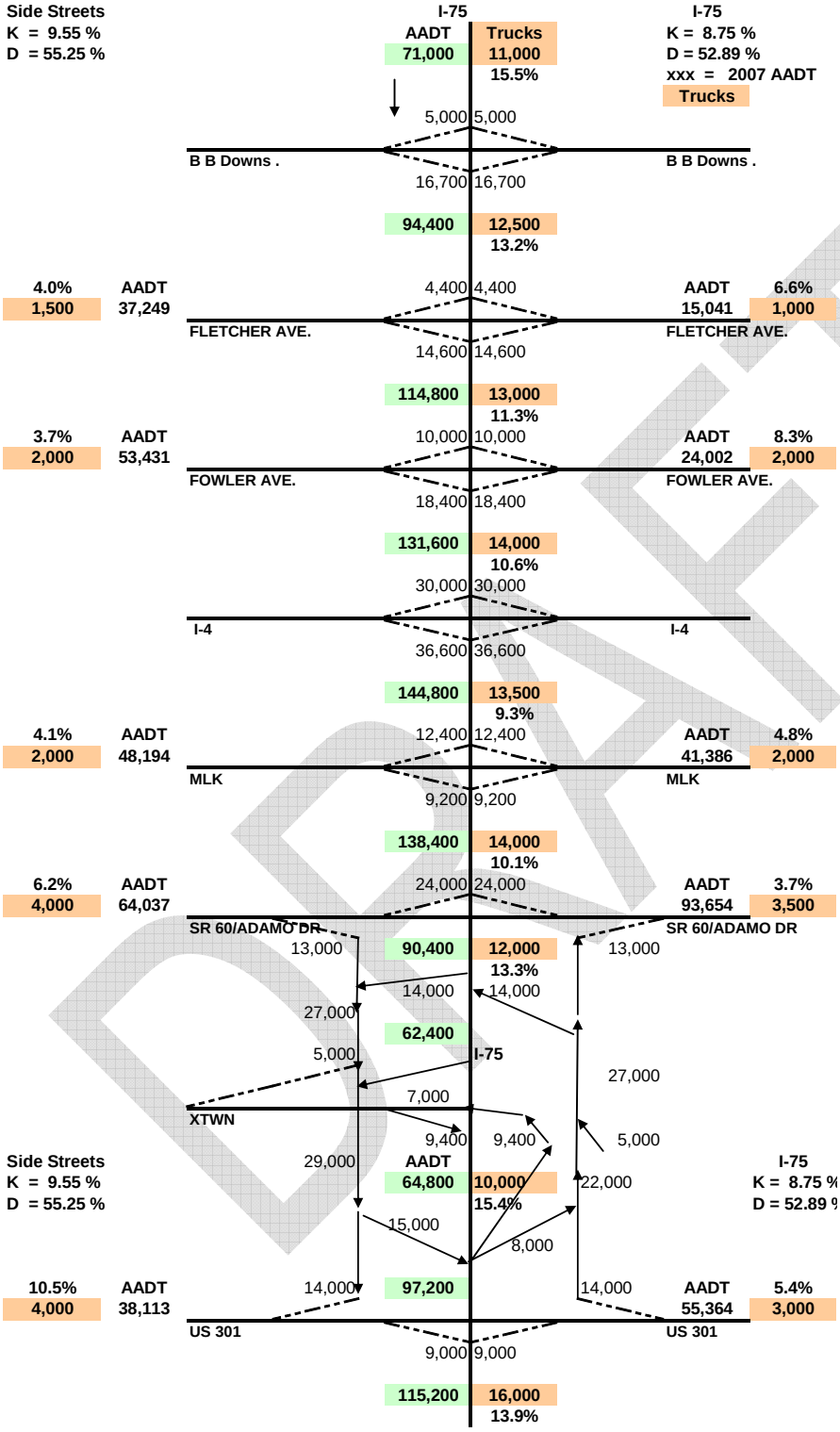
11. Five or fewer Axle Multi-Trailer Trucks -- All vehicles with five or fewer axles consisting of three or more units, one of which is a tractor or straight truck power unit.

12. Six-Axle Multi-Trailer Trucks -- All six-axle vehicles consisting of three or more units, one of which is a tractor or straight truck power unit.

13. Seven or More Axle Multi-Trailer Trucks -- All vehicles with seven or more axles consisting of three or more units, one of which is a tractor or straight truck power unit

Source: http://www.fhwa.dot.gov/policy/ohpi/vehclass.htm

APPENDIX E



APPENDIX F

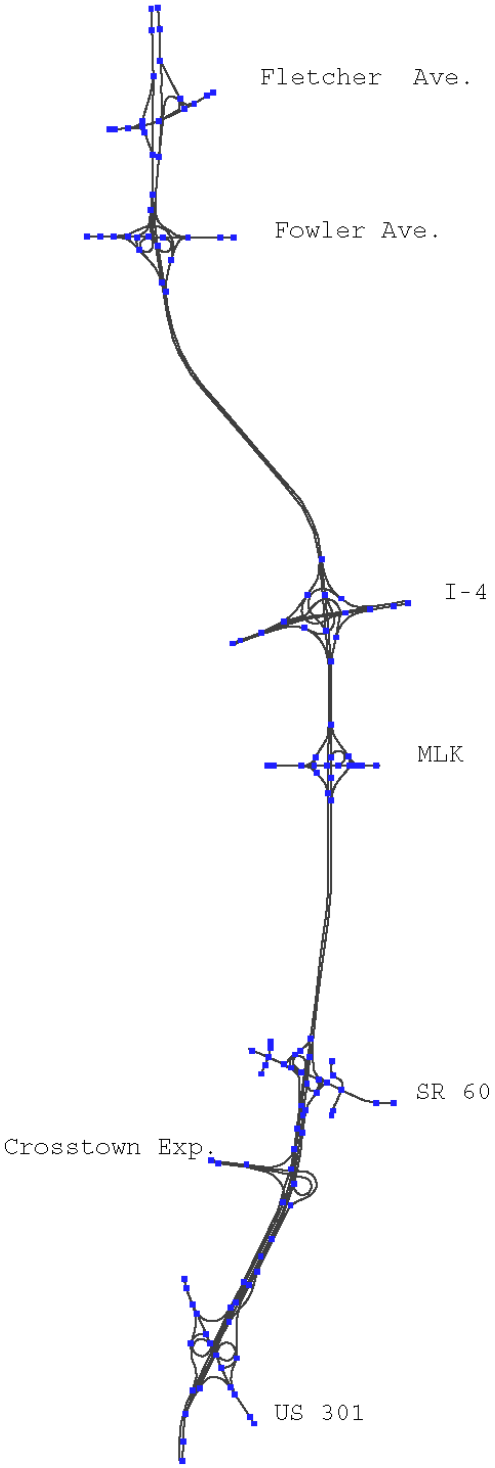
Existing (2007) p.m. peak hour car O-D trip table

Zones			1	3	5	6	7	9	10	11	12	13	14	15	16	17	19	21	22	23	24
	Name	49499	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	49499	Totals	4676	5657	4191	1207	1338	4702	1360	1059	1571	1309	1329	2489	1428	6246	5053	1621	2438	828	997
1	I-75 N Limit	2471	1	641	82	6	44	203	29	28	50	11	16	101	59	342	260	153	187	23	235
3	I-75 S Limit	3841	459	1	386	352	817	435	60	60	106	23	36	97	68	463	424	3	20	9	22
5	US 301 E	2030	108	191	0	715	45	198	32	26	47	10	15	160	112	67	60	31	177	10	26
6	US 301 W	2689	10	644	1935	0	5	19	3	3	5	1	2	15	11	6	6	3	17	1	3
7	Crosstown Exp	1361	67	881	6	1	1	1	1	1	1	1	1	129	90	73	65	4	21	5	12
9	SR 60 E	3460	205	597	473	35	1	0	535	280	363	158	256	34	23	127	114	31	177	15	36
10	SR 60 W	3398	102	138	118	9	0	1475	0	197	349	551	168	17	12	65	61	14	95	7	20
11	Grand Regancy Blve	1830	82	235	182	14	1	565	134	0	299	38	63	13	9	50	44	13	68	6	14
12	Brandon Town Cntr Dr	1387	54	154	119	9	1	469	87	286	0	25	41	9	6	32	29	8	45	4	9
13	Falkenburg Rd N	1269	22	28	21	2	0	207	203	27	49	0	656	3	2	13	11	3	17	1	4
14	Falkenburg Rd S	877	15	19	14	1	0	137	126	18	67	445	0	2	2	8	7	2	11	1	2
15	SR 574 E	1255	75	69	61	5	42	27	4	4	6	1	2	0	727	57	51	15	85	7	17
16	SR 574 W	3583	272	343	304	22	206	132	20	18	31	6	10	1373	0	209	186	56	309	25	61
17	I-4 WB E	5580	924	534	41	3	39	103	15	14	25	5	8	64	37	0	3199	279	175	32	83
19	I-4 EB W	6529	510	968	73	5	67	182	28	24	43	8	14	113	65	4007	0	40	230	43	109
21	SR 582 E	1354	505	3	14	1	2	19	2	3	5	1	1	13	7	16	12	0	598	43	109
22	SR 582 W	3154	424	53	260	19	26	340	52	45	80	16	26	225	129	312	230	794	0	36	87
23	CR 582A E	557	155	23	14	1	8	25	4	3	6	1	2	16	9	52	39	23	28	0	148
24	CR 582A W	2874	686	135	88	7	33	165	25	22	39	8	12	105	60	347	255	149	178	560	0

Existing (2007) p.m. peak hour truck O-D trip table

Zones			1	3	5	6	7	9	10	11	12	13	14	15	16	17	19	21	22	23	24
	Name	1811	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	1811	Totals	275	417	113	66	40	89	58	3	6	6	5	57	29	314	199	53	42	30	9
1	I-75 N Limit	192	0	93	4	1	1	8	6	0	1	0	0	4	2	40	17	8	2	2	3
3	I-75 S Limit	287	61	0	29	48	33	24	17	1	2	0	1	7	3	39	19	1	1	1	0
5	US 301 E	55	7	11	0	14	0	2	1	0	0	0	0	6	3	3	1	3	3	1	0
6	US 301 W	150	2	91	52	0	0	0	0	0	0	0	0	1	1	1	0	1	1	0	0
7	Crosstown Exp	42	3	31	0	0	0	0	0	0	0	0	0	3	2	2	1	0	0	0	0
9	SR 60 E	72	11	25	4	1	0	0	15	1	1	0	1	1	0	4	2	2	3	1	0
10	SR 60 W	113	20	21	3	0	0	32	0	1	2	5	2	2	1	8	4	5	5	1	1
11	Grand Regancy Blve	9	1	3	1	0	0	2	1	0	0	0	0	0	0	1	0	0	0	0	0
12	Brandon Town Cntr Dr	6	1	2	0	0	0	2	1	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	7	1	1	0	0	0	1	3	0	0	0	1	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	3	0	0	0	0	0	0	2	0	0	1	0	0	0	0	0	0	0	0	0
15	SR 574 E	31	3	6	2	0	1	1	0	0	0	0	0	0	13	2	1	1	1	0	0
16	SR 574 W	80	8	20	7	1	3	2	2	0	0	0	0	24	0	4	2	3	3	1	0
17	I-4 WB E	264	47	51	1	0	1	3	2	0	0	0	0	2	1	0	138	6	6	4	2
19	I-4 EB W	285	35	51	2	0	1	3	2	0	0	0	0	2	1	176	0	4	4	3	1
21	SR 582 E	62	35	1	1	0	0	1	1	0	0	0	0	1	0	4	2	0	12	3	1
22	SR 582 W	61	6	3	5	1	0	5	3	0	0	0	0	3	1	13	5	16	0	0	0
23	CR 582A E	31	17	2	1	0	0	1	1	0	0	0	0	0	0	5	2	1	0	0	1
24	CR 582A W	61	17	5	1	0	0	2	1	0	0	0	0	1	1	12	5	2	1	13	0

APPENDIX G



APPENDIX H

Exsiting Year (2007 PM Peak) Ramp LOS Results

Interchange	Ramp	Design Hour Ramp Density (pc / hr / ln)	Design Hour LOS
US 301 / Crosstown Expressway	I-75 NB off-ramp to US 301	15.4	B
	I-75 NB off-ramp to Crosstown Expressway	7.1	A
	I-75 NB off-ramp to CD Road / SR 60	14.5	B
	I-75 NB on-ramp from CD Road / Crosstown Expressway	26.9	C
	I-75 NB CD on-ramp from I-75 NB	16.5	B
	I-75 SB off-ramp to Crosstown Expressway	20.1	C
	I-75 SB off-ramp to US 301 / CD Road	17.1	B
	I-75 SB on-ramp from Crosstown Expressway	8.3	A
	I-75 SB on-ramp from I-75 SB CD Road	21.2	C
	I-75 SB on-ramp from US 301	12.6	B
	I-75 SB CD Road on-ramp from I-75 SB	20.7	C
	I-75 SB CD Road off-ramp to SB I-75	22.3	C
SR 60 (Adamo Drive)	I-75 NB on-ramp from EB SR 60	16.6	B
	I-75 NB on-ramp from WB SR 60	21.2	C
	I-75 SB off-ramp to SR 60	32.6	D
SR 574 (MLK Boulevard)	I-75 NB off-ramp to EB SR 574	21.7	C
	I-75 NB off-ramp to WB SR 574	12.1	B
	I-75 NB on-ramp from SR 574	24.0	C
	I-75 SB off-ramp to SR 574	21.5	C
	I-75 SB on-ramp from SR 574	32.0	D
I-4	I-75 NB off-ramp to I-4	21.9	C
	I-75 NB on-ramp from EB I-4	16.0	B
	I-75 NB on-ramp from WB I-4	26.7	C
	I-75 SB off-ramp to I-4	33.1	D
	I-75 SB on-ramp from EB I-4	23.4	C
	I-75 SB on-ramp from WB I-4	21.5	C
SR 582 / Fowler Avenue	I-75 NB off-ramp to Fowler Avenue	27.5	C
	I-75 NB on-ramp from EB Fowler Avenue	39.5	E
	I-75 NB on-ramp from WB Fowler Avenue	33.2	D
	I-75 SB off-ramp to Fowler Avenue	24.1	C
	I-75 SB on-ramp from Fowler Avenue	28.2	D
Fletcher Avenue	I-75 NB off-ramp to Fletcher Avenue	34.1	D
	I-75 NB on-ramp from Fletcher Avenue	77.1	F
	I-75 SB off-ramp to Fletcher Avenue	19.6	B
	I-75 SB on-ramp from Fletcher Avenue	27.0	C

Exsiting Year (2007 PM Peak) Mainline and Weaving LOS Results

Mainline Segment	Design Hour Freeway Density	LOS
I-75 Northbound		
US 301 to Crosstown Expressway	8.1	A
Crosstown Expressway to SR 60	8.1	A
SR 60 to Martin Luther King Boulevard	21.3	C
Martin Luther King Boulevard to I-4	19.4	C
I-4 to Fowler Avenue	25.7	C
Fowler Avenue to Fletcher Avenue	40.1	E
I-75 Southbound		
Fowler Avenue to I-4	26.7	D
I-4 to Martin Luther King Boulevard	23.4	C
Martin Luther King Boulevard to SR 60	27.7	D
SR 60 to Crosstown Expressway	16.4	B
Crosstown Expressway to US 301	12.6	B
Weave Segment		
I-75 SB - Fletcher Avenue to Fowler Avenue	23.8	C
I-75 NB CD - Crosstown Expressway to SR 60	22.3	C
I-75 SB CD - SR 60 to Crosstown Expressway	41.0	E

Exsiting Year (2007 PM Peak) Ramp Termini LOS Results

Intersection	Control	Approach / Movement	Design Hour Approach Delay (sec/veh)	Design Hour Approach LOS	Design Hour Avg Delay (sec/veh)	Design Hour LOS
I-75 NB ramps at SR 60 (Adamo Drive)	Signal	EB Thru	43.4	D	78.2	E
		WB Thru	17.5	B		
		NB LT	359.7	F		
		NB RT	715.2	F		
I-75 SB ramps at SR 60 (Adamo Drive)	Signal	EB Thru	8.6	A	18.6	B
		WB Thru	14.8	B		
		SB LT	37.5	D		
		SB RT	31.7	C		
I-75 SB ramps at SR 574 (MLK Blvd)	Signal	WB LT	65.3	E	154.9	F
		WB Thru	12.4	B		
		EB Thru	261.4	F		
		SB LT	46.1	D		
I-75 NB ramps at SR 574 (MLK Blvd)	Stop	EB LT	25.2	D	25.2	D
I-75 SB ramps at SR 582 (Fowler Avenue)	Stop	WB LT	13.7	B	13.7	B
I-75 NB ramps at Fletcher Avenue	Stop	EB LT	60.6	F	108.8	F
		SB LT	108.8	F		
I-75 SB ramps at Fletcher Avenue	Stop	WB LT	28.3	D	37.4	E
		SB LT	37.4	E		

APPENDIX I

2035 a.m. hour car O-D trip table – No-Build Alternative

	Name	70848	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	70848	Totals	6041	7149	3608	2528	2635	3713	3572	1176	489	2852	1784	3392	3380	9025	9927	1865	3336	1709	2667
1	I-75 N Limit	6749	0	1278	278	25	191	426	314	86	49	83	83	317	170	1089	803	587	270	225	475
3	I-75 S Limit	8061	1144	0	708	285	1663	993	153	202	115	42	42	176	161	1090	1140	8	30	41	68
5	US 301 E	3870	118	592	0	2101	124	207	35	41	23	9	9	130	118	70	72	37	124	23	37
6	US 301 W	2161	18	537	1438	0	20	33	6	7	4	1	1	20	19	11	11	5	20	4	6
7	Crosstown Exp	1530	86	984	0	0	0	0	0	0	0	0	0	121	110	88	90	5	16	11	19
9	SR 60 E	5128	646	1077	93	10	0	0	901	193	58	221	221	124	112	380	388	107	354	93	150
10	SR 60 W	3353	248	451	41	4	0	808	0	161	92	738	137	49	44	148	154	41	141	36	60
11	Grand Regancy Blve	420	42	70	6	1	0	92	50	0	26	12	12	8	7	24	25	7	22	6	10
12	Brandon Town Cntr Dr	764	62	104	9	1	0	50	74	266	0	18	18	12	11	36	37	10	33	9	14
13	Falkenburg Rd N	2781	69	127	11	1	0	143	1103	28	16	0	1103	13	12	40	41	11	37	10	16
14	Falkenburg Rd S	2500	73	135	11	1	0	153	321	30	13	1570	0	14	13	43	44	12	40	10	17
15	SR 574 E	3633	234	93	146	14	129	39	29	8	4	8	8	0	2236	172	176	52	172	43	70
16	SR 574 W	3193	210	128	199	19	175	53	40	11	6	10	10	1721	0	154	157	46	153	39	62
17	I-4 WB E	9131	898	611	83	8	99	126	95	25	15	25	25	117	63	0	6179	76	268	158	260
19	I-4 EB W	7764	675	811	108	11	128	164	125	33	19	32	32	152	81	4834	0	58	195	116	190
21	SR 582 E	2155	379	4	40	3	5	32	23	7	4	6	6	32	17	41	31	0	1351	66	108
22	SR 582 W	3205	457	35	308	31	39	247	190	49	28	48	48	246	131	341	245	559	0	78	125
23	CR 582A E	2083	348	41	48	5	23	54	41	11	6	11	11	52	28	170	123	90	41	0	980
24	CR 582A W	2367	334	71	81	8	39	93	72	18	11	18	18	88	47	294	211	154	69	741	0

2035 a.m. hour truck O-D trip table – No-Build Alternative

	Name	2792	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	2792	Totals	428	526	100	139	81	81	108	4	1	12	7	84	71	478	417	80	63	59	53
1	I-75 N Limit	472	0	151	13	5	6	15	33	1	0	1	2	12	5	109	48	34	4	17	16
3	I-75 S Limit	591	146	0	42	78	65	45	22	3	1	1	1	14	9	96	61	1	1	3	2
5	US 301 E	107	6	36	0	47	0	1	0	0	0	0	0	4	3	2	2	2	2	1	1
6	US 301 W	120	2	90	21	0	0	0	0	0	0	0	0	2	1	1	1	1	1	0	0
7	Crosstown Exp	47	3	37	0	0	0	0	0	0	0	0	0	2	2	2	1	0	0	0	0
9	SR 60 E	102	21	42	0	0	0	0	8	0	0	0	0	3	2	9	6	4	4	2	1
10	SR 60 W	116	22	48	0	0	0	6	0	0	0	7	2	3	2	9	6	4	4	2	1
11	Grand Regancy Blve	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	14	1	2	0	0	0	0	9	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	12	1	3	0	0	0	0	4	0	0	3	0	0	0	1	0	0	0	0	0
15	SR 574 E	89	10	8	5	2	3	1	2	0	0	0	0	0	43	5	3	3	2	1	1
16	SR 574 W	66	6	7	4	2	3	1	2	0	0	0	0	32	0	3	2	2	1	1	0
17	I-4 WB E	471	94	52	3	1	2	3	7	0	0	0	0	3	1	0	272	9	8	9	7
19	I-4 EB W	318	41	40	2	1	2	2	6	0	0	0	0	2	1	206	0	4	4	4	3
21	SR 582 E	91	30	1	3	1	0	2	4	0	0	0	0	2	1	7	3	0	32	3	2
22	SR 582 W	59	8	1	5	2	0	3	7	0	0	0	0	3	1	11	5	11	0	1	1
23	CR 582A E	67	25	3	1	0	0	1	2	0	0	0	0	1	0	9	4	3	0	0	18
24	CR 582A W	46	11	2	1	0	0	1	2	0	0	0	0	1	0	8	3	2	0	15	0

2035 p.m. hour car O-D trip table – No-Build Alternative

	Name	70206	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	70206	Totals	7015	8052	3904	2242	2186	3880	3586	1245	519	2522	1743	3722	2998	9246	8205	2154	3156	1466	2365
1	I-75 N Limit	5984	0	1209	303	31	156	348	206	70	40	55	55	300	162	884	793	513	238	200	421
3	I-75 S Limit	7143	1570	0	807	353	1073	514	129	104	60	36	35	241	148	1037	837	10	45	47	97
5	US 301 E	3384	84	518	0	1706	149	324	88	64	37	22	22	93	56	34	27	23	96	14	27
6	US 301 W	2296	29	496	1387	0	53	116	30	23	13	8	8	33	20	12	10	8	35	5	10
7	Crosstown Exp	1724	120	1109	0	0	0	0	0	0	0	0	0	169	103	85	67	6	25	13	27
9	SR 60 E	3343	343	664	0	0	0	0	966	126	38	241	241	58	35	140	110	50	206	42	83
10	SR 60 W	4316	332	701	0	0	0	1100	0	220	126	950	177	56	34	137	109	48	203	41	82
11	Grand Regancy Blve	1444	121	237	0	0	0	306	297	0	85	72	72	20	12	49	39	18	72	15	29
12	Brandon Town Cntr Dr	1209	82	160	0	0	0	79	199	421	0	49	49	14	8	33	26	12	48	10	19
13	Falkenburg Rd N	2392	61	132	0	0	0	133	949	26	15	0	950	10	6	25	19	9	36	7	14
14	Falkenburg Rd S	1522	46	100	0	0	0	101	196	20	6	955	0	8	5	19	15	7	27	6	11
15	SR 574 E	3515	213	167	299	32	198	60	37	12	7	9	9	0	1964	109	86	42	172	33	66
16	SR 574 W	3384	242	136	242	26	160	49	30	10	6	8	8	1890	0	124	98	47	195	38	75
17	I-4 WB E	9165	954	1015	158	17	141	181	109	36	21	28	28	195	105	0	5364	72	313	141	287
19	I-4 EB W	10313	1061	1264	191	21	171	220	135	44	25	34	34	237	127	5866	0	80	338	155	310
21	SR 582 E	1778	324	5	58	6	5	35	20	7	4	6	6	40	22	45	41	0	1009	48	97
22	SR 582 W	3338	458	32	319	35	30	193	120	38	22	30	30	224	120	266	232	992	0	66	131
23	CR 582A E	1292	351	21	28	3	10	24	15	5	3	4	4	27	14	75	66	43	20	0	579
24	CR 582A W	2664	624	86	112	12	40	97	60	19	11	15	15	107	57	306	266	174	78	585	0

2035 p.m. hour truck O-D trip table – No-Build Alternative

	Name	2802	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	2802	Totals	486	587	108	122	66	77	121	4	2	13	7	91	61	478	336	91	57	48	47
1	I-75 N Limit	428	0	151	10	4	5	12	23	1	0	1	1	12	5	89	46	36	4	14	14
3	I-75 S Limit	533	184	0	36	58	47	24	20	2	1	1	1	16	8	86	40	1	2	3	3
5	US 301 E	95	3	26	0	53	1	3	3	0	0	0	0	2	1	1	0	1	1	0	0
6	US 301 W	128	3	75	37	0	1	3	3	0	0	0	0	2	1	1	0	1	1	0	0
7	Crosstown Exp	54	3	44	0	0	0	0	0	0	0	0	0	3	1	2	1	0	0	0	0
9	SR 60 E	79	10	30	0	0	0	0	26	0	0	1	1	1	0	3	1	2	2	1	1
10	SR 60 W	136	20	64	0	0	0	19	0	1	1	8	2	2	1	6	3	3	4	1	1
11	Grand Regancy Blve	7	1	3	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	6	1	3	0	0	0	0	2	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	11	0	1	0	0	0	0	8	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	8	1	2	0	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	0
15	SR 574 E	87	9	13	6	2	4	1	3	0	0	0	0	0	38	3	2	2	2	1	1
16	SR 574 W	73	8	8	4	1	3	1	2	0	0	0	0	36	0	3	1	2	2	1	1
17	I-4 WB E	486	100	93	4	1	3	5	9	0	0	0	0	6	2	0	229	9	9	8	8
19	I-4 EB W	434	65	68	3	1	2	3	7	0	0	0	0	4	2	257	0	6	6	5	5
21	SR 582 E	77	27	1	3	1	0	2	3	0	0	0	0	2	1	6	3	0	24	2	2
22	SR 582 W	63	9	1	4	1	0	2	4	0	0	0	0	3	1	9	4	23	0	1	1
23	CR 582A E	43	22	1	0	0	0	0	1	0	0	0	0	1	0	4	2	2	0	0	10
24	CR 582A W	54	20	3	1	0	0	1	2	0	0	0	0	1	0	8	4	3	0	11	0

2035 a.m. hour car O-D trip table –Alternative 1

	Name	73708	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	73708	Totals	6385	7881	3443	2612	2564	3821	3872	1205	500	2931	1860	3109	3432	9420	10966	1956	3417	1608	2726
1	I-75 N Limit	6981	0	1543	153	15	177	403	300	81	46	78	78	299	161	1055	1007	591	274	231	489
3	I-75 S Limit	8878	1474	0	600	491	1554	1002	200	203	116	55	54	215	197	1300	1231	9	40	45	92
5	US 301 E	4026	143	613	0	1981	129	285	61	57	32	15	15	148	134	78	72	38	155	23	47
6	US 301 W	2281	18	636	1461	0	17	37	8	7	4	2	2	19	17	10	9	5	20	3	6
7	Crosstown Exp	1565	92	1018	1	0	0	0	0	0	0	0	0	123	111	87	80	4	18	10	21
9	SR 60 E	5221	606	904	325	33	0	0	1071	197	59	266	266	110	99	330	304	84	345	74	148
10	SR 60 W	3361	260	364	138	14	0	800	0	160	92	740	137	48	44	143	134	36	153	32	66
11	Grand Regancy Blve	422	39	59	21	2	0	93	60	0	26	14	14	7	6	21	19	5	22	5	9
12	Brandon Town Cntr Dr	776	58	87	31	3	0	51	89	272	0	22	22	10	9	31	29	8	33	7	14
13	Falkenburg Rd N	2787	71	103	36	4	0	142	1106	28	16	0	1107	13	12	38	35	10	40	9	17
14	Falkenburg Rd S	2505	76	109	39	4	0	152	322	30	13	1574	0	14	12	41	38	11	43	9	18
15	SR 574 E	3508	249	91	65	6	97	30	23	6	3	6	6	0	2243	170	157	46	192	39	79
16	SR 574 W	3080	224	240	168	17	250	77	59	15	9	15	15	1381	0	152	140	42	171	35	70
17	I-4 WB E	9564	624	841	52	5	105	137	103	27	16	26	26	127	68	0	6885	44	194	93	191
19	I-4 EB W	8570	852	1079	65	7	130	170	131	34	19	33	33	159	85	5078	0	61	257	125	252
21	SR 582 E	2137	390	5	21	2	5	30	21	6	3	6	6	29	16	39	38	0	1344	58	118
22	SR 582 W	3353	368	49	195	20	41	269	208	53	30	52	52	269	144	382	355	706	0	54	106
23	CR 582A E	1985	211	52	27	3	22	54	41	11	6	10	10	52	28	173	162	96	44	0	983
24	CR 582A W	2708	630	88	45	5	37	89	69	18	10	17	17	86	46	292	271	160	72	756	0

2035 a.m. hour truck O-D trip table –Alternative 1

	Name	2942	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	2942	Totals	450	579	94	144	79	83	121	5	1	13	7	78	73	498	459	83	65	54	56
1	I-75 N Limit	488	0	183	5	1	5	11	26	1	0	1	1	12	5	105	57	38	4	17	16
3	I-75 S Limit	651	186	0	34	81	64	42	29	3	1	1	1	16	11	113	61	1	1	3	3
5	US 301 E	111	5	31	0	58	1	2	2	0	0	0	0	3	2	2	1	2	2	0	0
6	US 301 W	126	2	81	38	0	0	1	0	0	0	0	0	1	1	1	0	0	1	0	0
7	Crosstown Exp	48	2	40	0	0	0	0	0	0	0	0	0	2	1	2	1	0	0	0	0
9	SR 60 E	102	17	36	3	1	0	0	22	0	0	1	1	2	1	6	4	3	3	1	1
10	SR 60 W	115	20	42	3	1	0	14	0	1	0	7	2	2	1	8	4	3	4	2	1
11	Grand Regancy Blve	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	3	1	1	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	13	1	1	0	0	0	0	9	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	11	1	2	0	0	0	1	4	0	0	3	0	0	0	0	0	0	0	0	0
15	SR 574 E	84	11	7	2	0	2	1	1	0	0	0	0	0	45	5	3	2	3	1	1
16	SR 574 W	65	7	13	3	1	3	1	2	0	0	0	0	25	0	3	2	1	2	1	1
17	I-4 WB E	494	69	77	1	0	2	3	7	0	0	0	0	4	2	0	306	6	6	6	5
19	I-4 EB W	353	51	54	1	0	2	2	5	0	0	0	0	3	1	216	0	4	5	5	4
21	SR 582 E	91	33	1	1	0	0	1	3	0	0	0	0	2	1	6	3	0	34	3	3
22	SR 582 W	63	7	2	2	1	0	2	6	0	0	0	0	4	1	13	7	16	0	1	1
23	CR 582A E	68	17	4	1	0	0	1	2	0	0	0	0	1	1	11	6	4	0	0	20
24	CR 582A W	55	20	3	0	0	0	1	2	0	0	0	0	1	0	7	4	3	0	14	0

2035 p.m. hour car O-D trip table –Alternative 1

	Name	71022	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	71022	Totals	6981	8875	3576	2078	2518	4404	3286	1326	579	2464	1683	3907	3045	9383	7779	2021	3278	1477	2362
1	I-75 N Limit	6187	0	1624	130	15	163	342	206	68	38	53	53	319	158	833	786	518	240	206	435
3	I-75 S Limit	7872	1342	0	812	438	1417	850	167	173	96	47	46	262	141	993	907	9	38	45	89
5	US 301 E	3263	126	531	0	1471	67	274	59	55	30	15	15	176	93	58	52	34	140	23	44
6	US 301 W	2416	55	572	1275	0	30	126	26	25	14	7	7	79	42	26	23	15	64	10	20
7	Crosstown Exp	2044	105	1427	4	0	0	0	0	0	0	0	0	187	100	83	74	5	21	13	25
9	SR 60 E	3155	331	439	284	33	0	0	786	119	36	197	196	50	27	151	135	47	193	45	86
10	SR 60 W	4403	361	254	173	19	0	1242	0	249	138	967	179	56	30	168	151	51	218	50	97
11	Grand Regancy Blve	1419	131	176	111	13	0	313	200	0	88	49	49	20	10	60	53	19	76	18	33
12	Brandon Town Cntr Dr	1136	85	114	72	8	0	76	129	401	0	32	32	13	7	39	34	12	49	11	22
13	Falkenburg Rd N	2433	64	46	29	3	0	166	966	33	18	0	967	10	5	29	26	9	37	9	16
14	Falkenburg Rd S	1524	46	33	21	2	0	119	195	24	23	958	0	7	4	21	19	7	27	6	12
15	SR 574 E	3368	205	211	121	14	195	56	34	11	6	9	9	0	1968	118	105	39	162	36	69
16	SR 574 W	3534	269	251	142	16	229	65	40	13	7	10	10	1792	0	154	137	51	211	47	90
17	I-4 WB E	8839	1060	1339	66	8	144	174	106	35	19	27	27	203	100	0	4599	78	337	175	342
19	I-4 EB W	10572	1033	1645	79	9	173	208	129	41	23	32	32	245	120	5915	0	76	320	168	324
21	SR 582 E	1762	381	4	15	2	3	21	12	4	2	3	3	26	13	25	24	0	1039	63	122
22	SR 582 W	3414	457	56	177	20	41	245	152	49	27	38	38	309	152	325	299	816	0	73	140
23	CR 582A E	1078	57	50	22	2	19	43	26	9	5	7	7	51	25	127	118	78	36	0	396
24	CR 582A W	2603	873	103	43	5	37	84	53	17	9	13	13	102	50	258	237	157	70	479	0

2035 p.m. hour truck O-D trip table –Alternative 1

	Name	2859	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	2859	Totals	487	654	98	114	78	92	104	6	2	12	8	94	63	485	319	85	60	50	48
1	I-75 N Limit	439	0	197	3	1	3	7	15	1	0	0	1	12	5	83	47	32	4	14	14
3	I-75 S Limit	579	166	0	44	66	64	39	28	3	1	1	1	18	7	86	47	1	1	3	3
5	US 301 E	90	5	27	0	43	1	3	2	0	0	0	0	4	1	1	1	1	1	0	0
6	US 301 W	136	5	76	35	0	1	3	2	0	0	0	0	4	2	2	1	2	2	1	0
7	Crosstown Exp	64	3	54	0	0	0	0	0	0	0	0	0	3	1	2	1	0	0	0	0
9	SR 60 E	75	11	21	3	1	0	0	24	0	0	1	1	1	0	4	2	2	2	1	1
10	SR 60 W	139	30	30	4	1	0	27	0	2	1	8	3	3	1	10	5	5	5	2	2
11	Grand Regancy Blve	7	1	3	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	4	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	12	1	1	0	0	0	0	8	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	8	1	1	0	0	0	1	3	0	0	2	0	0	0	0	0	0	0	0	0
15	SR 574 E	86	9	17	2	1	3	1	2	0	0	0	0	0	39	4	2	2	2	1	1
16	SR 574 W	76	9	15	2	1	2	1	1	0	0	0	0	33	0	4	2	2	2	1	1
17	I-4 WB E	469	107	114	1	0	2	3	5	0	0	0	0	5	2	0	194	9	9	9	9
19	I-4 EB W	446	64	86	1	0	2	2	4	0	0	0	0	4	2	259	0	5	6	6	5
21	SR 582 E	77	33	1	1	0	0	1	1	0	0	0	0	1	1	4	2	0	26	3	3
22	SR 582 W	65	10	2	2	0	0	2	4	0	0	0	0	4	2	12	6	19	0	1	1
23	CR 582A E	36	5	4	0	0	0	1	1	0	0	0	0	1	0	8	5	3	0	0	8
24	CR 582A W	51	26	3	0	0	0	0	1	0	0	0	0	1	0	6	4	2	0	8	0

2035 a.m. hour car O-D trip table –Alternative 2

	Name	76349	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	76349	Totals	4822	8495	4148	2665	2535	3551	4415	1182	475	3091	2008	3476	3534	9760	9864	1681	4394	1651	4602
1	I-75 N Limit	8056	0	1624	288	19	181	531	257	108	61	67	67	344	184	1132	850	637	956	244	506
3	I-75 S Limit	9679	1215	0	827	339	1668	730	646	148	85	171	171	248	230	1624	1210	11	47	51	258
5	US 301 E	4680	111	626	0	2202	42	321	300	64	36	74	74	162	149	91	67	41	171	25	124
6	US 301 W	2407	10	691	1538	0	4	32	29	6	4	7	7	15	14	9	6	4	17	2	12
7	Crosstown Exp	1600	65	1055	3	0	0	0	0	0	0	0	0	122	112	93	68	4	18	10	50
9	SR 60 E	5589	494	1076	174	13	0	0	1092	210	63	268	268	126	115	405	295	97	396	85	412
10	SR 60 W	3398	180	717	120	9	0	585	0	116	66	750	140	46	43	149	110	35	148	31	153
11	Grand Regancy Blve	453	32	70	11	1	0	100	61	0	28	14	14	8	7	26	19	6	25	5	26
12	Brandon Town Cntr Dr	832	48	104	16	1	0	55	90	290	0	22	22	12	11	39	28	9	38	8	39
13	Falkenburg Rd N	2820	47	190	30	2	0	99	1119	20	11	0	1120	12	11	38	28	9	37	8	39
14	Falkenburg Rd S	2539	50	203	32	2	0	106	327	21	9	1593	0	13	12	41	30	10	40	9	41
15	SR 574 E	4061	179	195	250	17	202	80	40	16	9	10	10	0	2265	183	134	47	192	40	192
16	SR 574 W	3136	160	146	186	13	150	60	30	12	7	8	8	1657	0	163	119	42	170	35	170
17	I-4 WB E	9337	627	688	76	5	83	139	69	28	16	18	18	112	60	0	6280	64	275	129	650
19	I-4 EB W	7846	424	932	101	7	110	185	92	37	21	23	23	149	80	4924	0	43	180	87	428
21	SR 582 E	2206	263	6	44	3	5	43	20	9	5	5	5	37	20	47	35	0	1335	54	270
22	SR 582 W	3100	249	47	333	24	38	321	161	64	36	40	40	277	148	370	271	385	0	51	245
23	CR 582A E	2126	311	47	45	3	20	63	31	13	7	8	8	52	28	160	119	90	134	0	987
24	CR 582A W	2484	357	78	74	5	32	101	51	20	11	13	13	84	45	266	195	147	215	777	0

2035 a.m. hour truck O-D trip table –Alternative 2

	Name	3020	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	3020	Totals	365	636	116	148	78	76	141	5	2	13	8	86	75	526	422	76	87	60	100
1	I-75 N Limit	529	0	190	15	4	6	20	24	2	1	1	1	11	5	116	53	40	20	11	9
3	I-75 S Limit	717	162	0	48	84	61	31	70	2	1	3	4	20	14	134	62	1	2	6	12
5	US 301 E	128	6	43	0	52	0	2	3	0	0	0	0	6	4	3	1	2	3	1	2
6	US 301 W	133	1	105	21	0	0	0	1	0	0	0	0	1	1	1	0	0	1	0	1
7	Crosstown Exp	50	2	40	0	0	0	0	0	0	0	0	0	2	2	2	1	0	0	0	1
9	SR 60 E	109	18	48	1	0	0	0	8	1	0	0	0	3	2	9	4	3	4	3	5
10	SR 60 W	113	13	64	1	0	0	4	0	0	0	6	1	2	1	7	3	2	3	2	4
11	Grand Regancy Blve	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	3	1	2	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	14	1	3	0	0	0	0	8	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	11	1	4	0	0	0	0	3	0	0	3	0	0	0	0	0	0	0	0	0
15	SR 574 E	98	7	16	9	2	4	2	3	0	0	0	0	0	41	4	2	2	2	1	3
16	SR 574 W	64	5	9	5	1	3	1	1	0	0	0	0	30	0	3	1	1	1	1	2
17	I-4 WB E	478	72	56	3	1	2	4	5	0	0	0	0	3	1	0	277	6	9	13	26
19	I-4 EB W	317	28	45	2	1	1	3	4	0	0	0	0	2	1	208	0	3	4	5	10
21	SR 582 E	89	23	1	3	1	0	2	2	0	0	0	0	1	1	6	3	0	34	4	8
22	SR 582 W	54	6	2	5	1	0	4	5	0	0	0	0	3	1	11	5	8	0	1	2
23	CR 582A E	68	13	4	2	1	1	2	2	0	0	0	0	1	1	13	6	5	2	0	15
24	CR 582A W	44	6	3	1	0	0	1	2	0	0	0	0	1	0	9	4	3	2	12	0

2035 p.m. hour car O-D trip table –Alternative 2

	Name	71916	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	71916	Totals	7488	9565	3658	1971	2710	4377	3268	1300	573	2477	1686	3874	2748	9153	8081	1871	3384	1485	2247
1	I-75 N Limit	6349	0	1736	142	17	165	346	210	69	38	54	54	308	153	829	794	529	248	212	445
3	I-75 S Limit	8484	1637	0	825	368	1607	857	166	174	97	47	46	283	155	1057	956	11	47	52	99
5	US 301 E	3164	137	531	0	1435	65	230	49	46	25	12	12	169	91	55	48	38	155	23	43
6	US 301 W	2641	67	595	1448	0	33	116	24	23	13	6	6	84	46	27	24	18	78	11	22
7	Crosstown Exp	2203	109	1618	3	0	0	0	0	0	0	0	0	173	93	75	66	6	23	13	24
9	SR 60 E	2995	326	484	205	25	0	0	756	113	34	189	189	44	24	130	115	48	195	41	77
10	SR 60 W	4455	382	307	137	16	0	1256	0	252	139	980	181	52	28	154	138	56	235	49	93
11	Grand Regancy Blve	1359	131	197	81	10	0	299	195	0	84	48	48	17	9	52	46	19	77	16	30
12	Brandon Town Cntr Dr	1096	86	129	53	7	0	72	127	384	0	31	31	11	6	34	30	13	51	11	20
13	Falkenburg Rd N	2468	68	57	23	3	0	169	978	34	19	0	978	9	5	27	24	10	40	8	16
14	Falkenburg Rd S	1542	48	40	17	2	0	122	198	24	24	969	0	6	3	19	17	7	29	6	11
15	SR 574 E	2939	193	192	113	14	169	48	30	10	5	8	8	0	1684	96	85	38	156	31	59
16	SR 574 W	3646	281	289	166	20	250	71	44	14	8	11	11	1807	0	140	124	55	225	45	85
17	I-4 WB E	8872	970	1323	67	8	135	163	100	32	18	25	25	181	90	0	4910	74	316	150	285
19	I-4 EB W	10693	1098	1833	90	11	182	219	137	44	24	34	34	246	121	5708	0	83	349	166	314
21	SR 582 E	2051	462	10	34	4	7	44	26	9	5	7	7	52	26	53	52	0	1048	71	134
22	SR 582 W	3063	426	56	182	22	39	234	146	46	26	36	36	281	139	305	286	620	0	64	119
23	CR 582A E	1098	138	50	22	3	18	40	25	8	4	6	6	46	23	118	111	75	34	0	371
24	CR 582A W	2798	929	118	50	6	40	91	57	18	10	14	14	105	52	274	255	171	78	516	0

2035 p.m. hour truck O-D trip table –Alternative 2

	Name	2929	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	2929	Totals	515	704	101	110	84	90	106	5	2	12	8	93	55	473	333	79	62	51	46
1	I-75 N Limit	451	0	211	3	1	3	7	14	0	0	0	1	11	4	82	47	33	4	15	15
3	I-75 S Limit	623	197	0	45	61	71	40	30	3	1	1	1	19	8	89	48	1	2	3	3
5	US 301 E	87	4	27	0	43	1	2	2	0	0	0	0	3	1	1	1	1	1	0	0
6	US 301 W	147	5	83	39	0	1	3	2	0	0	0	0	4	2	2	1	2	2	1	0
7	Crosstown Exp	67	2	60	0	0	0	0	0	0	0	0	0	2	1	1	1	0	0	0	0
9	SR 60 E	70	9	23	2	1	0	0	23	0	0	1	1	1	0	3	1	1	2	1	1
10	SR 60 W	139	28	38	3	1	0	27	0	2	1	8	3	2	1	8	4	4	5	2	2
11	Grand Regancy Blve	7	1	3	0	0	0	1	2	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	4	1	2	0	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	13	1	1	0	0	0	0	9	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	8	1	1	0	0	0	1	3	0	0	2	0	0	0	0	0	0	0	0	0
15	SR 574 E	74	8	16	2	1	2	1	1	0	0	0	0	0	32	3	2	2	2	1	1
16	SR 574 W	78	9	17	2	1	2	1	2	0	0	0	0	33	0	3	2	2	2	1	1
17	I-4 WB E	470	98	114	1	0	2	2	5	0	0	0	0	5	2	0	208	8	10	8	7
19	I-4 EB W	451	67	97	1	0	2	2	4	0	0	0	0	4	2	249	0	5	7	6	5
21	SR 582 E	88	36	2	1	0	0	1	2	0	0	0	0	3	1	7	4	0	25	3	3
22	SR 582 W	58	9	2	2	1	0	2	4	0	0	0	0	4	1	11	6	14	0	1	1
23	CR 582A E	37	10	4	0	0	0	0	1	0	0	0	0	1	0	7	4	3	0	0	7
24	CR 582A W	57	29	3	0	0	0	0	1	0	0	0	0	1	0	7	4	3	0	9	0

2035 a.m. hour car O-D trip table –Alternative 3

	Name	50141	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	50141	Totals	1391	3296	2859	2550	603	1862	3759	795	277	2909	1829	3660	3551	5264	7847	1485	2753	1333	2118
1	I-75 N Limit	1735	0	0	0	0	0	0	0	0	0	0	0	148	79	0	0	528	242	237	501
3	I-75 S Limit	2518	0	0	116	1051	0	312	405	63	36	108	108	319	0	0	0	0	0	0	0
5	US 301 E	3098	0	295	0	849	125	484	675	96	54	165	165	118	0	0	0	11	47	5	9
6	US 301 W	2325	0	1012	1159	0	10	38	53	8	4	13	13	9	0	0	0	1	4	0	1
7	Crosstown Exp	185	0	0	3	1	0	0	0	0	0	0	0	181	0	0	0	0	0	0	0
9	SR 60 E	4297	0	1087	1021	419	0	0	1026	189	57	249	249	0	0	0	0	0	0	0	0
10	SR 60 W	2419	0	462	0	0	0	317	0	63	36	748	140	220	0	0	0	62	263	36	72
11	Grand Regancy Blve	361	0	71	65	27	0	90	57	0	25	13	13	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	676	0	106	96	39	0	49	84	262	0	20	20	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	2573	0	119	0	0	0	50	1117	10	6	0	1118	52	0	0	0	15	61	8	17
14	Falkenburg Rd S	2275	0	126	0	0	0	54	326	11	5	1590	0	55	0	0	0	16	65	9	18
15	SR 574 E	4072	90	3	20	8	76	10	0	2	1	0	0	0	2988	271	199	58	248	33	65
16	SR 574 W	3139	81	15	106	44	392	49	2	10	6	0	0	1654	0	243	177	53	220	29	58
17	I-4 WB E	7711	0	0	0	0	0	0	0	0	0	0	0	156	84	0	7471	0	0	0	0
19	I-4 EB W	5281	0	0	0	0	0	0	0	0	0	0	0	346	185	4750	0	0	0	0	0
21	SR 582 E	2173	292	0	24	10	0	35	1	7	4	0	0	35	19	0	0	0	1445	100	201
22	SR 582 W	1967	276	0	192	79	0	264	9	52	30	2	2	262	140	0	0	386	0	92	181
23	CR 582A E	1649	300	0	22	9	0	43	2	9	5	0	0	41	22	0	0	139	62	0	995
24	CR 582A W	1687	352	0	35	14	0	67	2	13	8	1	1	64	34	0	0	216	96	784	0

2035 a.m. hour SUL O-D trip table –Alternative 3

	Name	27199	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	27199	Totals	4486	6476	496	136	4139	1349	485	272	155	127	127	0	0	3967	2951	188	840	330	675
1	I-75 N Limit	5816	0	2189	255	48	307	706	392	144	82	102	102	0	0	847	642	0	0	0	0
3	I-75 S Limit	6789	1853	0	0	0	2496	0	0	0	0	0	0	0	0	1230	926	14	68	65	137
5	US 301 E	237	157	0	0	0	0	0	0	0	0	0	0	0	0	46	34	0	0	0	0
6	US 301 W	26	19	0	0	0	0	0	0	0	0	0	0	0	0	4	3	0	0	0	0
7	Crosstown Exp	3490	200	2994	0	0	0	0	0	0	0	0	0	0	0	98	71	11	45	24	47
9	SR 60 E	774	646	0	0	0	0	0	0	0	0	0	0	0	0	75	53	0	0	0	0
10	SR 60 W	985	394	0	0	0	0	0	0	0	0	0	0	0	0	341	250	0	0	0	0
11	Grand Regancy Blve	50	42	0	0	0	0	0	0	0	0	0	0	0	0	5	3	0	0	0	0
12	Brandon Town Cntr Dr	74	62	0	0	0	0	0	0	0	0	0	0	0	0	7	5	0	0	0	0
13	Falkenburg Rd N	247	106	0	0	0	0	0	0	0	0	0	0	0	0	82	59	0	0	0	0
14	Falkenburg Rd S	262	112	0	0	0	0	0	0	0	0	0	0	0	0	87	63	0	0	0	0
15	SR 574 E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	SR 574 W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	I-4 WB E	2332	453	305	74	27	328	200	28	40	23	8	8	0	0	0	0	82	377	124	255
19	I-4 EB W	3559	442	699	167	61	726	443	65	88	50	17	17	0	0	0	0	81	350	117	236
21	SR 582 E	137	0	7	0	0	16	0	0	0	0	0	0	0	0	64	50	0	0	0	0
22	SR 582 W	1135	0	74	0	0	122	0	0	0	0	0	0	0	0	542	397	0	0	0	0
23	CR 582A E	492	0	76	0	0	56	0	0	0	0	0	0	0	0	207	153	0	0	0	0
24	CR 582A W	794	0	132	0	0	88	0	0	0	0	0	0	0	0	332	242	0	0	0	0

2035 a.m. hour truck O-D trip table –Alternative 3

	Name	3105	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	3105	Totals	419	704	93	147	146	68	131	5	1	14	9	90	75	494	455	73	68	56	57
1	I-75 N Limit	511	0	211	25	4	10	26	40	2	1	2	2	5	2	83	32	29	3	18	16
3	I-75 S Limit	692	217	0	13	115	98	14	53	1	0	2	3	24	0	101	39	2	2	4	4
5	US 301 E	96	8	48	0	13	1	3	12	0	0	1	1	4	0	2	1	1	1	0	0
6	US 301 W	132	1	117	13	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0
7	Crosstown Exp	114	2	110	0	0	0	0	0	0	0	0	0	1	0	1	0	0	0	0	0
9	SR 60 E	99	13	68	7	3	0	0	7	0	0	0	0	0	0	1	0	0	0	0	0
10	SR 60 W	117	16	64	0	0	0	2	0	0	0	6	1	6	0	10	4	3	3	1	1
11	Grand Regancy Blve	1	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	3	0	3	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	13	1	2	0	0	0	0	8	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	12	1	4	0	0	0	0	3	0	0	3	0	0	0	1	0	0	0	0	0
15	SR 574 E	101	5	0	2	1	3	0	0	0	0	0	0	0	67	10	4	3	4	1	1
16	SR 574 W	63	2	1	6	2	8	1	0	0	0	0	0	32	0	5	2	2	2	0	0
17	I-4 WB E	521	59	29	7	2	10	7	3	1	0	0	0	5	2	0	354	13	13	8	8
19	I-4 EB W	363	30	36	8	3	12	8	4	1	0	0	0	6	2	232	0	6	7	4	4
21	SR 582 E	96	25	1	4	2	1	2	0	0	0	0	0	2	1	12	5	0	33	4	4
22	SR 582 W	55	4	2	6	2	1	3	0	0	0	0	0	3	1	17	7	7	0	1	1
23	CR 582A E	68	23	4	1	0	1	1	0	0	0	0	0	1	0	11	4	4	0	0	18
24	CR 582A W	48	12	3	1	0	1	1	0	0	0	0	0	1	0	8	3	3	0	15	0

2035 p.m. hour car O-D trip table –Alternative 3

	Name	52089	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	52089	Totals	1632	3865	4119	2319	1135	3347	2912	1232	481	2379	1591	3537	3137	5771	6475	2731	2352	1443	1631
1	I-75 N Limit	1539	0	0	0	0	0	0	0	0	0	0	0	148	80	0	0	446	209	211	445
3	I-75 S Limit	2694	0	0	922	406	0	712	78	145	81	22	22	102	204	0	0	0	0	0	0
5	US 301 E	2929	0	427	0	1817	48	417	51	83	46	13	13	3	6	0	0	1	3	0	1
6	US 301 W	2585	0	735	1731	0	8	73	9	15	8	2	2	0	1	0	0	0	1	0	0
7	Crosstown Exp	777	0	0	191	13	0	0	0	0	0	0	0	194	379	0	0	0	0	0	0
9	SR 60 E	3262	0	1060	294	20	0	0	985	151	45	241	241	19	37	0	0	25	103	14	27
10	SR 60 W	3502	0	462	136	9	0	1003	0	199	111	979	182	35	70	0	0	46	194	25	51
11	Grand Regancy Blve	1527	0	430	116	8	0	398	251	0	112	61	61	8	15	0	0	10	41	5	11
12	Brandon Town Cntr Dr	1271	0	281	76	5	0	96	164	510	0	40	40	5	10	0	0	7	27	3	7
13	Falkenburg Rd N	2295	0	81	22	1	0	128	977	26	14	0	978	6	11	0	0	8	31	4	8
14	Falkenburg Rd S	1424	0	59	16	1	0	94	198	19	18	969	0	4	8	0	0	6	23	3	6
15	SR 574 E	4064	90	226	302	19	743	127	58	25	14	15	15	0	1757	192	141	51	210	26	53
16	SR 574 W	3535	102	104	137	9	336	57	27	11	6	7	7	1969	0	218	159	58	238	30	60
17	I-4 WB E	6542	0	0	0	0	0	0	0	0	0	0	0	239	128	0	6175	0	0	0	0
19	I-4 EB W	5912	0	0	0	0	0	0	0	0	0	0	0	359	192	5361	0	0	0	0	0
21	SR 582 E	1882	319	0	23	1	0	30	13	6	3	4	4	55	30	0	0	0	1124	89	181
22	SR 582 W	3291	383	0	118	8	0	148	71	29	16	18	18	277	148	0	0	1745	0	104	208
23	CR 582A E	1123	386	0	7	0	0	13	6	3	1	2	2	23	12	0	0	65	30	0	573
24	CR 582A W	1935	352	0	28	2	0	51	24	10	6	6	6	91	49	0	0	263	118	929	0

2035 p.m. hour SUL O-D trip table –Alternative 3

	Name	26290	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	26290	Totals	5344	6037	470	43	2990	1198	635	243	134	172	171	0	0	3573	2660	248	1105	419	848
1	I-75 N Limit	4970	0	1781	252	25	177	657	358	134	74	100	99	0	0	746	567	0	0	0	0
3	I-75 S Limit	6534	2239	0	0	0	2130	0	0	0	0	0	0	0	0	1028	773	17	83	87	177
5	US 301 E	193	162	0	0	0	0	0	0	0	0	0	0	0	0	18	13	0	0	0	0
6	US 301 W	83	71	0	0	0	0	0	0	0	0	0	0	0	0	7	5	0	0	0	0
7	Crosstown Exp	2348	144	1784	0	0	0	0	0	0	0	0	0	0	0	167	122	12	51	23	45
9	SR 60 E	721	474	0	0	0	0	0	0	0	0	0	0	0	0	143	104	0	0	0	0
10	SR 60 W	954	549	0	0	0	0	0	0	0	0	0	0	0	0	233	172	0	0	0	0
11	Grand Regancy Blve	289	191	0	0	0	0	0	0	0	0	0	0	0	0	57	41	0	0	0	0
12	Brandon Town Cntr Dr	188	124	0	0	0	0	0	0	0	0	0	0	0	0	37	27	0	0	0	0
13	Falkenburg Rd N	167	100	0	0	0	0	0	0	0	0	0	0	0	0	39	28	0	0	0	0
14	Falkenburg Rd S	120	71	0	0	0	0	0	0	0	0	0	0	0	0	28	21	0	0	0	0
15	SR 574 E	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
16	SR 574 W	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
17	I-4 WB E	3307	607	866	87	7	213	217	109	44	24	29	29	0	0	0	0	108	493	156	318
19	I-4 EB W	4146	612	1344	131	11	319	324	168	65	36	43	43	0	0	0	0	111	478	153	308
21	SR 582 E	161	0	7	0	0	10	0	0	0	0	0	0	0	0	81	63	0	0	0	0
22	SR 582 W	983	0	70	0	0	63	0	0	0	0	0	0	0	0	491	359	0	0	0	0
23	CR 582A E	268	0	55	0	0	20	0	0	0	0	0	0	0	0	111	82	0	0	0	0
24	CR 582A W	858	0	130	0	0	58	0	0	0	0	0	0	0	0	387	283	0	0	0	0

2035 p.m. hour truck O-D trip table –Alternative 3

	Name	3136	I-75 N Limit	I-75 S Limit	US 301 E	US 301 W	Crosstown Exp	SR 60 E	SR 60 W	Grand Regancy Blve	Brandon Town Cntr Dr	Falkenburg Rd N	Falkenburg Rd S	SR 574 E	SR 574 W	I-4 WB E	I-4 EB W	SR 582 E	SR 582 W	CR 582A E	CR 582A W
	3136	Totals	483	731	125	131	128	90	116	7	2	12	8	85	62	483	374	125	64	61	49
1	I-75 N Limit	466	0	200	9	3	5	20	38	2	1	1	2	5	2	78	31	35	3	16	15
3	I-75 S Limit	684	244	0	59	77	92	36	15	3	1	0	1	11	14	83	33	3	2	5	5
5	US 301 E	84	5	29	0	46	0	3	1	0	0	0	0	0	0	0	0	0	0	0	0
6	US 301 W	147	4	109	33	0	0	1	0	0	0	0	0	0	0	0	0	0	0	0	0
7	Crosstown Exp	96	3	79	1	0	0	0	0	0	0	0	0	4	5	3	1	0	0	0	0
9	SR 60 E	94	11	54	2	0	0	0	19	0	0	1	1	0	1	2	1	1	1	0	0
10	SR 60 W	138	29	57	2	0	0	13	0	1	0	8	2	2	2	9	4	4	3	1	1
11	Grand Regancy Blve	10	1	7	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0	0
12	Brandon Town Cntr Dr	8	1	5	0	0	0	0	1	1	0	0	0	0	0	0	0	0	0	0	0
13	Falkenburg Rd N	12	1	1	0	0	0	0	8	0	0	0	2	0	0	0	0	0	0	0	0
14	Falkenburg Rd S	7	1	1	0	0	0	0	3	0	0	2	0	0	0	0	0	0	0	0	0
15	SR 574 E	100	2	21	9	2	16	3	5	0	0	0	0	0	32	4	2	2	2	0	0
16	SR 574 W	75	2	8	3	1	6	1	2	0	0	0	0	43	0	4	1	2	2	0	0
17	I-4 WB E	524	72	81	3	1	5	5	10	0	0	0	0	7	2	0	284	19	16	10	9
19	I-4 EB W	424	39	69	2	1	4	5	8	0	0	0	0	6	2	257	0	11	9	6	5
21	SR 582 E	87	26	1	1	0	0	1	2	0	0	0	0	3	1	13	5	0	26	4	4
22	SR 582 W	80	6	2	1	0	0	1	2	0	0	0	0	3	1	15	6	41	0	1	1
23	CR 582A E	45	24	3	0	0	0	0	0	0	0	0	0	0	0	5	2	2	0	0	9
24	CR 582A W	55	12	4	0	0	0	0	1	0	0	0	0	1	0	10	4	5	0	18	0

I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

APPENDIX H

Future Year (2035) Conditions Traffic Analysis Data Sheets

INTERSTATE 75

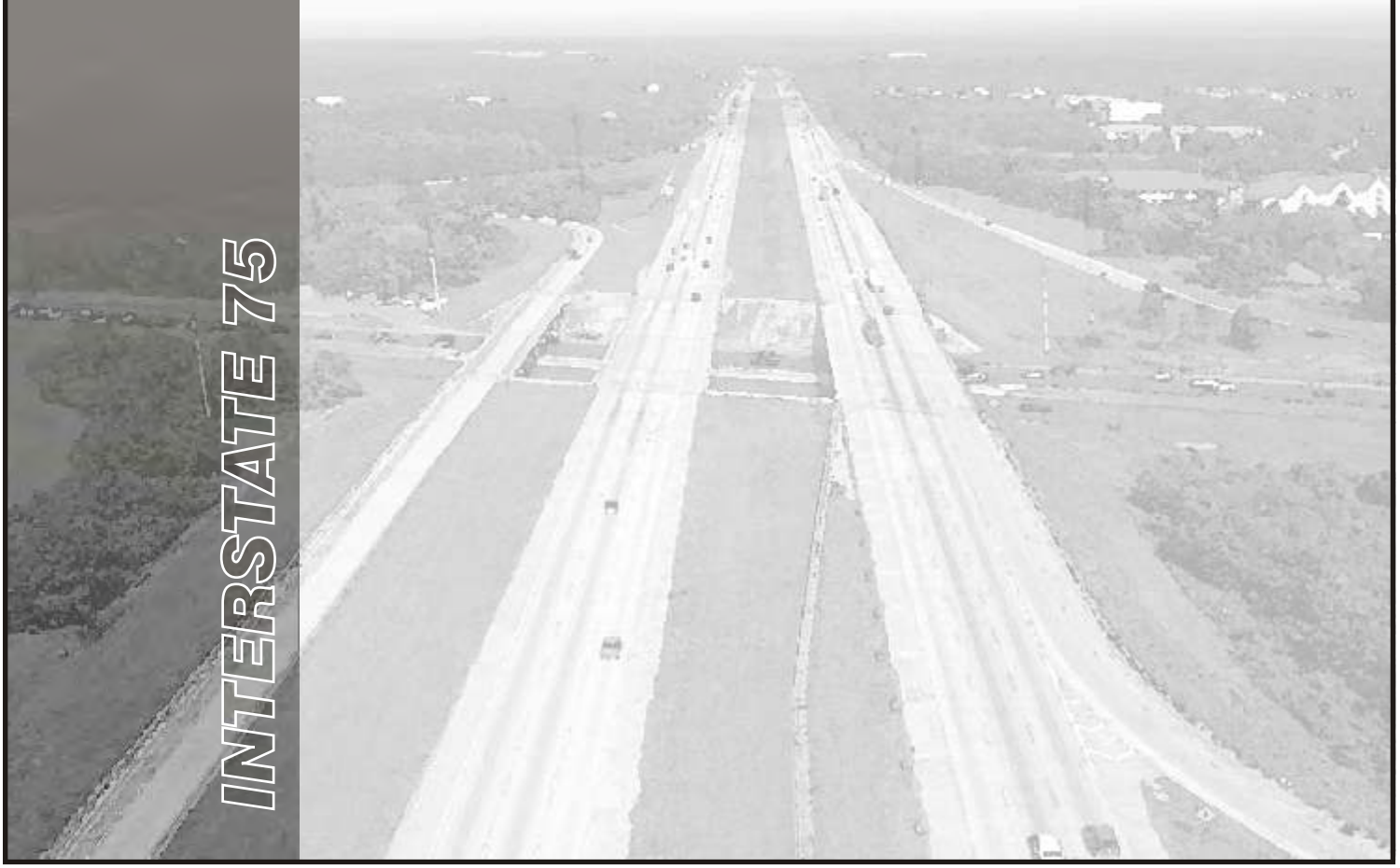
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Signalized Intersection Result Sheets

Future Year (2035)
No-Build Alternative Conditions



HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 No Build Alternative-AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1800*		*1117*	*1603*		*490*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *40.0*	G = *45.0*	G =	G =	G = *20.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2000*		*1241*	*1781*		*544*					
Lane Group Capacity, c		*1317*		*646*	*2634*		*292*					
v/c Ratio, X		*1.52*		*1.92*	*0.68*		*1.86*					
Total Green Ratio, g/C		*0.38*		*0.75*	*0.75*		*0.17*					
Uniform Delay, d_1		*37.5*		*35.0*	*7.6*		*50.0*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*237.3*		*420.2*	*1.4*		*401.2*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*274.8*		*455.3*	*9.0*		*451.2*					
Lane Group LOS		*F*		*F*	*A*		*F*					
	274.8			*192.3*			*451.2*					

Approach Delay				
Approach LOS	*F*	*F*	*F*	
Intersection Delay	*247.2*	X_C = *5.55*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 No Build Alternative- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2092*		*312*	*1781*		*1146*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *10.0*	G = *52.0*	G =	G =	G = *43.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2324*		*347*	*1979*		*1273*					
Lane Group Capacity, c		*1522*		*207*	*1961*		*1219*					
v/c Ratio, X		*1.53*		*1.68*	*1.01*		*1.04*					
Total Green Ratio, g/C		*0.43*		*0.56*	*0.56*		*0.36*					
Uniform Delay, d_1		*34.0*		*37.2*	*26.5*		*38.5*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*240.5*		*324.6*	*22.6*		*38.1*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*274.5*		*361.8*	*49.1*		*76.6*					
Lane Group LOS		*F*		*F*	*D*		*E*					

Approach Delay	*274.5*	*95.7*	*76.6*	
Approach LOS	*F*	*F*	*E*	
Intersection Delay	*161.8*	X_C = *2.20*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 No Build Alternative-AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1255*		*339*	*837*					*1440*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *11.0*	G = *47.0*	G =	G =	G = *47.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1394*		*377*	*930*					*1600*		
Lane Group Capacity, c		*1349*		*218*	*1809*					*673*		
v/c Ratio, X		*1.03*		*1.73*	*0.51*					*2.38*		
Total Green Ratio, g/C		*0.39*		*0.52*	*0.52*					*0.39*		
Uniform Delay, d_1		*36.5*		*26.0*	*18.5*					*36.5*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*33.5*		*346.7*	*1.0*					*624.4*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*70.0*		*372.8*	*19.6*					*660.9*		
Lane Group LOS		*E*		*F*	*B*					*F*		
	70.0			*121.5*						*660.9*		

Approach Delay				
Approach LOS	*E*	*F*		*F*
Intersection Delay	*305.5*	X_C = *2.83*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/03/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 No Build Alternative- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2000*		*1131*	*1484*		*188*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *35.0*	G = *53.0*	G =	G =	G = *17.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2222*		*1257*	*1649*		*209*					
Lane Group Capacity, c		*1551*		*572*	*2722*		*248*					
v/c Ratio, X		*1.43*		*2.20*	*0.61*		*0.84*					
Total Green Ratio, g/C		*0.44*		*0.77*	*0.77*		*0.14*					
Uniform Delay, d_1		*33.5*		*37.5*	*5.7*		*50.2*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*198.5*		*544.6*	*1.0*		*27.9*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*232.0*		*582.1*	*6.7*		*78.1*					
Lane Group LOS		*F*		*F*	*A*		*E*					

Approach Delay	*232.0*	*255.6*	*78.1*	
Approach LOS	*F*	*F*	*E*	
Intersection Delay	*238.8*	X_C = *6.86*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 No Build Alternative-PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1856*		*371*	*1301*		*1145*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *11.0*	G = *48.0*	G =	G =	G = *46.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2062*		*412*	*1446*		*1272*					
Lane Group Capacity, c		*1405*		*222*	*1873*		*1304*					
v/c Ratio, X		*1.47*		*1.86*	*0.77*		*0.98*					
Total Green Ratio, g/C		*0.40*		*0.53*	*0.53*		*0.38*					
Uniform Delay, d_1		*36.0*		*36.9*	*22.2*		*36.4*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*214.4*		*402.0*	*3.2*		*19.7*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*250.4*		*438.9*	*25.4*		*56.1*					
Lane Group LOS		*F*		*F*	*C*		*E*					
	250.4			*117.1*			*56.1*					

Approach Delay				
Approach LOS	*F*	*F*	*E*	
Intersection Delay	*155.1*	X_C = *2.48*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 No Build Alternative-PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1570*		*312*	*988*					*1390*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *14.0*	G = *41.0*	G =	G =	G = *50.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1744*		*347*	*1098*					*1544*		
Lane Group Capacity, c		*1177*		*261*	*1723*					*716*		
v/c Ratio, X		*1.48*		*1.33*	*0.64*					*2.16*		
Total Green Ratio, g/C		*0.34*		*0.50*	*0.50*					*0.42*		
Uniform Delay, d_1		*39.5*		*37.1*	*22.0*					*35.0*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*221.4*		*172.2*	*1.8*					*525.0*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*260.9*		*209.3*	*23.8*					*560.0*		
Lane Group LOS		*F*		*F*	*C*					*F*		
	260.9			*68.4*						*560.0*		

Approach Delay				
Approach LOS	*F*	*E*		*F*
Intersection Delay	*299.7*	X_C = *2.12*	Intersection LOS	*F*

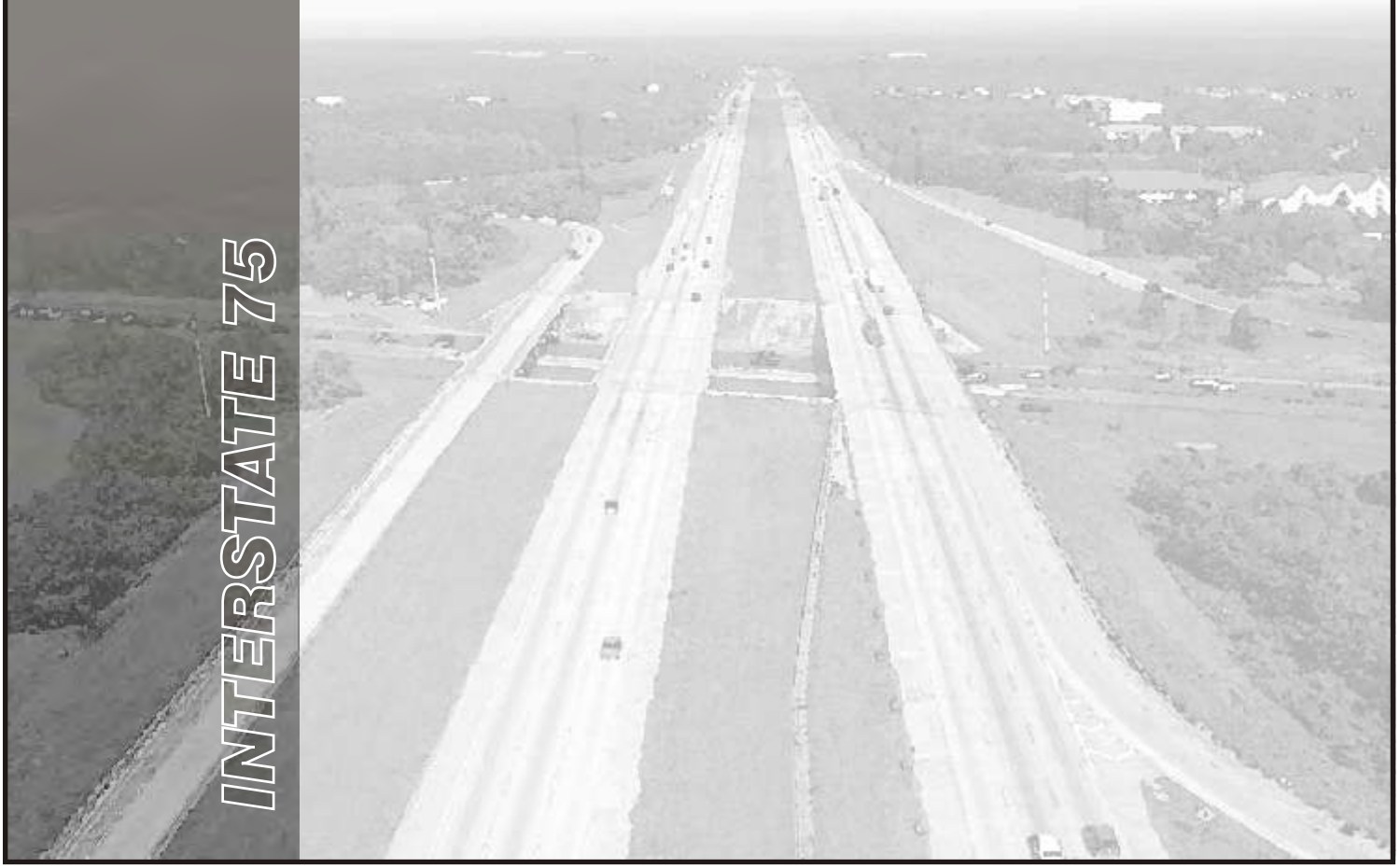
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Unsignalized Intersection Result Sheets

Future Year (2035)
No-Build Alternative Conditions



TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 No Build*

Project Description *I-75 northbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*161*	*1020*			*1173*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*178*	*1133*	*0*	*0*	*1303*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*696*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*773*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*178*		*773*					
C (m) (veh/h)	*501*		*79*					
v/c	*0.36*		*9.78*					
95% queue length	*1.59*		*89.97*					
Control Delay (s/veh)	*16.1*		*4054*					
LOS	*C*		*F*					
Approach Delay (s/veh)	--	--	*4054*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 No Build*

Project Description *I-75 southbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1026*		*308*	*1561*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1140*	*0*	*342*	*1734*	*0*
Percent Heavy Vehicles	*7*	--	--	*7*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*162*		
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*180*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*342*				*180*		
C (m) (veh/h)		*581*				*4*		
v/c		*0.59*				*45.00*		
95% queue length		*3.81*				*24.73*		
Control Delay (s/veh)		*19.7*				*21586*		
LOS		*C*				*F*		
Approach Delay (s/veh)	--	--				*21586*		
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description *I-75 northbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2376*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2640*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*253*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*281*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*281*					
C (m) (veh/h)			*48*					
v/c			*5.85*					
95% queue length			*32.38*					
Control Delay (s/veh)			*2351*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*2351*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description *I-75 southbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2679*		*306*	*1973*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2976*	*0*	*340*	*2192*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						*878*
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*975*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						*R*
v (veh/h)		*340*						*975*
C (m) (veh/h)		*113*						*207*
v/c		*3.01*						*4.71*
95% queue length		*32.32*						*99.67*
Control Delay (s/veh)		*986.3*						*1714*
LOS		*F*						*F*
Approach Delay (s/veh)	--	--				*1714*		
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Gibsonton Drive*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description *I-75 northbound ramps at Gibsonton Drive*

East/West Street: *Gibsonton Drive* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*829*	*1865*			*1050*	*1159*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*921*	*2072*	*0*	*0*	*1166*	*1287*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*1*
Configuration	*L*	*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*126*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*140*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*921*		*140*					
C (m) (veh/h)	*184*		*0*					
v/c	*5.01*							
95% queue length	*95.73*							
Control Delay (s/veh)	*1851*							
LOS	*F*		*F*					
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 No Build*

Project Description *I-75 northbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*182*	*693*			*1201*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*202*	*770*	*0*	*0*	*1334*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*785*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*872*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*202*		*872*					
C (m) (veh/h)	*487*		*99*					
v/c	*0.41*		*8.81*					
95% queue length	*2.01*		*99.90*					
Control Delay (s/veh)	*17.5*		*3596*					
LOS	*C*		*F*					
Approach Delay (s/veh)	--	--	*3596*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 No Build*

Project Description *I-75 southbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*687*		*220*	*1766*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*763*	*0*	*244*	*1962*	*0*
Percent Heavy Vehicles	*0*	--	--	*7*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*188*		
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*208*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*244*				*208*		
C (m) (veh/h)		*813*				*29*		
v/c		*0.30*				*7.17*		
95% queue length		*1.26*				*25.44*		
Control Delay (s/veh)		*11.3*				*3044*		
LOS		*B*				*F*		
Approach Delay (s/veh)	--	--				*3044*		
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description *I-75 northbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2207*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2452*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*377*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*418*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*418*					
C (m) (veh/h)			*60*					
v/c			*6.97*					
95% queue length			*48.01*					
Control Delay (s/veh)			*2818*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*2818*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak*

Site Information

Intersection	*I-75 SB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 - No Build*

Project Description *I-75 southbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2387*		*297*	*1872*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2652*	*0*	*330*	*2080*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						*1060*
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*1177*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						*R*
v (veh/h)		*330*						*1177*
C (m) (veh/h)		*153*						*231*
v/c		*2.16*						*5.10*
95% queue length		*26.75*						*121.87*
Control Delay (s/veh)		*589.8*						*1883*
LOS		*F*						*F*
Approach Delay (s/veh)	--	--				*1883*		
Approach LOS	--	--				*F*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Gibsonton Drive*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description *I-75 northbound ramps at Gibsonton Drive*

East/West Street: *Gibsonton Drive* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*829*	*2130*			*1189*	*934*
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*921*	*2366*	*0*	*0*	*1321*	*1037*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*1*
Configuration	*L*	*T*			*T*	*R*
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*111*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*123*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*921*		*123*					
C (m) (veh/h)	*201*		*0*					
v/c	*4.58*							
95% queue length	*93.69*							
Control Delay (s/veh)	*1657*							
LOS	*F*		*F*					
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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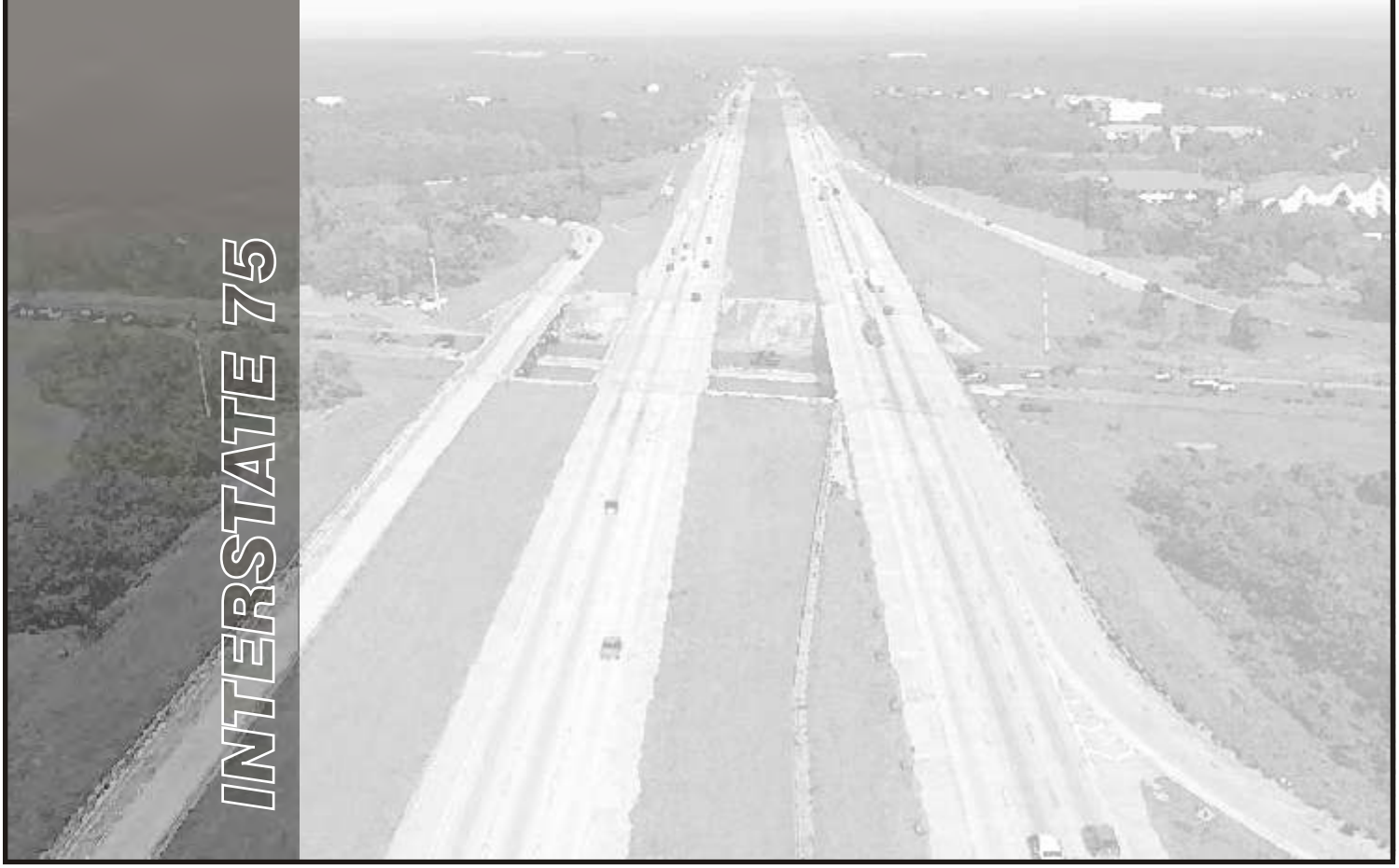
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Ramp Merge/ Diverge Result Sheets

Future Build (2035)
No-Build Alternative Conditions



RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 387 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5365	0.90	Level	8	0	0.962	1.00	6200
Ramp	1255	0.90	Level	2	0	0.990	1.00	1408
UpStream								
DownStream	387	0.90	Level	2	0	0.990	1.00	434

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3497 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6200	9600	No
V_{12}	3497	4400:All	No
$V_{FO} = V_F - V_R$	4792	9600	No
V_R	1408	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 32.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.425 (Exhibit 25-19)

S_R= 58.1 mph (Exhibit 25-19)

S_0= 75.4 mph (Exhibit 25-19)

S = 64.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	3/03/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From Mocassin Wallow WB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 1255 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4110	0.90	Level	10	0	0.952	1.00	4795
Ramp	387	0.90	Level	2	0	0.990	1.00	434
UpStream	1255	0.90	Level	2	0	0.990	1.00	1408
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.250 using Equation (Exhibit 25-5)

V_{12} = 1200 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5229	See Exhibit 25-7	No
V_{R12}	1634	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 15.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.309 (Exibit 25-19)

S_R= 61.3 mph (Exhibit 25-19)

S_0= 65.3 mph (Exhibit 25-19)

S = 64.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1113 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3962	0.90	Level	10	0	0.952	1.00	4622
Ramp	385	0.90	Level	4	0	0.980	1.00	436
UpStream								
DownStream	1113	0.90	Level	4	0	0.980	1.00	1261

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.624 using Equation (Exhibit 25-11)

V_{12} = 3050 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4622	7200	No
V_{12}	3050	4400:All	No
$V_{FO} = V_F - V_R$	4186	7200	No
V_R	436	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 28.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.337 (Exhibit 25-19)

S_R= 60.6 mph (Exhibit 25-19)

S_0= 74.6 mph (Exhibit 25-19)

S = 64.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 SB From Mocassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 343 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3575	0.90	Level	8	0	0.962	1.00	4131
Ramp	1113	0.90	Level	4	0	0.980	1.00	1261
UpStream	343	0.90	Level	4	0	0.980	1.00	389
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1993.29 (Equation 25-2 or 25-3)

P_{FM} = 0.633 using Equation (Exhibit 25-5)

V_{12} = 2617 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5392	See Exhibit 25-7	No
V_{R12}	3878	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 22.6 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.329 (Exibit 25-19)

S_R = 60.8 mph (Exhibit 25-19)

S_0 = 66.3 mph (Exhibit 25-19)

S = 62.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1188 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4497	0.90	Level	10	0	0.952	1.00	5247
Ramp	628	0.90	Level	2	0	0.990	1.00	705
UpStream								
DownStream	1188	0.90	Level	1	0	0.995	1.00	1327

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.596 using Equation (Exhibit 25-11)

V_{12} = 3414 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5247	7200	No
V_{12}	3414	4400:All	No
$V_{FO} = V_F - V_R$	4542	7200	No
V_R	705	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 25.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.361 (Exhibit 25-19)

S_R= 59.9 mph (Exhibit 25-19)

S_0= 73.5 mph (Exhibit 25-19)

S = 64.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From (Loop) EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2200 ft
V_D = 770 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3869	0.90	Level	10	0	0.952	1.00	4514
Ramp	1188	0.90	Level	1	0	0.995	1.00	1327
UpStream								
DownStream	770	0.90	Level	1	0	0.995	1.00	860

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.594 using Equation (Exhibit 25-5)

V_{12} = 2683 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5841	See Exhibit 25-7	No
V_{R12}	4010	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.494 (Exibit 25-19)

S_R= 53.6 mph (Exhibit 25-19)

S_0= 60.2 mph (Exhibit 25-19)

S = 55.5 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2200 ft
V_u = 1188 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5057	0.90	Level	9	0	0.957	1.00	5872
Ramp	770	0.90	Level	1	0	0.995	1.00	860
UpStream	1188	0.90	Level	1	0	0.995	1.00	1327
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.603 using Equation (Exhibit 25-5)

V_{12} = 3539 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6732	See Exhibit 25-7	No
V_{R12}	4399	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 33.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.557 (Exibit 25-19)

S_R = 54.4 mph (Exhibit 25-19)

S_0 = 63.3 mph (Exhibit 25-19)

S = 57.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 885 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5168	0.90	Level	9	0	0.957	1.00	6001
Ramp	878	0.90	Level	2	0	0.990	1.00	985
UpStream								
DownStream	885	0.90	Level	1	0	0.995	1.00	988

Merge Areas | Diverge Areas

Estimation of v_{12} (Merge Areas)

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12} (Diverge Areas)

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 1663.74 (Equation 25-8 or 25-9)

P_{FD} = 0.565 using Equation (Exhibit 25-11)

V_{12} = 3817 pc/h

Capacity Checks (Merge Areas)

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks (Diverge Areas)

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6001	7200	No
V_{12}	3817	4400:All	No
$V_{FO} = V_F - V_R$	5016	7200	No
V_R	985	2100	No

Level of Service Determination (if not F) (Merge Areas)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F) (Diverge Areas)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 27.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation (Merge Areas)

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation (Diverge Areas)

D_s = 0.387 (Exhibit 25-19)

S_R= 59.2 mph (Exhibit 25-19)

S_0= 72.2 mph (Exhibit 25-19)

S = 63.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit (From Loop) to EB SR 674

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2200 ft
V_u = 878 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4290	0.90	Level	10	0	0.952	1.00	5005
Ramp	885	0.90	Level	1	0	0.995	1.00	988
UpStream	878	0.90	Level	2	0	0.990	1.00	985
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.589 using Equation (Exhibit 25-11)

V_{12} = 3356 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5005	7050	No
V_{12}	3356	4400:All	No
$V_{FO} = V_F - V_R$	4017	7050	No
V_R	988	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 24.6 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.517 (Exhibit 25-19)

S_R= 53.1 mph (Exhibit 25-19)

S_0= 68.8 mph (Exhibit 25-19)

S = 57.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1500 ft
V_u = 885 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3405	0.90	Level	10	0	0.952	1.00	3973
Ramp	557	0.90	Level	1	0	0.995	1.00	622
UpStream	885	0.90	Level	1	0	0.995	1.00	988
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1245.53 (Equation 25-2 or 25-3)

P_{FM} = 0.597 using Equation (Exhibit 25-5)

V_{12} = 2372 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4595	See Exhibit 25-7	No
V_{R12}	2994	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$$

D_R = 24.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.336 (Exibit 25-19)

S_R = 60.6 mph (Exhibit 25-19)

S_0 = 66.0 mph (Exhibit 25-19)

S = 62.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 1280 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5827	0.90	Level	9	0	0.957	1.00	6766
Ramp	942	0.90	Level	1	0	0.995	1.00	1052
UpStream								
DownStream	1280	0.90	Level	1	0	0.995	1.00	1429

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.542 using Equation (Exhibit 25-11)

V_{12} = 4152 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6766	7200	No
V_{12}	4152	4400:All	No
$V_{FO} = V_F - V_R$	5714	7200	No
V_R	1052	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 38.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.393 (Exhibit 25-19)

S_R= 59.0 mph (Exhibit 25-19)

S_0= 70.5 mph (Exhibit 25-19)

S = 63.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 942 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4885	0.90	Level	7	0	0.966	1.00	5618
Ramp	2407	0.90	Level	1	0	0.995	1.00	2688
UpStream	942	0.90	Level	1	0	0.995	1.00	1052
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1782.88 (Equation 25-2 or 25-3)

P_{FM} = 0.614 using Equation (Exhibit 25-5)

V_{12} = 3449 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8306	See Exhibit 25-7	Yes
V_{R12}	6063	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 44.0 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.906 (Exibit 25-19)

S_R= 21.2 mph (Exhibit 25-19)

S_0= 59.0 mph (Exhibit 25-19)

S = 25.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 835 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6467	0.90	Level	7	0	0.966	1.00	7437
Ramp	2134	0.90	Level	1	0	0.995	1.00	2383
UpStream								
DownStream	835	0.90	Level	2	0	0.990	1.00	937

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.464 using Equation (Exhibit 25-11)

V_{12} = 4730 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7437	7050	Yes
V_{12}	4730	4400:All	Yes
$V_{FO} = V_F - V_R$	5054	7050	No
V_R	2383	2000	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 41.3 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.642 (Exhibit 25-19)

S_R= 50.2 mph (Exhibit 25-19)

S_0= 64.6 mph (Exhibit 25-19)

S = 54.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 2134 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4333	0.90	Level	9	0	0.957	1.00	5031
Ramp	835	0.90	Level	2	0	0.990	1.00	937
UpStream	2134	0.90	Level	1	0	0.995	1.00	2383
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1761.35 (Equation 25-2 or 25-3)

P_{FM} = 0.611 using Equation (Exhibit 25-5)

V_{12} = 3074 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5968	See Exhibit 25-7	No
V_{R12}	4011	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 28.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.428 (Exibit 25-19)

S_R= 58.0 mph (Exhibit 25-19)

S_0= 64.8 mph (Exhibit 25-19)

S = 60.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1988 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7292	0.90	Level	7	0	0.966	1.00	8386
Ramp	628	0.90	Level	1	0	0.995	1.00	701
UpStream								
DownStream	1988	0.90	Level	1	0	0.995	1.00	2220

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.518 using Equation (Exhibit 25-11)

V_{12} = 4683 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8386	7200	Yes
V_{12}	4683	4400:All	Yes
$V_{FO} = V_F - V_R$	7685	7200	Yes
V_R	701	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 42.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.361 (Exhibit 25-19)

S_R = 59.9 mph (Exhibit 25-19)

S_0 = 66.2 mph (Exhibit 25-19)

S = 62.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit to Gibsonton Drive - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 860 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7672	0.90	Level	7	0	0.966	1.00	8823
Ramp	2060	0.90	Level	1	0	0.995	1.00	2300
UpStream								
DownStream	860	0.90	Level	2	0	0.990	1.00	965

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5144 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8823	9600	No
V_{12}	5144	4400:All	Yes
$V_{FO} = V_F - V_R$	6523	9600	No
V_R	2300	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 48.5 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.505 (Exhibit 25-19)

S_R= 55.9 mph (Exhibit 25-19)

S_0= 73.5 mph (Exhibit 25-19)

S = 62.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Merge from Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Dr
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3300 ft
V_u = 2060 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5610	0.90	Level	7	0	0.966	1.00	6451
Ramp	860	0.90	Level	2	0	0.990	1.00	965
UpStream	2060	0.90	Level	1	0	0.995	1.00	2300
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1822.58 (Equation 25-2 or 25-3)

P_{FM} = 0.595 using Equation (Exhibit 25-5)

V_{12} = 3841 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7416	See Exhibit 25-7	Yes
V_{R12}	4806	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 38.5 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.740 (Exibit 25-19)

S_R= 49.3 mph (Exhibit 25-19)

S_0= 61.6 mph (Exhibit 25-19)

S = 53.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 343 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4732	0.90	Level	8	0	0.962	1.00	5468
Ramp	1113	0.90	Level	2	0	0.990	1.00	1249
UpStream								
DownStream	343	0.90	Level	2	0	0.990	1.00	385

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3088 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5468	9600	No
V_{12}	3088	4400:All	No
$V_{FO} = V_F - V_R$	4219	9600	No
V_R	1249	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 29.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.410 (Exhibit 25-19)

S_R= 58.5 mph (Exhibit 25-19)

S_0= 76.0 mph (Exhibit 25-19)

S = 65.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From Mocassin Wallow WB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 1113 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3615	0.90	Level	10	0	0.952	1.00	4218
Ramp	343	0.90	Level	2	0	0.990	1.00	385
UpStream	1113	0.90	Level	2	0	0.990	1.00	1249
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.256 using Equation (Exhibit 25-5)

V_{12} = 1081 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4603	See Exhibit 25-7	No
V_{R12}	1466	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 14.5 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.306 (Exibit 25-19)

S_R= 61.4 mph (Exhibit 25-19)

S_0= 66.2 mph (Exhibit 25-19)

S = 64.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1255 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4467	0.90	Level	10	0	0.952	1.00	5212
Ramp	387	0.90	Level	4	0	0.980	1.00	439
UpStream								
DownStream	1255	0.90	Level	4	0	0.980	1.00	1422

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.610 using Equation (Exhibit 25-11)

V_{12} = 3348 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5212	7200	No
V_{12}	3348	4400:All	No
$V_{FO} = V_F - V_R$	4773	7200	No
V_R	439	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 31.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.338 (Exhibit 25-19)

S_R = 60.5 mph (Exhibit 25-19)

S_0 = 73.4 mph (Exhibit 25-19)

S = 64.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/03/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 SB From Mocassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 387 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4080	0.90	Level	8	0	0.962	1.00	4715
Ramp	1255	0.90	Level	4	0	0.980	1.00	1422
UpStream	387	0.90	Level	4	0	0.980	1.00	439
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2152.72 (Equation 25-2 or 25-3)

P_{FM} = 0.633 using Equation (Exhibit 25-5)

V_{12} = 2987 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6137	See Exhibit 25-7	No
V_{R12}	4409	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 26.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.462 (Exibit 25-19)

S_R= 57.1 mph (Exhibit 25-19)

S_0= 65.6 mph (Exhibit 25-19)

S = 59.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1039 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3962	0.90	Level	10	0	0.952	1.00	4622
Ramp	628	0.90	Level	2	0	0.990	1.00	705
UpStream								
DownStream	1039	0.90	Level	1	0	0.995	1.00	1160

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.612 using Equation (Exhibit 25-11)

V_{12} = 3102 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4622	7200	No
V_{12}	3102	4400:All	No
$V_{FO} = V_F - V_R$	3917	7200	No
V_R	705	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 22.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.361 (Exhibit 25-19)

S_R = 59.9 mph (Exhibit 25-19)

S_0 = 74.8 mph (Exhibit 25-19)

S = 64.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From (Loop) EB SR 674 - Merge

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2200 ft

V_D = 795 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3334	0.90	Level	10	0	0.952	1.00	3890
Ramp	1039	0.90	Level	1	0	0.995	1.00	1160
UpStream								
DownStream	795	0.90	Level	1	0	0.995	1.00	888

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.594 using Equation (Exhibit 25-5)

V_{12} = 2312 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5050	See Exhibit 25-7	No
V_{R12}	3472	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 28.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.405 (Exibit 25-19)

S_R= 55.7 mph (Exhibit 25-19)

S_0= 61.1 mph (Exhibit 25-19)

S = 57.3 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2200 ft
V_u = 1039 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4373	0.90	Level	9	0	0.957	1.00	5078
Ramp	795	0.90	Level	1	0	0.995	1.00	888
UpStream	1039	0.90	Level	1	0	0.995	1.00	1160
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.603 using Equation (Exhibit 25-5)

V_{12} = 3061 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5966	See Exhibit 25-7	No
V_{R12}	3949	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 30.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.442 (Exibit 25-19)

S_R = 57.6 mph (Exhibit 25-19)

S_0 = 64.5 mph (Exhibit 25-19)

S = 59.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 859 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5827	0.90	Level	9	0	0.957	1.00	6766
Ramp	1058	0.90	Level	2	0	0.990	1.00	1187
UpStream								
DownStream	859	0.90	Level	1	0	0.995	1.00	959

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 1938.39 (Equation 25-8 or 25-9)

P_{FD} = 0.536 using Equation (Exhibit 25-11)

V_{12} = 4179 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6766	7200	No
V_{12}	4179	4400:All	No
$V_{FO} = V_F - V_R$	5579	7200	No
V_R	1187	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 30.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.405 (Exhibit 25-19)

S_R= 58.7 mph (Exhibit 25-19)

S_0= 70.6 mph (Exhibit 25-19)

S = 62.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit (From Loop) to EB SR 674

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2200 ft
V_u = 1058 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4769	0.90	Level	10	0	0.952	1.00	5564
Ramp	859	0.90	Level	1	0	0.995	1.00	959
UpStream	1058	0.90	Level	2	0	0.990	1.00	1187
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.577 using Equation (Exhibit 25-11)

V_{12} = 3615 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5564	7050	No
V_{12}	3615	4400:All	No
$V_{FO} = V_F - V_R$	4605	7050	No
V_R	959	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 26.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.514 (Exhibit 25-19)

S_R= 53.2 mph (Exhibit 25-19)

S_0= 67.6 mph (Exhibit 25-19)

S = 57.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1500 ft
V_u = 859 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3910	0.90	Level	10	0	0.952	1.00	4562
Ramp	557	0.90	Level	1	0	0.995	1.00	622
UpStream	859	0.90	Level	1	0	0.995	1.00	959
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1371.58 (Equation 25-2 or 25-3)

P_{FM} = 0.597 using Equation (Exhibit 25-5)

V_{12} = 2724 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5184	See Exhibit 25-7	No
V_{R12}	3346	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 26.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.369 (Exibit 25-19)

S_R = 59.7 mph (Exhibit 25-19)

S_0 = 65.2 mph (Exhibit 25-19)

S = 61.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 2241 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5168	0.90	Level	9	0	0.957	1.00	6001
Ramp	942	0.90	Level	1	0	0.995	1.00	1052
UpStream								
DownStream	2241	0.90	Level	1	0	0.995	1.00	2502

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.562 using Equation (Exhibit 25-11)

V_{12} = 3831 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6001	7200	No
V_{12}	3831	4400:All	No
$V_{FO} = V_F - V_R$	4949	7200	No
V_R	1052	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 35.4 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.393 (Exhibit 25-19)

S_R = 59.0 mph (Exhibit 25-19)

S_0 = 72.2 mph (Exhibit 25-19)

S = 63.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2100 ft

V_u = 942 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4228	0.90	Level	7	0	0.966	1.00	4862
Ramp	2241	0.90	Level	1	0	0.995	1.00	2502
UpStream	942	0.90	Level	1	0	0.995	1.00	1052
DownStream								

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1581.30 (Equation 25-2 or 25-3)

P_{FM} = 0.614 using Equation (Exhibit 25-5)

V_{12} = 2985 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7364	See Exhibit 25-7	Yes
V_{R12}	5485	4600:All	Yes

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 39.0 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 1.170 (Exibit 25-19)

S_R= 38.1 mph (Exhibit 25-19)

S_0= 60.0 mph (Exhibit 25-19)

S = 42.0 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2100 ft

V_D = 935 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7292	0.90	Level	7	0	0.966	1.00	8386
Ramp	2395	0.90	Level	1	0	0.995	1.00	2674
UpStream								
DownStream	935	0.90	Level	2	0	0.990	1.00	1049

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.427 using Equation (Exhibit 25-11)

V_{12} = 5115 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8386	7050	Yes
V_{12}	5115	4400:All	Yes
$V_{FO} = V_F - V_R$	5712	7050	No
V_R	2674	2000	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 44.6 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation

D_s = 0.669 (Exhibit 25-19)

S_R= 49.6 mph (Exhibit 25-19)

S_0= 62.4 mph (Exhibit 25-19)

S = 53.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 2395 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4895	0.90	Level	9	0	0.957	1.00	5684
Ramp	935	0.90	Level	2	0	0.990	1.00	1049
UpStream	2395	0.90	Level	1	0	0.995	1.00	2674
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1925.06 (Equation 25-2 or 25-3)

P_{FM} = 0.611 using Equation (Exhibit 25-5)

V_{12} = 3473 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6733	See Exhibit 25-7	No
V_{R12}	4522	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 32.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.572 (Exibit 25-19)

S_R= 54.0 mph (Exhibit 25-19)

S_0= 63.8 mph (Exhibit 25-19)

S = 56.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1763 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6467	0.90	Level	7	0	0.966	1.00	7437
Ramp	557	0.90	Level	1	0	0.995	1.00	622
UpStream								
DownStream	1763	0.90	Level	1	0	0.995	1.00	1969

Merge Areas | Diverge Areas

Estimation of v_{12} (Merge Areas)

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12} (Diverge Areas)

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.545 using Equation (Exhibit 25-11)

V_{12} = 4339 pc/h

Capacity Checks (Merge Areas)

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks (Diverge Areas)

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7437	7200	Yes
V_{12}	4339	4400:All	No
$V_{FO} = V_F - V_R$	6815	7200	No
V_R	622	2100	No

Level of Service Determination (if not F) (Merge Areas)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F) (Diverge Areas)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 39.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation (Merge Areas)

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation (Diverge Areas)

D_s = 0.354 (Exhibit 25-19)

S_R= 60.1 mph (Exhibit 25-19)

S_0= 68.6 mph (Exhibit 25-19)

S = 63.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description I-75 SB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 830 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8652	0.90	Level	7	0	0.966	1.00	9950
Ramp	2190	0.90	Level	1	0	0.995	1.00	2446
UpStream								
DownStream	830	0.90	Level	2	0	0.990	1.00	931

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5718 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	9950	9600	Yes
V_{12}	5718	4400:All	Yes
$V_{FO} = V_F - V_R$	7504	9600	No
V_R	2446	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 53.4 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.518 (Exhibit 25-19)

S_R= 55.5 mph (Exhibit 25-19)

S_0= 72.4 mph (Exhibit 25-19)

S = 61.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Merge from Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Dr
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 No Build

Project Description Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3300 ft
V_u = 2190 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6460	0.90	Level	7	0	0.966	1.00	7429
Ramp	830	0.90	Level	2	0	0.990	1.00	931
UpStream	2190	0.90	Level	1	0	0.995	1.00	2446
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 2024.60 (Equation 25-2 or 25-3)
P_{FM} = 0.595 using Equation (Exhibit 25-5)
V_{12} = 4423 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8360	See Exhibit 25-7	Yes
V_{R12}	5354	4600:All	Yes

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 42.8 (pc/mi/ln)
LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.088 (Exibit 25-19)
S_R= 39.5 mph (Exhibit 25-19)
S_0= 59.2 mph (Exhibit 25-19)
S = 44.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = using Equation (Exhibit 25-11)
V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-15)

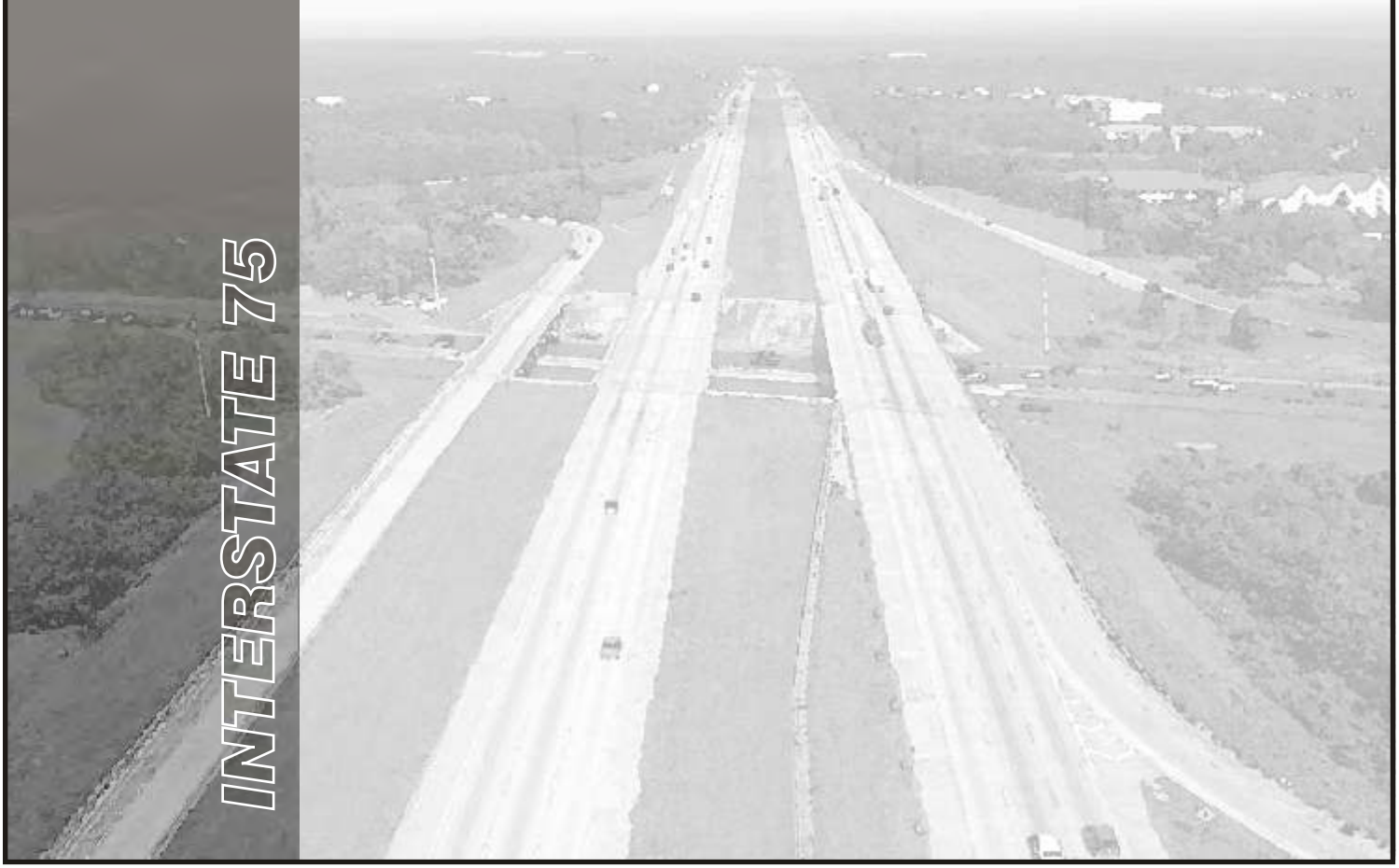
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Freeway Segment Result Sheets

Future Year (2035)
No-Build Alternative Conditions



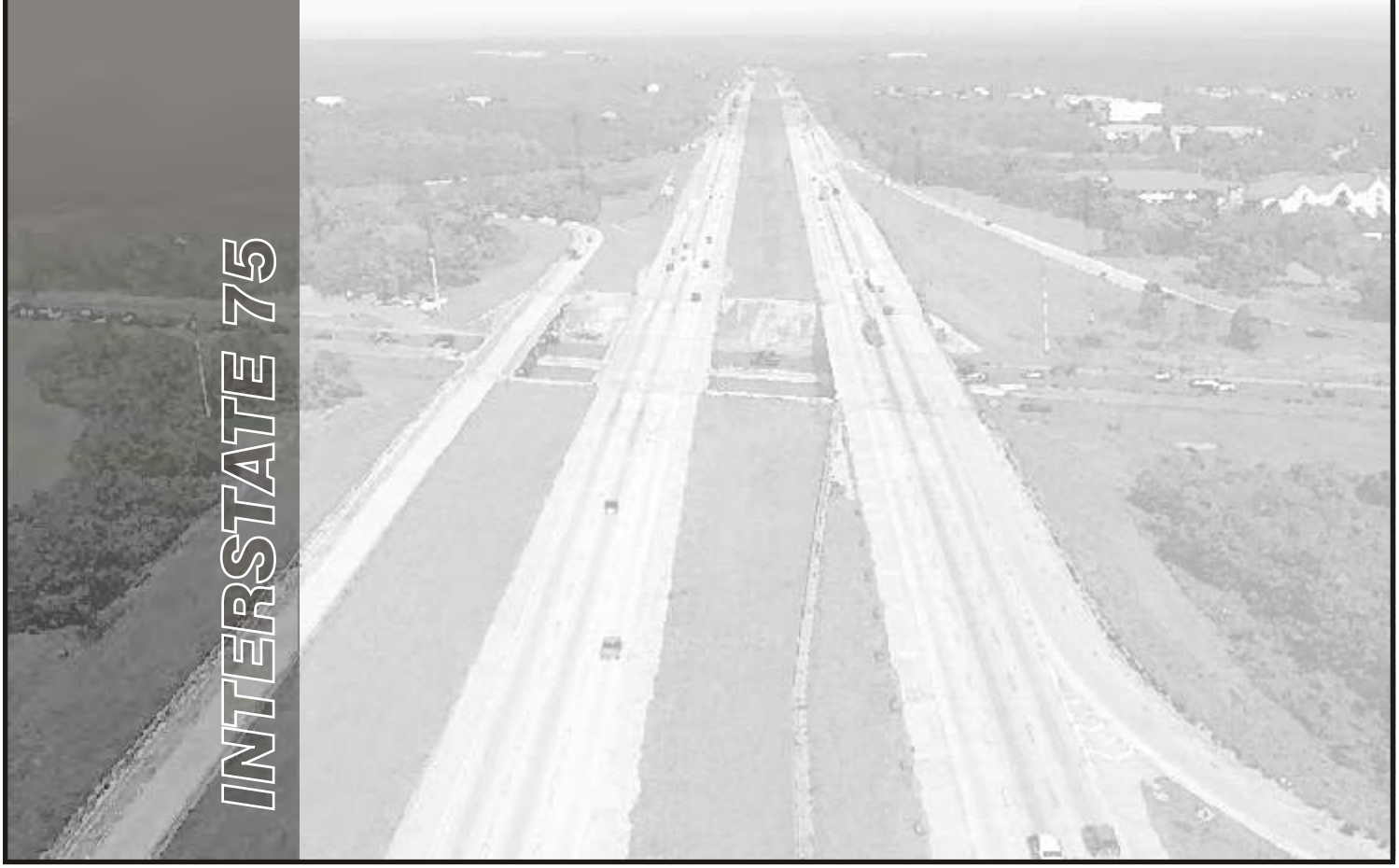
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

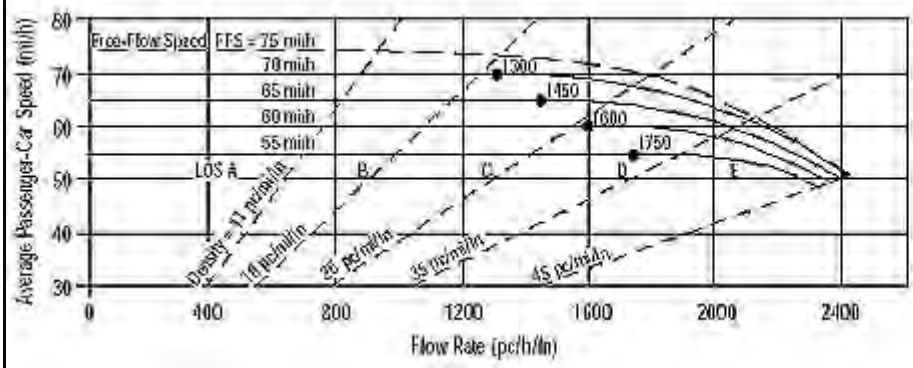
WPI Segment Number - 419235-1

Northbound I-75 Segments

Future Year (2035)
No-Build Alternative Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Mocassin Wallow / SR 674*
Date Performed	*3/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 No Build*

Project Description I-75 NB From Mocassin Wallow To SR 674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4497*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1749*	pc/h/ln
S	*65.9*	mi/h
D = v_p / S	*26.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

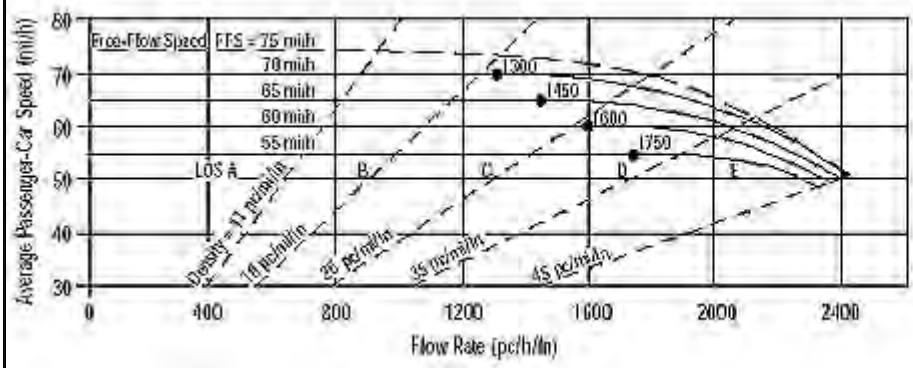
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 / Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 NB From SR 674 To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5827*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2255*	pc/h/ln
S	*56.6*	mi/h
D = v_p / S	*39.8*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

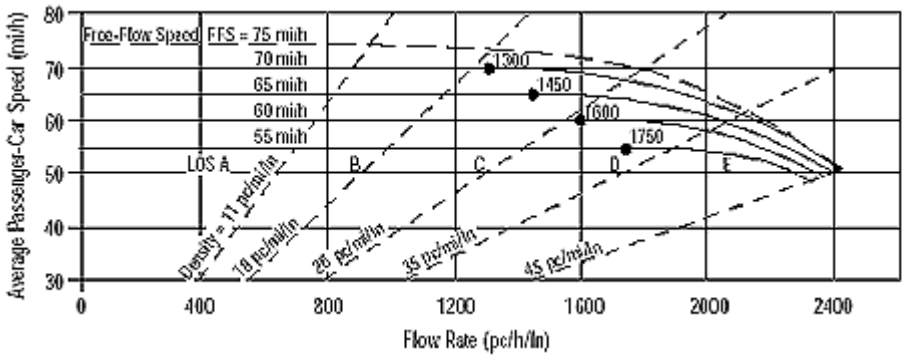
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Big Bend Road / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 NB From Big Bend Road To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7292*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2795*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

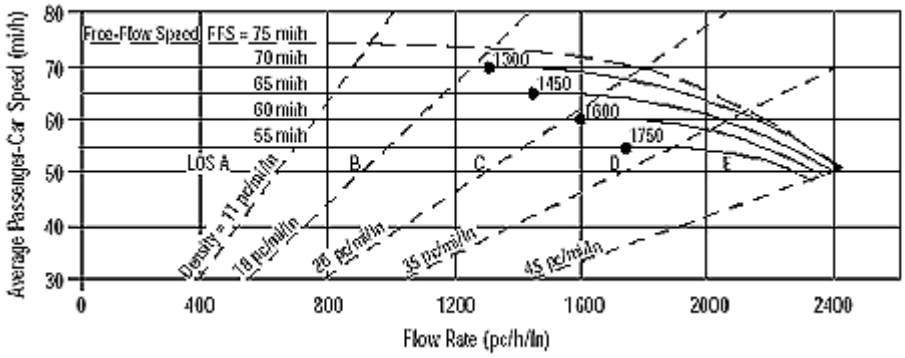
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Gibsonton Dr. / US 301*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 NB From Gibsonton Drive To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8652*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2487*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

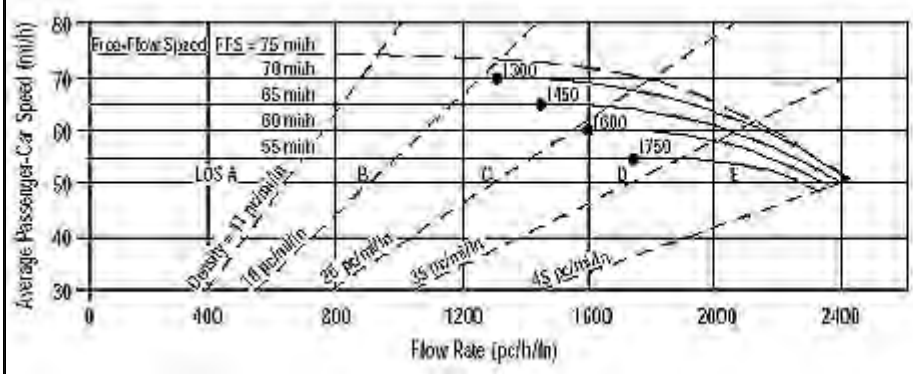
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Mocassin Wallow / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 NB From Mocassin Wallow To SR 674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3962*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1541*	pc/h/ln
S	*66.9*	mi/h
D = v_p / S	*23.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

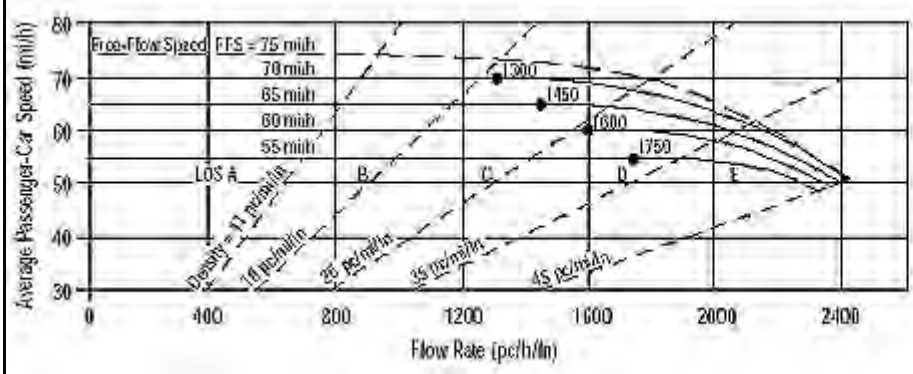
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 / Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 NB From SR 674 To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5168*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2000*	pc/h/ln
S	*62.8*	mi/h
D = v_p / S	*31.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

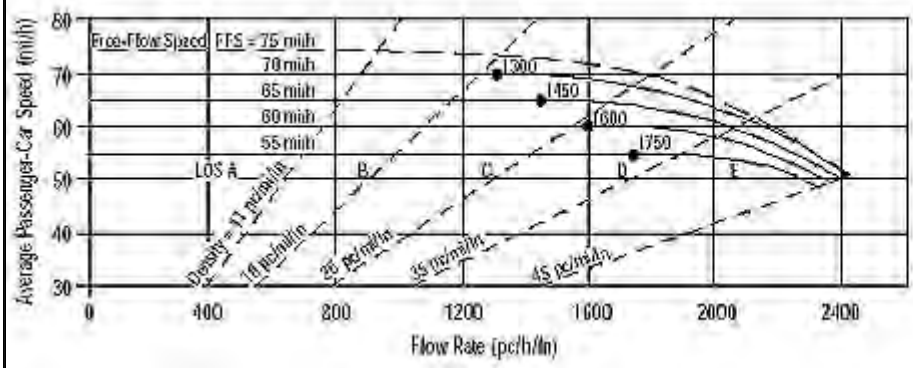
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Big Bend Road / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 NB From Big Bend Road To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6467*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2479*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

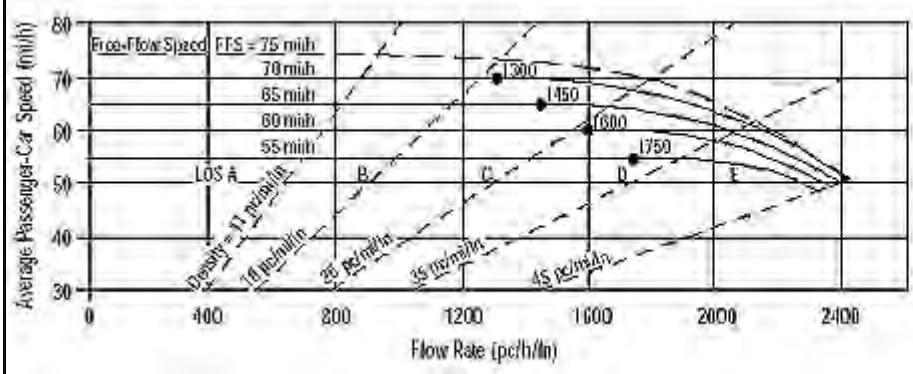
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Gibsonton Dr. / US 301*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 NB From Gibsonton Drive To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7673*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2206*	pc/h/ln
S	*59.0*	mi/h
D = v_p / S	*37.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

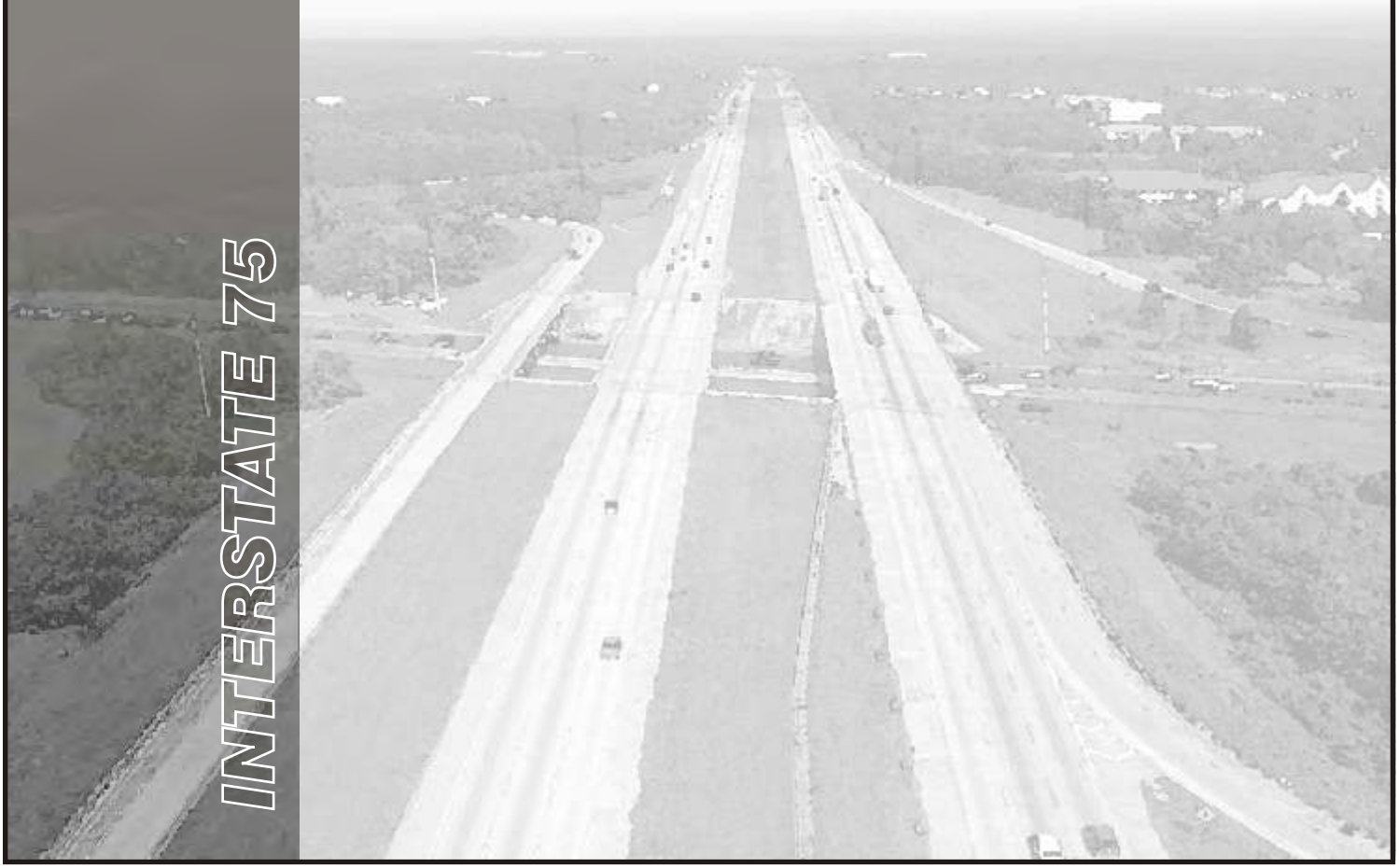
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

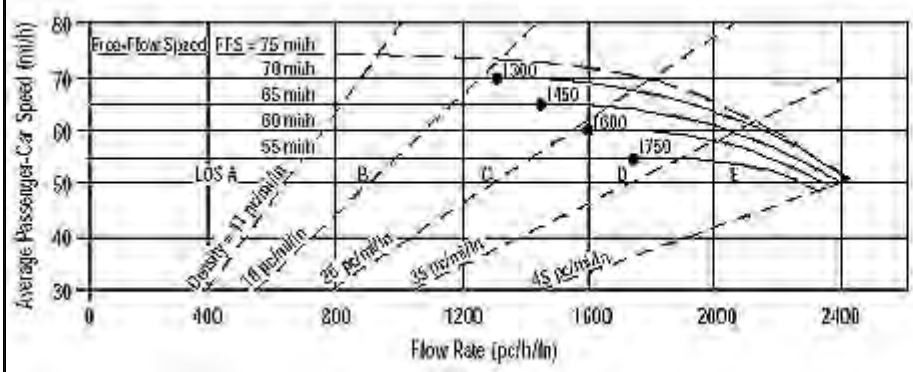
WPI Segment Number - 419235-1

Southbound I-75 Segments

Future Year (2035)
No-Build Alternative Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*US 301 / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 SB From US 301 To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7672*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2206*	pc/h/ln
S	*59.0*	mi/h
D = v_p / S	*37.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

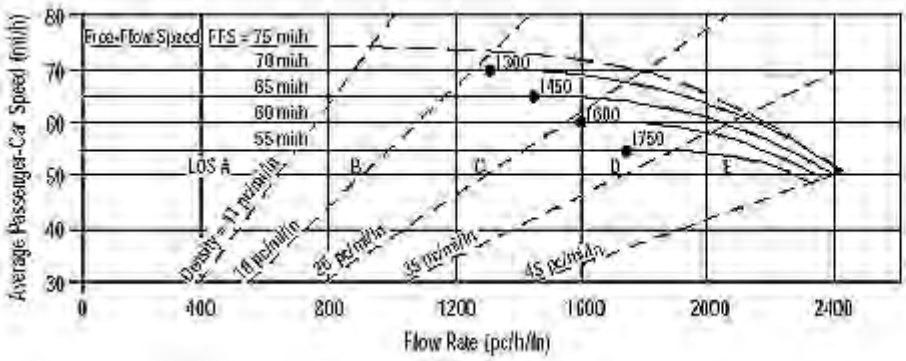
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr. / Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 SB From Gibsonton Drive To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6467*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2479*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

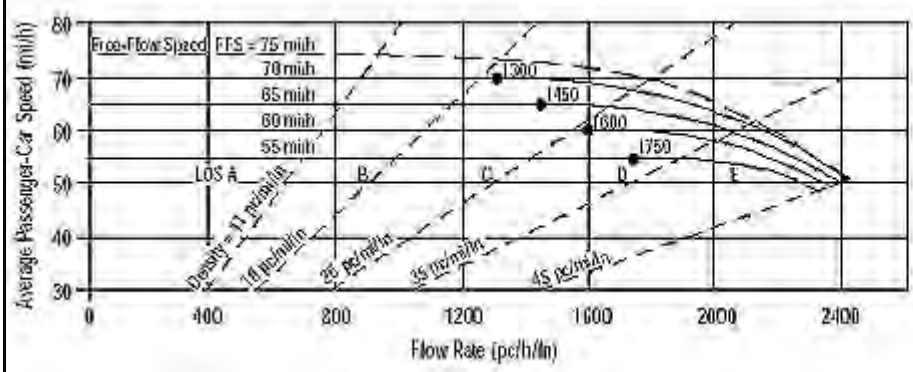
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 SB From Big Bend Rd To (SR 674) College Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5168*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2000*	pc/h/ln
S	*62.8*	mi/h
D = v_p / S	*31.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

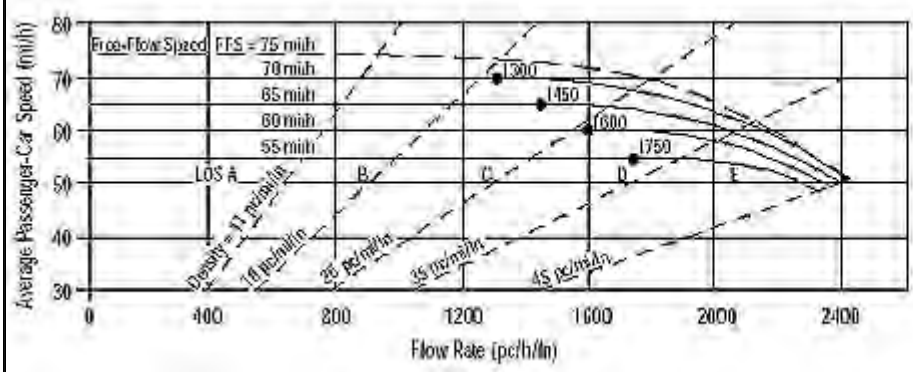
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SR 674 / Mocassin Wallow*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 SB From SR 674 To Mocassin Wallow

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3962*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1541*	pc/h/ln
S	*66.9*	mi/h
D = v_p / S	*23.0*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

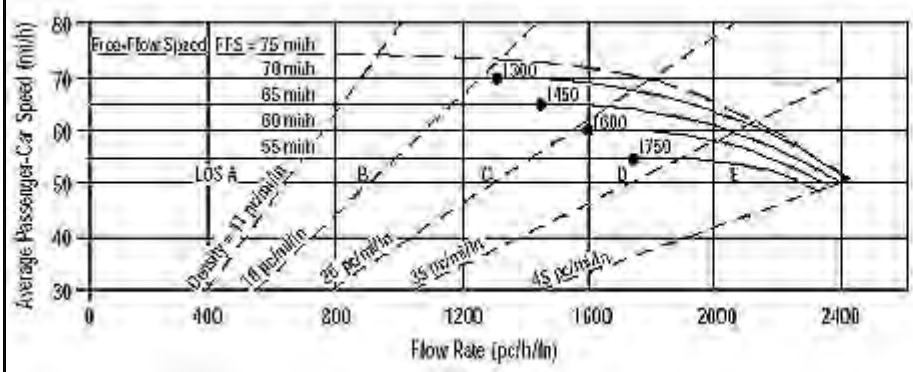
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Southbound*
Agency or Company	*PB Americas*	From/To	*US 301 / Gibsonton Dr.*
Date Performed	*3/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM Peak*	Analysis Year	*2035 No Build*

Project Description I-75 SB From US 301 To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8652*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2487*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

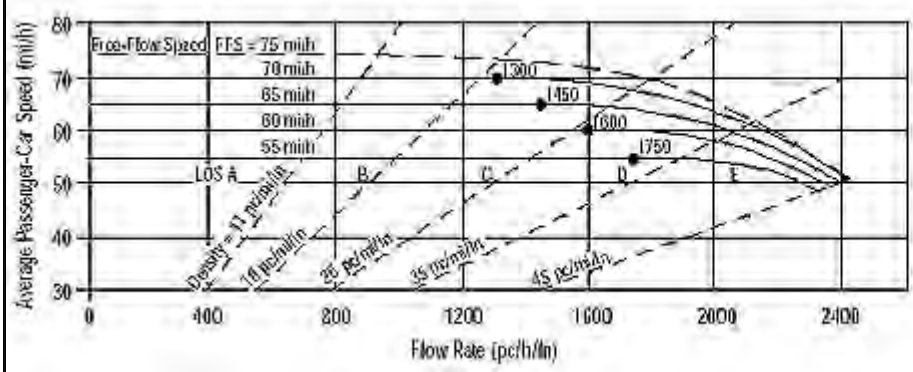
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr. / Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 SB From Gibsonton Drive To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7292*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2795*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

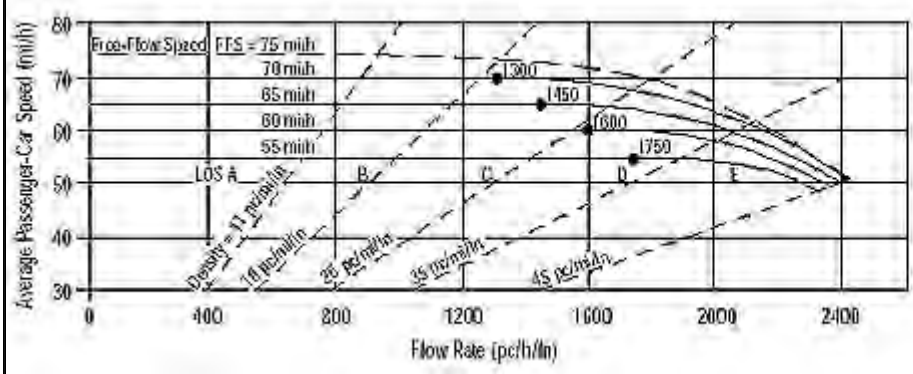
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 SB From Big Bend Rd To (SR 674) College Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5827*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2255*	pc/h/ln
S	*56.6*	mi/h
D = v_p / S	*39.8*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

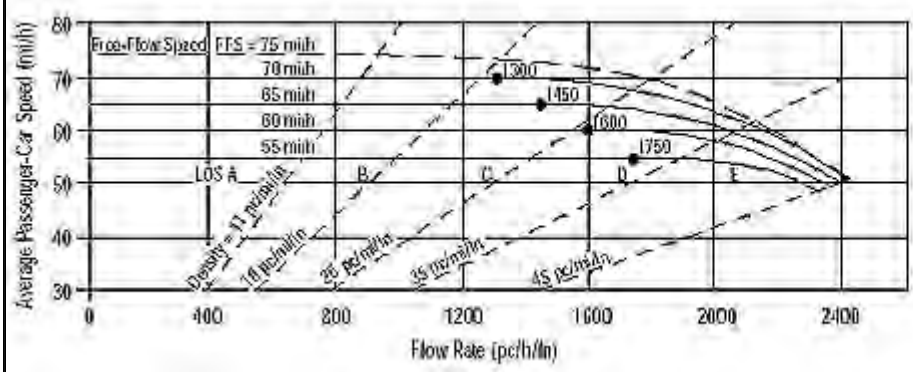
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*3/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SR 674 / Mocassin Wallow*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 No Build*

Project Description I-75 SB From SR 674 To Mocassin Wallow

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4467*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1737*	pc/h/ln
S	*66.0*	mi/h
D = v_p / S	*26.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

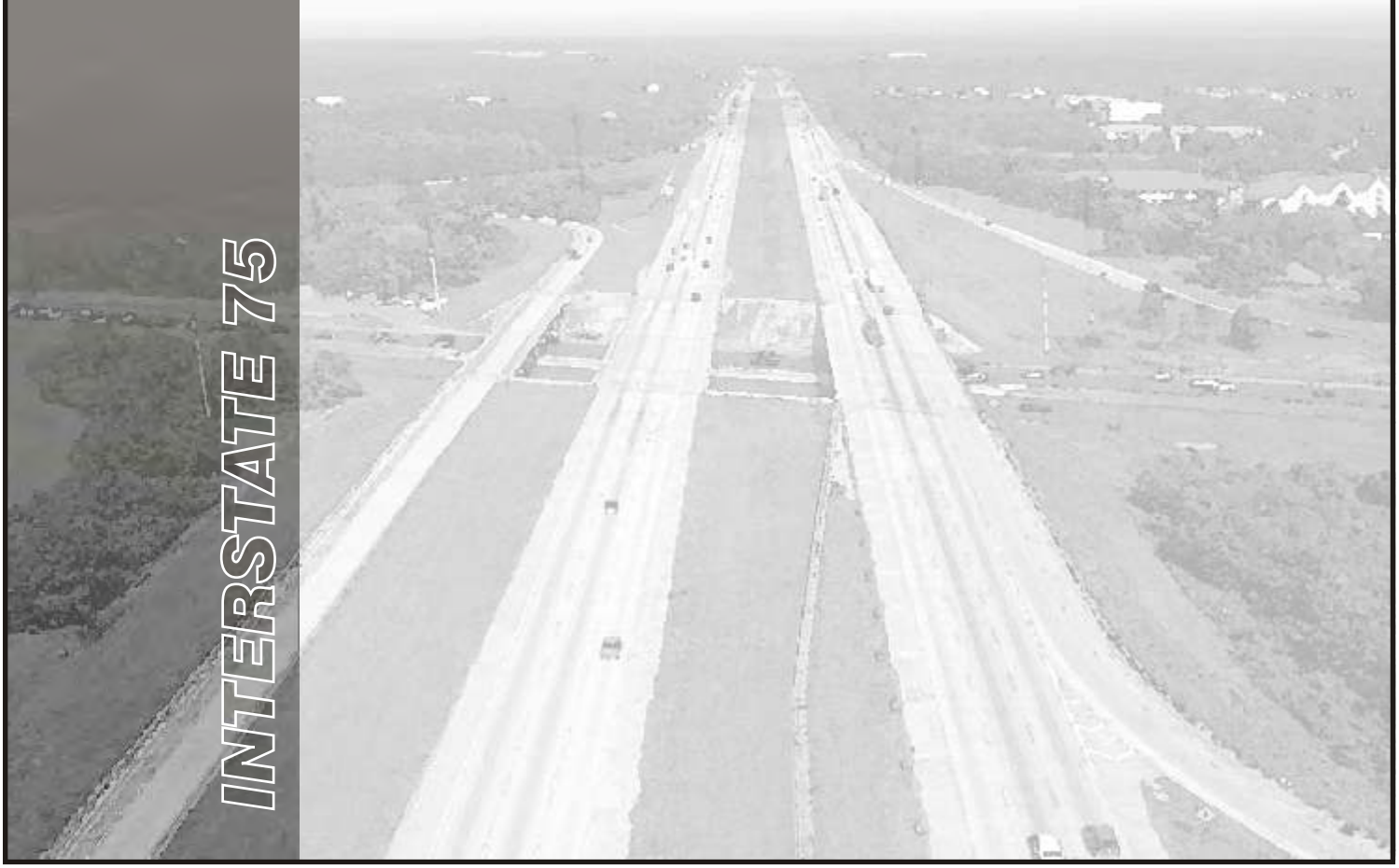
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Signalized Intersection Result Sheets

Future Year (2035)
Build Alternative 1 Conditions



HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*161*	*860*			*1024*		*754*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *46.0*	G =	G =	G = *44.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*179*	*956*			*1138*		*838*					
Lane Group Capacity, c	*271*	*1860*			*1296*		*619*					
v/c Ratio, X	*0.66*	*0.51*			*0.88*		*1.35*					
Total Green Ratio, g/C	*0.55*	*0.55*			*0.38*		*0.37*					
Uniform Delay, d_1	*27.9*	*16.9*			*34.4*		*38.0*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*12.0*	*1.0*			*8.6*		*169.7*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*39.9*	*18.0*			*43.0*		*207.7*					
Lane Group LOS	*D*	*B*			*D*		*F*					
Approach Delay	*21.4*			*43.0*			*207.7*					

Approach LOS	*C*	*D*	*F*	
Intersection Delay	*79.5*	X_C = *1.07*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*859*		*310*	*1468*					*162*		
% Heavy Vehicles, %HV		*7*		*7*	*7*					*7*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *15.0*	G = *67.0*	G =	G =	G = *23.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*954*		*344*	*1631*					*180*		
Lane Group Capacity, c		*1888*		*440*	*2451*					*323*		
v/c Ratio, X		*0.51*		*0.78*	*0.67*					*0.56*		
Total Green Ratio, g/C		*0.56*		*0.73*	*0.73*					*0.19*		
Uniform Delay, d_1		*16.3*		*10.6*	*8.8*					*43.9*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*1.0*		*13.0*	*1.4*					*6.8*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*17.3*		*23.6*	*10.2*					*50.7*		
Lane Group LOS		*B*		*C*	*B*					*D*		
	17.3			*12.5*						*50.7*		

Approach Delay				
Approach LOS	*B*	*B*		*D*
Intersection Delay	*16.2*	X_C = *0.64*	Intersection LOS	*B*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 -AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*			*3*		*1*					
Lane Group		*T*			*T*		*L*					
Volume, V (vph)		*2526*			*2001*		*367*					
% Heavy Vehicles, %HV		*3*			*3*		*3*					
Peak-Hour Factor, PHF		*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*			*P*		*P*					
Start-up Lost Time, l_1		*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*			*2.0*		*2.0*					
Arrival Type, AT		*3*			*3*		*3*					
Unit Extension, UE		*3.0*			*3.0*		*3.0*					
Filtering/Metering, I		*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *70.0*	G =	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2807*			*2223*		*408*					
Lane Group Capacity, c		*2931*			*2931*		*584*					
v/c Ratio, X		*0.96*			*0.76*		*0.70*					
Total Green Ratio, g/C		*0.58*			*0.58*		*0.33*					
Uniform Delay, d_1		*23.6*			*18.7*		*34.8*					
Progression Factor, PF		*1.000*			*1.000*		*1.000*					
Delay Calibration, k		*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2		*9.3*			*1.9*		*6.8*					
Initial Queue Delay, d_3		*0.0*			*0.0*		*0.0*					
Control Delay		*32.9*			*20.6*		*41.6*					
Lane Group LOS		*C*			*C*		*D*					
Approach Delay	*32.9*			*20.6*			*41.6*					

Approach LOS	*C*	*C*	*D*	
Intersection Delay	*28.5*	X_C = *0.86*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2246*		*1032*	*1789*		*113*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *32.0*	G = *55.0*	G =	G =	G = *18.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2496*		*1147*	*1988*		*126*					
Lane Group Capacity, c		*1610*		*467*	*2693*		*263*					
v/c Ratio, X		*1.55*		*2.46*	*0.74*		*0.48*					
Total Green Ratio, g/C		*0.46*		*0.27*	*0.77*		*0.15*					
Uniform Delay, d_1		*32.5*		*44.0*	*7.5*		*46.7*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*250.8*		*661.7*	*1.9*		*6.1*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*283.3*		*705.7*	*9.4*		*52.8*					
Lane Group LOS		*F*		*F*	*A*		*D*					

Approach Delay	*283.3*	*264.1*	*52.8*	
Approach LOS	*F*	*F*	*D*	
Intersection Delay	*267.8*	X_C = *1.64*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2046*		*492*	*1410*		*1134*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *17.0*	G = *46.0*	G =	G =	G = *42.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2273*		*547*	*1567*		*1260*					
Lane Group Capacity, c		*1346*		*310*	*1990*		*1191*					
v/c Ratio, X		*1.69*		*1.76*	*0.79*		*1.06*					
Total Green Ratio, g/C		*0.38*		*0.57*	*0.57*		*0.35*					
Uniform Delay, d_1		*37.0*		*39.1*	*20.3*		*39.0*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*313.2*		*356.9*	*3.2*		*42.9*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*350.2*		*396.0*	*23.6*		*81.9*					
Lane Group LOS		*F*		*F*	*C*		*F*					
	350.2			*120.0*			*81.9*					

Approach Delay				
Approach LOS	*F*	*F*	*F*	
Intersection Delay	*204.1*	X_C = *2.81*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 - AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*887*	*1890*			*1171*		*112*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *44.0*	G = *46.0*	G =	G =	G = *15.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*986*	*2100*			*1301*		*124*					
Lane Group Capacity, c	*690*	*2727*			*1321*		*215*					
v/c Ratio, X	*1.43*	*0.77*			*0.98*		*0.58*					
Total Green Ratio, g/C	*0.79*	*0.79*			*0.38*		*0.13*					
Uniform Delay, d_1	*33.6*	*6.7*			*36.7*		*49.5*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*201.4*	*2.2*			*21.4*		*10.8*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*235.0*	*8.8*			*58.1*		*60.3*					
Lane Group LOS	*F*	*A*			*E*		*E*					
	81.1			*58.1*			*60.3*					

Approach Delay				
Approach LOS	*F*	*E*	*E*	
Intersection Delay	*73.9*	X_C = *3.21*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1340*		*422*	*861*					*1440*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *15.0*	G = *39.0*	G =	G =	G = *51.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1489*		*469*	*957*					*1600*		
Lane Group Capacity, c		*1120*		*276*	*1694*					*731*		
v/c Ratio, X		*1.33*		*1.70*	*0.56*					*2.19*		
Total Green Ratio, g/C		*0.32*		*0.49*	*0.49*					*0.43*		
Uniform Delay, d_1		*40.5*		*37.1*	*21.5*					*34.5*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*154.5*		*329.8*	*1.4*					*539.4*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*195.0*		*366.9*	*22.8*					*573.9*		
Lane Group LOS		*F*		*F*	*C*					*F*		
	195.0			*136.0*						*573.9*		

Approach Delay				
Approach LOS	*F*	*F*		*F*
Intersection Delay	*310.6*	X_C = *2.83*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 1- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*182*	*982*			*1135*		*850*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *42.0*	G =	G =	G = *48.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*202*	*1091*			*1261*		*944*					
Lane Group Capacity, c	*271*	*1747*			*1183*		*675*					
v/c Ratio, X	*0.75*	*0.62*			*1.07*		*1.40*					
Total Green Ratio, g/C	*0.52*	*0.52*			*0.35*		*0.40*					
Uniform Delay, d_1	*24.3*	*20.7*			*39.0*		*36.0*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*16.9*	*1.7*			*45.7*		*188.2*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*41.3*	*22.4*			*84.7*		*224.2*					
Lane Group LOS	*D*	*C*			*F*		*F*					
	25.3			*84.7*			*224.2*					

Approach Delay				
Approach LOS	*C*	*F*	*F*	
Intersection Delay	*100.4*	X_C = *1.20*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed		Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 1- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1020*		*275*	*1710*					*144*		
% Heavy Vehicles, %HV		*7*		*7*	*7*					*7*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *15.0*	G = *66.0*	G =	G =	G = *24.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1133*		*306*	*1900*					*160*		
Lane Group Capacity, c		*1860*		*376*	*2423*					*337*		
v/c Ratio, X		*0.61*		*0.81*	*0.78*					*0.47*		
Total Green Ratio, g/C		*0.55*		*0.72*	*0.72*					*0.20*		
Uniform Delay, d_1		*18.3*		*17.1*	*11.0*					*42.4*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*1.5*		*17.3*	*2.6*					*4.7*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*19.8*		*34.5*	*13.6*					*47.2*		
Lane Group LOS		*B*		*C*	*B*					*D*		
	19.8			*16.5*						*47.2*		

Approach Delay				
Approach LOS	*B*	*B*		*D*
Intersection Delay	*19.0*	X_C = *0.72*	Intersection LOS	*B*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 1- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*			*3*		*1*					
Lane Group		*T*			*T*		*L*					
Volume, V (vph)		*2165*			*1835*		*414*					
% Heavy Vehicles, %HV		*3*			*3*		*3*					
Peak-Hour Factor, PHF		*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*			*P*		*P*					
Start-up Lost Time, l_1		*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*			*2.0*		*2.0*					
Arrival Type, AT		*3*			*3*		*3*					
Unit Extension, UE		*3.0*			*3.0*		*3.0*					
Filtering/Metering, I		*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *60.0*	G =	G =	G =	G = *50.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2406*			*2039*		*460*					
Lane Group Capacity, c		*2513*			*2513*		*730*					
v/c Ratio, X		*0.96*			*0.81*		*0.63*					
Total Green Ratio, g/C		*0.50*			*0.50*		*0.42*					
Uniform Delay, d_1		*28.8*			*25.2*		*27.7*					
Progression Factor, PF		*1.000*			*1.000*		*1.000*					
Delay Calibration, k		*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2		*10.4*			*3.0*		*4.1*					
Initial Queue Delay, d_3		*0.0*			*0.0*		*0.0*					
Control Delay		*39.2*			*28.2*		*31.8*					
Lane Group LOS		*D*			*C*		*C*					
Approach Delay	*39.2*			*28.2*			*31.8*					

Approach LOS	*D*	*C*	*C*	
Intersection Delay	*33.9*	X_C = *0.81*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 1- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1990*		*1025*	*1498*		*195*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *35.0*	G = *49.0*	G =	G =	G = *21.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2211*		*1139*	*1664*		*217*					
Lane Group Capacity, c		*1434*		*573*	*2605*		*307*					
v/c Ratio, X		*1.54*		*1.99*	*0.64*		*0.71*					
Total Green Ratio, g/C		*0.41*		*0.74*	*0.74*		*0.17*					
Uniform Delay, d_1		*35.5*		*37.1*	*7.6*		*46.6*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*247.3*		*450.7*	*1.2*		*12.9*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*282.8*		*487.8*	*8.8*		*59.5*					
Lane Group LOS		*F*		*F*	*A*		*E*					
	282.8			*203.5*			*59.5*					

Approach Delay				
Approach LOS	*F*	*F*	*E*	
Intersection Delay	*231.0*	X_C = *5.45*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 1- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1893*		*393*	*1300*		*930*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *49.0*	G =	G =	G = *41.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2103*		*437*	*1444*		*1033*					
Lane Group Capacity, c		*1434*		*281*	*2019*		*1163*					
v/c Ratio, X		*1.47*		*1.56*	*0.72*		*0.89*					
Total Green Ratio, g/C		*0.41*		*0.57*	*0.57*		*0.34*					
Uniform Delay, d_1		*35.5*		*39.2*	*18.4*		*37.3*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*213.8*		*266.6*	*2.2*		*10.2*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*249.3*		*305.9*	*20.6*		*47.6*					
Lane Group LOS		*F*		*F*	*C*		*D*					
	249.3			*86.9*			*47.6*					

Approach Delay				
Approach LOS	*F*	*F*	*D*	
Intersection Delay	*146.9*	X_C = *2.20*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 1- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*829*	*2130*			*1335*		*130*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*A*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *45.0*	G = *48.0*	G =	G =	G = *12.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*921*	*2367*			*1483*		*144*					
Lane Group Capacity, c	*706*	*2813*			*1378*		*172*					
v/c Ratio, X	*1.30*	*0.84*			*1.08*		*0.84*					
Total Green Ratio, g/C	*0.82*	*0.82*			*0.40*		*0.10*					
Uniform Delay, d_1	*33.5*	*6.4*			*36.0*		*53.0*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*147.2*	*3.2*			*47.6*		*36.1*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*180.7*	*9.7*			*83.6*		*89.1*					
Lane Group LOS	*F*	*A*			*F*		*F*					
	57.6			*83.6*			*89.1*					

Approach Delay				
Approach LOS	*E*	*F*	*F*	
Intersection Delay	*66.4*	X_C = *2.70*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 1- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1445*		*335*	*1130*					*1515*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *14.0*	G = *40.0*	G =	G =	G = *51.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1606*		*372*	*1256*					*1683*		
Lane Group Capacity, c		*1148*		*261*	*1694*					*731*		
v/c Ratio, X		*1.40*		*1.43*	*0.74*					*2.30*		
Total Green Ratio, g/C		*0.33*		*0.49*	*0.49*					*0.43*		
Uniform Delay, d_1		*40.0*		*36.8*	*24.4*					*34.5*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*184.9*		*212.2*	*3.0*					*590.4*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*224.9*		*249.0*	*27.4*					*624.9*		
Lane Group LOS		*F*		*F*	*C*					*F*		
	224.9			*78.0*						*624.9*		

Approach Delay				
Approach LOS	*F*	*E*		*F*
Intersection Delay	*313.2*	X_C = *2.35*	Intersection LOS	*F*

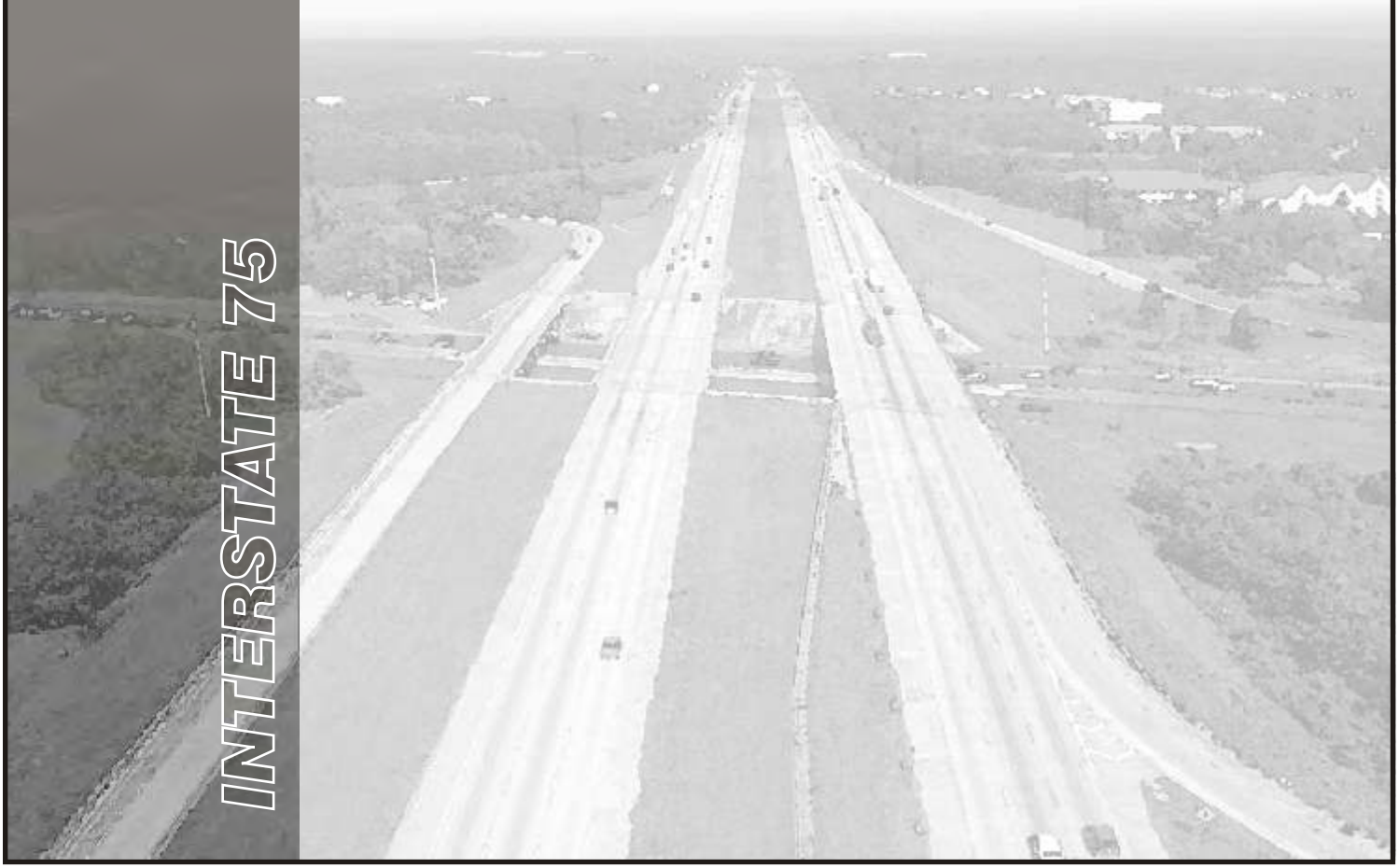
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Signalized Intersection (Improved) Result Sheets

Future Year (2035)
Build Alternative 1 Conditions



HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*2*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*161*	*860*			*1024*		*754*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *50.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*179*	*956*			*1138*		*838*					
Lane Group Capacity, c	*286*	*1972*			*1409*		*1092*					
v/c Ratio, X	*0.63*	*0.48*			*0.81*		*0.77*					
Total Green Ratio, g/C	*0.58*	*0.58*			*0.42*		*0.33*					
Uniform Delay, d_1	*22.3*	*14.5*			*30.8*		*35.8*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*9.9*	*0.9*			*5.1*		*5.2*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*32.3*	*15.4*			*35.8*		*41.0*					
Lane Group LOS	*C*	*B*			*D*		*D*					
	18.0			*35.8*			*41.0*					

Approach Delay				
Approach LOS	*B*	*D*	*D*	
Intersection Delay	*30.7*	X_C = *0.80*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2246*		*1032*	*1789*		*113*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *37.0*	G = *55.0*	G =	G =	G = *13.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2496*		*1147*	*1988*		*126*					
Lane Group Capacity, c		*2303*		*1049*	*4062*		*190*					
v/c Ratio, X		*1.08*		*1.09*	*0.49*		*0.66*					
Total Green Ratio, g/C		*0.46*		*0.31*	*0.81*		*0.11*					
Uniform Delay, d_1		*32.5*		*41.5*	*3.6*		*51.4*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*46.0*		*56.9*	*0.4*		*16.8*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*78.5*		*98.4*	*4.1*		*68.2*					
Lane Group LOS		*E*		*F*	*A*		*E*					
	78.5			*38.6*			*68.2*					

Approach Delay				
Approach LOS	*E*	*D*	*E*	
Intersection Delay	*56.5*	X_C = *1.04*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*3*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2046*		*492*	*1410*		*1134*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *20.0*	G = *51.0*	G =	G =	G = *34.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2273*		*547*	*1567*		*1260*					
Lane Group Capacity, c		*2136*		*567*	*3182*		*1353*					
v/c Ratio, X		*1.06*		*0.96*	*0.49*		*0.93*					
Total Green Ratio, g/C		*0.43*		*0.17*	*0.63*		*0.28*					
Uniform Delay, d_1		*34.5*		*49.6*	*11.7*		*41.9*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*39.2*		*30.0*	*0.5*		*12.8*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*73.7*		*79.7*	*12.3*		*54.6*					
Lane Group LOS		*E*		*E*	*B*		*D*					
	73.7			*29.7*			*54.6*					

Approach Delay				
Approach LOS	*E*	*C*	*D*	
Intersection Delay	*53.0*	X_C = *1.00*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/11/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*2*	*3*			*3*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*887*	*1890*			*1171*		*112*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *41.0*	G = *44.0*	G =	G =	G = *20.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*986*	*2100*			*1301*		*124*					
Lane Group Capacity, c	*1140*	*3697*			*1807*		*287*					
v/c Ratio, X	*0.86*	*0.57*			*0.72*		*0.43*					
Total Green Ratio, g/C	*0.34*	*0.75*			*0.37*		*0.17*					
Uniform Delay, d_1	*36.9*	*6.5*			*32.7*		*44.9*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*8.8*	*0.6*			*2.5*		*4.7*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*45.7*	*7.2*			*35.2*		*49.6*					
Lane Group LOS	*D*	*A*			*D*		*D*					
	19.5			*35.2*			*49.6*					

Approach Delay				
Approach LOS	*B*	*D*	*D*	
Intersection Delay	*24.9*	X_C = *0.72*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*					*3*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1340*		*422*	*861*					*1440*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *23.5*	G = *39.0*	G =	G =	G = *42.5*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1489*		*469*	*957*					*1600*		
Lane Group Capacity, c		*1602*		*654*	*2773*					*1659*		
v/c Ratio, X		*0.93*		*0.72*	*0.35*					*0.96*		
Total Green Ratio, g/C		*0.32*		*0.20*	*0.56*					*0.35*		
Uniform Delay, d_1		*39.2*		*45.1*	*14.3*					*38.0*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*11.0*		*6.6*	*0.3*					*15.1*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*50.2*		*51.8*	*14.6*					*53.1*		
Lane Group LOS		*D*		*D*	*B*					*D*		
	50.2			*26.8*						*53.1*		

Approach Delay				
Approach LOS	*D*	*C*		*D*
Intersection Delay	*43.8*	X_C = *0.90*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*2*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*182*	*982*			*1135*		*850*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *50.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*202*	*1091*			*1261*		*944*					
Lane Group Capacity, c	*271*	*1972*			*1409*		*1092*					
v/c Ratio, X	*0.75*	*0.55*			*0.89*		*0.86*					
Total Green Ratio, g/C	*0.58*	*0.58*			*0.42*		*0.33*					
Uniform Delay, d_1	*32.0*	*15.4*			*32.6*		*37.5*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*16.9*	*1.1*			*9.1*		*9.1*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*48.9*	*16.5*			*41.7*		*46.6*					
Lane Group LOS	*D*	*B*			*D*		*D*					
	21.6			*41.7*			*46.6*					

Approach Delay				
Approach LOS	*C*	*D*	*D*	
Intersection Delay	*35.6*	X_C = *0.89*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1990*		*1025*	*1498*		*195*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *39.0*	G = *45.0*	G =	G =	G = *21.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2211*		*1139*	*1664*		*217*					
Lane Group Capacity, c		*1884*		*1106*	*3727*		*307*					
v/c Ratio, X		*1.17*		*1.03*	*0.45*		*0.71*					
Total Green Ratio, g/C		*0.38*		*0.32*	*0.74*		*0.17*					
Uniform Delay, d_1		*37.5*		*40.5*	*6.0*		*46.6*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*84.1*		*35.0*	*0.4*		*12.9*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*121.6*		*75.5*	*6.4*		*59.5*					
Lane Group LOS		*F*		*E*	*A*		*E*					
	121.6			*34.5*			*59.5*					

Approach Delay				
Approach LOS	*F*	*C*	*E*	
Intersection Delay	*72.3*	X_C = *1.03*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*3*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1893*		*393*	*1300*		*930*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *17.0*	G = *48.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2103*		*437*	*1444*		*1033*					
Lane Group Capacity, c		*2010*		*482*	*2931*		*1591*					
v/c Ratio, X		*1.05*		*0.91*	*0.49*		*0.65*					
Total Green Ratio, g/C		*0.40*		*0.14*	*0.58*		*0.33*					
Uniform Delay, d_1		*36.0*		*50.7*	*14.6*		*34.0*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*33.4*		*23.3*	*0.6*		*2.1*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*69.4*		*74.0*	*15.2*		*36.1*					
Lane Group LOS		*E*		*E*	*B*		*D*					
	69.4			*28.9*			*36.1*					

Approach Delay				
Approach LOS	*E*	*C*	*D*	
Intersection Delay	*47.4*	X_C = *0.87*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*2*	*3*			*3*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*829*	*2130*			*1335*		*130*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *40.0*	G = *43.0*	G =	G =	G = *22.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*921*	*2367*			*1483*		*144*					
Lane Group Capacity, c	*1113*	*3615*			*1766*		*315*					
v/c Ratio, X	*0.83*	*0.65*			*0.84*		*0.46*					
Total Green Ratio, g/C	*0.33*	*0.73*			*0.36*		*0.18*					
Uniform Delay, d_1	*36.8*	*8.2*			*35.3*		*43.7*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*7.1*	*0.9*			*5.0*		*4.7*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*43.9*	*9.1*			*40.3*		*48.4*					
Lane Group LOS	*D*	*A*			*D*		*D*					
	18.9			*40.3*			*48.4*					

Approach Delay				
Approach LOS	*B*	*D*	*D*	
Intersection Delay	*26.2*	X_C = *0.75*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*EJB*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/12/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 1 (Improved)- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*					*3*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1445*		*335*	*1130*					*1515*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *20.0*	G = *35.0*	G =	G =	G = *50.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1606*		*372*	*1256*					*1683*		
Lane Group Capacity, c		*1438*		*556*	*2465*					*1951*		
v/c Ratio, X		*1.12*		*0.67*	*0.51*					*0.86*		
Total Green Ratio, g/C		*0.29*		*0.17*	*0.50*					*0.42*		
Uniform Delay, d_1		*42.5*		*46.9*	*20.1*					*31.9*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*62.6*		*6.3*	*0.8*					*5.3*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*105.1*		*53.2*	*20.9*					*37.2*		
Lane Group LOS		*F*		*D*	*C*					*D*		
	105.1			*28.3*						*37.2*		

Approach Delay				
Approach LOS	*F*	*C*		*D*
Intersection Delay	*56.4*	X_C = *0.91*	Intersection LOS	*E*

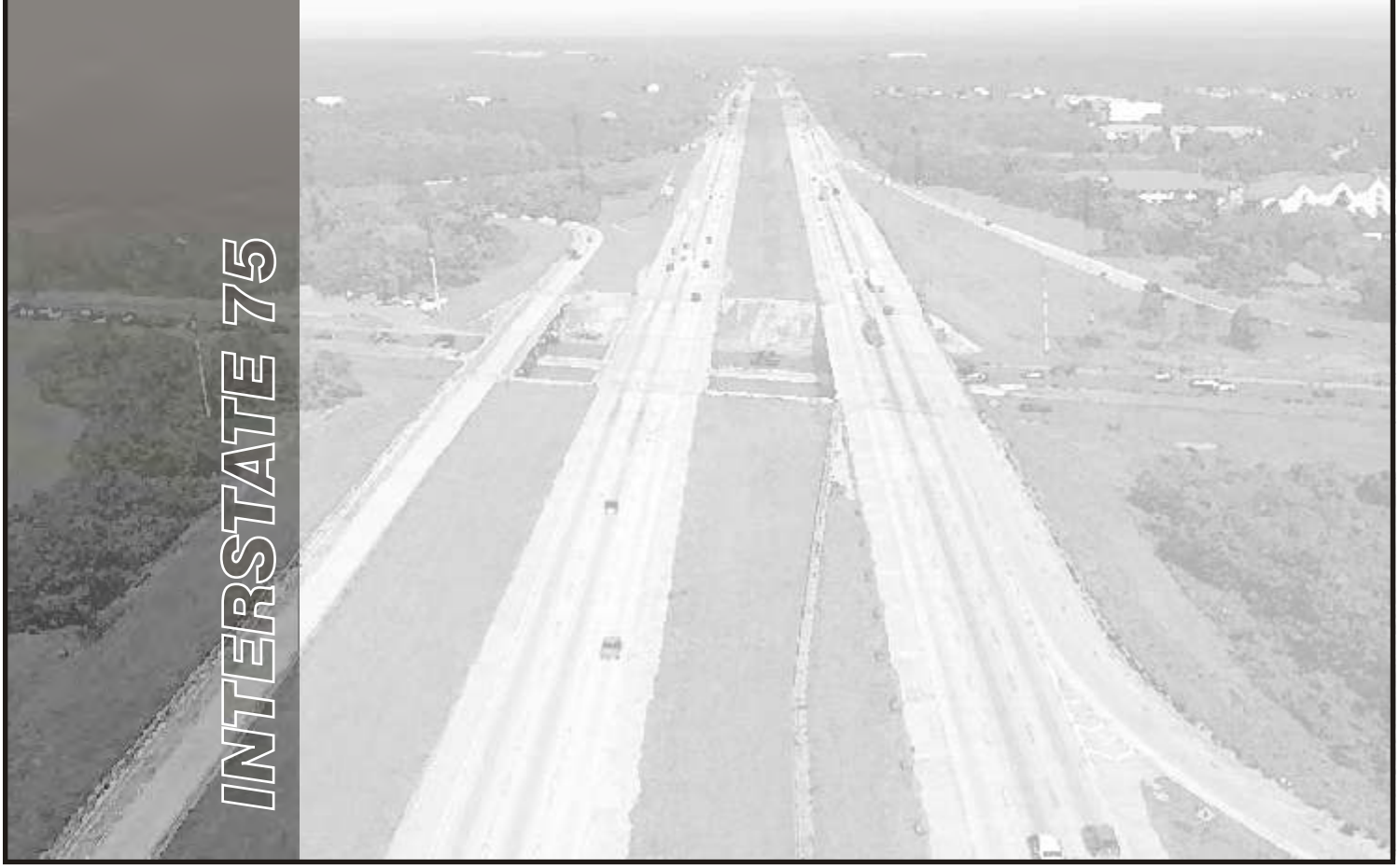
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Unsignalized Intersection Result Sheets

Future Year (2035)
Build Alternative 1 Conditions



TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 northbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*161*	*860*			*1024*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*178*	*955*	*0*	*0*	*1137*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*754*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*837*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*178*		*837*					
C (m) (veh/h)	*582*		*41*					
v/c	*0.31*		*20.41*					
95% queue length	*1.29*		*102.56*					
Control Delay (s/veh)	*13.9*		*8921*					
LOS	*B*		*F*					
Approach Delay (s/veh)	--	--	*8921*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 southbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*859*		*310*	*1468*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*954*	*0*	*344*	*1631*	*0*
Percent Heavy Vehicles	*0*	--	--	*7*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*162*		
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*180*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*344*				*180*		
C (m) (veh/h)		*686*				*7*		
v/c		*0.50*				*25.71*		
95% queue length		*2.83*				*24.39*		
Control Delay (s/veh)		*15.4*				*12152*		
LOS		*C*				*F*		
Approach Delay (s/veh)	--	--				*12152*		
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 northbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2526*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2806*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*367*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*407*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*407*					
C (m) (veh/h)			*20*					
v/c			*20.35*					
95% queue length			*51.35*					
Control Delay (s/veh)			*9078*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*9078*					
Approach LOS	--	--	*F*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 southbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2808*		*543*	*1826*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*3120*	*0*	*603*	*2028*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						*920*
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*1022*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						*R*
v (veh/h)		*603*						*1022*
C (m) (veh/h)		*99*						*235*
v/c		*6.09*						*4.35*
95% queue length		*66.41*						*102.13*
Control Delay (s/veh)		*2375*						*1547*
LOS		*F*						*F*
Approach Delay (s/veh)	--	--				*1547*		
Approach LOS	--	--				*F*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*3/12/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 northbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*182*	*982*			*1135*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*202*	*1091*	*0*	*0*	*1261*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*850*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*944*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*202*		*944*					
C (m) (veh/h)	*521*		*75*					
v/c	*0.39*		*12.59*					
95% queue length	*1.82*		*111.79*					
Control Delay (s/veh)	*16.2*		*5319*					
LOS	*C*		*F*					
Approach Delay (s/veh)	--	--	*5319*					
Approach LOS	--	--	*F*					

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 southbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1020*		*275*	*1710*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*1133*	*0*	*305*	*1900*	*0*
Percent Heavy Vehicles	*0*	--	--	*7*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*144*		
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*160*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*305*				*160*		
C (m) (veh/h)		*584*				*18*		
v/c		*0.52*				*8.89*		
95% queue length		*3.02*				*20.65*		
Control Delay (s/veh)		*17.7*				*3968*		
LOS		*C*				*F*		
Approach Delay (s/veh)	--	--				*3968*		
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 northbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2165*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2405*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*414*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*460*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*460*					
C (m) (veh/h)			*64*					
v/c			*7.19*					
95% queue length			*52.77*					
Control Delay (s/veh)			*2910*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*2910*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Raman*
Agency/Co.	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description *I-75 southbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2359*		*350*	*1898*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2621*	*0*	*388*	*2108*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						*1058*
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*1175*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*3*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*1*
Configuration						*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						*R*
v (veh/h)		*388*						*1175*
C (m) (veh/h)		*158*						*221*
v/c		*2.46*						*5.32*
95% queue length		*33.14*						*122.84*
Control Delay (s/veh)		*719.3*						*1984*
LOS		*F*						*F*
Approach Delay (s/veh)	--	--				*1984*		
Approach LOS	--	--				*F*		

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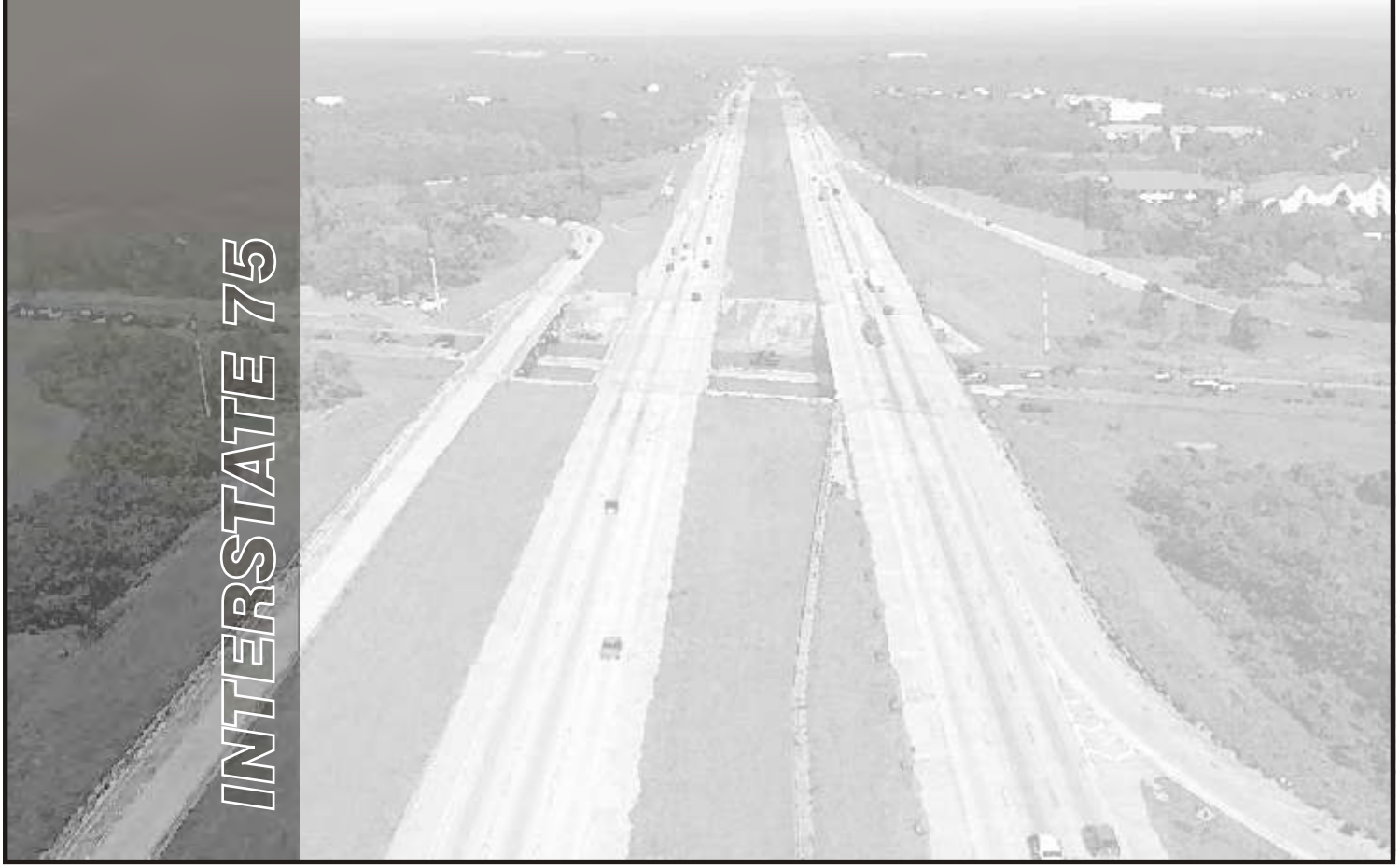
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Ramp Merge/ Diverge Result Sheets

Future Year (2035)
Build Alternative 1 Conditions



RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	I-75 @ Moccasin Wallow Rd
Date Performed	03/11/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 343 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6439	0.90	Level	8	0	0.962	1.00	7441
Ramp	1206	0.90	Level	2	0	0.990	1.00	1353
UpStream								
DownStream	343	0.90	Level	2	0	0.990	1.00	385

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4007 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7441	9600	No
V_{12}	4007	4400:All	No
$V_{FO} = V_F - V_R$	6088	9600	No
V_R	1353	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 37.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.420 (Exhibit 25-19)

S_R= 58.2 mph (Exhibit 25-19)

S_0= 74.0 mph (Exhibit 25-19)

S = 64.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/11/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 No Build

Project Description I-75 NB From Mocassin Wallow WB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 1206 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5233	0.90	Level	10	0	0.952	1.00	6105
Ramp	343	0.90	Level	2	0	0.990	1.00	385
UpStream	1206	0.90	Level	2	0	0.990	1.00	1353
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.256 using Equation (Exhibit 25-5)

V_{12} = 1565 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6490	See Exhibit 25-7	No
V_{R12}	1950	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 18.3 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.317 (Exibit 25-19)

S_R= 61.1 mph (Exhibit 25-19)

S_0= 63.6 mph (Exhibit 25-19)

S = 62.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1360 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4945	0.90	Level	10	0	0.952	1.00	5769
Ramp	387	0.90	Level	4	0	0.980	1.00	439
UpStream								
DownStream	1360	0.90	Level	4	0	0.980	1.00	1541

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2763 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5769	9600	No
V_{12}	2763	4400:All	No
$V_{FO} = V_F - V_R$	5330	9600	No
V_R	439	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 26.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.338 (Exhibit 25-19)

S_R= 60.5 mph (Exhibit 25-19)

S_0= 74.8 mph (Exhibit 25-19)

S = 67.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/11/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB From Mocassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 387 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4558	0.90	Level	8	0	0.962	1.00	5267
Ramp	1360	0.90	Level	4	0	0.980	1.00	1541
UpStream	387	0.90	Level	4	0	0.980	1.00	439
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.521 using Equation (Exhibit 25-5)

V_{12} = 2743 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6808	See Exhibit 25-7	No
V_{R12}	4284	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 25.6 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.424 (Exibit 25-19)

S_R= 58.1 mph (Exhibit 25-19)

S_0= 67.3 mph (Exhibit 25-19)

S = 61.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1205 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5576	0.90	Level	10	0	0.952	1.00	6505
Ramp	612	0.90	Level	2	0	0.990	1.00	687
UpStream								
DownStream	1205	0.90	Level	1	0	0.995	1.00	1346

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3224 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6505	9600	No
V_{12}	3224	4400:All	No
$V_{FO} = V_F - V_R$	5818	9600	No
V_R	687	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 23.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.360 (Exhibit 25-19)

S_R = 59.9 mph (Exhibit 25-19)

S_0 = 74.3 mph (Exhibit 25-19)

S = 66.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB From (Loop) EB SR 674 - Merge

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2200 ft

V_D = 705 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4964	0.90	Level	10	0	0.952	1.00	5791
Ramp	1205	0.90	Level	1	0	0.995	1.00	1346
UpStream								
DownStream	705	0.90	Level	1	0	0.995	1.00	787

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.241 using Equation (Exhibit 25-5)

V_{12} = 1394 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7137	See Exhibit 25-7	No
V_{R12}	2740	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 22.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.339 (Exibit 25-19)

S_R= 57.2 mph (Exhibit 25-19)

S_0= 58.9 mph (Exhibit 25-19)

S = 58.2 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2200 ft
V_u = 1205 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6169	0.90	Level	9	0	0.957	1.00	7163
Ramp	705	0.90	Level	1	0	0.995	1.00	787
UpStream	1205	0.90	Level	1	0	0.995	1.00	1346
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.342 using Equation (Exhibit 25-5)

V_{12} = 2453 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7950	See Exhibit 25-7	No
V_{R12}	3240	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 24.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.340 (Exibit 25-19)

S_R = 60.5 mph (Exhibit 25-19)

S_0 = 63.1 mph (Exhibit 25-19)

S = 62.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 923 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6096	0.90	Level	9	0	0.957	1.00	7078
Ramp	919	0.90	Level	2	0	0.990	1.00	1031
UpStream								
DownStream	923	0.90	Level	1	0	0.995	1.00	1031

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3667 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7078	9600	No
V_{12}	3667	4400:All	No
$V_{FO} = V_F - V_R$	6047	9600	No
V_R	1031	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 25.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.391 (Exhibit 25-19)

S_R= 59.1 mph (Exhibit 25-19)

S_0= 74.0 mph (Exhibit 25-19)

S = 65.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit (From Loop) to EB SR 674

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2200 ft
V_u = 919 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5177	0.90	Level	10	0	0.952	1.00	6040
Ramp	923	0.90	Level	1	0	0.995	1.00	1031
UpStream	919	0.90	Level	2	0	0.990	1.00	1031
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3215 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6040	9400	No
V_{12}	3215	4400:All	No
$V_{FO} = V_F - V_R$	5009	9400	No
V_R	1031	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 23.4 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.521 (Exhibit 25-19)

S_R= 53.0 mph (Exhibit 25-19)

S_0= 69.7 mph (Exhibit 25-19)

S = 59.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1500 ft
V_u = 923 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4254	0.90	Level	10	0	0.952	1.00	4963
Ramp	691	0.90	Level	1	0	0.995	1.00	772
UpStream	923	0.90	Level	1	0	0.995	1.00	1031
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1489.49 (Equation 25-2 or 25-3)

P_{FM} = 0.597 using Equation (Exhibit 25-5)

V_{12} = 2963 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5735	See Exhibit 25-7	No
V_{R12}	3735	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 29.9 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.421 (Exibit 25-19)

S_R = 58.2 mph (Exhibit 25-19)

S_0 = 64.6 mph (Exhibit 25-19)

S = 60.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 1947 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6874	0.90	Level	9	0	0.957	1.00	7981
Ramp	566	0.90	Level	1	0	0.995	1.00	632
UpStream								
DownStream	1947	0.90	Level	1	0	0.995	1.00	2174

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3836 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7981	9600	No
V_{12}	3836	4400:All	No
$V_{FO} = V_F - V_R$	7349	9600	No
V_R	632	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 35.4 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.355 (Exhibit 25-19)

S_R = 60.1 mph (Exhibit 25-19)

S_0 = 72.6 mph (Exhibit 25-19)

S = 66.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2100 ft

V_u = 566 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6308	0.90	Level	7	0	0.966	1.00	7254
Ramp	1947	0.90	Level	1	0	0.995	1.00	2174
UpStream	566	0.90	Level	1	0	0.995	1.00	632
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.360 using Equation (Exhibit 25-5)

V_{12} = 2613 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	9428	See Exhibit 25-7	Yes
V_{R12}	4787	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 33.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.698 (Exibit 25-19)

S_R= 49.0 mph (Exhibit 25-19)

S_0= 58.3 mph (Exhibit 25-19)

S = 53.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2100 ft

V_D = 1025 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7320	0.90	Level	7	0	0.966	1.00	8418
Ramp	2249	0.90	Level	1	0	0.995	1.00	2511
UpStream								
DownStream	1025	0.90	Level	2	0	0.990	1.00	1150

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5086 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8418	9400	No
V_{12}	5086	4400:All	Yes
$V_{FO} = V_F - V_R$	5907	9400	No
V_R	2511	2000	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 44.4 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.654 (Exhibit 25-19)

S_R= 50.0 mph (Exhibit 25-19)

S_0= 68.7 mph (Exhibit 25-19)

S = 56.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 2249 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5071	0.90	Level	9	0	0.957	1.00	5888
Ramp	1025	0.90	Level	2	0	0.990	1.00	1150
UpStream	2249	0.90	Level	1	0	0.995	1.00	2511
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.371 using Equation (Exhibit 25-5)

V_{12} = 2187 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7038	See Exhibit 25-7	No
V_{R12}	3337	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 23.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.323 (Exibit 25-19)

S_R= 61.0 mph (Exhibit 25-19)

S_0= 65.1 mph (Exhibit 25-19)

S = 63.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/03/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1990 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8255	0.90	Level	7	0	0.966	1.00	9493
Ramp	611	0.90	Level	1	0	0.995	1.00	682
UpStream								
DownStream	1990	0.90	Level	1	0	0.995	1.00	2222

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4524 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	9493	9600	No
V_{12}	4524	4400:All	Yes
$V_{FO} = V_F - V_R$	8811	9600	No
V_R	682	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 40.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.359 (Exhibit 25-19)

S_R = 59.9 mph (Exhibit 25-19)

S_0 = 71.0 mph (Exhibit 25-19)

S = 65.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 950 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8461	0.90	Level	7	0	0.966	1.00	9730
Ramp	2090	0.90	Level	1	0	0.995	1.00	2334
UpStream								
DownStream	950	0.90	Level	2	0	0.990	1.00	1066

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4710 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7784	9600	No
V_{12}	4710	4400:All	Yes
$V_{FO} = V_F - V_R$	5450	9600	No
V_R	2334	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 44.8 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.508 (Exhibit 25-19)

S_R= 55.8 mph (Exhibit 25-19)

S_0= 74.7 mph (Exhibit 25-19)

S = 62.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Merge from Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Dr
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 1

Project Description Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3300 ft
V_u = 2090 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6370	0.90	Level	7	0	0.966	1.00	7325
Ramp	950	0.90	Level	2	0	0.990	1.00	1066
UpStream	2090	0.90	Level	1	0	0.995	1.00	2334
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.243 using Equation (Exhibit 25-5)

V_{12} = 1781 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8391	See Exhibit 25-7	No
V_{R12}	2847	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 23.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.331 (Exibit 25-19)

S_R = 60.7 mph (Exhibit 25-19)

S_0 = 60.6 mph (Exhibit 25-19)

S = 60.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Mocassin Wallow Rd
Date Performed	03/11/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 1

Project Description I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 497 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5808	0.90	Level	8	0	0.962	1.00	6711
Ramp	1360	0.90	Level	2	0	0.990	1.00	1526
UpStream								
DownStream	497	0.90	Level	2	0	0.990	1.00	558

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3787 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6711	9600	No
V_{12}	3787	4400:All	No
$V_{FO} = V_F - V_R$	5185	9600	No
V_R	1526	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 35.3 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.435 (Exhibit 25-19)

S_R = 57.8 mph (Exhibit 25-19)

S_0 = 75.0 mph (Exhibit 25-19)

S = 64.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/11/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB From Mocassin Wallow WB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 1360 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4448	0.90	Level	10	0	0.952	1.00	5189
Ramp	497	0.90	Level	2	0	0.990	1.00	558
UpStream	1360	0.90	Level	2	0	0.990	1.00	1526
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.235 using Equation (Exhibit 25-5)

V_{12} = 1218 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5747	See Exhibit 25-7	No
V_{R12}	1776	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 16.9 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.313 (Exibit 25-19)

S_R= 61.2 mph (Exhibit 25-19)

S_0= 64.7 mph (Exhibit 25-19)

S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1316 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5576	0.90	Level	10	0	0.952	1.00	6505
Ramp	343	0.90	Level	4	0	0.980	1.00	389
UpStream								
DownStream	1316	0.90	Level	4	0	0.980	1.00	1491

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3056 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6505	9600	No
V_{12}	3056	4400:All	No
$V_{FO} = V_F - V_R$	6116	9600	No
V_R	389	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 28.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.333 (Exhibit 25-19)

S_R= 60.7 mph (Exhibit 25-19)

S_0= 74.0 mph (Exhibit 25-19)

S = 67.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/11/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB From Mocassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 343 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5233	0.90	Level	8	0	0.962	1.00	6047
Ramp	1316	0.90	Level	4	0	0.980	1.00	1491
UpStream	343	0.90	Level	4	0	0.980	1.00	389
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.527 using Equation (Exhibit 25-5)

V_{12} = 3187 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7538	See Exhibit 25-7	No
V_{R12}	4678	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 28.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.560 (Exibit 25-19)

S_R= 54.3 mph (Exhibit 25-19)

S_0= 66.7 mph (Exhibit 25-19)

S = 58.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 1500 ft
V_D = 1046 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4945	0.90	Level	10	0	0.952	1.00	5769
Ramp	691	0.90	Level	2	0	0.990	1.00	775
UpStream								
DownStream	1046	0.90	Level	1	0	0.995	1.00	1168

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2952 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5769	9600	No
V_{12}	2952	4400:All	No
$V_{FO} = V_F - V_R$	4994	9600	No
V_R	775	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 21.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.368 (Exhibit 25-19)

S_R= 59.7 mph (Exhibit 25-19)

S_0= 75.2 mph (Exhibit 25-19)

S = 66.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 1

Project Description I-75 NB From (Loop) EB SR 674 - Merge

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2200 ft

V_D = 795 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4254	0.90	Level	10	0	0.952	1.00	4963
Ramp	1046	0.90	Level	1	0	0.995	1.00	1168
UpStream								
DownStream	795	0.90	Level	1	0	0.995	1.00	888

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.594 using Equation (Exhibit 25-5)

V_{12} = 2950 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6131	See Exhibit 25-7	No
V_{R12}	4118	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 33.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.519 (Exibit 25-19)

S_R= 53.1 mph (Exhibit 25-19)

S_0= 59.6 mph (Exhibit 25-19)

S = 55.0 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2200 ft
V_u = 1046 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5300	0.90	Level	9	0	0.957	1.00	6154
Ramp	795	0.90	Level	1	0	0.995	1.00	888
UpStream	1046	0.90	Level	1	0	0.995	1.00	1168
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.330 using Equation (Exhibit 25-5)

V_{12} = 2030 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7042	See Exhibit 25-7	No
V_{R12}	2918	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 22.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.312 (Exibit 25-19)

S_R = 61.3 mph (Exhibit 25-19)

S_0 = 64.4 mph (Exhibit 25-19)

S = 63.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 852 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6874	0.90	Level	9	0	0.957	1.00	7981
Ramp	1058	0.90	Level	2	0	0.990	1.00	1187
UpStream								
DownStream	852	0.90	Level	1	0	0.995	1.00	951

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4149 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7981	9600	No
V_{12}	4149	4400:All	No
$V_{FO} = V_F - V_R$	6794	9600	No
V_R	1187	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 30.0 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.405 (Exhibit 25-19)

S_R= 58.7 mph (Exhibit 25-19)

S_0= 73.2 mph (Exhibit 25-19)

S = 64.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit (From Loop) to EB SR 674

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2200 ft

V_u = 1058 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5816	0.90	Level	10	0	0.952	1.00	6785
Ramp	852	0.90	Level	1	0	0.995	1.00	951
UpStream	1058	0.90	Level	2	0	0.990	1.00	1187
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3495 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6785	9400	No
V_{12}	3495	4400:All	No
$V_{FO} = V_F - V_R$	5834	9400	No
V_R	951	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 25.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.514 (Exhibit 25-19)

S_R= 53.2 mph (Exhibit 25-19)

S_0= 68.8 mph (Exhibit 25-19)

S = 59.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1500 ft
V_u = 852 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4964	0.90	Level	10	0	0.952	1.00	5791
Ramp	612	0.90	Level	1	0	0.995	1.00	683
UpStream	852	0.90	Level	1	0	0.995	1.00	951
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.306 using Equation (Exhibit 25-5)

V_{12} = 1771 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6474	See Exhibit 25-7	No
V_{R12}	2454	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.9 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.303 (Exibit 25-19)

S_R = 61.5 mph (Exhibit 25-19)

S_0 = 64.6 mph (Exhibit 25-19)

S = 63.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 2200 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6096	0.90	Level	9	0	0.957	1.00	7078
Ramp	976	0.90	Level	1	0	0.995	1.00	1090
UpStream								
DownStream	2200	0.90	Level	1	0	0.995	1.00	2457

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3701 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7078	9600	No
V_{12}	3701	4400:All	No
$V_{FO} = V_F - V_R$	5988	9600	No
V_R	1090	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 34.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.396 (Exhibit 25-19)

S_R = 58.9 mph (Exhibit 25-19)

S_0 = 74.1 mph (Exhibit 25-19)

S = 65.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2100 ft

V_u = 976 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5120	0.90	Level	7	0	0.966	1.00	5888
Ramp	2200	0.90	Level	1	0	0.995	1.00	2457
UpStream	976	0.90	Level	1	0	0.995	1.00	1090
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.325 using Equation (Exhibit 25-5)

V_{12} = 1913 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8345	See Exhibit 25-7	No
V_{R12}	4370	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.538 (Exibit 25-19)

S_R= 52.6 mph (Exhibit 25-19)

S_0= 59.6 mph (Exhibit 25-19)

S = 55.7 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2100 ft

V_D = 820 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8255	0.90	Level	7	0	0.966	1.00	9493
Ramp	2200	0.90	Level	1	0	0.995	1.00	2457
UpStream								
DownStream	820	0.90	Level	2	0	0.990	1.00	920

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5525 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	9493	9400	Yes
V_{12}	5525	4400:All	Yes
$V_{FO} = V_F - V_R$	7036	9400	No
V_R	2457	2000	Yes

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = 48.2 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.649 (Exhibit 25-19)

S_R= 50.1 mph (Exhibit 25-19)

S_0= 67.5 mph (Exhibit 25-19)

S = 56.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 2200 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6055	0.90	Level	9	0	0.957	1.00	7031
Ramp	820	0.90	Level	2	0	0.990	1.00	920
UpStream	2200	0.90	Level	1	0	0.995	1.00	2457
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.400 using Equation (Exhibit 25-5)

V_{12} = 2813 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7951	See Exhibit 25-7	No
V_{R12}	3733	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 26.6 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.376 (Exibit 25-19)

S_R= 59.5 mph (Exhibit 25-19)

S_0= 64.2 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1763 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7320	0.90	Level	7	0	0.966	1.00	8418
Ramp	635	0.90	Level	1	0	0.995	1.00	709
UpStream								
DownStream	1763	0.90	Level	1	0	0.995	1.00	1969

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4070 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8418	9600	No
V_{12}	4070	4400:All	No
$V_{FO} = V_F - V_R$	7709	9600	No
V_R	709	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 36.8 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.362 (Exhibit 25-19)

S_R = 59.9 mph (Exhibit 25-19)

S_0 = 72.2 mph (Exhibit 25-19)

S = 65.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description I-75 SB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 915 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9531	0.90	Level	7	0	0.966	1.00	10961
Ramp	2190	0.90	Level	1	0	0.995	1.00	2446
UpStream								
DownStream	915	0.90	Level	2	0	0.990	1.00	1027

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5203 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8769	9600	No
V_{12}	5203	4400:All	Yes
$V_{FO} = V_F - V_R$	6323	9600	No
V_R	2446	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 49.0 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.518 (Exhibit 25-19)

S_R= 55.5 mph (Exhibit 25-19)

S_0= 73.7 mph (Exhibit 25-19)

S = 61.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Alexis	Freeway/Dir of Travel	I-75 SB Merge from Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Dr
Date Performed	03/11/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 1

Project Description Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3300 ft
V_u = 2190 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7340	0.90	Level	7	0	0.966	1.00	8441
Ramp	915	0.90	Level	2	0	0.990	1.00	1027
UpStream	2190	0.90	Level	1	0	0.995	1.00	2446
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.248 using Equation (Exhibit 25-5)

V_{12} = 2093 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	9468	See Exhibit 25-7	No
V_{R12}	3120	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 25.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.352 (Exibit 25-19)

S_R= 60.2 mph (Exhibit 25-19)

S_0= 58.2 mph (Exhibit 25-19)

S = 58.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

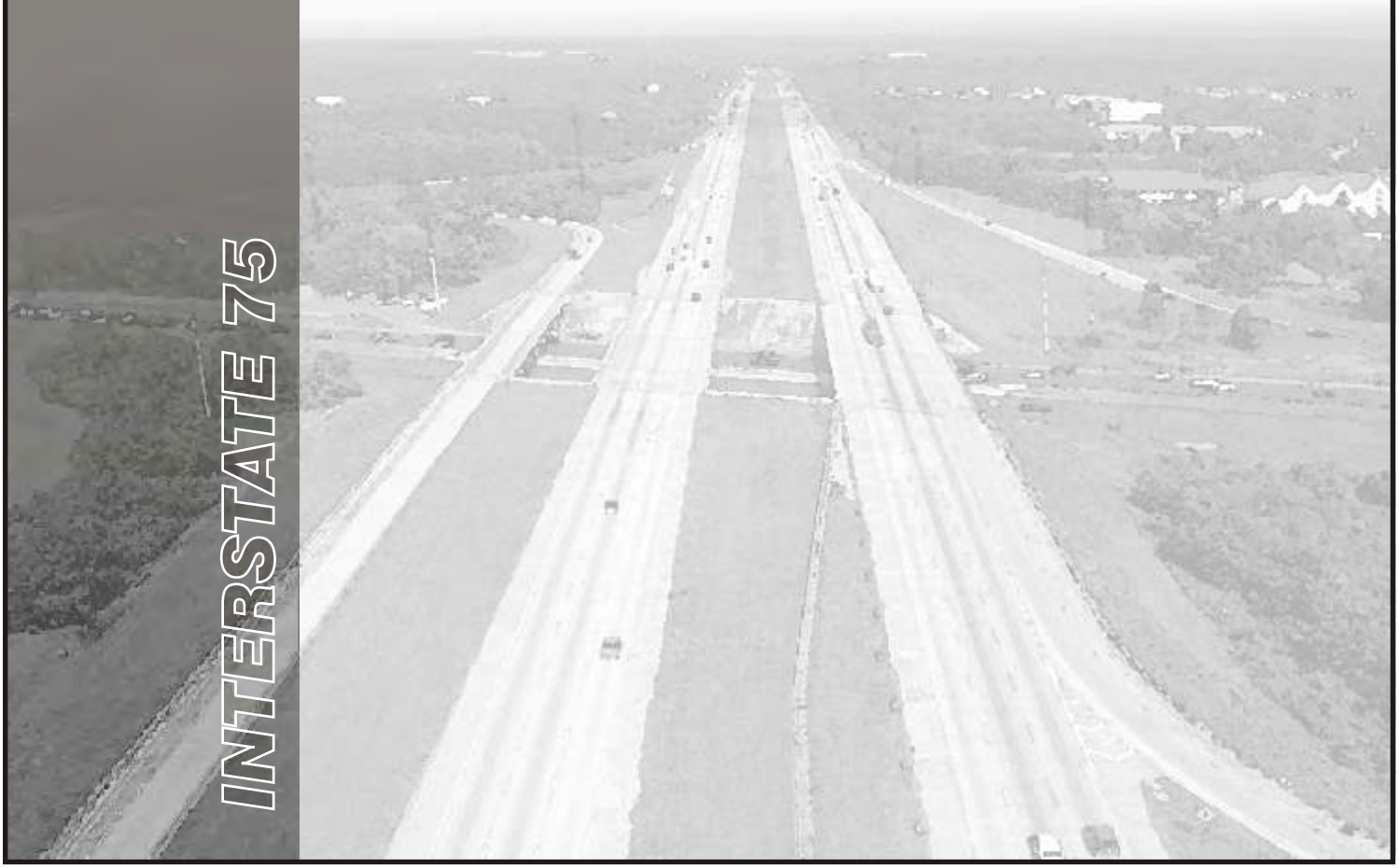
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Freeway Segment Result Sheets

Future Year (2035)
Build Alternative 1 Conditions



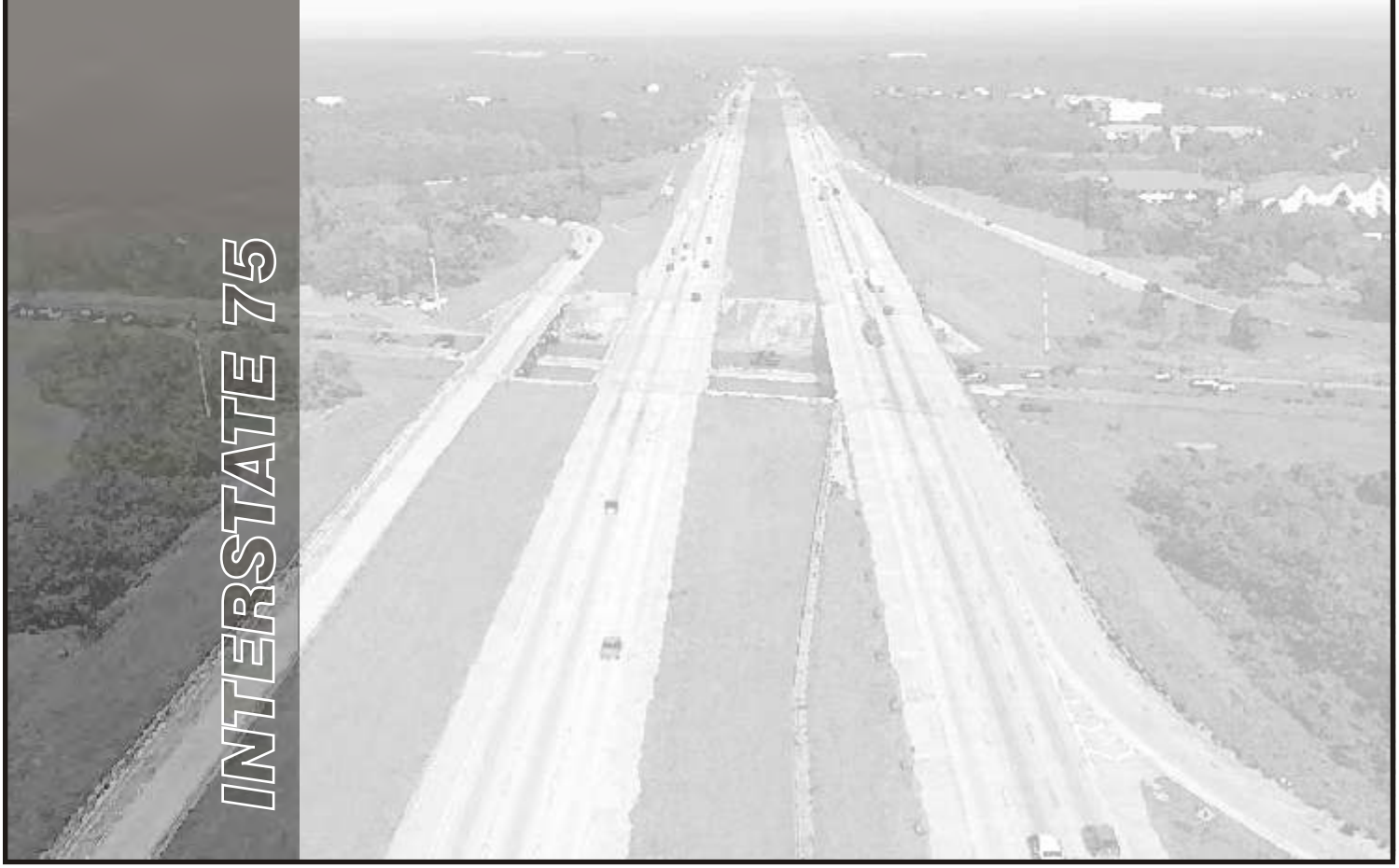
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

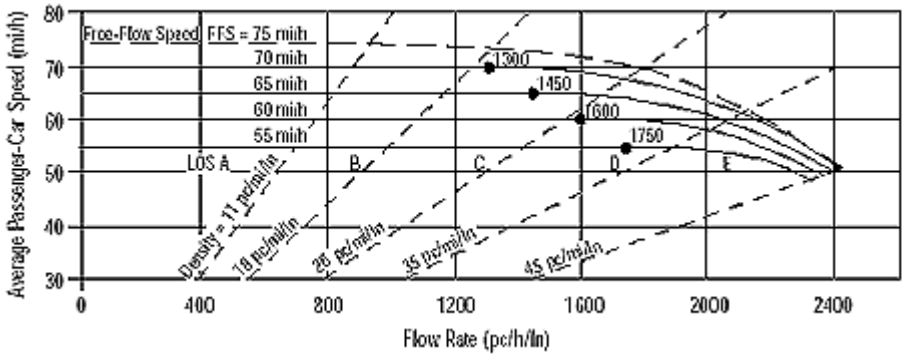
WPI Segment Number - 419235-1

Northbound I-75 Segments

Future Year (2035)
Build Alternative 1 Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Mocassin Wallow / SR 674*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From Mocassin Wallow To SR 674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5576*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1626*	pc/h/ln
S	*68.0*	mi/h
D = v_p / S	*23.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

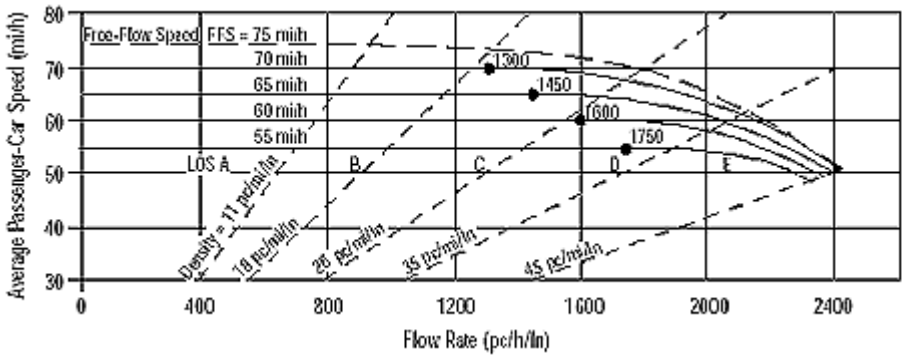
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 / Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From SR 674 To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6874*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1995*	pc/h/ln
S	*63.9*	mi/h
D = v_p / S	*31.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

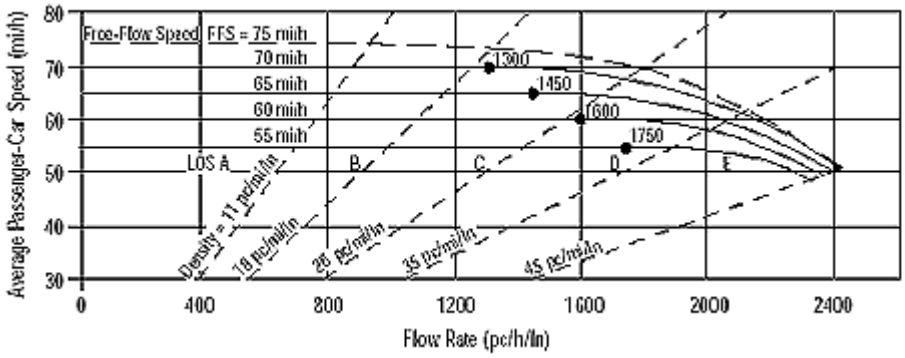
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Big Bend Road / Gibsonton Dr.*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From Big Bend Road To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8255*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2373*	pc/h/ln
S	*53.5*	mi/h
D = v_p / S	*44.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

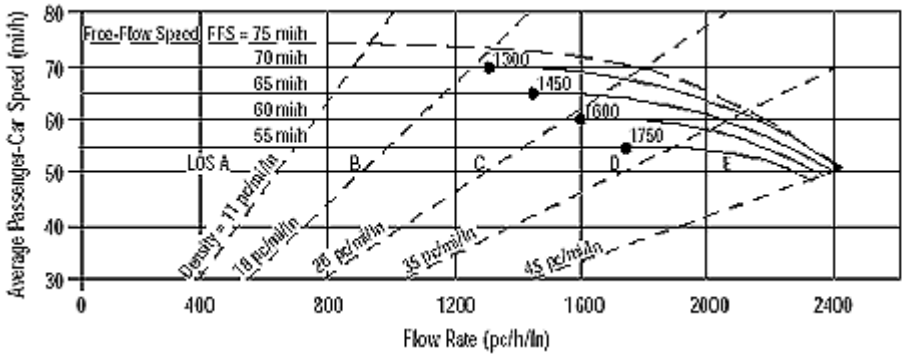
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Gibsonton Dr. / US 301*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From Gibsonton Drive To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9635*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2216*	pc/h/ln
S	*59.6*	mi/h
D = v_p / S	*37.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

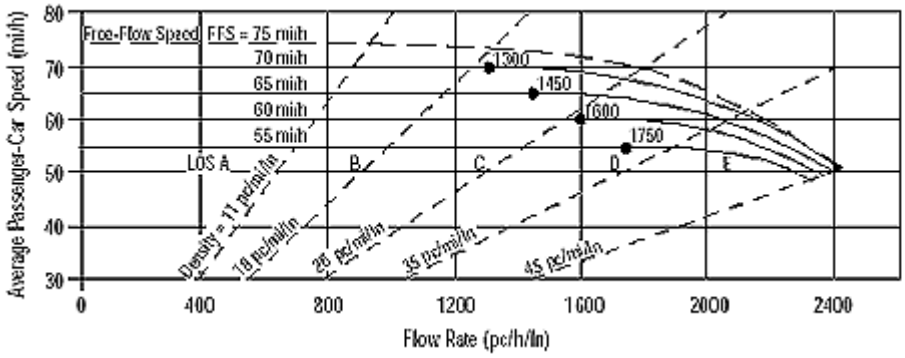
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Mocassin Wallow / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From Mocassin Wallow To SR 674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4945*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1442*	pc/h/ln
S	*68.5*	mi/h
D = v_p / S	*21.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

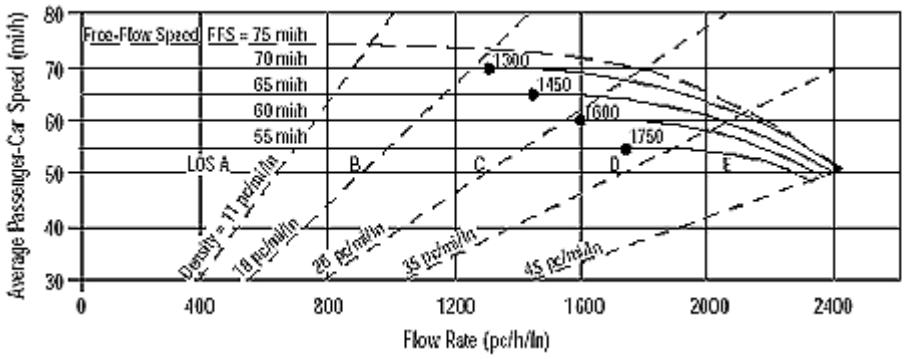
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 / Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From SR 674 To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6096*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1770*	pc/h/ln
S	*67.0*	mi/h
D = v_p / S	*26.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

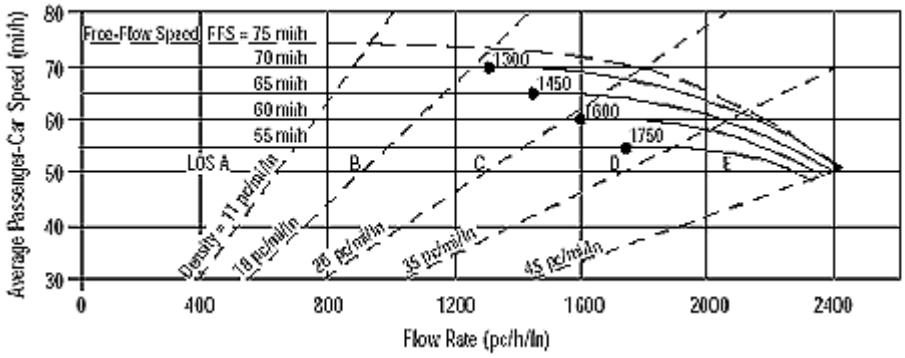
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Big Bend Road / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From Big Bend Road To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7320*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2104*	pc/h/ln
S	*61.7*	mi/h
D = v_p / S	*34.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

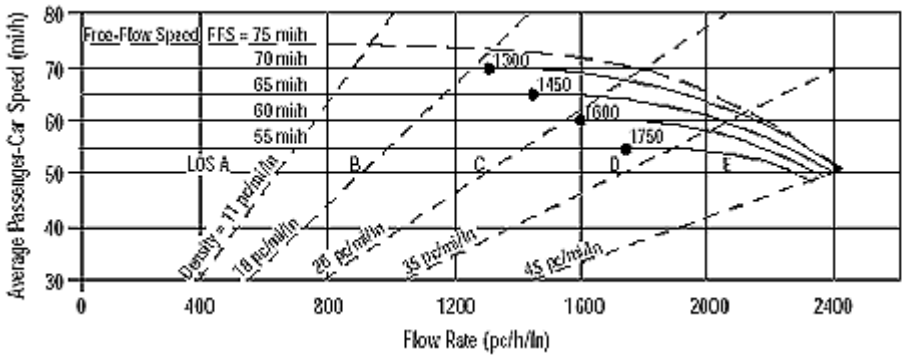
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Gibsonton Dr. / US 301*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 NB From Gibsonton Drive To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8452*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1944*	pc/h/ln
S	*65.9*	mi/h
D = v_p / S	*29.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

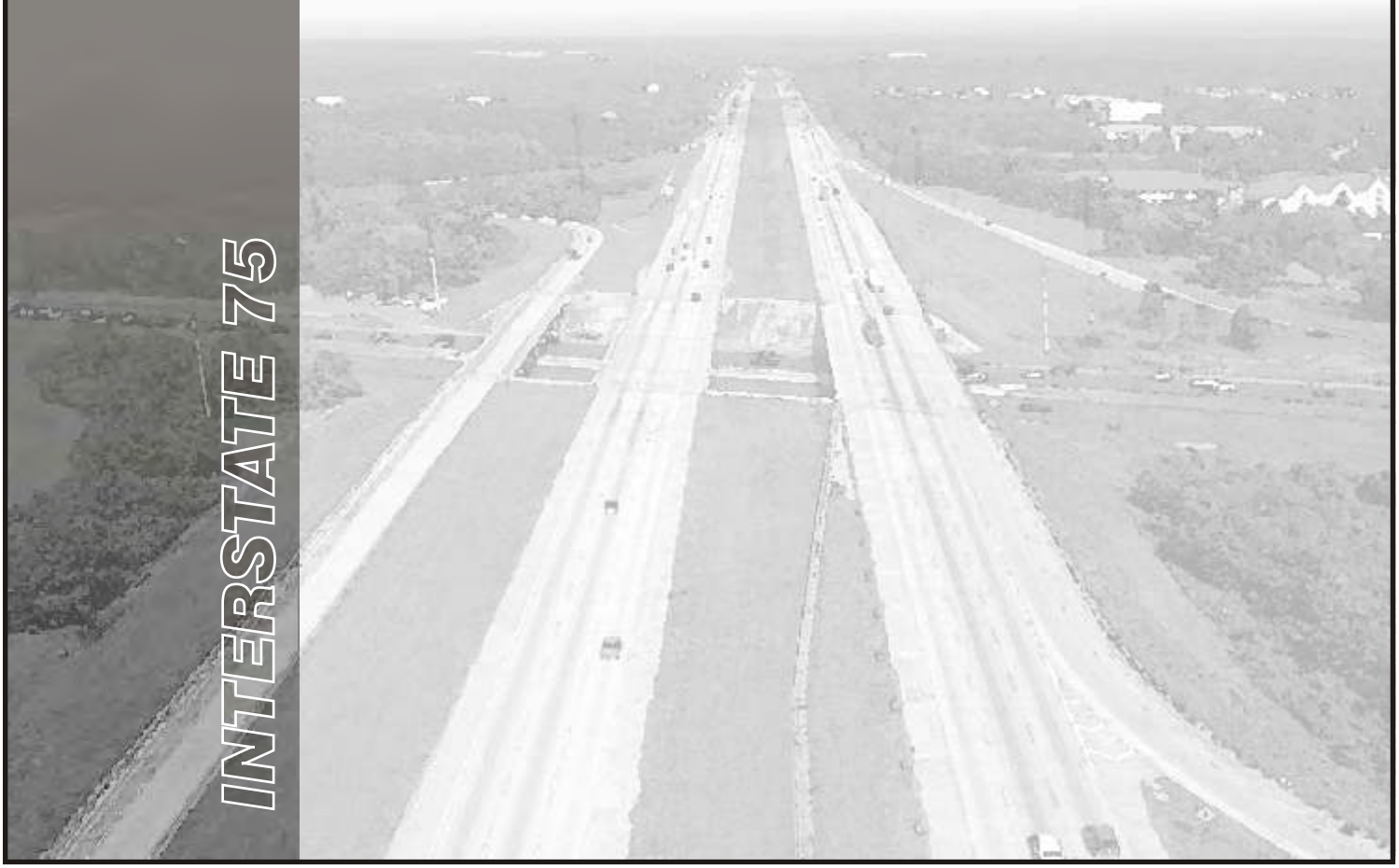
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

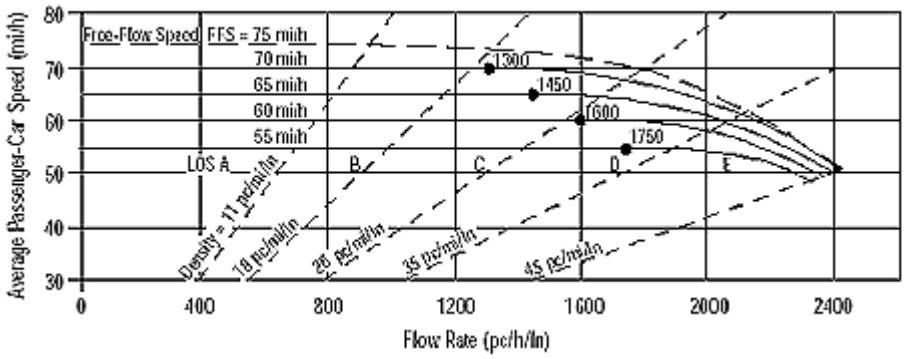
WPI Segment Number - 419235-1

Southbound I-75 Segments

Future Year (2035)
Build Alternative 1 Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Southbound*
Agency or Company	*PB Americas*	From/To	*US 301 / Gibsonton Dr.*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From US 301 To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8461*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1946*	pc/h/ln
S	*65.8*	mi/h
D = v_p / S	*29.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

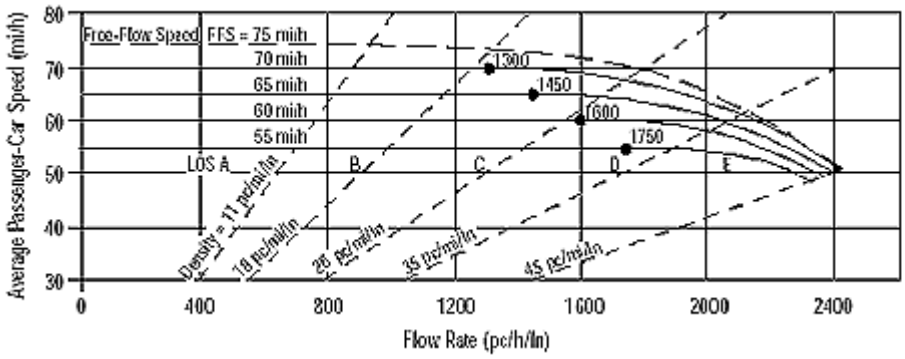
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr. / Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From Gibsonton Drive To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7320*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2104*	pc/h/ln
S	*61.7*	mi/h
D = v_p / S	*34.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

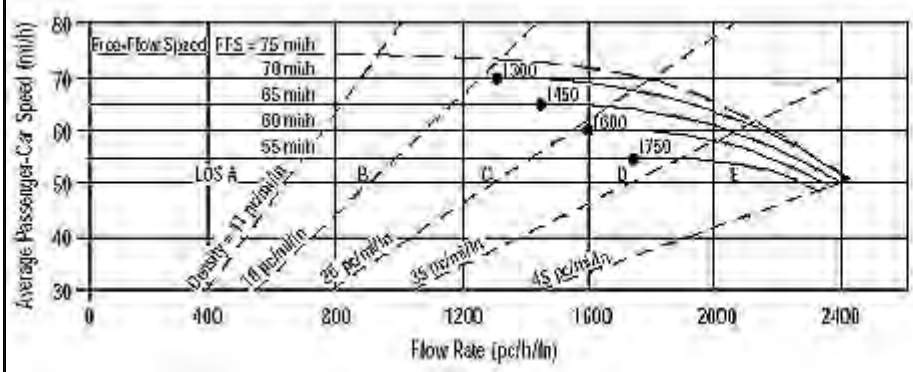
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From Big Bend Rd To (SR 674) College Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6096*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1770*	pc/h/ln
S	*67.0*	mi/h
D = v_p / S	*26.4*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

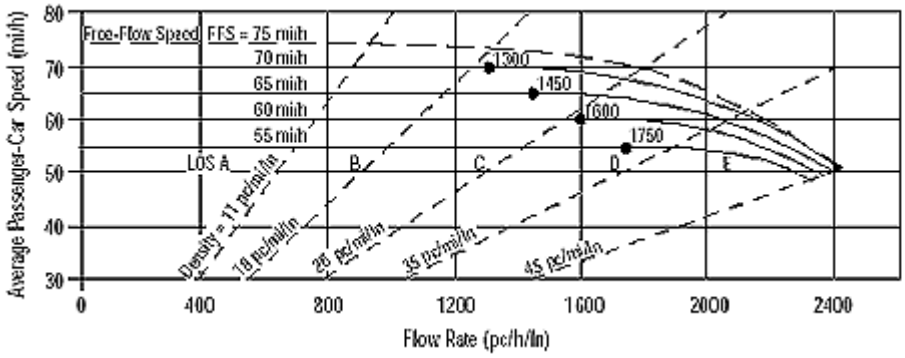
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Southbound*
Agency or Company	*PB Americas*	From/To	*SR 674 / Mocassin Wallow*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From SR 674 To Mocassin Wallow

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4945*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1442*	pc/h/ln
S	*68.5*	mi/h
D = v_p / S	*21.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

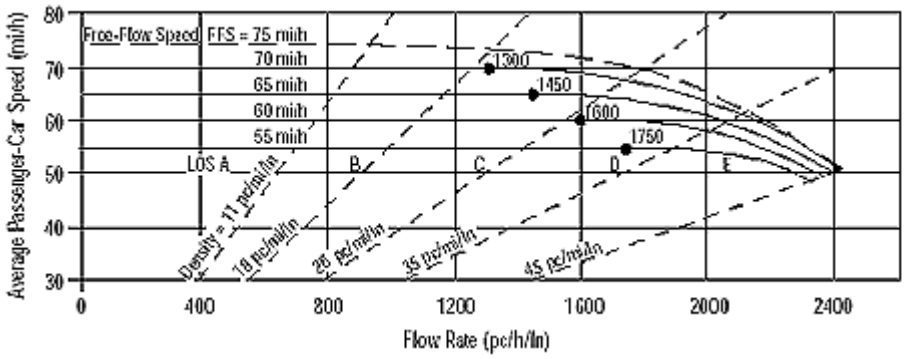
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*US 301 / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From US 301 To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9531*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2192*	pc/h/ln
S	*60.3*	mi/h
D = v_p / S	*36.3*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

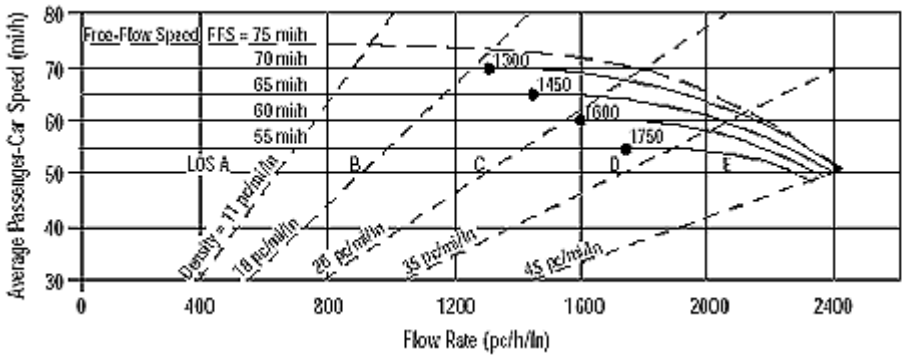
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr. / Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From Gibsonton Drive To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8255*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2373*	pc/h/ln
S	*53.5*	mi/h
D = v_p / S	*44.4*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

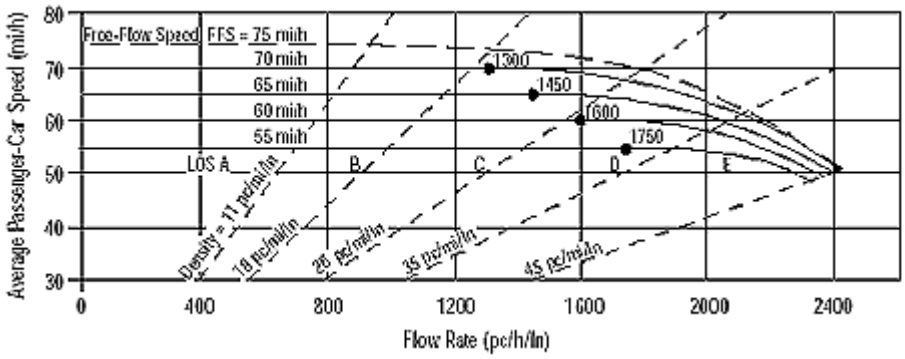
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/03/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From Big Bend Rd To (SR 674) College Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6874*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1995*	pc/h/ln
S	*63.9*	mi/h
D = v_p / S	*31.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

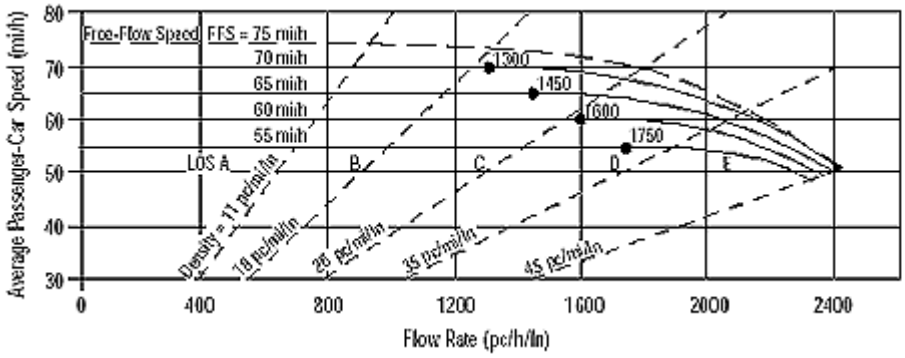
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Alexis*	Highway/Direction of Travel	*I-75 Southbound*
Agency or Company	*PB Americas*	From/To	*SR 674 / Mocassin Wallow*
Date Performed	*03/03/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM Peak*	Analysis Year	*2035 Build Alternative 1*

Project Description I-75 SB From SR 674 To Mocassin Wallow

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5576*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1626*	pc/h/ln
S	*68.0*	mi/h
D = v_p / S	*23.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

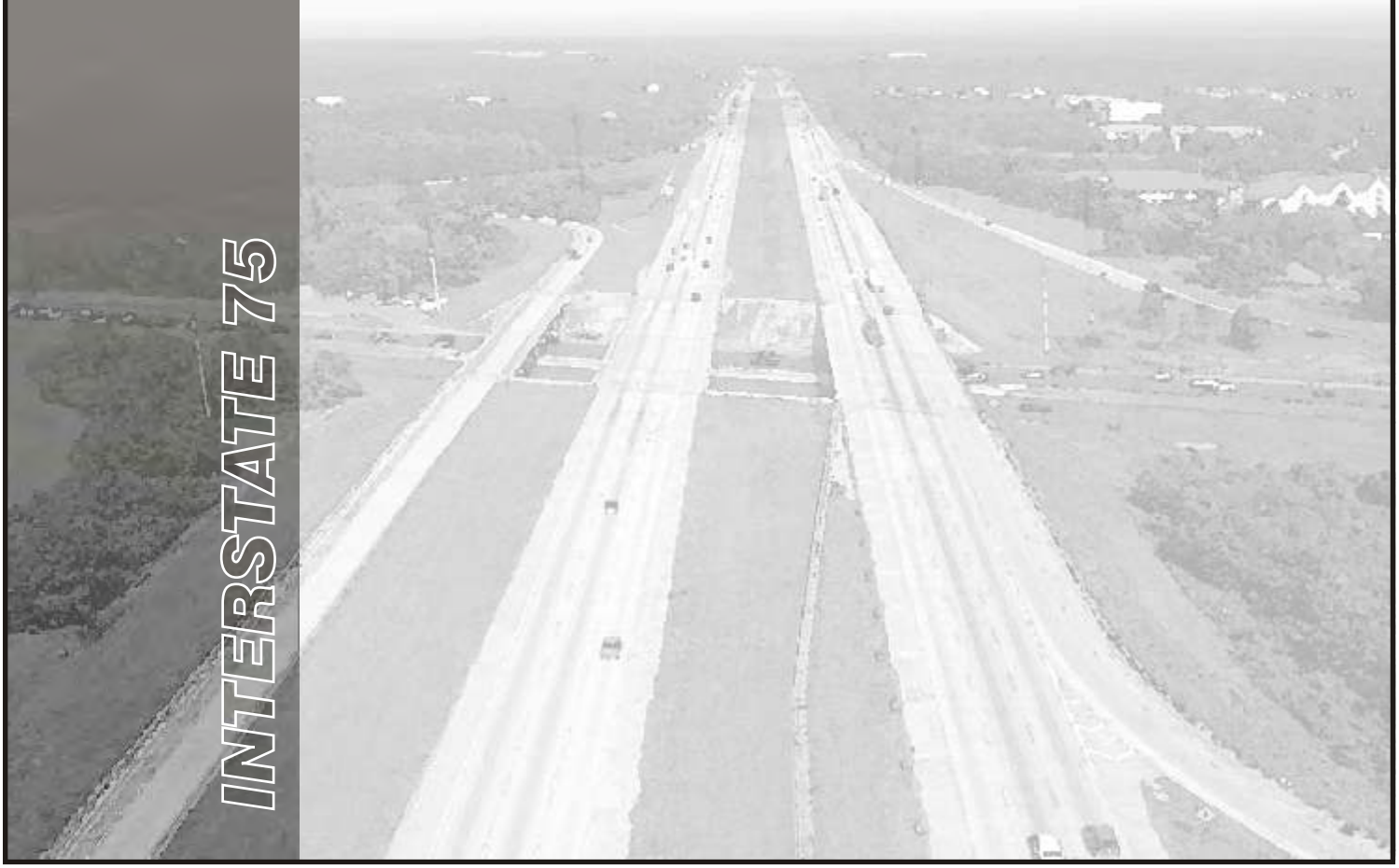
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Signalized Intersection Result Sheets

Future Year (2035)
Build Alternative 2 Conditions



HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp @ M. W.*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*160*	*880*			*1090*		*810*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *11.7*	G = *46.7*	G =	G =	G = *46.6*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*178*	*978*			*1211*		*900*					
Lane Group Capacity, c	*224*	*1786*			*1316*		*655*					
v/c Ratio, X	*0.79*	*0.55*			*0.92*		*1.37*					
Total Green Ratio, g/C	*0.53*	*0.53*			*0.39*		*0.39*					
Uniform Delay, d_1	*30.5*	*18.8*			*34.9*		*36.7*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*24.6*	*1.2*			*11.9*		*177.9*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*55.0*	*20.0*			*46.7*		*214.6*					
Lane Group LOS	*E*	*B*			*D*		*F*					
Approach Delay	*25.4*			*46.7*			*214.6*					
	C			*D*			*F*					

Approach LOS				
Intersection Delay	*85.4*	X_C = *1.13*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramp @ M.W.*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*880*		*385*	*1515*					*162*		
% Heavy Vehicles, %HV		*7*		*7*	*7*					*7*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *29.0*	G = *48.0*	G =	G =	G = *28.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*978*		*428*	*1683*					*180*		
Lane Group Capacity, c		*1352*		*513*	*2310*					*394*		
v/c Ratio, X		*0.72*		*0.83*	*0.73*					*0.46*		
Total Green Ratio, g/C		*0.40*		*0.68*	*0.68*					*0.23*		
Uniform Delay, d_1		*30.4*		*27.6*	*12.0*					*39.5*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*3.4*		*14.7*	*2.1*					*3.8*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*33.8*		*42.3*	*14.0*					*43.3*		
Lane Group LOS		*C*		*D*	*B*					*D*		
Approach Delay	*33.8*			*19.8*						*43.3*		

Approach LOS	*C*	*B*		*D*
Intersection Delay	*25.3*	X_C = *0.73*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramp @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2 -AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*			*3*		*1*					
Lane Group		*T*			*T*		*L*					
Volume, V (vph)		*2900*			*2375*		*400*					
% Heavy Vehicles, %HV		*3*			*3*		*3*					
Peak-Hour Factor, PHF		*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*			*P*		*P*					
Start-up Lost Time, l_1		*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*			*2.0*		*2.0*					
Arrival Type, AT		*3*			*3*		*3*					
Unit Extension, UE		*3.0*			*3.0*		*3.0*					
Filtering/Metering, I		*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *74.0*	G =	G =	G =	G = *36.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*3222*			*2639*		*444*					
Lane Group Capacity, c		*3099*			*3099*		*526*					
v/c Ratio, X		*1.04*			*0.85*		*0.84*					
Total Green Ratio, g/C		*0.62*			*0.62*		*0.30*					
Uniform Delay, d_1		*23.0*			*18.6*		*39.4*					
Progression Factor, PF		*1.000*			*1.000*		*1.000*					
Delay Calibration, k		*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2		*27.7*			*3.2*		*15.2*					
Initial Queue Delay, d_3		*0.0*			*0.0*		*0.0*					
Control Delay		*50.7*			*21.7*		*54.6*					
Lane Group LOS		*D*			*C*		*D*					
Approach Delay	*50.7*			*21.7*			*54.6*					

Approach LOS	*D*	*C*	*D*	
Intersection Delay	*38.8*	X_C = *0.98*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*1*	*3*							
Lane Group		*T*		*L*	*T*							
Volume, V (vph)		*2860*		*605*	*2170*							
% Heavy Vehicles, %HV		*5*		*5*	*5*							
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*							
Pretimed (P) or Actuated (A)		*P*		*P*	*P*							
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*							
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*							
Arrival Type, AT		*3*		*3*	*3*							
Unit Extension, UE		*3.0*		*3.0*	*3.0*							
Filtering/Metering, I		*1.000*		*1.000*	*1.000*							
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*							
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*							
Lane Width		*12.0*		*12.0*	*12.0*							
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*						
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*							
Min. Time for Pedestrians, G_p	*3.2*			*3.2*								

Phasing	WB Only	Thru Only	03	04	05	06	07	08
Timing	G = *33.8*	G = *76.2*	G = *0.0*	G = *0.0*	G =	G =	G =	G =
	Y = *5*	Y = *5*	Y = *0*	Y = *0*	Y =	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*3178*		*672*	*2411*							
Lane Group Capacity, c		*3130*		*484*	*4929*							
v/c Ratio, X		*1.02*		*1.39*	*0.49*							
Total Green Ratio, g/C		*0.63*		*0.28*	*1.00*							
Uniform Delay, d_1		*21.9*		*43.1*	*0.0*							
Progression Factor, PF		*1.000*		*1.000*	*0.950*							
Delay Calibration, k		*0.50*		*0.50*	*0.50*							
Incremental Delay, d_2		*20.0*		*187.2*	*0.3*							
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*							
Control Delay		*41.9*		*230.3*	*0.3*							
Lane Group LOS		*D*		*F*	*A*							
Approach Delay	*41.9*			*50.5*								

Approach LOS	*D*	*D*		
Intersection Delay	*46.1*	X_C = *1.13*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2060*		*1275*	*1705*		*200*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *40.4*	G = *49.6*	G =	G =	G = *15.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2289*		*1417*	*1894*		*222*					
Lane Group Capacity, c		*1452*		*590*	*2780*		*219*					
v/c Ratio, X		*1.58*		*2.40*	*0.68*		*1.01*					
Total Green Ratio, g/C		*0.41*		*0.34*	*0.79*		*0.13*					
Uniform Delay, d_1		*35.2*		*39.8*	*5.7*		*52.5*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*262.7*		*635.9*	*1.4*		*64.4*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*297.9*		*675.7*	*7.0*		*116.9*					
Lane Group LOS		*F*		*F*	*A*		*F*					
	297.9			*293.2*			*116.9*					

Approach Delay				
Approach LOS	*F*	*F*	*F*	
Intersection Delay	*288.4*	X_C = *1.81*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp@Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2200*		*580*	*1325*		*1145*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *16.9*	G = *46.2*	G =	G =	G = *41.9*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2444*		*644*	*1472*		*1272*					
Lane Group Capacity, c		*1352*		*308*	*1993*		*1188*					
v/c Ratio, X		*1.81*		*2.09*	*0.74*		*1.07*					
Total Green Ratio, g/C		*0.39*		*0.57*	*0.57*		*0.35*					
Uniform Delay, d_1		*36.9*		*39.1*	*19.3*		*39.0*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*366.4*		*501.9*	*2.5*		*47.3*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*403.3*		*541.0*	*21.8*		*86.3*					
Lane Group LOS		*F*		*F*	*C*		*F*					
	403.3			*179.8*			*86.3*					

Approach Delay				
Approach LOS	*F*	*F*	*F*	
Intersection Delay	*253.1*	X_C = *3.57*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp@Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative2 - AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*935*	*1690*			*1120*		*165*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *44.8*	G = *45.1*	G =	G =	G = *15.1*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*1039*	*1878*			*1244*		*183*					
Lane Group Capacity, c	*702*	*2724*			*1295*		*216*					
v/c Ratio, X	*1.48*	*0.69*			*0.96*		*0.85*					
Total Green Ratio, g/C	*0.79*	*0.79*			*0.38*		*0.13*					
Uniform Delay, d_1	*33.2*	*5.8*			*36.6*		*51.3*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*223.7*	*1.5*			*17.2*		*31.6*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*256.9*	*7.2*			*53.8*		*83.0*					
Lane Group LOS	*F*	*A*			*D*		*F*					
	96.1			*53.8*			*83.0*					

Approach Delay				
Approach LOS	*F*	*D*	*F*	
Intersection Delay	*83.5*	X_C = *3.53*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp@Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1335*		*280*	*1005*					*1290*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *15.0*	G = *37.5*	G =	G =	G = *52.5*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1483*		*311*	*1117*					*1433*		
Lane Group Capacity, c		*1077*		*275*	*1651*					*752*		
v/c Ratio, X		*1.38*		*1.13*	*0.68*					*1.91*		
Total Green Ratio, g/C		*0.31*		*0.48*	*0.48*					*0.44*		
Uniform Delay, d_1		*41.3*		*36.7*	*24.1*					*33.8*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*175.5*		*94.3*	*2.2*					*412.5*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*216.8*		*131.0*	*26.3*					*446.2*		
Lane Group LOS		*F*		*F*	*C*					*F*		
	216.8			*49.1*						*446.2*		

Approach Delay				
Approach LOS	*F*	*D*		*F*
Intersection Delay	*237.4*	X_C = *1.66*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp @ M.W*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*180*	*815*			*1125*		*910*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *7.3*	G = *45.5*	G =	G =	G = *52.2*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*200*	*906*			*1250*		*1011*					
Lane Group Capacity, c	*163*	*1629*			*1282*		*734*					
v/c Ratio, X	*1.23*	*0.56*			*0.98*		*1.38*					
Total Green Ratio, g/C	*0.48*	*0.48*			*0.38*		*0.44*					
Uniform Delay, d_1	*31.0*	*22.0*			*36.7*		*33.9*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*144.4*	*1.4*			*19.8*		*178.3*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*175.4*	*23.4*			*56.5*		*212.2*					
Lane Group LOS	*F*	*C*			*E*		*F*					
Approach Delay	*50.9*			*56.5*			*212.2*					

Approach LOS	*D*	*E*	*F*	
Intersection Delay	*101.4*	X_C = *1.47*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp@M.W*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*850*		*305*	*1730*					*145*		
% Heavy Vehicles, %HV		*7*		*7*	*7*					*7*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *14.9*	G = *66.1*	G =	G =	G = *24.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*944*		*339*	*1922*					*161*		
Lane Group Capacity, c		*1862*		*437*	*2423*					*337*		
v/c Ratio, X		*0.51*		*0.78*	*0.79*					*0.48*		
Total Green Ratio, g/C		*0.55*		*0.72*	*0.72*					*0.20*		
Uniform Delay, d_1		*16.8*		*10.7*	*11.2*					*42.5*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*1.0*		*12.7*	*2.8*					*4.8*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*17.8*		*23.4*	*13.9*					*47.2*		
Lane Group LOS		*B*		*C*	*B*					*D*		
Approach Delay	*17.8*			*15.3*						*47.2*		

Approach LOS	*B*	*B*		*D*
Intersection Delay	*17.6*	X_C = *0.72*	Intersection LOS	*B*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramp @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*			*3*		*1*					
Lane Group		*T*			*T*		*L*					
Volume, V (vph)		*2140*			*1655*		*415*					
% Heavy Vehicles, %HV		*3*			*3*		*3*					
Peak-Hour Factor, PHF		*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*			*P*		*P*					
Start-up Lost Time, l_1		*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*			*2.0*		*2.0*					
Arrival Type, AT		*3*			*3*		*3*					
Unit Extension, UE		*3.0*			*3.0*		*3.0*					
Filtering/Metering, I		*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *63.0*	G =	G =	G =	G = *47.0*	G =	G =	G =
	Y = *5*	Y =	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2378*			*1839*		*461*					
Lane Group Capacity, c		*2638*			*2638*		*686*					
v/c Ratio, X		*0.90*			*0.70*		*0.67*					
Total Green Ratio, g/C		*0.52*			*0.52*		*0.39*					
Uniform Delay, d_1		*25.7*			*21.4*		*30.1*					
Progression Factor, PF		*1.000*			*1.000*		*1.000*					
Delay Calibration, k		*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2		*5.5*			*1.6*		*5.2*					
Initial Queue Delay, d_3		*0.0*			*0.0*		*0.0*					
Control Delay		*31.2*			*22.9*		*35.3*					
Lane Group LOS		*C*			*C*		*D*					
Approach Delay	*31.2*			*22.9*			*35.3*					

Approach LOS	*C*	*C*	*D*	
Intersection Delay	*28.4*	X_C = *0.80*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramp @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*1*	*3*							
Lane Group		*T*		*L*	*T*							
Volume, V (vph)		*2400*		*330*	*1740*							
% Heavy Vehicles, %HV		*5*		*5*	*5*							
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*							
Pretimed (P) or Actuated (A)		*P*		*P*	*P*							
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*							
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*							
Arrival Type, AT		*3*		*3*	*3*							
Unit Extension, UE		*3.0*		*3.0*	*3.0*							
Filtering/Metering, I		*1.000*		*1.000*	*1.000*							
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*							
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*							
Lane Width		*12.0*		*12.0*	*12.0*							
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*						
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*							
Min. Time for Pedestrians, G_p	*3.2*			*3.2*								

Phasing	WB Only	Thru Only	03	04	05	06	07	08
Timing	G = *40.0*	G = *70.0*	G = *0.0*	G = *0.0*	G =	G =	G =	G =
	Y = *5*	Y = *5*	Y = *0*	Y = *0*	Y =	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2667*		*367*	*1933*							
Lane Group Capacity, c		*2875*		*573*	*4929*							
v/c Ratio, X		*0.93*		*0.64*	*0.39*							
Total Green Ratio, g/C		*0.58*		*0.33*	*1.00*							
Uniform Delay, d_1		*22.7*		*33.9*	*0.0*							
Progression Factor, PF		*1.000*		*1.000*	*0.950*							
Delay Calibration, k		*0.50*		*0.50*	*0.50*							
Incremental Delay, d_2		*6.7*		*5.4*	*0.2*							
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*							
Control Delay		*29.4*		*39.3*	*0.2*							
Lane Group LOS		*C*		*D*	*A*							
Approach Delay	*29.4*			*6.5*								

Approach LOS	*C*	*A*		
Intersection Delay	*18.8*	X_C = *0.82*	Intersection LOS	*B*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2185*		*1010*	*1450*		*200*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *39.5*	G = *57.1*	G =	G =	G = *8.4*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2428*		*1122*	*1611*		*222*					
Lane Group Capacity, c		*1671*		*639*	*2973*		*123*					
v/c Ratio, X		*1.45*		*1.76*	*0.54*		*1.80*					
Total Green Ratio, g/C		*0.48*		*0.85*	*0.85*		*0.07*					
Uniform Delay, d_1		*31.5*		*36.4*	*2.6*		*55.8*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*207.3*		*346.6*	*0.7*		*392.5*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*238.7*		*383.0*	*3.3*		*448.3*					
Lane Group LOS		*F*		*F*	*A*		*F*					
	238.7			*159.2*			*448.3*					

Approach Delay				
Approach LOS	*F*	*F*	*F*	
Intersection Delay	*207.0*	X_C = *5.49*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2070*		*380*	*1270*		*885*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *49.1*	G =	G =	G = *40.9*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2300*		*422*	*1411*		*983*					
Lane Group Capacity, c		*1437*		*280*	*2022*		*1160*					
v/c Ratio, X		*1.60*		*1.51*	*0.70*		*0.85*					
Total Green Ratio, g/C		*0.41*		*0.58*	*0.58*		*0.34*					
Uniform Delay, d_1		*35.5*		*39.3*	*18.0*		*36.7*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*273.5*		*245.9*	*2.0*		*7.7*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*309.0*		*285.2*	*20.1*		*44.4*					
Lane Group LOS		*F*		*F*	*C*		*D*					
	309.0			*81.1*			*44.4*					

Approach Delay				
Approach LOS	*F*	*F*	*D*	
Intersection Delay	*176.5*	X_C = *2.08*	Intersection LOS	*F*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp@Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*830*	*2130*			*1300*		*145*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*A*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *44.8*	G = *48.0*	G =	G =	G = *12.2*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*922*	*2367*			*1444*		*161*					
Lane Group Capacity, c	*703*	*2808*			*1378*		*175*					
v/c Ratio, X	*1.31*	*0.84*			*1.05*		*0.92*					
Total Green Ratio, g/C	*0.82*	*0.81*			*0.40*		*0.10*					
Uniform Delay, d_1	*14.1*	*6.6*			*36.0*		*53.4*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*150.2*	*3.3*			*37.8*		*49.7*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*164.3*	*9.8*			*73.8*		*103.1*					
Lane Group LOS	*F*	*A*			*E*		*F*					
	53.1			*73.8*			*103.1*					

Approach Delay				
Approach LOS	*D*	*E*	*F*	
Intersection Delay	*60.9*	X_C = *2.74*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp@Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Build Alternative 2- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1520*		*330*	*1115*					*1440*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *11.7*	G = *40.9*	G =	G =	G = *52.4*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1689*		*367*	*1239*					*1600*		
Lane Group Capacity, c		*1174*		*228*	*1654*					*751*		
v/c Ratio, X		*1.44*		*1.61*	*0.75*					*2.13*		
Total Green Ratio, g/C		*0.34*		*0.48*	*0.48*					*0.44*		
Uniform Delay, d_1		*39.5*		*35.5*	*25.3*					*33.8*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*202.3*		*293.8*	*3.2*					*513.2*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*241.9*		*329.3*	*28.5*					*547.0*		
Lane Group LOS		*F*		*F*	*C*					*F*		
	241.9			*97.2*						*547.0*		

Approach Delay				
Approach LOS	*F*	*F*		*F*
Intersection Delay	*294.2*	X_C = *2.50*	Intersection LOS	*F*

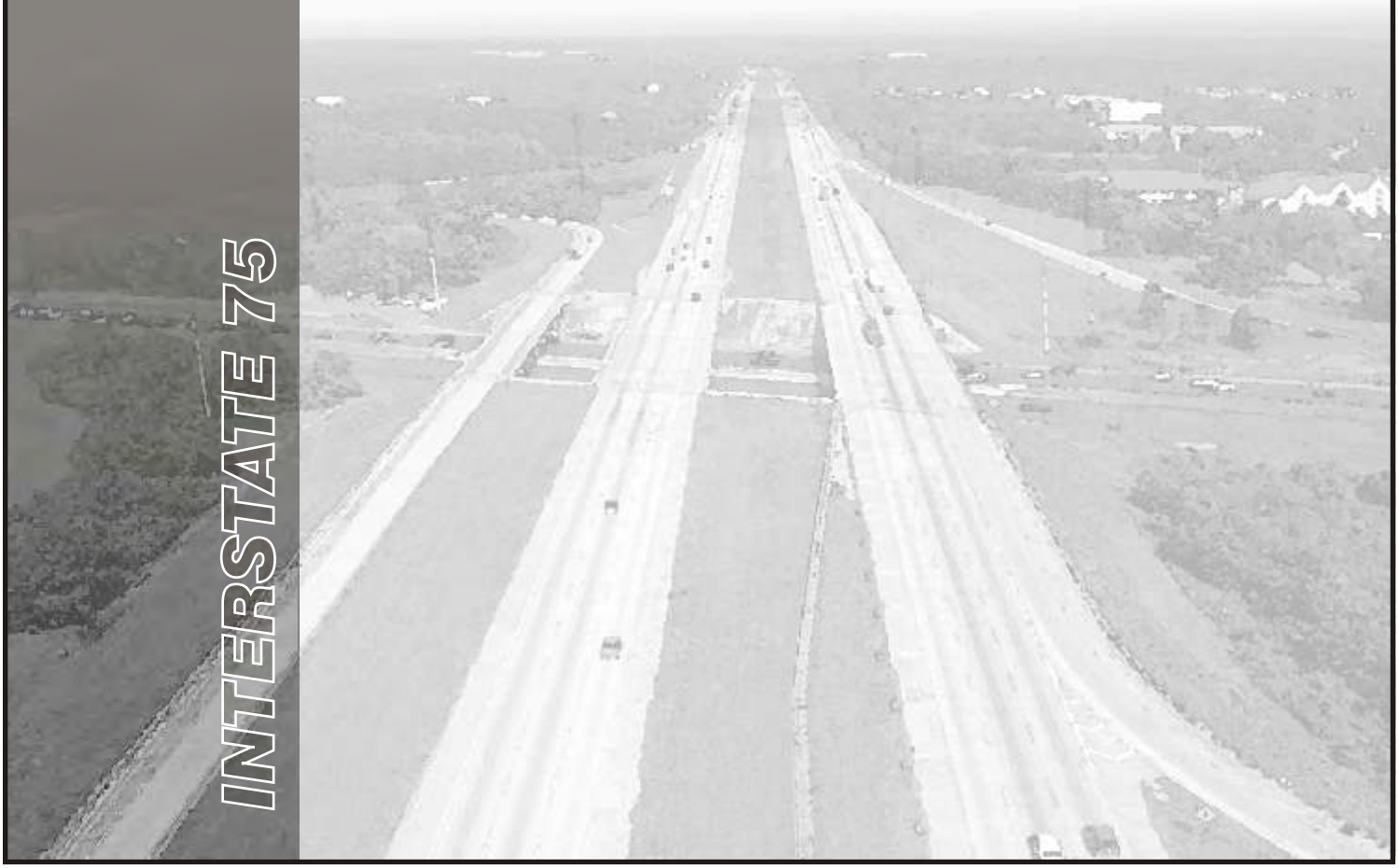
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Signalized Intersection (Improved) Result Sheets

Future Year (2035)
Build Alternative 2 Conditions



HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*2*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*160*	*880*			*1090*		*810*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *14.0*	G = *54.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*178*	*978*			*1211*		*900*					
Lane Group Capacity, c	*272*	*2029*			*1521*		*1092*					
v/c Ratio, X	*0.65*	*0.48*			*0.80*		*0.82*					
Total Green Ratio, g/C	*0.60*	*0.60*			*0.45*		*0.33*					
Uniform Delay, d_1	*23.3*	*13.5*			*28.3*		*36.8*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*11.7*	*0.8*			*4.4*		*7.1*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*35.0*	*14.3*			*32.7*		*43.9*					
Lane Group LOS	*C*	*B*			*C*		*D*					
Approach Delay	*17.5*			*32.7*			*43.9*					

Approach LOS	*B*	*C*	*D*	
Intersection Delay	*30.4*	X_C = *0.82*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramp @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2- (Improved) AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*							
Lane Group		*T*		*L*	*T*							
Volume, V (vph)		*2860*		*605*	*2170*							
% Heavy Vehicles, %HV		*5*		*5*	*5*							
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*							
Pretimed (P) or Actuated (A)		*P*		*P*	*P*							
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*							
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*							
Arrival Type, AT		*3*		*3*	*3*							
Unit Extension, UE		*3.0*		*3.0*	*3.0*							
Filtering/Metering, I		*1.000*		*1.000*	*1.000*							
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*							
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*							
Lane Width		*12.0*		*12.0*	*12.0*							
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*						
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*							
Min. Time for Pedestrians, G_p	*3.2*			*3.2*								

Phasing	WB Only	Thru Only	03	04	05	06	07	08
Timing	G = *33.5*	G = *76.5*	G = *0.0*	G = *0.0*	G =	G =	G =	G =
	Y = *5*	Y = *5*	Y = *0*	Y = *0*	Y =	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*3178*		*672*	*2411*							
Lane Group Capacity, c		*3142*		*932*	*4929*							
v/c Ratio, X		*1.01*		*0.72*	*0.49*							
Total Green Ratio, g/C		*0.64*		*0.28*	*1.00*							
Uniform Delay, d_1		*21.8*		*39.0*	*0.0*							
Progression Factor, PF		*1.000*		*1.000*	*0.950*							
Delay Calibration, k		*0.50*		*0.50*	*0.50*							
Incremental Delay, d_2		*18.9*		*4.8*	*0.3*							
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*							
Control Delay		*40.7*		*43.8*	*0.3*							
Lane Group LOS		*D*		*D*	*A*							
Approach Delay	*40.7*			*9.8*								

Approach LOS	*D*	*A*		
Intersection Delay	*25.5*	X_C = *0.92*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2060*		*1275*	*1705*		*200*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *18.0*	G = *60.0*	G =	G =	G = *27.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2289*		*1417*	*1894*		*222*					
Lane Group Capacity, c		*2513*		*1391*	*3476*		*766*					
v/c Ratio, X		*0.91*		*1.02*	*0.54*		*0.29*					
Total Green Ratio, g/C		*0.50*		*0.69*	*0.69*		*0.22*					
Uniform Delay, d_1		*27.5*		*11.7*	*9.2*		*38.6*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*6.3*		*28.9*	*0.6*		*1.0*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*33.9*		*40.6*	*9.8*		*39.5*					
Lane Group LOS		*C*		*D*	*A*		*D*					
Approach Delay	*33.9*			*23.0*			*39.5*					

Approach LOS	*C*	*C*	*D*	
Intersection Delay	*27.9*	X_C = *0.84*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2200*		*580*	*1325*		*1145*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *8.0*	G = *54.0*	G =	G =	G = *43.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2444*		*644*	*1472*		*1272*					
Lane Group Capacity, c		*2261*		*1177*	*2806*		*1219*					
v/c Ratio, X		*1.08*		*0.55*	*0.52*		*1.04*					
Total Green Ratio, g/C		*0.45*		*0.56*	*0.56*		*0.36*					
Uniform Delay, d_1		*33.0*		*18.4*	*16.6*		*38.5*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*45.0*		*1.8*	*0.7*		*37.9*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*78.0*		*20.2*	*17.3*		*76.4*					
Lane Group LOS		*E*		*C*	*B*		*E*					
Approach Delay	*78.0*			*18.2*			*76.4*					

Approach LOS	*E*	*B*	*E*	
Intersection Delay	*55.9*	X_C = *1.06*	Intersection LOS	*E*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2 (Improved)- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*2*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*935*	*1690*			*1120*		*165*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *22.0*	G = *55.0*	G =	G =	G = *31.0*	G =	G =	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*1039*	*1878*			*1244*		*183*					
Lane Group Capacity, c	*1105*	*2325*			*1579*		*444*					
v/c Ratio, X	*0.94*	*0.81*			*0.79*		*0.41*					
Total Green Ratio, g/C	*0.68*	*0.68*			*0.46*		*0.26*					
Uniform Delay, d_1	*19.5*	*13.9*			*27.6*		*36.9*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*16.1*	*3.1*			*4.1*		*2.8*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*35.5*	*17.1*			*31.6*		*39.7*					
Lane Group LOS	*D*	*B*			*C*		*D*					
	23.6			*31.6*			*39.7*					

Approach Delay				
Approach LOS	*C*	*C*	*D*	
Intersection Delay	*26.6*	X_C = *0.77*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2 (Improved)- AM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*					*3*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1335*		*280*	*1005*					*1290*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *12.0*	G = *49.0*	G =	G =	G = *47.0*	G =	G =	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1483*		*311*	*1117*					*1433*		
Lane Group Capacity, c		*2013*		*844*	*2670*					*1834*		
v/c Ratio, X		*0.74*		*0.37*	*0.42*					*0.78*		
Total Green Ratio, g/C		*0.41*		*0.54*	*0.54*					*0.39*		
Uniform Delay, d_1		*30.0*		*18.4*	*16.3*					*32.0*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*2.5*		*1.2*	*0.5*					*3.4*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*32.5*		*19.6*	*16.8*					*35.4*		
Lane Group LOS		*C*		*B*	*B*					*D*		
	32.5			*17.4*						*35.4*		

Approach Delay				
Approach LOS	*C*	*B*		*D*
Intersection Delay	*28.5*	X_C = *0.78*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Moccasin Wallo*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study - PM - Alternative 2 Improved*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*2*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*180*	*815*			*1125*		*910*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *53.0*	G =	G =	G = *40.0*	G =	G =	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*200*	*906*			*1250*		*1011*					
Lane Group Capacity, c	*272*	*2029*			*1493*		*1092*					
v/c Ratio, X	*0.74*	*0.45*			*0.84*		*0.93*					
Total Green Ratio, g/C	*0.60*	*0.60*			*0.44*		*0.33*					
Uniform Delay, d_1	*31.0*	*13.1*			*29.7*		*38.6*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*16.2*	*0.7*			*5.8*		*14.4*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*47.2*	*13.8*			*35.4*		*52.9*					
Lane Group LOS	*D*	*B*			*D*		*D*					
	19.9			*35.4*			*52.9*					

Approach Delay				
Approach LOS	*B*	*D*	*D*	
Intersection Delay	*35.6*	X_C = *0.89*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramp @ SR 674*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study - PM - Alternative 2 Improved*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*							
Lane Group		*T*		*L*	*T*							
Volume, V (vph)		*2400*		*330*	*1740*							
% Heavy Vehicles, %HV		*5*		*5*	*5*							
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*							
Pretimed (P) or Actuated (A)		*P*		*P*	*P*							
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*							
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*							
Arrival Type, AT		*3*		*3*	*3*							
Unit Extension, UE		*3.0*		*3.0*	*3.0*							
Filtering/Metering, I		*1.000*		*1.000*	*1.000*							
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*							
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*							
Lane Width		*12.0*		*12.0*	*12.0*							
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*						
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*							
Min. Time for Pedestrians, G_p	*3.2*			*3.2*								

Phasing	WB Only	Thru Only	03	04	05	06	07	08
Timing	G = *36.0*	G = *74.0*	G = *0.0*	G = *0.0*	G =	G =	G =	G =
	Y = *5*	Y = *5*	Y = *0*	Y = *0*	Y =	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2667*		*367*	*1933*							
Lane Group Capacity, c		*3040*		*1001*	*4929*							
v/c Ratio, X		*0.88*		*0.37*	*0.39*							
Total Green Ratio, g/C		*0.62*		*0.30*	*1.00*							
Uniform Delay, d_1		*19.2*		*33.0*	*0.0*							
Progression Factor, PF		*1.000*		*1.000*	*0.950*							
Delay Calibration, k		*0.50*		*0.50*	*0.50*							
Incremental Delay, d_2		*4.0*		*1.0*	*0.2*							
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*							
Control Delay		*23.2*		*34.1*	*0.2*							
Lane Group LOS		*C*		*C*	*A*							
Approach Delay	*23.2*			*5.6*								

Approach LOS	*C*	*A*		
Intersection Delay	*15.0*	X_C = *0.71*	Intersection LOS	*B*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study - PM - Alternative 2 Improved*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2185*		*1010*	*1450*		*200*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *14.0*	G = *58.0*	G =	G =	G = *33.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2428*		*1122*	*1611*		*222*					
Lane Group Capacity, c		*2429*		*1377*	*3224*		*936*					
v/c Ratio, X		*1.00*		*0.81*	*0.50*		*0.24*					
Total Green Ratio, g/C		*0.48*		*0.64*	*0.64*		*0.28*					
Uniform Delay, d_1		*31.0*		*16.1*	*11.3*		*33.7*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*18.2*		*5.4*	*0.6*		*0.6*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*49.2*		*21.5*	*11.9*		*34.3*					
Lane Group LOS		*D*		*C*	*B*		*C*					
	49.2			*15.8*			*34.3*					

Approach Delay				
Approach LOS	*D*	*B*	*C*	
Intersection Delay	*31.6*	X_C = *0.76*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramps @ Big Bend Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study - PM - Alternative 2 Improved*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2070*		*380*	*1270*		*885*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *8.0*	G = *54.0*	G =	G =	G = *43.0*	G =	G =	G =
	Y = *5*	Y = *5*	Y =	Y =	Y = *5*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2300*		*422*	*1411*		*983*					
Lane Group Capacity, c		*2261*		*1168*	*2806*		*1219*					
v/c Ratio, X		*1.02*		*0.36*	*0.50*		*0.81*					
Total Green Ratio, g/C		*0.45*		*0.56*	*0.56*		*0.36*					
Uniform Delay, d_1		*33.0*		*26.0*	*16.3*		*34.7*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*23.4*		*0.9*	*0.6*		*5.8*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*56.4*		*26.9*	*16.9*		*40.5*					
Lane Group LOS		*E*		*C*	*B*		*D*					
	56.4			*19.2*			*40.5*					

Approach Delay				
Approach LOS	*E*	*B*	*D*	
Intersection Delay	*40.0*	X_C = *0.93*	Intersection LOS	*D*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 NB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study - PM - Alternative 2 Improved*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*2*	*3*			*3*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*830*	*2130*			*1300*		*145*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	EW Perm	03	04	NB Only	06	07	08
Timing	G = *20.0*	G = *51.0*	G =	G =	G = *37.0*	G =	G =	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y =	Y =	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*922*	*2367*			*1444*		*161*					
Lane Group Capacity, c	*1042*	*3081*			*2095*		*530*					
v/c Ratio, X	*0.88*	*0.77*			*0.69*		*0.30*					
Total Green Ratio, g/C	*0.63*	*0.63*			*0.43*		*0.31*					
Uniform Delay, d_1	*17.6*	*16.2*			*28.1*		*31.7*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*11.0*	*1.9*			*1.9*		*1.5*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*28.5*	*18.1*			*29.9*		*33.1*					
Lane Group LOS	*C*	*B*			*C*		*C*					
	21.0			*29.9*			*33.1*					

Approach Delay				
Approach LOS	*C*	*C*	*C*	
Intersection Delay	*24.1*	X_C = *0.65*	Intersection LOS	*C*

HCS+™ DETAILED REPORT

General Information		***Site Information***	
Analyst	*Alexis*	Intersection	*I-75 SB Ramps @ Gibsonton Dr*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*03/13/09*	Jurisdiction	*Hillsborough County*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 2 (Improved)- PM Peak*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*					*3*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1520*		*330*	*1115*					*1440*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	EW Perm	03	04	SB Only	06	07	08
Timing	G = *12.0*	G = *48.0*	G =	G =	G = *48.0*	G =	G =	G =
	Y = *4*	Y = *4*	Y =	Y =	Y = *4*	Y =	Y =	Y =

Duration of Analysis, T = *0.25* | Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1689*		*367*	*1239*					*1600*		
Lane Group Capacity, c		*1972*		*950*	*2629*					*1873*		
v/c Ratio, X		*0.86*		*0.39*	*0.47*					*0.85*		
Total Green Ratio, g/C		*0.40*		*0.53*	*0.53*					*0.40*		
Uniform Delay, d_1		*32.9*		*21.1*	*17.5*					*32.8*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*5.1*		*1.2*	*0.6*					*5.2*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*37.9*		*22.3*	*18.1*					*38.0*		
Lane Group LOS		*D*		*C*	*B*					*D*		
	37.9			*19.0*						*38.0*		

Approach Delay				
Approach LOS	*D*	*B*		*D*
Intersection Delay	*31.8*	X_C = *0.87*	Intersection LOS	*C*

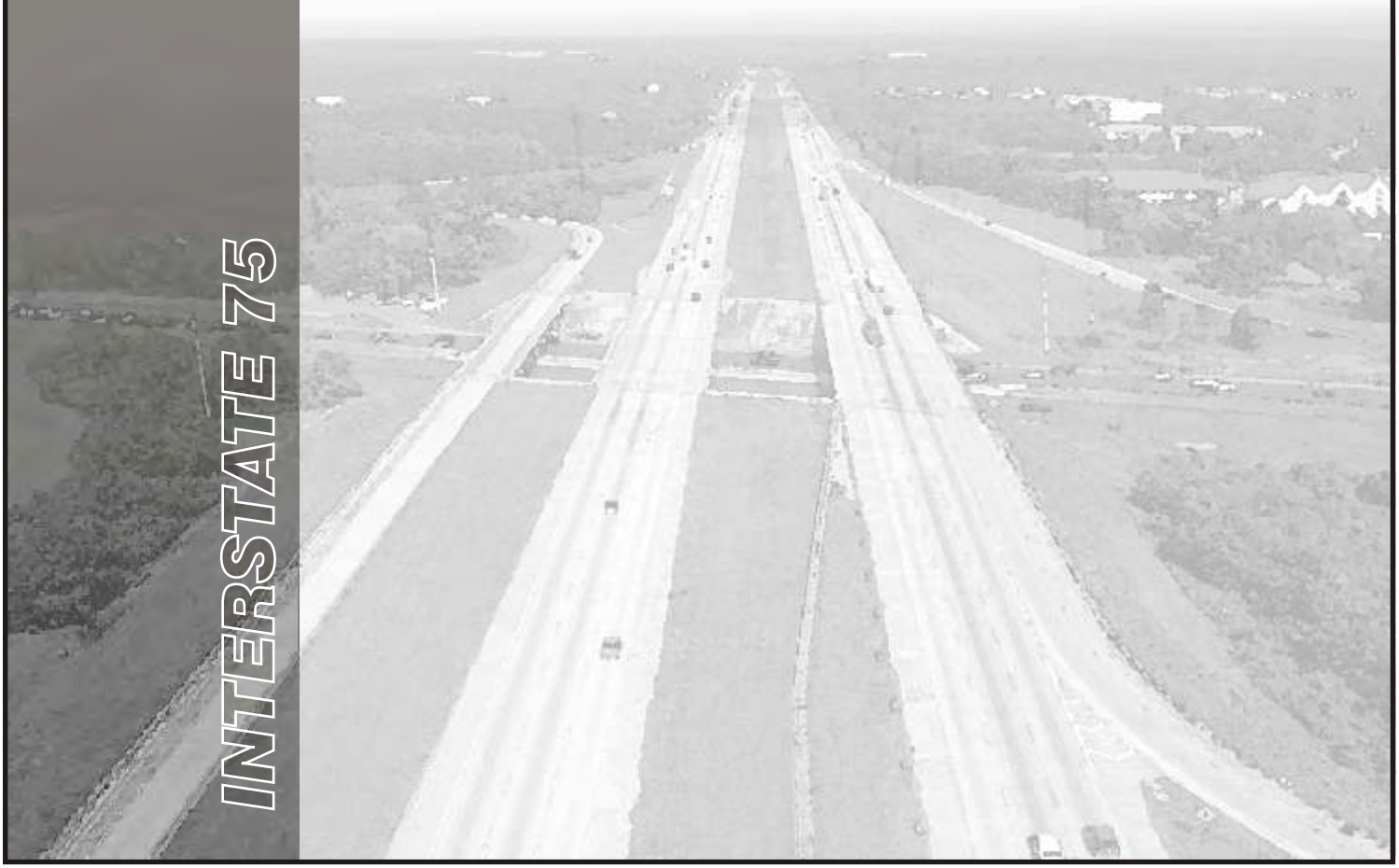
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Unsignalized Intersection Result Sheets

Future Year (2035)
Build Alternative 2 Conditions



TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 Build Alternative 2*

Project Description *I-75 northbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*160*	*880*			*1090*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*177*	*977*	*0*	*0*	*1211*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*810*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*900*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*177*		*900*					
C (m) (veh/h)	*545*		*36*					
v/c	*0.32*		*25.00*					
95% queue length	*1.40*		*111.04*					
Control Delay (s/veh)	*14.8*		*11008*					
LOS	*B*		*F*					
Approach Delay (s/veh)	--	--	*11008*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 alt2*

Project Description *I-75 southbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*880*		*385*	*1515*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*977*	*0*	*427*	*1683*	*0*
Percent Heavy Vehicles	*0*	--	--	*7*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*160*		*230*
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*177*	*0*	*230*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*1*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		*R*
v (veh/h)		*427*				*177*		*230*
C (m) (veh/h)		*672*				*3*		*312*
v/c		*0.64*				*59.00*		*0.74*
95% queue length		*4.55*				*24.46*		*5.48*
Control Delay (s/veh)		*19.2*				*28473*		*43.0*
LOS		*C*				*F*		*E*
Approach Delay (s/veh)	--	--				*12407*		
Approach LOS	--	--				*F*		

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description *I-75 northbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2900*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*3222*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*400*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*444*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)	*0*			*0*		
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*444*					
C (m) (veh/h)			*11*					
v/c			*40.36*					
95% queue length			*57.04*					
Control Delay (s/veh)			*18375*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*18375*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description *I-75 southbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2860*		*605*	*2170*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*3177*	*0*	*672*	*2411*	*0*
Percent Heavy Vehicles	*7*	--	--	*3*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						
v (veh/h)		*672*						
C (m) (veh/h)		*94*						
v/c		*7.15*						
95% queue length		*75.58*						
Control Delay (s/veh)		*2854*						
LOS		*F*						
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*AM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Gibsonton Drive*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description *I-75 northbound ramps at Gibsonton Drive*

East/West Street: *Gibsonton Drive* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*935*	*1690*			*1120*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*1038*	*1877*	*0*	*0*	*1244*	*0*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*165*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*183*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*1038*		*183*					
C (m) (veh/h)	*550*		*0*					
v/c	*1.89*							
95% queue length	*66.82*							
Control Delay (s/veh)	*424.3*							
LOS	*F*		*F*					
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 alt2*

Project Description *I-75 northbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*180*	*815*			*1125*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*200*	*905*	*0*	*0*	*1250*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*910*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*1.00*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*1011*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*200*		*1011*					
C (m) (veh/h)	*526*		*34*					
v/c	*0.38*		*29.74*					
95% queue length	*1.76*		*125.15*					
Control Delay (s/veh)	*16.0*		*13150*					
LOS	*C*		*F*					
Approach Delay (s/veh)	--	--	*13150*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & Mocassin Wallow*
Jurisdiction	*Manatee*
Analysis Year	*2035 alt2*

Project Description *I-75 southbound ramps at Moccasin Wallow Road*

East/West Street: *Mocassin Wallow* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*850*		*305*	*1730*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*944*	*0*	*338*	*1922*	*0*
Percent Heavy Vehicles	*0*	--	--	*7*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*145*		*200*
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*161*	*0*	*200*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*7*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*1*
Lanes	*0*	*0*	*0*	*1*	*0*	*1*
Configuration				*L*		*R*

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		*R*
v (veh/h)		*338*				*161*		*200*
C (m) (veh/h)		*692*				*5*		*247*
v/c		*0.49*				*32.20*		*0.81*
95% queue length		*2.70*				*22.22*		*6.21*
Control Delay (s/veh)		*15.1*				*15472*		*61.3*
LOS		*C*				*F*		*F*
Approach Delay (s/veh)	--	--				*6934*		
Approach LOS	--	--				*F*		

TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description *I-75 northbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2140*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2377*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*415*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*461*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*461*					
C (m) (veh/h)			*38*					
v/c			*12.13*					
95% queue length			*55.96*					
Control Delay (s/veh)			*5210*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*5210*					
Approach LOS	--	--	*F*					

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 SB Ramp & SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description *I-75 southbound ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2400*		*330*	*1740*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*0*	*2666*	*0*	*366*	*1933*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						
v (veh/h)		*366*						
C (m) (veh/h)		*151*						
v/c		*2.42*						
95% queue length		*31.26*						
Control Delay (s/veh)		*707.9*						
LOS		*F*						
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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TWO-WAY STOP CONTROL SUMMARY

General Information

Analyst	*Alexis*
Agency/Co.	*PB Americas*
Date Performed	*03/13/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Intersection	*I-75 NB Ramp & Gibsonton Drive*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description *I-75 northbound ramps at Gibsonton Drive*

East/West Street: *Gibsonton Drive* | North/South Street: *I-75 NB*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*830*	*2130*			*1300*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*1.00*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*922*	*2366*	*0*	*0*	*1444*	*0*
Percent Heavy Vehicles	*3*	--	--	*0*	--	--
Median Type	*Undivided*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*145*					
Peak-Hour Factor, PHF	*0.90*	*1.00*	*1.00*	*0.90*	*1.00*	*1.00*
Hourly Flow Rate, HFR (veh/h)	*161*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*2*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*922*		*161*					
C (m) (veh/h)	*460*		*0*					
v/c	*2.00*							
95% queue length	*63.22*							
Control Delay (s/veh)	*479.9*							
LOS	*F*		*F*					
Approach Delay (s/veh)	--	--						
Approach LOS	--	--						

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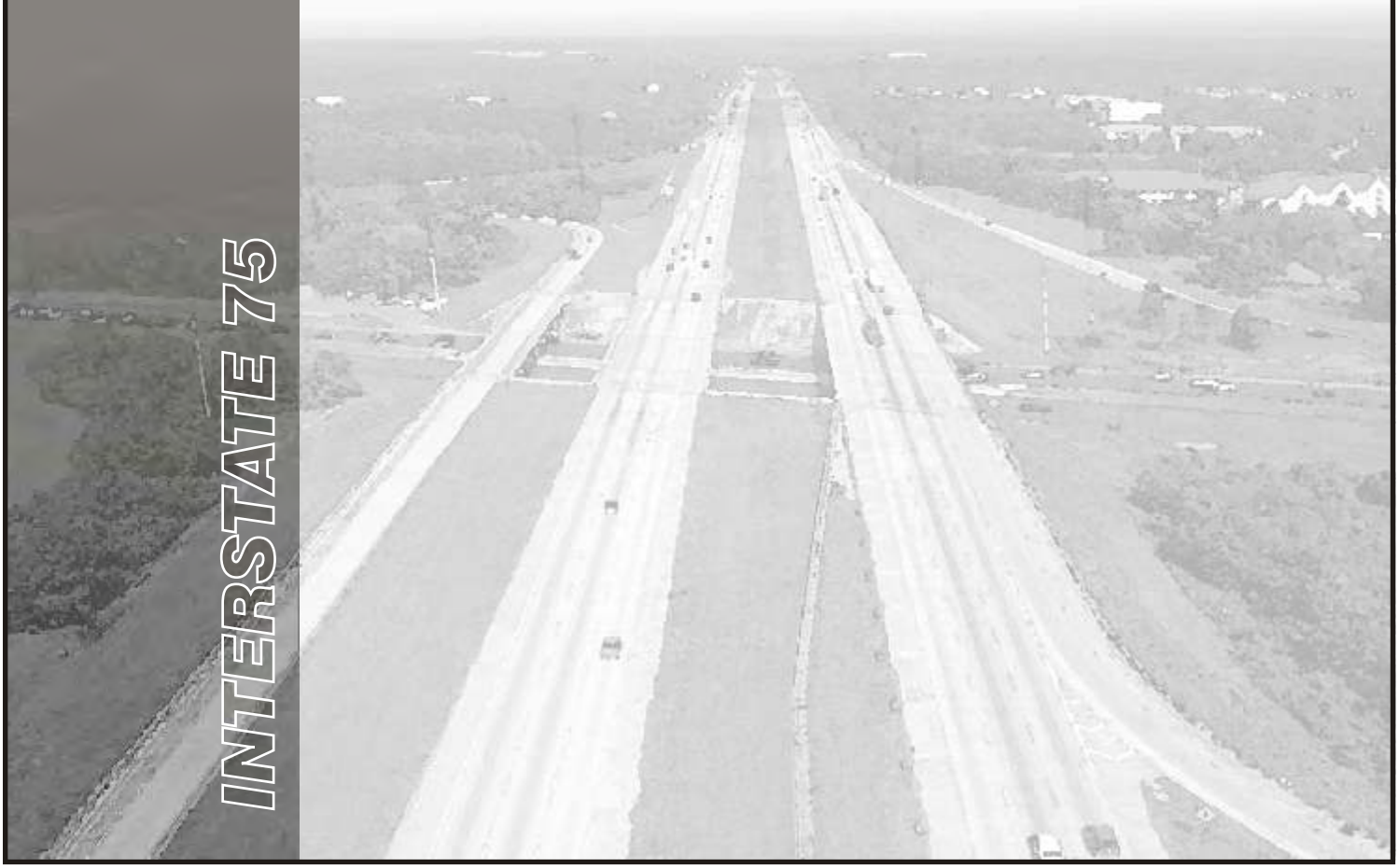
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Ramp Merge/ Diverge Result Sheets

Future Year (2035)
Build Alternative 2 Conditions



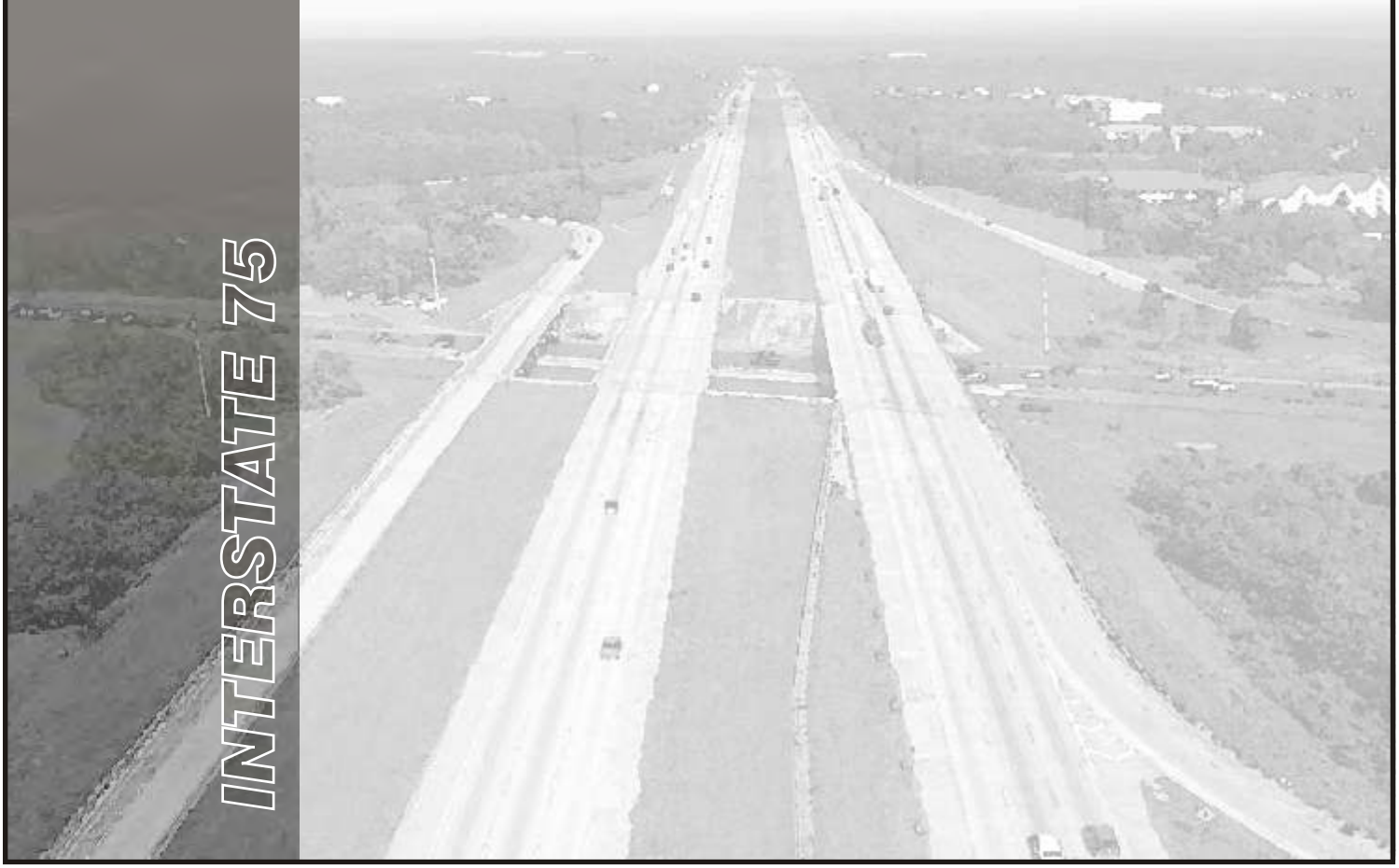
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Freeway Segment Result Sheets

Future Year (2035)
Build Alternative 2 Conditions



RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	I-75 @ Moccasin Wallow Rd
Date Performed	03/13/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (1) I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 345 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7540	0.90	Level	8	0	0.962	1.00	8713
Ramp	1300	0.90	Level	2	0	0.990	1.00	1459
UpStream								
DownStream	345	0.90	Level	2	0	0.990	1.00	387

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3862 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6971	9600	No
V_{12}	3862	4400:All	No
$V_{FO} = V_F - V_R$	5512	9600	No
V_R	1459	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 35.9 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.429 (Exhibit 25-19)

S_R = 58.0 mph (Exhibit 25-19)

S_0 = 74.6 mph (Exhibit 25-19)

S = 64.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/13/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (2) I-75 NB From Mocassin Wallow WB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 1300 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6240	0.90	Level	10	0	0.952	1.00	7280
Ramp	345	0.90	Level	2	0	0.990	1.00	387
UpStream	1300	0.90	Level	2	0	0.990	1.00	1459
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.256 using Equation (Exhibit 25-5)

V_{12} = 1361 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5702	See Exhibit 25-7	No
V_{R12}	1748	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 16.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.312 (Exibit 25-19)

S_R= 61.3 mph (Exhibit 25-19)

S_0= 64.7 mph (Exhibit 25-19)

S = 63.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (3) I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1470 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5840	0.90	Level	10	0	0.952	1.00	6813
Ramp	390	0.90	Level	4	0	0.980	1.00	442
UpStream								
DownStream	1470	0.90	Level	4	0	0.980	1.00	1666

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2775 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5792	9600	No
V_{12}	2775	4400:All	No
$V_{FO} = V_F - V_R$	5350	9600	No
V_R	442	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 26.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.338 (Exhibit 25-19)

S_R= 60.5 mph (Exhibit 25-19)

S_0= 74.8 mph (Exhibit 25-19)

S = 67.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/13/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (4) I-75 SB From Mocassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 390 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5450	0.90	Level	8	0	0.962	1.00	6298
Ramp	1470	0.90	Level	4	0	0.980	1.00	1666
UpStream	390	0.90	Level	4	0	0.980	1.00	442
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.133 using Equation (Exhibit 25-5)

V_{12} = 639 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6453	See Exhibit 25-7	No
V_{R12}	2305	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.6 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.315 (Exibit 25-19)

S_R = 61.2 mph (Exhibit 25-19)

S_0 = 64.3 mph (Exhibit 25-19)

S = 63.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (5) I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2400 ft
V_D = 1460 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6585	0.90	Level	10	0	0.952	1.00	7683
Ramp	670	0.90	Level	2	0	0.990	1.00	752
UpStream								
DownStream	1460	0.90	Level	1	0	0.995	1.00	1630

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3104 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6147	9600	No
V_{12}	3104	4400:All	No
$V_{FO} = V_F - V_R$	5395	9600	No
V_R	752	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 22.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.366 (Exhibit 25-19)

S_R= 59.8 mph (Exhibit 25-19)

S_0= 74.8 mph (Exhibit 25-19)

S = 66.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (6) I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2200 ft
V_u = 1460 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7375	0.90	Level	10	0	0.952	1.00	8604
Ramp	445	0.90	Level	1	0	0.995	1.00	497
UpStream	1460	0.90	Level	1	0	0.995	1.00	1630
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.379 using Equation (Exhibit 25-5)

V_{12} = 2311 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6601	See Exhibit 25-7	No
V_{R12}	2808	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 21.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.305 (Exibit 25-19)

S_R = 61.5 mph (Exhibit 25-19)

S_0 = 65.0 mph (Exhibit 25-19)

S = 63.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (7) I-75 NB From (Loop) EB SR 674 - Merge

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2200 ft

V_D = 445 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5915	0.90	Level	9	0	0.957	1.00	6868
Ramp	1460	0.90	Level	1	0	0.995	1.00	1630
UpStream								
DownStream	445	0.90	Level	1	0	0.995	1.00	497

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.205 using Equation (Exhibit 25-5)

V_{12} = 1029 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6644	See Exhibit 25-7	No
V_{R12}	2446	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 21.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.324 (Exibit 25-19)

S_R= 57.5 mph (Exhibit 25-19)

S_0= 59.6 mph (Exhibit 25-19)

S = 58.8 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (8) I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 1500 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7085	0.90	Level	9	0	0.957	1.00	8226
Ramp	500	0.90	Level	2	0	0.990	1.00	561
UpStream								
DownStream	1500	0.90	Level	1	0	0.995	1.00	1675

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3186 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6581	9600	No
V_{12}	3186	4400:All	No
$V_{FO} = V_F - V_R$	6020	9600	No
V_R	561	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 21.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.348 (Exhibit 25-19)

S_R= 60.2 mph (Exhibit 25-19)

S_0= 74.1 mph (Exhibit 25-19)

S = 66.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (9) I-75 SB Exit (From Loop) to EB SR 674

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2200 ft
V_u = 500 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6585	0.90	Level	10	0	0.952	1.00	7683
Ramp	1500	0.90	Level	1	0	0.995	1.00	1675
UpStream	500	0.90	Level	2	0	0.990	1.00	561
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3625 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6147	9400	No
V_{12}	3625	4400:All	No
$V_{FO} = V_F - V_R$	4472	9400	No
V_R	1675	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 26.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.579 (Exhibit 25-19)

S_R= 51.7 mph (Exhibit 25-19)

S_0= 70.3 mph (Exhibit 25-19)

S = 58.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (10) I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2400 ft
V_u = 1500 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5085	0.90	Level	10	0	0.952	1.00	5933
Ramp	755	0.90	Level	1	0	0.995	1.00	843
UpStream	1500	0.90	Level	1	0	0.995	1.00	1675
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.286 using Equation (Exhibit 25-5)

V_{12} = 1289 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5353	See Exhibit 25-7	No
V_{R12}	2132	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 17.3 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.291 (Exibit 25-19)

S_R= 61.9 mph (Exhibit 25-19)

S_0= 66.0 mph (Exhibit 25-19)

S = 64.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (11) I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 2405 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7820	0.90	Level	9	0	0.957	1.00	9080
Ramp	1000	0.90	Level	1	0	0.995	1.00	1117
UpStream								
DownStream	2405	0.90	Level	1	0	0.995	1.00	2686

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3797 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7264	9600	No
V_{12}	3797	4400:All	No
$V_{FO} = V_F - V_R$	6147	9600	No
V_R	1117	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 35.1 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.399 (Exhibit 25-19)

S_R = 58.8 mph (Exhibit 25-19)

S_0 = 73.9 mph (Exhibit 25-19)

S = 65.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (12) I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2100 ft

V_u = 1000 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6820	0.90	Level	7	0	0.966	1.00	7843
Ramp	2405	0.90	Level	1	0	0.995	1.00	2686
UpStream	1000	0.90	Level	1	0	0.995	1.00	1117
DownStream								

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.296 using Equation (Exhibit 25-5)

V_{12} = 1661 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8294	See Exhibit 25-7	No
V_{R12}	3831	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 30.0 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.410 (Exibit 25-19)

S_R= 55.6 mph (Exhibit 25-19)

S_0= 59.7 mph (Exhibit 25-19)

S = 57.6 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (13) I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 1130 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8090	0.90	Level	7	0	0.966	1.00	9303
Ramp	2135	0.90	Level	1	0	0.995	1.00	2384
UpStream								
DownStream	1130	0.90	Level	2	0	0.990	1.00	1268

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4590 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7443	9400	No
V_{12}	4590	4400:All	Yes
$V_{FO} = V_F - V_R$	5059	9400	No
V_R	2384	2000	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 40.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.643 (Exhibit 25-19)

S_R= 50.2 mph (Exhibit 25-19)

S_0= 69.6 mph (Exhibit 25-19)

S = 56.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (14) Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 2135 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5955	0.90	Level	9	0	0.957	1.00	6914
Ramp	1130	0.90	Level	2	0	0.990	1.00	1268
UpStream	2135	0.90	Level	1	0	0.995	1.00	2384
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.357 using Equation (Exhibit 25-5)

V_{12} = 1800 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6316	See Exhibit 25-7	No
V_{R12}	3068	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 21.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.297 (Exibit 25-19)

S_R = 61.7 mph (Exhibit 25-19)

S_0 = 66.0 mph (Exhibit 25-19)

S = 63.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (15) I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1990 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9225	0.90	Level	7	0	0.966	1.00	10609
Ramp	815	0.90	Level	1	0	0.995	1.00	910
UpStream								
DownStream	1990	0.90	Level	1	0	0.995	1.00	2222

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4214 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8488	9600	No
V_{12}	4214	4400:All	No
$V_{FO} = V_F - V_R$	7578	9600	No
V_R	910	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 38.1 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.380 (Exhibit 25-19)

S_R = 59.4 mph (Exhibit 25-19)

S_0 = 72.4 mph (Exhibit 25-19)

S = 65.3 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (17) I-75 SB Exit to Gibsonton Dr (Traf Red Due to Ln Restr)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 825 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9130	0.90	Level	7	0	0.966	1.00	10499
Ramp	1865	0.90	Level	1	0	0.995	1.00	2083
UpStream								
DownStream	825	0.90	Level	2	0	0.990	1.00	926

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4837 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8400	9600	No
V_{12}	4837	4400:All	Yes
$V_{FO} = V_F - V_R$	6317	9600	No
V_R	2083	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 45.9 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.485 (Exhibit 25-19)

S_R = 56.4 mph (Exhibit 25-19)

S_0 = 73.7 mph (Exhibit 25-19)

S = 62.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB Merge from Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Dr
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 2

Project Description (18) Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3300 ft
V_u = 1865 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7265	0.90	Level	7	0	0.966	1.00	8355
Ramp	825	0.90	Level	2	0	0.990	1.00	926
UpStream	1865	0.90	Level	1	0	0.995	1.00	2083
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.261 using Equation (Exhibit 25-5)

V_{12} = 1557 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6900	See Exhibit 25-7	No
V_{R12}	2483	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 20.4 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.310 (Exibit 25-19)

S_R = 61.3 mph (Exhibit 25-19)

S_0 = 63.9 mph (Exhibit 25-19)

S = 62.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/13/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (1) I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 495 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6795	0.90	Level	8	0	0.962	1.00	7852
Ramp	1450	0.90	Level	2	0	0.990	1.00	1627
UpStream								
DownStream	495	0.90	Level	2	0	0.990	1.00	556

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3657 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6282	9600	No
V_{12}	3657	4400:All	No
$V_{FO} = V_F - V_R$	4655	9600	No
V_R	1627	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 34.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.444 (Exhibit 25-19)

S_R = 57.6 mph (Exhibit 25-19)

S_0 = 75.6 mph (Exhibit 25-19)

S = 63.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/13/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (2) I-75 NB From Mocassin Wallow WB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 1450 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5345	0.90	Level	10	0	0.952	1.00	6236
Ramp	495	0.90	Level	2	0	0.990	1.00	556
UpStream	1450	0.90	Level	2	0	0.990	1.00	1627
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.235 using Equation (Exhibit 25-5)

V_{12} = 1114 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5296	See Exhibit 25-7	No
V_{R12}	1670	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 16.1 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.310 (Exibit 25-19)

S_R= 61.3 mph (Exhibit 25-19)

S_0= 65.3 mph (Exhibit 25-19)

S = 64.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (3) I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1420 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6585	0.90	Level	10	0	0.952	1.00	7683
Ramp	345	0.90	Level	4	0	0.980	1.00	391
UpStream								
DownStream	1420	0.90	Level	4	0	0.980	1.00	1609

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2901 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6147	9600	No
V_{12}	2901	4400:All	No
$V_{FO} = V_F - V_R$	5756	9600	No
V_R	391	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 27.4 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.333 (Exhibit 25-19)

S_R= 60.7 mph (Exhibit 25-19)

S_0= 74.4 mph (Exhibit 25-19)

S = 67.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/13/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (4) I-75 SB From Mocassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 345 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6240	0.90	Level	8	0	0.962	1.00	7211
Ramp	1420	0.90	Level	4	0	0.980	1.00	1609
UpStream	345	0.90	Level	4	0	0.980	1.00	391
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.141 using Equation (Exhibit 25-5)

V_{12} = 740 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6874	See Exhibit 25-7	No
V_{R12}	2349	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.9 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.317 (Exibit 25-19)

S_R= 61.1 mph (Exhibit 25-19)

S_0= 63.7 mph (Exhibit 25-19)

S = 62.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (5) I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2400 ft
V_D = 1090 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5840	0.90	Level	10	0	0.952	1.00	6813
Ramp	705	0.90	Level	2	0	0.990	1.00	791
UpStream								
DownStream	1090	0.90	Level	1	0	0.995	1.00	1217

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2971 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5792	9600	No
V_{12}	2971	4400:All	No
$V_{FO} = V_F - V_R$	5001	9600	No
V_R	791	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 21.7 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.369 (Exhibit 25-19)

S_R= 59.7 mph (Exhibit 25-19)

S_0= 75.2 mph (Exhibit 25-19)

S = 66.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (6) I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 2200 ft
V_u = 1090 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6225	0.90	Level	10	0	0.952	1.00	7263
Ramp	710	0.90	Level	1	0	0.995	1.00	793
UpStream	1090	0.90	Level	1	0	0.995	1.00	1217
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.342 using Equation (Exhibit 25-5)

V_{12} = 1812 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6095	See Exhibit 25-7	No
V_{R12}	2605	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 19.8 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.293 (Exibit 25-19)

S_R = 61.8 mph (Exhibit 25-19)

S_0 = 65.5 mph (Exhibit 25-19)

S = 63.9 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (7) I-75 NB From (Loop) EB SR 674 - Merge

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2200 ft

V_D = 710 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5135	0.90	Level	9	0	0.957	1.00	5962
Ramp	1090	0.90	Level	1	0	0.995	1.00	1217
UpStream								
DownStream	710	0.90	Level	1	0	0.995	1.00	793

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.257 using Equation (Exhibit 25-5)

V_{12} = 1164 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5749	See Exhibit 25-7	No
V_{R12}	2381	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 19.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.321 (Exibit 25-19)

S_R= 57.6 mph (Exhibit 25-19)

S_0= 60.7 mph (Exhibit 25-19)

S = 59.4 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (8) I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 830 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7820	0.90	Level	9	0	0.957	1.00	9080
Ramp	1030	0.90	Level	2	0	0.990	1.00	1156
UpStream								
DownStream	830	0.90	Level	1	0	0.995	1.00	927

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3819 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7264	9600	No
V_{12}	3819	4400:All	No
$V_{FO} = V_F - V_R$	6108	9600	No
V_R	1156	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 27.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.402 (Exhibit 25-19)

S_R= 58.7 mph (Exhibit 25-19)

S_0= 74.0 mph (Exhibit 25-19)

S = 65.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (9) I-75 SB Exit (From Loop) to EB SR 674

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2200 ft
V_u = 1030 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6790	0.90	Level	10	0	0.952	1.00	7922
Ramp	830	0.90	Level	1	0	0.995	1.00	927
UpStream	1030	0.90	Level	2	0	0.990	1.00	1156
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3286 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6338	9400	No
V_{12}	3286	4400:All	No
$V_{FO} = V_F - V_R$	5411	9400	No
V_R	927	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 24.0 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.511 (Exhibit 25-19)

S_R= 53.2 mph (Exhibit 25-19)

S_0= 69.3 mph (Exhibit 25-19)

S = 59.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (10) I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2400 ft
V_u = 830 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5960	0.90	Level	10	0	0.952	1.00	6953
Ramp	625	0.90	Level	1	0	0.995	1.00	698
UpStream	830	0.90	Level	1	0	0.995	1.00	927
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.304 using Equation (Exhibit 25-5)

V_{12} = 1543 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5774	See Exhibit 25-7	No
V_{R12}	2241	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 18.2 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.295 (Exibit 25-19)

S_R = 61.7 mph (Exhibit 25-19)

S_0 = 65.4 mph (Exhibit 25-19)

S = 64.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (11) I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 2135 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6935	0.90	Level	9	0	0.957	1.00	8052
Ramp	1000	0.90	Level	1	0	0.995	1.00	1117
UpStream								
DownStream	2135	0.90	Level	1	0	0.995	1.00	2384

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3439 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6442	9600	No
V_{12}	3439	4400:All	No
$V_{FO} = V_F - V_R$	5325	9600	No
V_R	1117	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 32.0 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.399 (Exhibit 25-19)

S_R = 58.8 mph (Exhibit 25-19)

S_0 = 74.8 mph (Exhibit 25-19)

S = 65.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (12) I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2100 ft

V_u = 1000 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5935	0.90	Level	7	0	0.966	1.00	6825
Ramp	2135	0.90	Level	1	0	0.995	1.00	2384
UpStream	1000	0.90	Level	1	0	0.995	1.00	1117
DownStream								

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.334 using Equation (Exhibit 25-5)

V_{12} = 1664 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7367	See Exhibit 25-7	No
V_{R12}	4048	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 27.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.453 (Exibit 25-19)

S_R= 54.6 mph (Exhibit 25-19)

S_0= 60.8 mph (Exhibit 25-19)

S = 57.2 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (13) I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 845 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	9100	0.90	Level	7	0	0.966	1.00	10465
Ramp	2125	0.90	Level	1	0	0.995	1.00	2373
UpStream								
DownStream	845	0.90	Level	2	0	0.990	1.00	948

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4989 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8372	9400	No
V_{12}	4989	4400:All	Yes
$V_{FO} = V_F - V_R$	5999	9400	No
V_R	2373	2000	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 43.6 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.642 (Exhibit 25-19)

S_R= 50.2 mph (Exhibit 25-19)

S_0= 68.6 mph (Exhibit 25-19)

S = 56.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (14) Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 2125 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6975	0.90	Level	9	0	0.957	1.00	8099
Ramp	845	0.90	Level	2	0	0.990	1.00	948
UpStream	2125	0.90	Level	1	0	0.995	1.00	2373
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.397 using Equation (Exhibit 25-5)

V_{12} = 2297 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6739	See Exhibit 25-7	No
V_{R12}	3245	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 22.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.313 (Exibit 25-19)

S_R= 61.2 mph (Exhibit 25-19)

S_0= 65.5 mph (Exhibit 25-19)

S = 63.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (15) I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1730 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8070	0.90	Level	7	0	0.966	1.00	9280
Ramp	695	0.90	Level	1	0	0.995	1.00	776
UpStream								
DownStream	1730	0.90	Level	1	0	0.995	1.00	1932

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 3675 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7424	9600	No
V_{12}	3675	4400:All	No
$V_{FO} = V_F - V_R$	6648	9600	No
V_R	776	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 33.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.368 (Exhibit 25-19)

S_R = 59.7 mph (Exhibit 25-19)

S_0 = 73.4 mph (Exhibit 25-19)

S = 65.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (17) I-75 SB Exit to Gibsonton Dr (Traf Red Due to Ln Restr)

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 910 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8558	0.90	Level	7	0	0.966	1.00	9842
Ramp	2080	0.90	Level	1	0	0.995	1.00	2323
UpStream								
DownStream	910	0.90	Level	2	0	0.990	1.00	1021

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 4743 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7874	9600	No
V_{12}	4743	4400:All	Yes
$V_{FO} = V_F - V_R$	5551	9600	No
V_R	2323	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 45.0 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.507 (Exhibit 25-19)

S_R= 55.8 mph (Exhibit 25-19)

S_0= 74.6 mph (Exhibit 25-19)

S = 62.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB Merge from Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Dr
Date Performed	03/13/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 2

Project Description (18) Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 3300 ft
V_u = 2080 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8190	0.90	Level	7	0	0.966	1.00	9418
Ramp	910	0.90	Level	2	0	0.990	1.00	1021
UpStream	2080	0.90	Level	1	0	0.995	1.00	2323
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.249 using Equation (Exhibit 25-5)

V_{12} = 1721 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7939	See Exhibit 25-7	No
V_{R12}	2742	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 22.4 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.324 (Exibit 25-19)

S_R = 60.9 mph (Exhibit 25-19)

S_0 = 61.7 mph (Exhibit 25-19)

S = 61.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

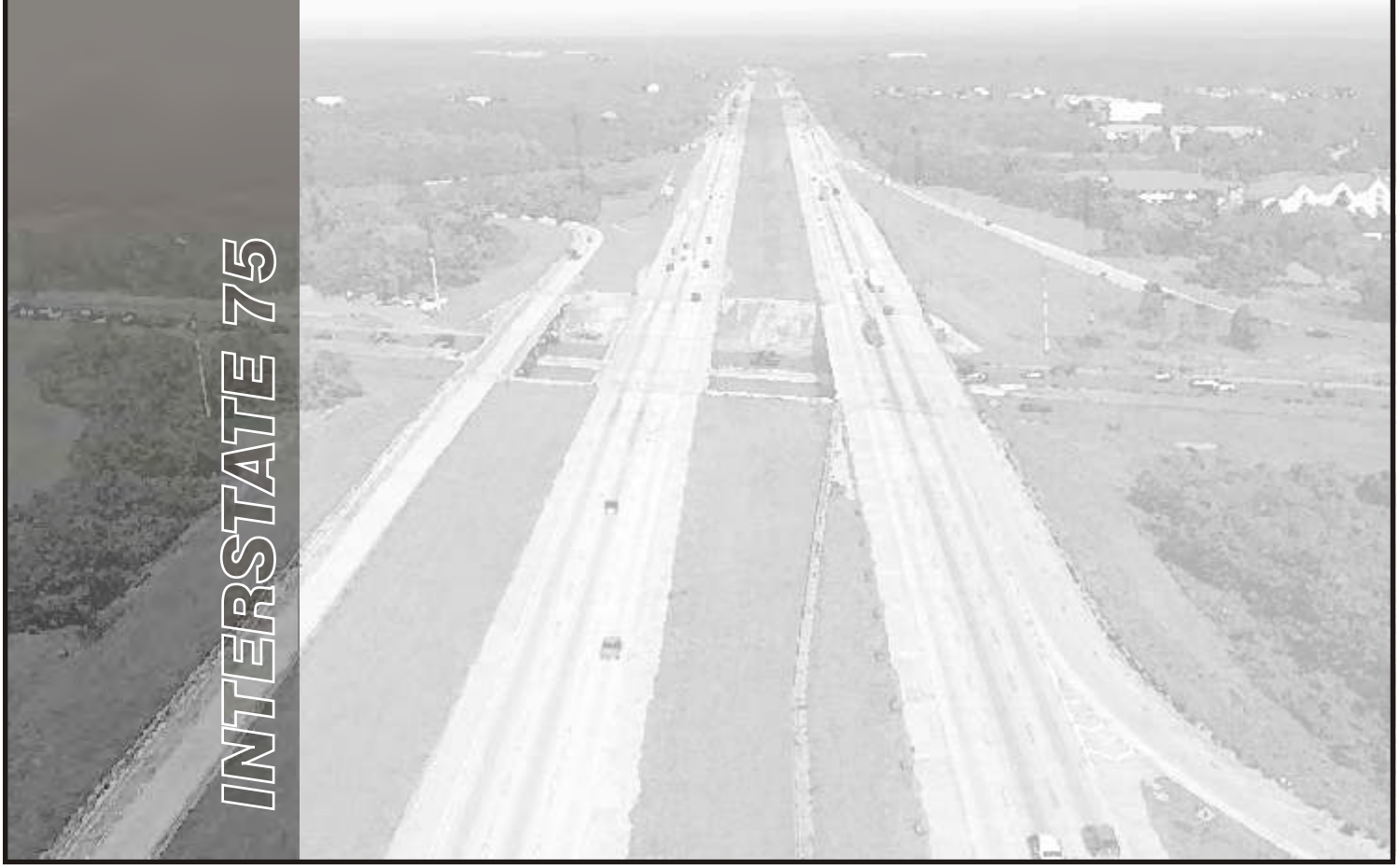
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

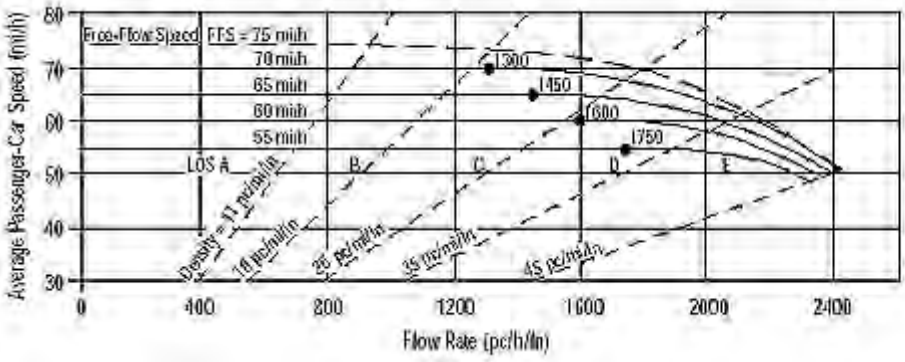
WPI Segment Number - 419235-1

Northbound I-75 Segments

Future Year (2035)
Build Alternative 2 Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Mocassin Wallow / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 NB From Mocassin Wallow To SR 674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6585*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1537*	pc/h/ln
S	*69.7*	mi/h
D = v_p / S	*22.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

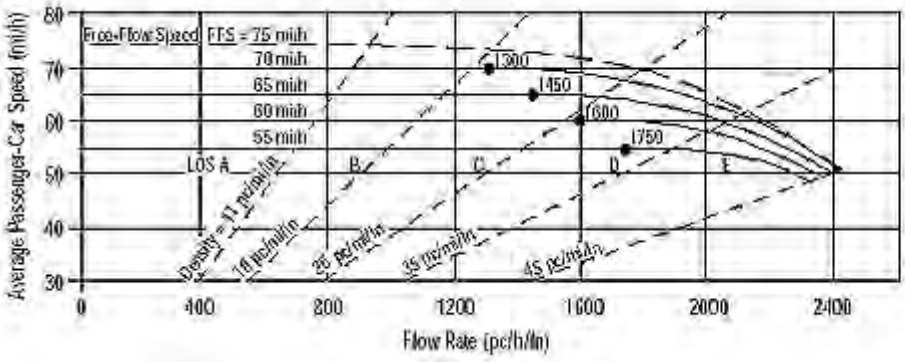
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 / Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 NB From SR 674 To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7820*	veh/h	Peak-Hour Factor, PHF	*0.90*	
AADT		veh/day	%Trucks and Buses, P_T	*9*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*	
Driver type adjustment	*1.00*		Up/Down %		

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1816*	pc/h/ln
S	*67.7*	mi/h
D = v_p / S	*26.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

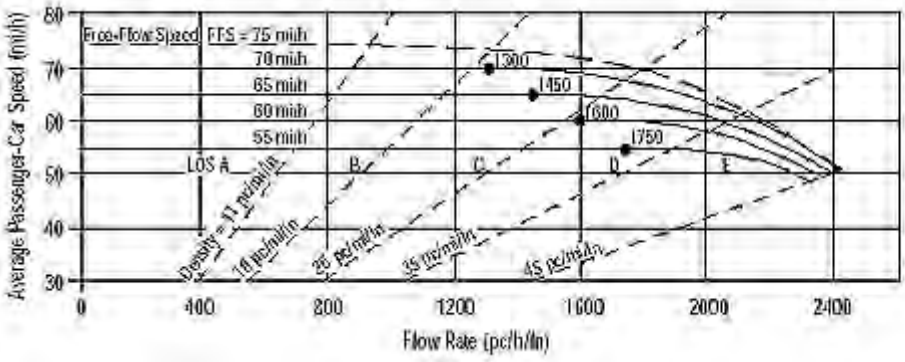
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Big Bend Road / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 NB From Big Bend Road To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9225*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2122*	pc/h/ln
S	*62.2*	mi/h
D = v_p / S	*34.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

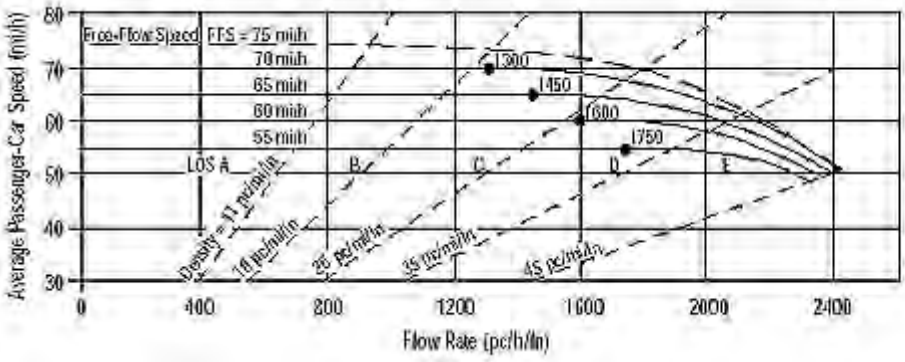
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Gibsonton Dr. / US 301*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 NB From Gibsonton Drive To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10400*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*6*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1993*	pc/h/ln
S	*65.0*	mi/h
D = v_p / S	*30.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

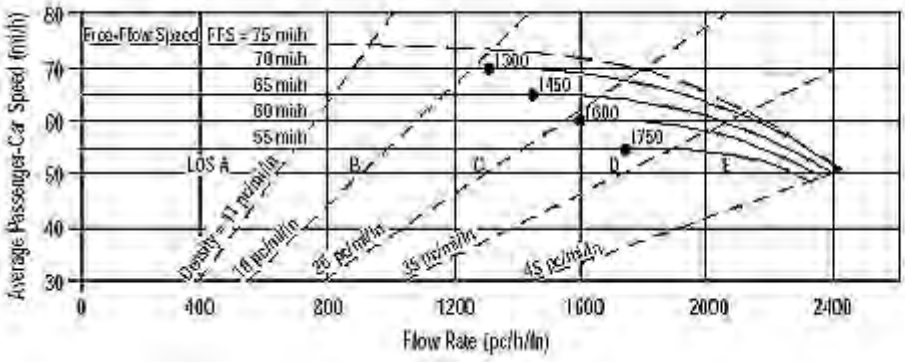
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*3/12/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Mocassin Wallow / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 NB From Mocassin Wallow To SR 674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5840*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1363*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*19.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

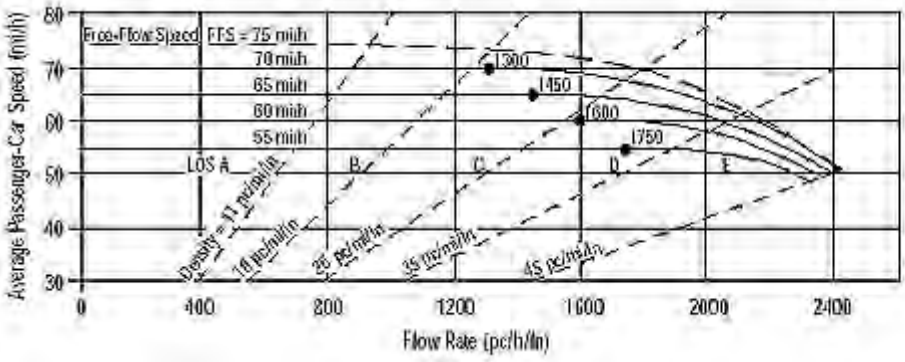
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 / Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 NB From SR 674 To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6935*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1610*	pc/h/ln
S	*69.4*	mi/h
D = v_p / S	*23.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

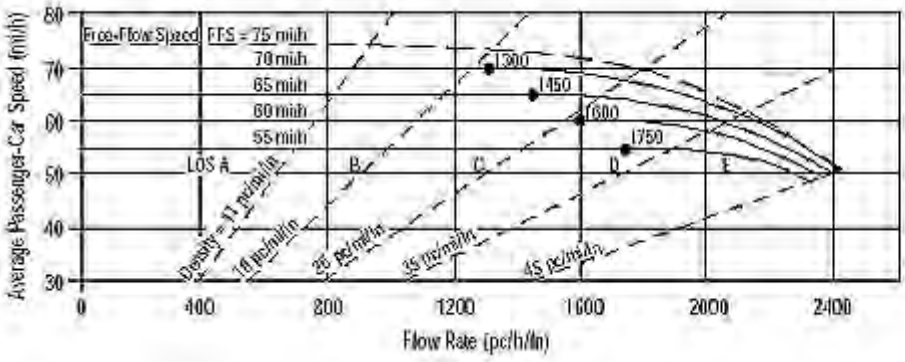
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Big Bend Road / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 NB From Big Bend Road To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8070*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1856*	pc/h/ln
S	*67.2*	mi/h
D = v_p / S	*27.6*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

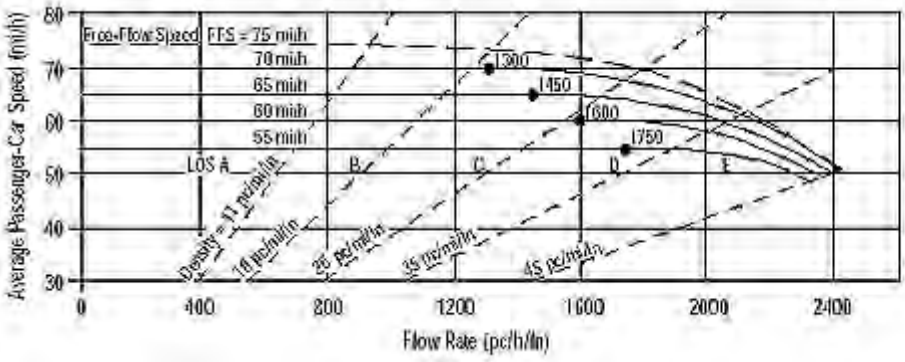
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak Hour*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Gibsonton Dr. / US 301*
Jurisdiction	*Hillsborough*
Analysis Year	

Project Description I-75 NB From Gibsonton Drive To US 301

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9105*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*6*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1745*	pc/h/ln
S	*68.4*	mi/h
D = v_p / S	*25.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

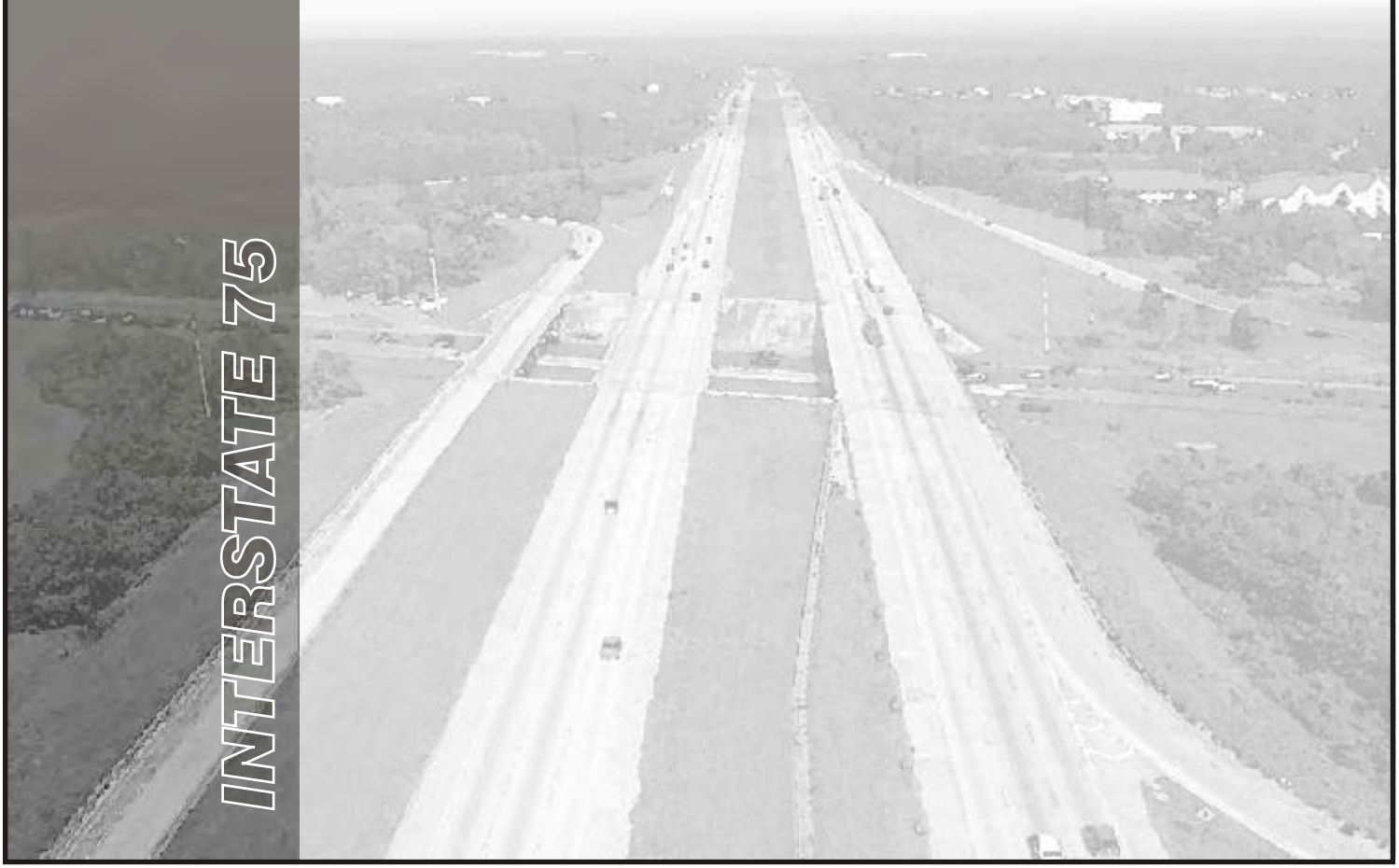
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

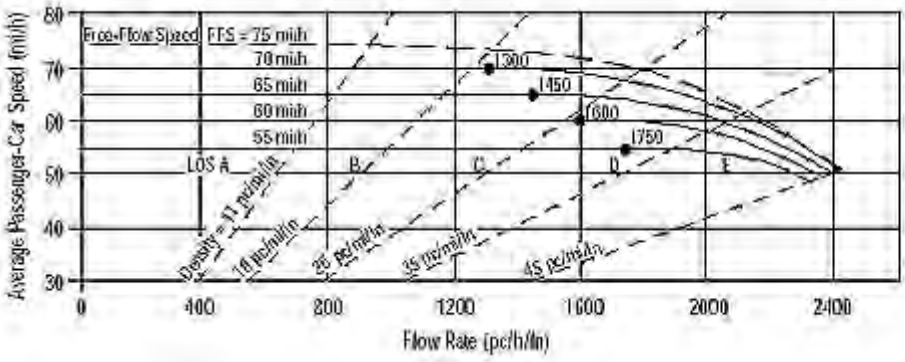
WPI Segment Number - 419235-1

Southbound I-75 Segments

Future Year (2035)
Build Alternative 2 Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*US 301 / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From US 301 To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9130*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*6*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1750*	pc/h/ln
S	*68.4*	mi/h
D = v_p / S	*25.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

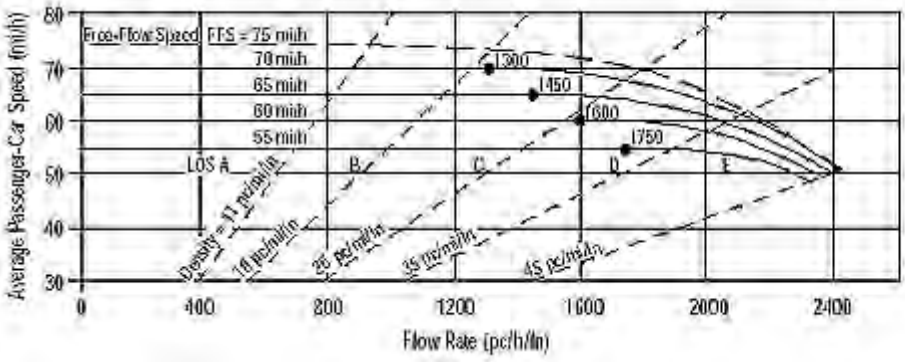
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr. / Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From Gibsonton Drive To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8090*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1861*	pc/h/ln
S	*67.1*	mi/h
D = v_p / S	*27.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

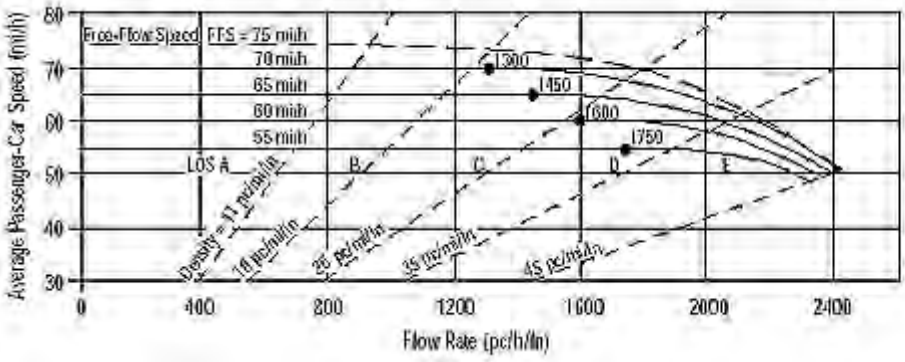
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From Big Bend Rd To (SR 674) College Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7085*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1645*	pc/h/ln
S	*69.2*	mi/h
D = v_p / S	*23.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

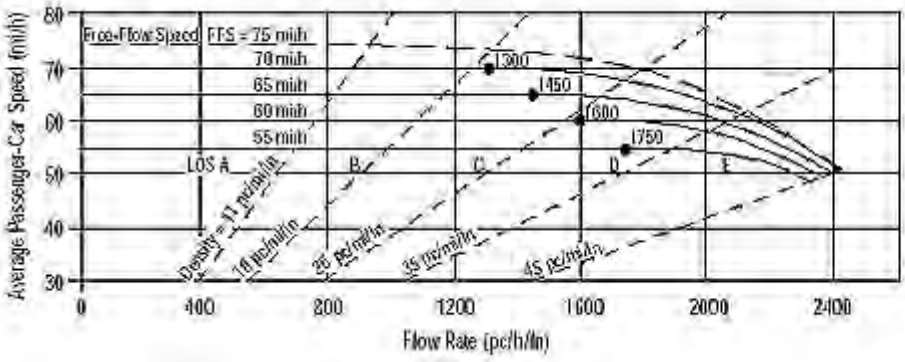
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SR 674 / Mocassin Wallow*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From SR 674 To Mocassin Wallow

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5840*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1363*	pc/h/ln
S	*70.0*	mi/h
D = v_p / S	*19.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

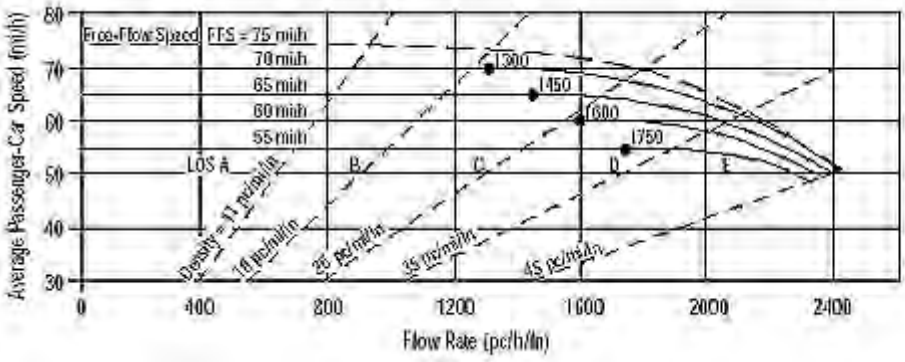
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*US 301 / Gibsonton Dr.*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From US 301 To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*10270*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*6*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1968*	pc/h/ln
S	*65.4*	mi/h
D = v_p / S	*30.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

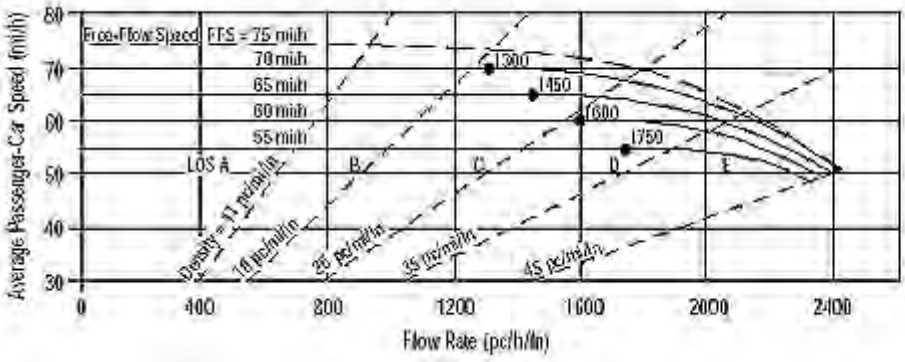
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr. / Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From Gibsonton Drive To Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*9100*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2093*	pc/h/ln
S	*62.9*	mi/h
D = v_p / S	*33.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

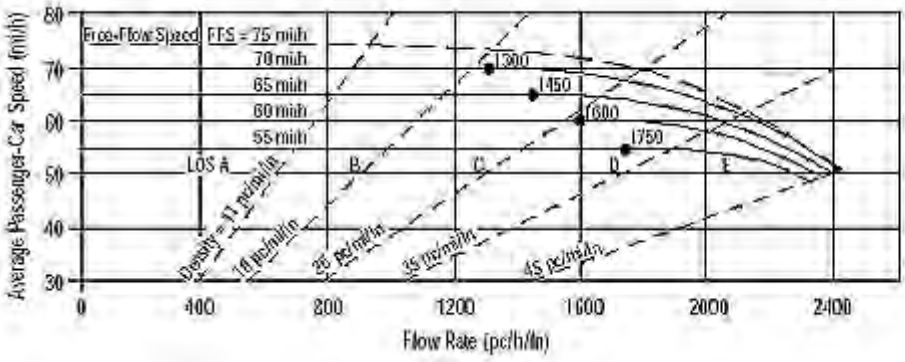
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Alexis*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd / SR 674*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From Big Bend Rd To (SR 674) College Avenue

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7820*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1816*	pc/h/ln
S	*67.7*	mi/h
D = v_p / S	*26.8*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

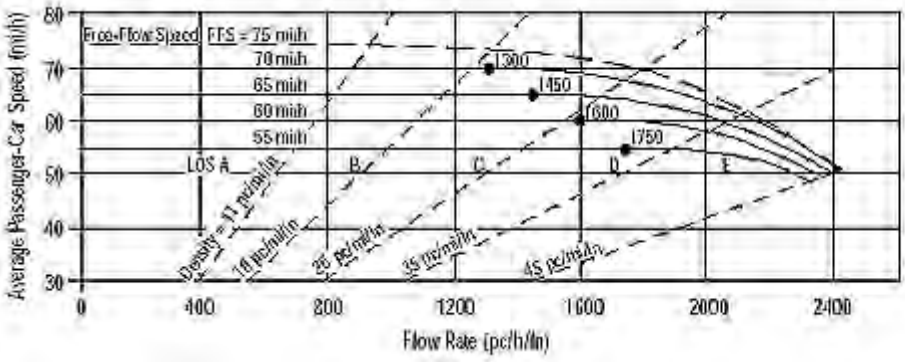
Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*YG*
Agency or Company	*PB Americas*
Date Performed	*03/12/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SR 674 / Mocassin Wallow*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 2*

Project Description I-75 SB From SR 674 To Mocassin Wallow

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6585*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.10*	I/mi
Number of Lanes, N	*5*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1537*	pc/h/ln
S	*69.7*	mi/h
D = v_p / S	*22.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed
DDHV - Directional design hour volume	

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6
LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

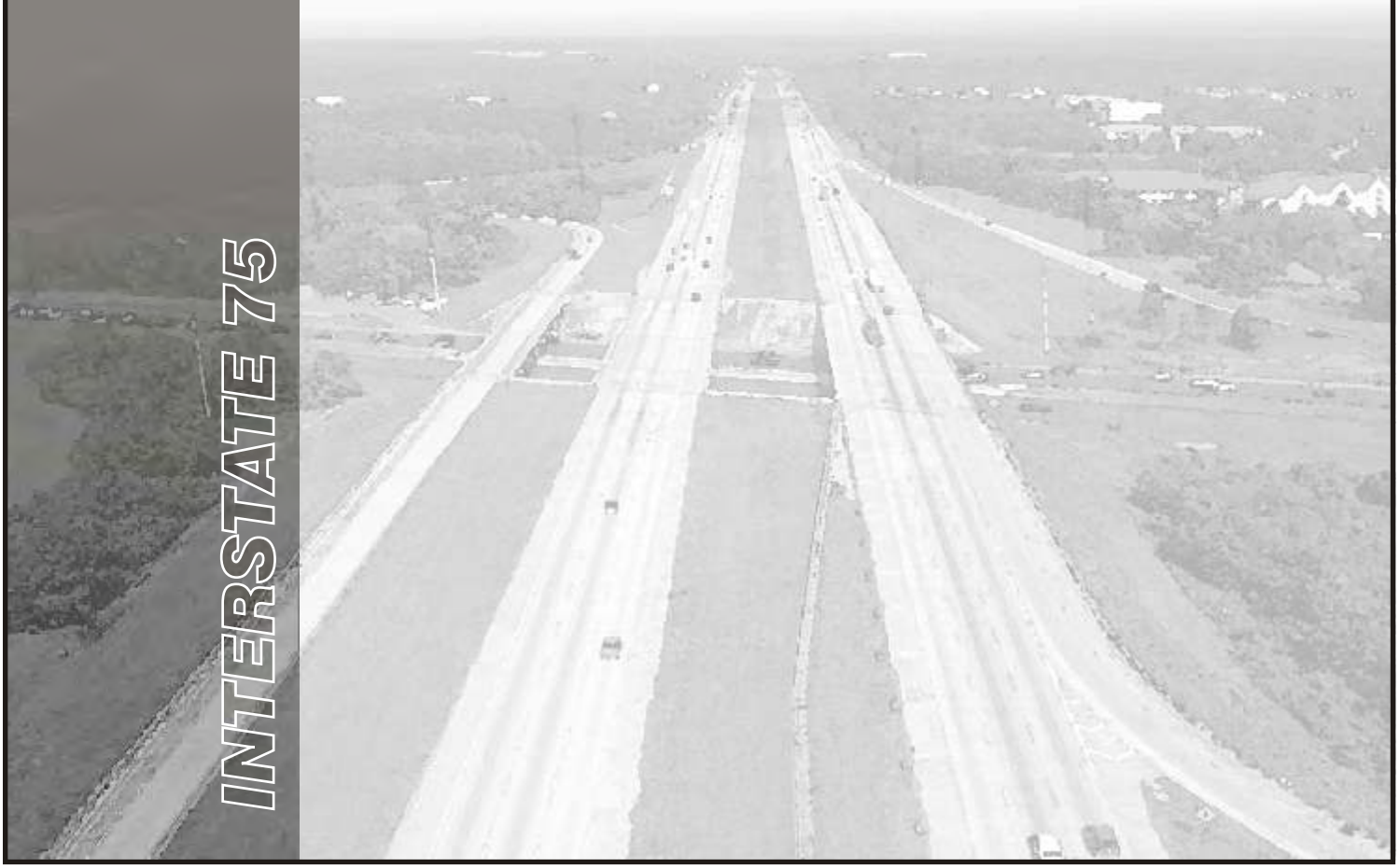
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Signalized Intersection Result Sheets

Future Year (2035)
Build Alternative 3 Conditions



HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 NB Ramps @ Moccasin*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Manatee*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*174*	*836*			*1442*		*425*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*4*	*5*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*0.837*	*0.837*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *9.0*	G = *34.0*	G = *0.0*	G = *0.0*	G = *20.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *4*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*					Cycle Length, C = *75.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*193*	*929*			*1602*		*472*					
Lane Group Capacity, c	*202*	*2119*			*1533*		*450*					
v/c Ratio, X	*0.96*	*0.44*			*1.05*		*1.05*					
Total Green Ratio, g/C	*0.12*	*0.63*			*0.45*		*0.27*					
Uniform Delay, d_1	*32.8*	*7.2*			*20.5*		*27.5*					
Progression Factor, PF	*1.000*	*0.134*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*47.5*	*0.6*			*35.7*		*55.8*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					

Control Delay	*80.3*	*1.5*			*56.2*		*83.3*					
Lane Group LOS	*F*	*A*			*E*		*F*					
Approach Delay	*15.1*			*56.2*			*83.3*					
Approach LOS	*B*			*E*			*F*					
Intersection Delay	*45.8*			X_C *= 1.03*			Intersection LOS			*D*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramps @ Moccasin Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Manatee*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*866*		*122*	*1745*					*144*		
% Heavy Vehicles, %HV		*7*		*7*	*7*					*7*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*4*	*6*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*0.271*	*0.271*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *12.0*	G = *34.0*	G = *0.0*	G = *0.0*	G = *17.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *4*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis, T = *0.25* — Cycle Length, C = *75.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*962*		*136*	*1939*					*160*		
Lane Group Capacity, c		*1533*		*270*	*2254*					*382*		
v/c Ratio, X		*0.63*		*0.50*	*0.86*					*0.42*		
Total Green Ratio, g/C		*0.45*		*0.16*	*0.67*					*0.23*		
Uniform Delay, d_1		*15.7*		*28.8*	*9.8*					*24.8*		
Progression Factor, PF		*1.000*		*1.000*	*0.150*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*2.0*		*1.8*	*1.3*					*3.4*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*17.6*		*30.6*	*2.8*					*28.1*		
Lane Group LOS		*B*		*C*	*A*					*C*		
Approach Delay	*17.6*			*4.6*						*28.1*		
	B			*A*						*C*		

Approach LOS				
Intersection Delay	*9.7*	X_C = *0.75*	Intersection LOS	*A*

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 NB Ramp/SR 674*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study - 2035 Alternative 3 - AM*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*			*3*		*1*					
Lane Group		*T*			*T*		*L*					
Volume, V (vph)		*2255*			*1025*		*151*					
% Heavy Vehicles, %HV		*3*			*3*		*3*					
Peak-Hour Factor, PHF		*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*			*P*		*P*					
Start-up Lost Time, l_1		*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*			*2.0*		*2.0*					
Arrival Type, AT		*3*			*3*		*3*					
Unit Extension, UE		*3.0*			*3.0*		*3.0*					
Filtering/Metering, I		*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *46.0*	G = *0.0*	G = *0.0*	G =	G = *26.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *0*	Y = *0*	Y =	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *80.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2506*			*1139*		*168*					
Lane Group Capacity, c		*2889*			*2889*		*569*					
v/c Ratio, X		*0.87*			*0.39*		*0.30*					
Total Green Ratio, g/C		*0.57*			*0.57*		*0.32*					
Uniform Delay, d_1		*14.4*			*9.3*		*20.2*					
Progression Factor, PF		*1.000*			*1.000*		*1.000*					
Delay Calibration, k		*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2		*3.8*			*0.4*		*1.3*					
Initial Queue Delay, d_3		*0.0*			*0.0*		*0.0*					

Control Delay		*18.2*			*9.7*		*21.5*					
Lane Group LOS		*B*			*A*		*C*					
Approach Delay	*18.2*			*9.7*			*21.5*					
Approach LOS	*B*			*A*			*C*					
Intersection Delay	*15.8*			X_C = *0.66*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*EJB*	Intersection	*I-75 SB Ramp/SR 674*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*1*	*3*							
Lane Group		*T*		*L*	*T*							
Volume, V (vph)		*2885*		*65*	*1110*							
% Heavy Vehicles, %HV		*3*		*0*	*3*							
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*							
Pretimed (P) or Actuated (A)		*P*		*P*	*P*							
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*							
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*							
Arrival Type, AT		*3*		*3*	*3*							
Unit Extension, UE		*3.0*		*3.0*	*3.0*							
Filtering/Metering, I		*1.000*		*1.000*	*1.000*							
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*							
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*							
Lane Width		*12.0*		*12.0*	*12.0*							
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*						
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*							
Min. Time for Pedestrians, G_p	*3.2*			*3.2*								

Phasing	WB Only	Thru Only	03	04	05	06	07	08
Timing	G = *32.0*	G = *78.0*	G = *0.0*	G =	G = *0.0*	G = *0.0*	G = *0.0*	G =
	Y = *5*	Y = *5*	Y = *0*	Y =	Y = *0*	Y = *0*	Y = *0*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*3206*		*72*	*1233*							
Lane Group Capacity, c		*3266*		*481*	*5025*							
v/c Ratio, X		*0.98*		*0.15*	*0.25*							
Total Green Ratio, g/C		*0.65*		*0.27*	*1.00*							
Uniform Delay, d_1		*20.3*		*33.6*	*0.0*							
Progression Factor, PF		*1.000*		*1.000*	*0.950*							
Delay Calibration, k		*0.50*		*0.50*	*0.50*							
Incremental Delay, d_2		*12.0*		*0.7*	*0.1*							
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*							

Control Delay		32.3		34.3	0.1								
Lane Group LOS		C		C	A								
Approach Delay	32.3			2.0									
Approach LOS	C			A									
Intersection Delay	23.5			X_C = 0.74			Intersection LOS			C			

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*Big Bend Road & I-75 NB*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2430*		*960*	*1065*		*395*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *37.0*	G = *45.0*	G = *0.0*	G = *0.0*	G = *20.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2700*		*1067*	*1183*		*439*					
Lane Group Capacity, c		*1317*		*540*	*2575*		*292*					
v/c Ratio, X		*2.05*		*1.98*	*0.46*		*1.50*					
Total Green Ratio, g/C		*0.38*		*0.31*	*0.73*		*0.17*					
Uniform Delay, d_1		*37.5*		*41.5*	*6.4*		*50.0*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*475.2*		*445.8*	*0.6*		*243.7*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					

Control Delay		512.7		487.3	7.0		293.7					
Lane Group LOS		F		F	A		F					
Approach Delay	512.7			234.8			293.7					
Approach LOS	F			F			F					
Intersection Delay	378.8			X_C = 1.92			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramp/Big Bend*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2320*		*450*	*1010*		*1290*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*4*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*0.673*	*0.673*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *20.0*	G = *55.0*	G = *0.0*	G = *0.0*	G = *33.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *4*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2578*		*500*	*1122*		*1433*					
Lane Group Capacity, c		*1610*		*292*	*2312*		*936*					
v/c Ratio, X		*1.60*		*1.71*	*0.49*		*1.53*					
Total Green Ratio, g/C		*0.46*		*0.17*	*0.66*		*0.28*					
Uniform Delay, d_1		*32.5*		*50.0*	*10.3*		*43.5*					
Progression Factor, PF		*1.000*		*1.000*	*0.411*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*273.5*		*330.2*	*0.5*		*244.4*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					

Control Delay		306.0		380.2	4.7		287.9					
Lane Group LOS		F		F	A		F					
Approach Delay	306.0			120.5			287.9					
Approach LOS	F			F			F					
Intersection Delay	248.0			X_C = 1.60			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*830*	*1415*			*1350*		*300*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *45.7*	G = *39.1*	G = *0.0*	G = *0.0*	G = *17.2*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*922*	*1572*			*1500*		*333*					
Lane Group Capacity, c	*655*	*2607*			*1122*		*246*					
v/c Ratio, X	*1.41*	*0.60*			*1.34*		*1.35*					
Total Green Ratio, g/C	*0.38*	*0.76*			*0.33*		*0.14*					
Uniform Delay, d_1	*37.2*	*6.5*			*40.5*		*51.4*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*192.5*	*1.0*			*157.7*		*183.4*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					

Control Delay	229.6	7.6			198.2		234.8					
Lane Group LOS	F	A			F		F					
Approach Delay	89.7			198.2			234.8					
Approach LOS	F			F			F					
Intersection Delay	138.5			X_C = 1.37			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*805*		*370*	*1280*					*1440*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *13.7*	G = *35.6*	G = *0.0*	G = *0.0*	G = *52.7*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis, T = *0.25* Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*894*		*411*	*1422*					*1600*		
Lane Group Capacity, c		*1022*		*196*	*1588*					*755*		
v/c Ratio, X		*0.87*		*2.10*	*0.90*					*2.12*		
Total Green Ratio, g/C		*0.30*		*0.11*	*0.46*					*0.44*		
Uniform Delay, d_1		*40.1*		*53.2*	*29.7*					*33.7*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*10.4*		*510.6*	*8.3*					*508.1*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		

Control Delay		50.5		563.7	38.0					541.8		
Lane Group LOS		D		F	D					F		
Approach Delay	50.5			155.8						541.8		
Approach LOS	D			F						F		
Intersection Delay	276.8			X_C = 1.68			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 NB Ramps @ Moccasin*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Manatee*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - PM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*154*	*772*			*1560*		*790*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*6*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*0.837*	*0.837*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *15.0*	G = *48.0*	G = *0.0*	G = *0.0*	G = *45.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *4*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*171*	*858*			*1733*		*878*					
Lane Group Capacity, c	*211*	*1888*			*1352*		*633*					
v/c Ratio, X	*0.81*	*0.45*			*1.28*		*1.39*					
Total Green Ratio, g/C	*0.13*	*0.56*			*0.40*		*0.38*					
Uniform Delay, d_1	*51.1*	*15.7*			*36.0*		*37.5*					
Progression Factor, PF	*1.000*	*1.000*			*0.431*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*23.9*	*0.7*			*132.6*		*183.8*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					

Control Delay	*75.0*	*16.3*			*148.1*		*221.3*					
Lane Group LOS	*E*	*B*			*F*		*F*					
Approach Delay	*26.1*			*148.1*			*221.3*					
Approach LOS	*C*			*F*			*F*					
Intersection Delay	*131.3*			X_C *= 1.26*			Intersection LOS			*F*		

 HCS+™ Version 5.2 Generated: 3/17/2009 2:15 PM

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramps @ Moccasin Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Manatee*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - PM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*764*		*421*	*1932*					*162*		
% Heavy Vehicles, %HV		*7*		*7*	*7*					*7*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*4*	*6*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*0.090*	*0.090*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *37.0*	G = *43.0*	G = *0.0*	G = *0.0*	G = *28.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *4*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*849*		*468*	*2147*					*180*		
Lane Group Capacity, c		*1212*		*520*	*2367*					*394*		
v/c Ratio, X		*0.70*		*0.90*	*0.91*					*0.46*		
Total Green Ratio, g/C		*0.36*		*0.31*	*0.70*					*0.23*		
Uniform Delay, d_1		*33.0*		*39.7*	*14.8*					*39.5*		
Progression Factor, PF		*1.000*		*0.979*	*0.167*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*3.4*		*2.6*	*0.7*					*3.8*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		

Control Delay		36.4		41.5	3.1					43.3		
Lane Group LOS		D		D	A					D		
Approach Delay	36.4			10.0						43.3		
Approach LOS	D			A						D		
Intersection Delay	17.8			X_C = 0.79			Intersection LOS			B		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*EJB*	Intersection	*I-75 NB Ramp/SR 674*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*I-75 PD&E Study - 2035 Alternative 3 - PM*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*			*3*		*1*					
Lane Group		*T*			*T*		*L*					
Volume, V (vph)		*1645*			*2185*		*135*					
% Heavy Vehicles, %HV		*3*			*3*		*3*					
Peak-Hour Factor, PHF		*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*			*P*		*P*					
Start-up Lost Time, l_1		*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*			*2.0*		*2.0*					
Arrival Type, AT		*3*			*3*		*3*					
Unit Extension, UE		*3.0*			*3.0*		*3.0*					
Filtering/Metering, I		*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	Thru Only	02	03	04	NB Only	06	07	08
Timing	G = *52.0*	G = *0.0*	G = *0.0*	G =	G = *28.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *5*	Y = *0*	Y = *0*	Y =	Y = *5*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *90.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1828*			*2428*		*150*					
Lane Group Capacity, c		*2903*			*2903*		*545*					
v/c Ratio, X		*0.63*			*0.84*		*0.28*					
Total Green Ratio, g/C		*0.58*			*0.58*		*0.31*					
Uniform Delay, d_1		*12.6*			*15.5*		*23.4*					
Progression Factor, PF		*1.000*			*1.000*		*1.000*					
Delay Calibration, k		*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2		*1.0*			*3.0*		*1.2*					
Initial Queue Delay, d_3		*0.0*			*0.0*		*0.0*					

Control Delay		*13.7*			*18.6*		*24.6*					
Lane Group LOS		*B*			*B*		*C*					
Approach Delay	*13.7*			*18.6*			*24.6*					
Approach LOS	*B*			*B*			*C*					
Intersection Delay	*16.7*			X_C = *0.64*			Intersection LOS			*B*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*EJB*	Intersection	*I-75 SB Ramp/SR 674*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - PM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*1*	*3*							
Lane Group		*T*		*L*	*T*							
Volume, V (vph)		*1865*		*220*	*2100*							
% Heavy Vehicles, %HV		*3*		*0*	*3*							
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*							
Pretimed (P) or Actuated (A)		*P*		*P*	*P*							
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*							
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*							
Arrival Type, AT		*3*		*3*	*3*							
Unit Extension, UE		*3.0*		*3.0*	*3.0*							
Filtering/Metering, I		*1.000*		*1.000*	*1.000*							
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*							
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*							
Lane Width		*12.0*		*12.0*	*12.0*							
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*						
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*							
Min. Time for Pedestrians, G_p	*3.2*			*3.2*								

Phasing	WB Only	Thru Only	03	04	05	06	07	08
Timing	G = *45.0*	G = *65.0*	G = *0.0*	G =	G = *0.0*	G = *0.0*	G = *0.0*	G =
	Y = *5*	Y = *5*	Y = *0*	Y =	Y = *0*	Y = *0*	Y = *0*	Y =
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2072*		*244*	*2333*							
Lane Group Capacity, c		*2722*		*677*	*5025*							
v/c Ratio, X		*0.76*		*0.36*	*0.46*							
Total Green Ratio, g/C		*0.54*		*0.38*	*1.00*							
Uniform Delay, d_1		*21.4*		*27.1*	*0.0*							
Progression Factor, PF		*1.000*		*1.000*	*0.950*							
Delay Calibration, k		*0.50*		*0.50*	*0.50*							
Incremental Delay, d_2		*2.1*		*1.5*	*0.3*							
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*							

Control Delay		*23.5*		*28.6*	*0.3*								
Lane Group LOS		*C*		*C*	*A*								
Approach Delay	*23.5*			*3.0*									
Approach LOS	*C*			*A*									
Intersection Delay	*12.1*			X_C *= 0.60*			Intersection LOS			*B*			

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp/Big Bend*
Agency or Co.		Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 alt3 - PM*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1285*		*1130*	*2020*		*350*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *42.9*	G = *46.4*	G = *0.0*	G = *0.0*	G = *12.7*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1428*		*1256*	*2244*		*389*					
Lane Group Capacity, c		*1358*		*626*	*2789*		*185*					
v/c Ratio, X		*1.05*		*2.01*	*0.80*		*2.10*					
Total Green Ratio, g/C		*0.39*		*0.36*	*0.79*		*0.11*					
Uniform Delay, d_1		*36.8*		*38.5*	*7.0*		*53.7*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*39.2*		*458.5*	*2.6*		*514.1*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*76.0*		*497.1*	*9.6*		*567.8*					

Lane Group LOS		*E*		*F*	*A*		*F*					
Approach Delay	*76.0*			*184.6*			*567.8*					
Approach LOS	*E*			*F*			*F*					
Intersection Delay	*183.4*			X_C *= 1.58*			Intersection LOS			*F*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramp/Big Bend*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - PM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*		*2*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1515*		*645*	*1725*		*1145*					
% Heavy Vehicles, %HV		*3*		*3*	*3*		*3*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*4*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*0.528*	*0.528*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *28.0*	G = *46.0*	G = *0.0*	G = *0.0*	G = *28.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1683*		*717*	*1917*		*1272*					
Lane Group Capacity, c		*1346*		*409*	*2341*		*794*					
v/c Ratio, X		*1.25*		*1.75*	*0.82*		*1.60*					
Total Green Ratio, g/C		*0.38*		*0.23*	*0.67*		*0.23*					
Uniform Delay, d_1		*37.0*		*46.0*	*14.7*		*46.0*					
Progression Factor, PF		*1.000*		*1.000*	*0.383*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*119.0*		*344.2*	*1.8*		*276.8*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					

Control Delay		*156.0*		*390.2*	*7.4*		*322.8*					
Lane Group LOS		*F*		*F*	*A*		*F*					
Approach Delay	*156.0*			*111.6*			*322.8*					
Approach LOS	*F*			*F*			*F*					
Intersection Delay	*173.0*			X_C = *1.48*			Intersection LOS			*F*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - PM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*1055*	*1985*			*765*		*285*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *48.0*	G = *38.3*	G = *0.0*	G = *0.0*	G = *15.7*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*1172*	*2206*			*850*		*317*					
Lane Group Capacity, c	*688*	*2650*			*1100*		*225*					
v/c Ratio, X	*1.70*	*0.83*			*0.77*		*1.41*					
Total Green Ratio, g/C	*0.40*	*0.77*			*0.32*		*0.13*					
Uniform Delay, d_1	*36.0*	*8.9*			*36.9*		*52.1*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*322.8*	*3.2*			*5.3*		*208.3*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					

Control Delay	358.8	12.1			42.2		260.5					
Lane Group LOS	F	B			D		F					
Approach Delay	132.4			42.2			260.5					
Approach LOS	F			D			F					
Intersection Delay	124.5			X_C = 1.31			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/13/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - PM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*1*	*2*					*1*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1705*		*330*	*720*					*1335*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *13.5*	G = *34.2*	G = *0.0*	G = *0.0*	G = *54.3*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1894*		*367*	*800*					*1483*		
Lane Group Capacity, c		*982*		*193*	*1542*					*778*		
v/c Ratio, X		*1.93*		*1.90*	*0.52*					*1.91*		
Total Green Ratio, g/C		*0.28*		*0.11*	*0.45*					*0.45*		
Uniform Delay, d_1		*42.9*		*53.3*	*23.9*					*32.9*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*421.7*		*424.5*	*1.3*					*412.6*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		

Control Delay		464.6		477.7	25.1					445.4		
Lane Group LOS		F		F	C					F		
Approach Delay	464.6			167.5						445.4		
Approach LOS	F			F						F		
Intersection Delay	382.0			X_C = 1.91			Intersection LOS			F		

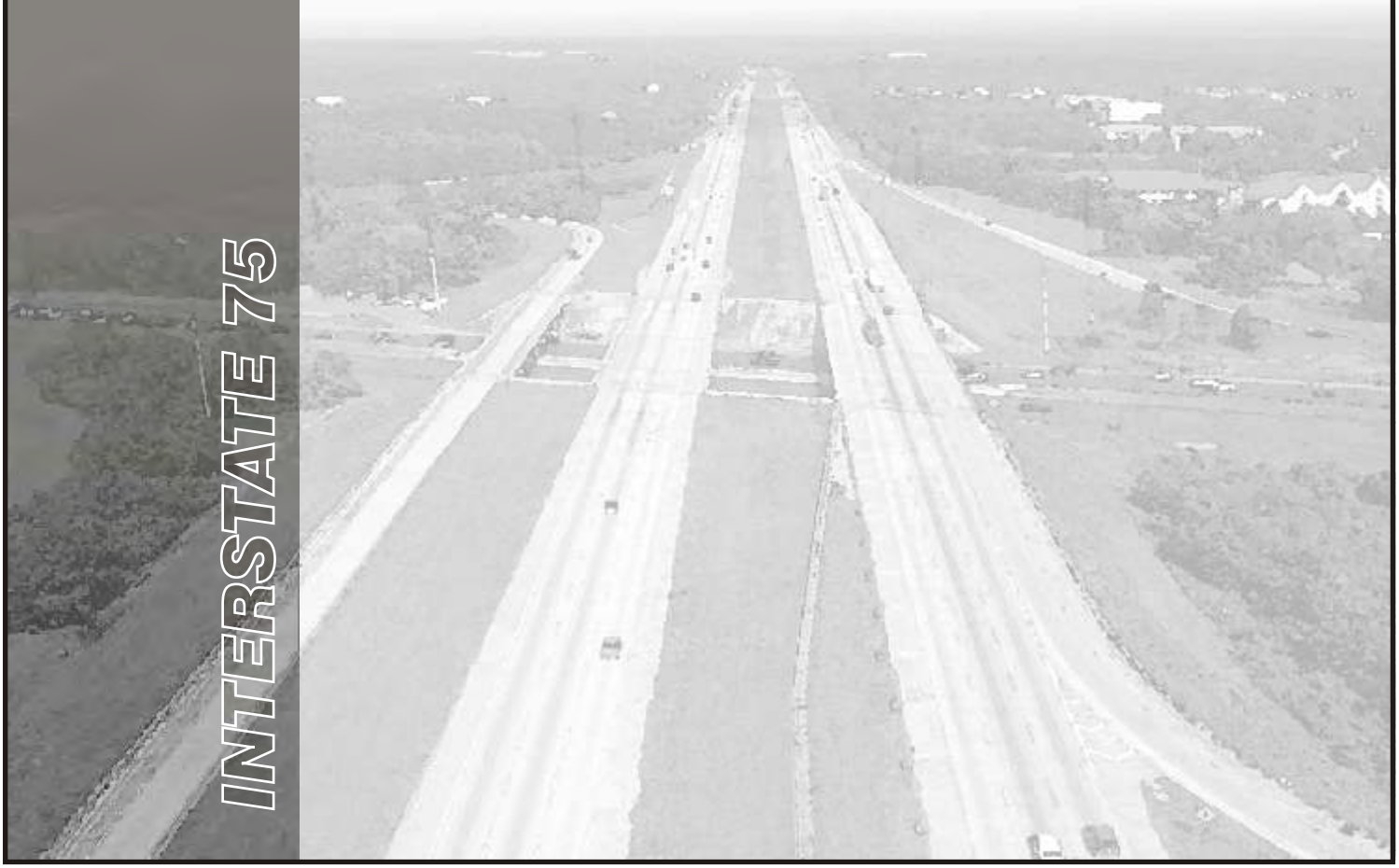
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Signalized Intersection (Improved) Result Sheets

Future Year (2035)
Build Alternative 3 Conditions



HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 NB Ramps @ Moccasin*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Manatee*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM (Improved) - Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*2*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*174*	*836*			*1442*		*425*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*4*	*6*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*0.854*	*0.854*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *22.0*	G = *60.0*	G = *0.0*	G = *0.0*	G = *26.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *4*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*193*	*929*			*1602*		*472*					
Lane Group Capacity, c	*309*	*2423*			*1691*		*710*					
v/c Ratio, X	*0.62*	*0.38*			*0.95*		*0.66*					
Total Green Ratio, g/C	*0.18*	*0.72*			*0.50*		*0.22*					
Uniform Delay, d_1	*45.2*	*6.6*			*28.5*		*43.0*					
Progression Factor, PF	*1.000*	*0.176*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*7.9*	*0.4*			*12.5*		*4.9*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					

Control Delay	53.1	1.6			41.0		47.9					
Lane Group LOS	D	A			D		D					
Approach Delay	10.4			41.0			47.9					
Approach LOS	B			D			D					
Intersection Delay	31.3			X_C = 0.81			Intersection LOS			C		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp/Big Bend*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM (Improved) Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2430*		*960*	*1065*		*395*					
% Heavy Vehicles, %HV		*5*		*5*	*5*		*5*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *28.0*	G = *56.0*	G = *0.0*	G = *0.0*	G = *18.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2700*		*1067*	*1183*		*439*					
Lane Group Capacity, c		*2300*		*779*	*3697*		*258*					
v/c Ratio, X		*1.17*		*1.37*	*0.32*		*1.70*					
Total Green Ratio, g/C		*0.47*		*0.23*	*0.75*		*0.15*					
Uniform Delay, d_1		*32.0*		*46.0*	*4.9*		*51.0*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*83.2*		*174.5*	*0.2*		*331.8*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					

Control Delay		115.2		220.5	5.2		382.8					
Lane Group LOS		F		F	A		F					
Approach Delay	115.2			107.3			382.8					
Approach LOS	F			F			F					
Intersection Delay	133.7			X_C = 1.32			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp/Big Bend*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM (Improved) Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*2*		*2*	*2*		*3*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*2320*		*450*	*1010*		*1290*					
% Heavy Vehicles, %HV		*5*		*5*	*5*		*5*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *18.0*	G = *59.0*	G = *0.0*	G = *0.0*	G = *25.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*2578*		*500*	*1122*		*1433*					
Lane Group Capacity, c		*1694*		*501*	*2383*		*976*					
v/c Ratio, X		*1.52*		*1.00*	*0.47*		*1.47*					
Total Green Ratio, g/C		*0.49*		*0.15*	*0.69*		*0.21*					
Uniform Delay, d_1		*30.5*		*51.0*	*8.5*		*47.5*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*237.9*		*39.7*	*0.7*		*216.3*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					

Control Delay		268.4		90.7	9.1		263.8					
Lane Group LOS		F		F	A		F					
Approach Delay	268.4			34.3			263.8					
Approach LOS	F			C			F					
Intersection Delay	199.8			X_C = 1.42			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 (Improved) - AM Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*2*	*3*			*3*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*830*	*1415*			*1350*		*300*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *35.0*	G = *38.0*	G = *0.0*	G = *0.0*	G = *29.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*922*	*1572*			*1500*		*333*					
Lane Group Capacity, c	*974*	*3245*			*1561*		*415*					
v/c Ratio, X	*0.95*	*0.48*			*0.96*		*0.80*					
Total Green Ratio, g/C	*0.29*	*0.66*			*0.32*		*0.24*					
Uniform Delay, d_1	*41.6*	*10.3*			*40.3*		*42.8*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*18.5*	*0.5*			*15.2*		*15.1*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					

Control Delay	60.1	10.8			55.5		57.9					
Lane Group LOS	E	B			E		E					
Approach Delay	29.0			55.5			57.9					
Approach LOS	C			E			E					
Intersection Delay	40.4			X_C = 0.91			Intersection LOS			D		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - AM (Improved) Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*1*	*3*					*2*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*805*		*370*	*1280*					*1440*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.5*		*2.5*	*2.5*					*2.5*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *19.8*	G = *32.9*	G = *0.0*	G = *0.0*	G = *49.3*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*894*		*411*	*1422*					*1600*		
Lane Group Capacity, c		*1372*		*291*	*2432*					*1385*		
v/c Ratio, X		*0.65*		*1.41*	*0.58*					*1.16*		
Total Green Ratio, g/C		*0.28*		*0.17*	*0.49*					*0.41*		
Uniform Delay, d_1		*38.2*		*49.9*	*21.6*					*35.1*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*2.4*		*204.8*	*1.0*					*78.5*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		

Control Delay		40.6		254.6	22.7					113.6		
Lane Group LOS		D		F	C					F		
Approach Delay	40.6			74.7						113.6		
Approach LOS	D			E						F		
Intersection Delay	82.0			X_C = 1.04			Intersection LOS			F		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 NB Ramps @ Moccasin Rd*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Manatee*
Time Period		Analysis Year	
		Project ID	*2035 Alternative 3 - PM (Improved) Peak Hour*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*1*	*2*			*2*		*2*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*154*	*772*			*1560*		*790*					
% Heavy Vehicles, %HV	*7*	*7*			*7*		*7*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*6*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*0.090*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *16.0*	G = *57.0*	G = *0.0*	G = *0.0*	G = *35.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *4*	Y = *4*	Y = *0*	Y = *0*	Y = *4*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*171*	*858*			*1733*		*878*					
Lane Group Capacity, c	*225*	*2169*			*1606*		*955*					
v/c Ratio, X	*0.76*	*0.40*			*1.08*		*0.92*					
Total Green Ratio, g/C	*0.13*	*0.64*			*0.47*		*0.29*					
Uniform Delay, d_1	*50.1*	*10.3*			*31.5*		*41.1*					
Progression Factor, PF	*1.000*	*1.000*			*0.228*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*21.2*	*0.5*			*36.9*		*15.2*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					

Control Delay	*71.3*	*10.9*			*44.1*		*56.3*					
Lane Group LOS	*E*	*B*			*D*		*E*					
Approach Delay	*20.9*			*44.1*			*56.3*					
Approach LOS	*C*			*D*			*E*					
Intersection Delay	*40.5*			X_C *= 0.98*			Intersection LOS			*D*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp/Big Bend*
Agency or Co.	*PB Americas*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 alt3 - Improved - PM*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*1*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1285*		*1130*	*2020*		*350*					
% Heavy Vehicles, %HV		*5*		*5*	*5*		*5*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *35.0*	G = *45.0*	G = *0.0*	G = *0.0*	G = *22.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1428*		*1256*	*2244*		*389*					
Lane Group Capacity, c		*1848*		*974*	*3532*		*315*					
v/c Ratio, X		*0.77*		*1.29*	*0.64*		*1.23*					
Total Green Ratio, g/C		*0.38*		*0.29*	*0.72*		*0.18*					
Uniform Delay, d_1		*33.0*		*42.5*	*8.8*		*49.0*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*3.2*		*138.1*	*0.9*		*130.1*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*36.2*		*180.6*	*9.7*		*179.1*					

Lane Group LOS		*D*		*F*	*A*		*F*					
Approach Delay	*36.2*			*71.0*			*179.1*					
Approach LOS	*D*			*E*			*F*					
Intersection Delay	*69.6*			X_C *= 1.05*			Intersection LOS			*E*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp/Big Bend*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 alt3 - Improved - PM*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*2*	*3*		*3*					
Lane Group		*T*		*L*	*T*		*L*					
Volume, V (vph)		*1515*		*645*	*1725*		*1145*					
% Heavy Vehicles, %HV		*5*		*5*	*5*		*5*					
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*		*0.90*					
Pretimed (P) or Actuated (A)		*P*		*P*	*P*		*P*					
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*		*2.0*					
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*		*2.0*					
Arrival Type, AT		*3*		*3*	*3*		*3*					
Unit Extension, UE		*3.0*		*3.0*	*3.0*		*3.0*					
Filtering/Metering, I		*1.000*		*1.000*	*1.000*		*1.000*					
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width		*12.0*		*12.0*	*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	WB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *23.0*	G = *54.0*	G = *0.0*	G = *0.0*	G = *25.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*					Cycle Length, C = *120.0*			

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1683*		*717*	*1917*		*1272*					
Lane Group Capacity, c		*2218*		*640*	*3409*		*976*					
v/c Ratio, X		*0.76*		*1.12*	*0.56*		*1.30*					
Total Green Ratio, g/C		*0.45*		*0.19*	*0.69*		*0.21*					
Uniform Delay, d_1		*27.6*		*48.5*	*9.3*		*47.5*					
Progression Factor, PF		*1.000*		*1.000*	*1.000*		*1.000*					
Delay Calibration, k		*0.50*		*0.50*	*0.50*		*0.50*					
Incremental Delay, d_2		*2.5*		*73.4*	*0.7*		*144.0*					
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*		*0.0*					
Control Delay		*30.1*		*121.9*	*10.0*		*191.5*					

Lane Group LOS		*C*		*F*	*B*		*F*					
Approach Delay	*30.1*			*40.5*			*191.5*					
Approach LOS	*C*			*D*			*F*					
Intersection Delay	*71.7*			X_C *= 0.97*			Intersection LOS			*E*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 NB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 alt3 Improved - PM*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1	*2*	*3*			*3*		*1*					
Lane Group	*L*	*T*			*T*		*L*					
Volume, V (vph)	*1055*	*1985*			*765*		*285*					
% Heavy Vehicles, %HV	*5*	*5*			*5*		*5*					
Peak-Hour Factor, PHF	*0.90*	*0.90*			*0.90*		*0.90*					
Pretimed (P) or Actuated (A)	*P*	*P*			*P*		*P*					
Start-up Lost Time, l_1	*2.0*	*2.0*			*2.0*		*2.0*					
Extension of Effective Green, e	*2.0*	*2.0*			*2.0*		*2.0*					
Arrival Type, AT	*3*	*3*			*3*		*3*					
Unit Extension, UE	*3.0*	*3.0*			*3.0*		*3.0*					
Filtering/Metering, I	*1.000*	*1.000*			*1.000*		*1.000*					
Initial Unmet Demand, Q_b	*0.0*	*0.0*			*0.0*		*0.0*					
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*		*0*	*0*				
Lane Width	*12.0*	*12.0*			*12.0*		*12.0*					
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*	*N*	*0*	*N*			
Parking Maneuvers, N_m												
Buses Stopping, N_B	*0*	*0*			*0*		*0*					
Min. Time for Pedestrians, G_p	*3.2*			*3.2*			*3.2*					

Phasing	EB Only	Thru Only	03	04	NB Only	06	07	08
Timing	G = *45.0*	G = *27.0*	G = *0.0*	G = *0.0*	G = *30.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*

Duration of Analysis, T = *0.25* Cycle Length, C = *120.0*

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v	*1172*	*2206*			*850*		*317*					
Lane Group Capacity, c	*1252*	*3204*			*1109*		*430*					
v/c Ratio, X	*0.94*	*0.69*			*0.77*		*0.74*					
Total Green Ratio, g/C	*0.38*	*0.65*			*0.22*		*0.25*					
Uniform Delay, d_1	*36.1*	*13.3*			*43.5*		*41.4*					
Progression Factor, PF	*1.000*	*1.000*			*1.000*		*1.000*					
Delay Calibration, k	*0.50*	*0.50*			*0.50*		*0.50*					
Incremental Delay, d_2	*14.1*	*1.2*			*5.1*		*10.8*					
Initial Queue Delay, d_3	*0.0*	*0.0*			*0.0*		*0.0*					
Control Delay	*50.2*	*14.5*			*48.6*		*52.1*					

Lane Group LOS	*D*	*B*			*D*		*D*					
Approach Delay	*26.9*			*48.6*			*52.1*					
Approach LOS	*C*			*D*			*D*					
Intersection Delay	*32.7*			X_C = *0.83*			Intersection LOS			*C*		

HCS+™ DETAILED REPORT

General Information		Site Information	
Analyst	*Xu Wang*	Intersection	*I-75 SB Ramp/Gibsonton*
Agency or Co.	*PB*	Area Type	*All other areas*
Date Performed	*3/17/09*	Jurisdiction	*Hillsborough*
Time Period		Analysis Year	
		Project ID	*2035 alt3 Improved - PM*

Volume and Timing Input

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Number of Lanes, N_1		*3*		*1*	*3*					*2*		
Lane Group		*T*		*L*	*T*					*L*		
Volume, V (vph)		*1705*		*330*	*720*					*1335*		
% Heavy Vehicles, %HV		*5*		*5*	*5*					*5*		
Peak-Hour Factor, PHF		*0.90*		*0.90*	*0.90*					*0.90*		
Pretimed (P) or Actuated (A)		*P*		*P*	*P*					*P*		
Start-up Lost Time, l_1		*2.0*		*2.0*	*2.0*					*2.0*		
Extension of Effective Green, e		*2.0*		*2.0*	*2.0*					*2.0*		
Arrival Type, AT		*3*		*3*	*3*					*3*		
Unit Extension, UE		*3.0*		*3.0*	*3.0*					*3.0*		
Filtering/Metering, I		*1.000*		*1.000*	*1.000*					*1.000*		
Initial Unmet Demand, Q_b		*0.0*		*0.0*	*0.0*					*0.0*		
Ped / Bike / RTOR Volumes	*0*	*0*		*0*	*0*					*0*	*0*	
Lane Width		*12.0*		*12.0*	*12.0*					*12.0*		
Parking / Grade / Parking	*N*	*0*	*N*	*N*	*0*	*N*				*N*	*0*	*N*
Parking Maneuvers, N_m												
Buses Stopping, N_B		*0*		*0*	*0*					*0*		
Min. Time for Pedestrians, G_p	*3.2*			*3.2*						*3.2*		

Phasing	WB Only	Thru Only	03	04	SB Only	06	07	08
Timing	G = *23.0*	G = *37.0*	G = *0.0*	G = *0.0*	G = *42.0*	G = *0.0*	G = *0.0*	G = *0.0*
	Y = *6*	Y = *6*	Y = *0*	Y = *0*	Y = *6*	Y = *0*	Y = *0*	Y = *0*
Duration of Analysis, T = *0.25*						Cycle Length, C = *120.0*		

Lane Group Capacity, Control Delay, and LOS Determination

	EB			WB			NB			SB		
	LT	TH	RT	LT	TH	RT	LT	TH	RT	LT	TH	RT
Adjusted Flow Rate, v		*1894*		*367*	*800*					*1483*		
Lane Group Capacity, c		*1520*		*329*	*2711*					*1168*		
v/c Ratio, X		*1.25*		*1.12*	*0.30*					*1.27*		
Total Green Ratio, g/C		*0.31*		*0.19*	*0.55*					*0.35*		
Uniform Delay, d_1		*41.5*		*48.5*	*14.5*					*39.0*		
Progression Factor, PF		*1.000*		*1.000*	*1.000*					*1.000*		
Delay Calibration, k		*0.50*		*0.50*	*0.50*					*0.50*		
Incremental Delay, d_2		*116.4*		*84.5*	*0.3*					*128.2*		
Initial Queue Delay, d_3		*0.0*		*0.0*	*0.0*					*0.0*		
Control Delay		*157.9*		*133.0*	*14.8*					*167.2*		

Lane Group LOS		*F*		*F*	*B*					*F*		
Approach Delay	*157.9*			*52.0*						*167.2*		
Approach LOS	*F*			*D*						*F*		
Intersection Delay	*133.7*			X_C *= 1.23*			Intersection LOS			*F*		

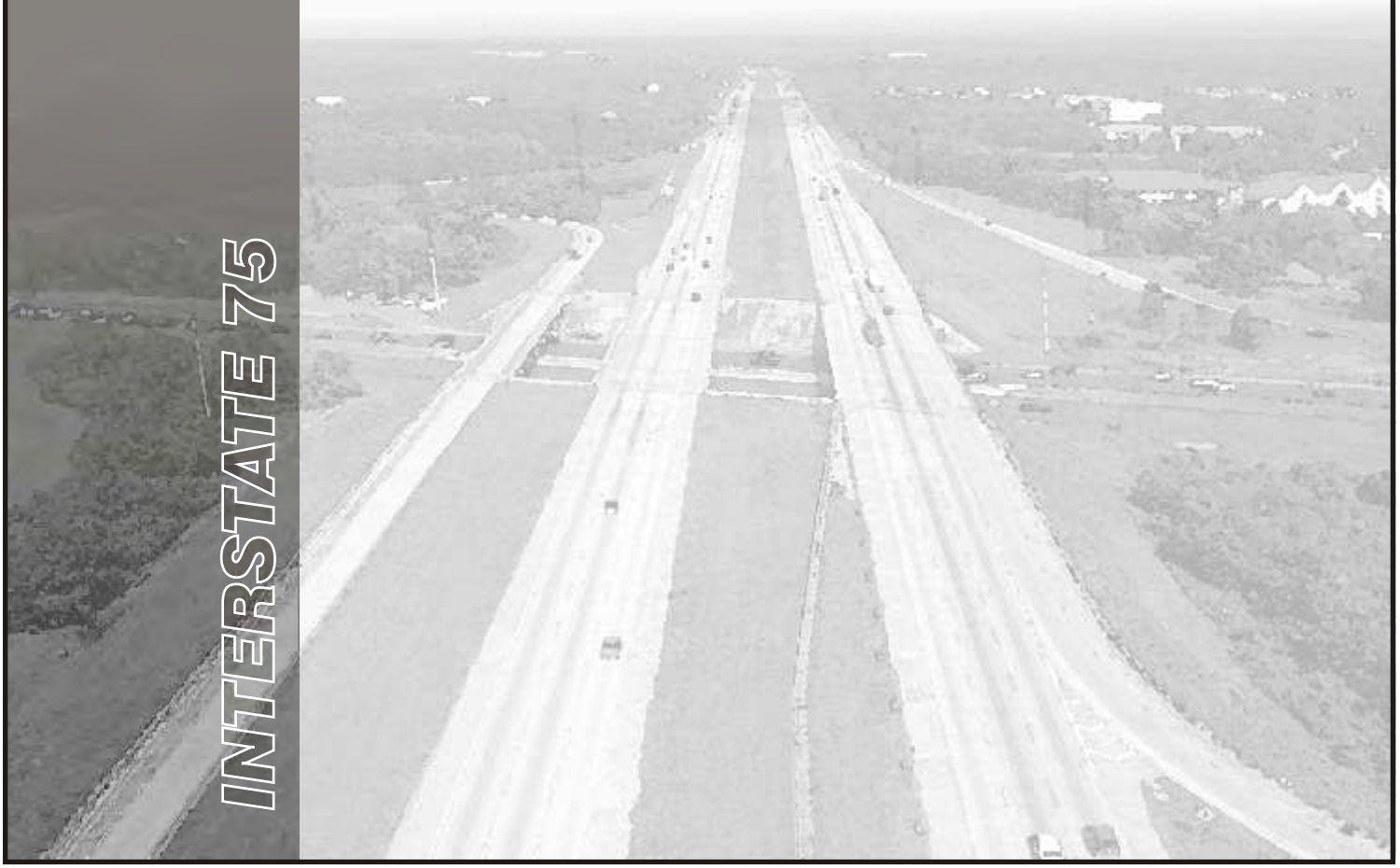
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Unsignalized Intersection Result Sheets

Future Year (2035)
Build Alternative 3 Conditions



TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 NB Ramp & Moccasin Rd*
Agency/Co.	*PB Americas*	Jurisdiction	*Manatee*
Date Performed	*3/18/09*	Analysis Year	*2035 Alternative 3*
Analysis Time Period	*AM Peak Hour*		

Project Description	*I-75 NB Ramps at Mocassin Wallow Road*
East/West Street: *Moccasin Wallow Road*	North/South Street: *I-75 NB Ramps*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*174*	*836*			*1442*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*193*	*928*	*0*	*0*	*1602*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*425*					
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*472*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*193*		*472*					
C (m) (veh/h)	*382*		*69*					
v/c	*0.51*		*6.84*					
95% queue length	*2.74*		*53.67*					
Control Delay (s/veh)	*23.7*		*2745*					
LOS	*C*		*F*					
Approach Delay	--	--	*2745*					

(s/veh)				
Approach LOS	--	--	*F*	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramp & Moccasin Rd*
Agency/Co.	*PB Americas*	Jurisdiction	*Manatee*
Date Performed	*3/18/09*	Analysis Year	*2035 Alternative 3*
Analysis Time Period	*AM Peak Hour*		

Project Description *I-75 SB Ramps at Mocassin Wallow Road*

East/West Street: *Moccasin Wallow Road* | North/South Street: *I-75 SB Ramps*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*866*		*122*	*1745*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*962*	*0*	*135*	*1938*	*0*
Percent Heavy Vehicles	*0*	--	--	*7*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*144*		
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*160*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*135*				*160*		
C (m) (veh/h)		*681*				*44*		
v/c		*0.20*				*3.64*		
95% queue length		*0.73*				*17.86*		
Control Delay (s/veh)		*11.6*				*1377*		
LOS		*B*				*F*		
Approach Delay	--	--				*1377*		

(s/veh)				
Approach LOS	--	--		*F*

 HCS+™ Version 5.2 Generated: 3/18/2009 12:38 PM

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 NB Ramp & SR 674*
Agency/Co.	*PB Americas*	Jurisdiction	*Hillsborough*
Date Performed	*3/18/09*	Analysis Year	*2035 Alternative 3*
Analysis Time Period	*AM Peak Hour*		

Project Description *I-75 NB Ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB Ramps*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2255*			*1025*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*2505*	*0*	*0*	*1138*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*2*	*0*
Configuration		*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*151*					
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*167*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*167*					
C (m) (veh/h)			*40*					
v/c			*4.18*					
95% queue length			*19.15*					
Control Delay (s/veh)			*1634*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*1634*					

Approach LOS	--	--	*F*	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramp & SR 674*
Agency/Co.	*PB Americas*	Jurisdiction	*Hillsborough*
Date Performed	*3/18/09*	Analysis Year	*2035 Alternative 3*
Analysis Time Period	*AM Peak Hour*		

Project Description *I-75 SB Ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB Ramps*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*2885*		*66*	*1110*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*3205*	*0*	*73*	*1233*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						
v (veh/h)		*73*						
C (m) (veh/h)		*92*						
v/c		*0.79*						
95% queue length		*4.18*						
Control Delay (s/veh)		*124.7*						
LOS		*F*						
Approach Delay (s/veh)	--	--						

Approach LOS	--	--		

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*EJB*	Intersection	*I-75 NB Ramp/Mocassin*
Agency/Co.	*PB*	Jurisdiction	*Hillsborough*
Date Performed	*3/18/09*	Analysis Year	*2035 alt 3*
Analysis Time Period	*PM Peak*		

Project Description *2035 Alternative 3 - PM*

East/West Street: *Moccasin Wallow* | North/South Street: *I-75*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)	*154*	*772*			*1560*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*171*	*857*	*0*	*0*	*1733*	*0*
Percent Heavy Vehicles	*7*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*1*	*2*	*0*	*0*	*2*	*0*
Configuration	*L*	*T*			*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*790*					
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*877*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*7*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration	*L*		*L*					
v (veh/h)	*171*		*877*					
C (m) (veh/h)	*339*		*76*					
v/c	*0.50*		*11.54*					
95% queue length	*2.71*		*103.31*					
Control Delay (s/veh)	*26.0*		*4846*					
LOS	*D*		*F*					
Approach Delay (s/veh)	--	--	*4846*					

Approach LOS	--	--	*F*	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramp/Mocassin Rd*
Agency/Co.	*PB Americas*	Jurisdiction	*Hillsborough*
Date Performed	*3/18/09*	Analysis Year	*2035 Alternative 3*
Analysis Time Period	*PM Peak*		

Project Description	*I-75 SB Ramps at Moccasin Wallow Road*
East/West Street: *Moccasin Wallow*	North/South Street: *I-75 SB Ramps*
Intersection Orientation: *East-West*	Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*764*		*421*	*1932*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*848*	*0*	*467*	*2146*	*0*
Percent Heavy Vehicles	*0*	--	--	*7*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)				*162*		
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*180*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*7*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*1*	*0*	*0*
Configuration				*L*		

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*				*L*		
v (veh/h)		*467*				*180*		
C (m) (veh/h)		*754*				*7*		
v/c		*0.62*				*25.71*		
95% queue length		*4.35*				*24.39*		
Control Delay (s/veh)		*17.2*				*12152*		
LOS		*C*				*F*		
Approach Delay	--	--				*12152*		

(s/veh)				
Approach LOS	--	--		*F*

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*EJB*	Intersection	*I-75 NB Ramp & SR 674*
Agency/Co.	*PB Americas*	Jurisdiction	*Hillsborough*
Date Performed	*3/18/09*	Analysis Year	*2035 Alternative 3*
Analysis Time Period	*PM Peak Hour*		

Project Description *I-75 NB Ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 NB Ramps*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1645*				
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*1827*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	--	--	*0*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*0*	*0*	*0*
Configuration		*T*				
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)	*134*					
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*148*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*3*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*1*	*0*	*0*	*0*	*0*	*0*
Configuration	*L*					

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration			*L*					
v (veh/h)			*148*					
C (m) (veh/h)			*124*					
v/c			*1.19*					
95% queue length			*9.10*					
Control Delay (s/veh)			*209.8*					
LOS			*F*					
Approach Delay (s/veh)	--	--	*209.8*					

Approach LOS	--	--	*F*	

TWO-WAY STOP CONTROL SUMMARY

General Information		Site Information	
Analyst	*CA*	Intersection	*I-75 SB Ramp & SR 674*
Agency/Co.	*PB Americas*	Jurisdiction	*Hillsborough*
Date Performed	*3/18/09*	Analysis Year	*2035 Alternative 3*
Analysis Time Period	*PM Peak Hour*		

Project Description *I-75 SB Ramps at SR 674 (Sun City Center Boulevard)*

East/West Street: *SR 674* | North/South Street: *I-75 SB Ramps*

Intersection Orientation: *East-West* | Study Period (hrs): *0.25*

Vehicle Volumes and Adjustments

Major Street	Eastbound			Westbound		
Movement	1	2	3	4	5	6
	L	T	R	L	T	R
Volume (veh/h)		*1865*		*220*	*2100*	
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*2072*	*0*	*244*	*2333*	*0*
Percent Heavy Vehicles	*0*	--	--	*3*	--	--
Median Type	*Raised curb*					
RT Channelized			*0*			*0*
Lanes	*0*	*2*	*0*	*1*	*2*	*0*
Configuration		*T*		*L*	*T*	
Upstream Signal		*0*			*0*	

Minor Street	Northbound			Southbound		
Movement	7	8	9	10	11	12
	L	T	R	L	T	R
Volume (veh/h)						
Peak-Hour Factor, PHF	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*	*0.90*
Hourly Flow Rate, HFR (veh/h)	*0*	*0*	*0*	*0*	*0*	*0*
Percent Heavy Vehicles	*0*	*0*	*0*	*0*	*0*	*0*
Percent Grade (%)		*0*			*0*	
Flared Approach		*N*			*N*	
Storage		*0*			*0*	
RT Channelized			*0*			*0*
Lanes	*0*	*0*	*0*	*0*	*0*	*0*
Configuration						

Delay, Queue Length, and Level of Service

Approach	Eastbound	Westbound	Northbound			Southbound		
Movement	1	4	7	8	9	10	11	12
Lane Configuration		*L*						
v (veh/h)		*244*						
C (m) (veh/h)		*261*						
v/c		*0.93*						
95% queue length		*8.56*						
Control Delay (s/veh)		*81.7*						
LOS		*F*						
Approach Delay (s/veh)	--	--						

Approach LOS	--	--		

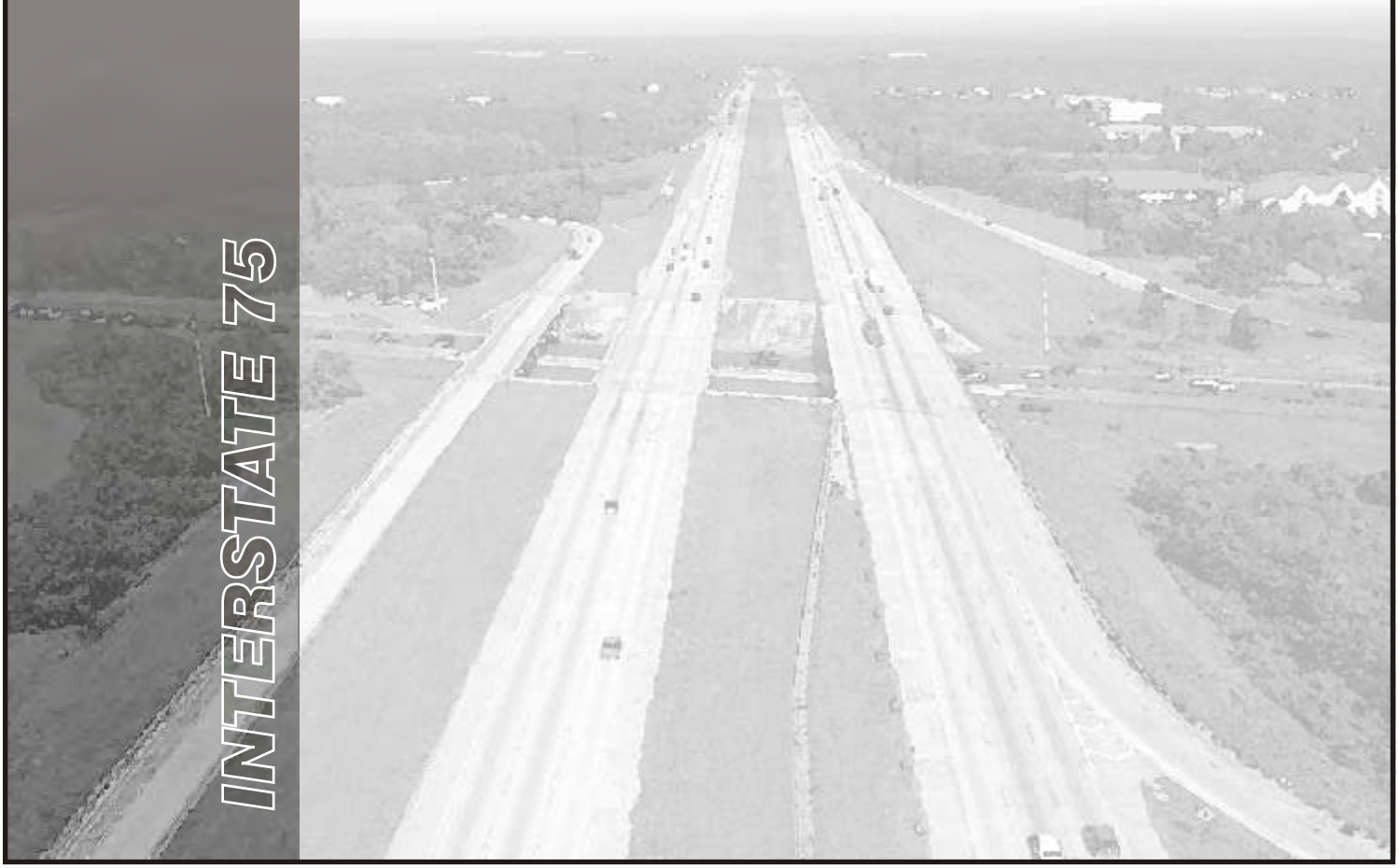
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Ramp Merge/ Diverge Result Sheets

Future Year (2035)
Build Alternative 3 Conditions



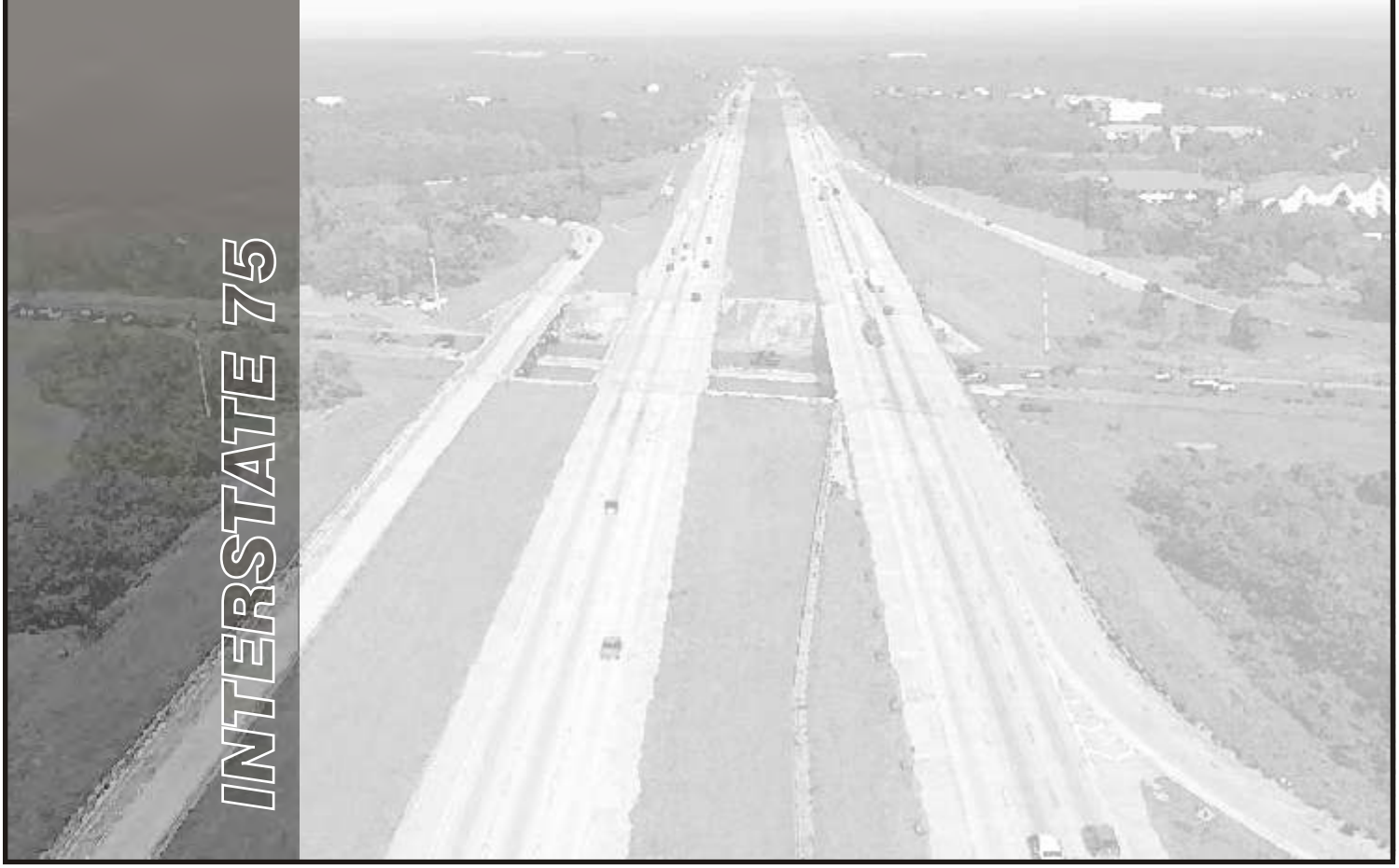
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS & Freeway Segment Result Sheets

Future Year (2035)
Build Alternative 3 Conditions



RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	I-75 @ Moccasin Wallow Rd
Date Performed	3/18/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 387 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4277	0.90	Level	8	0	0.962	1.00	4942
Ramp	1465	0.90	Level	2	0	0.990	1.00	1644
UpStream								
DownStream	387	0.90	Level	2	0	0.990	1.00	434

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)
P_{FM} = using Equation (Exhibit 25-5)
V_{12} = pc/h

Diverge Areas

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)
P_{FD} = 0.436 using Equation (Exhibit 25-11)
V_{12} = 3082 pc/h

Capacity Checks

Merge Areas

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Diverge Areas

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4942	9600	No
V_{12}	3082	4400:All	No
$V_{FO} = V_F - V_R$	3298	9600	No
V_R	1644	2100	No

Level of Service Determination (if not F)

Merge Areas

$$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$$

D_R = (pc/mi/ln)
LOS = (Exhibit 25-4)

Diverge Areas

$$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$$

D_R = 29.0 (pc/mi/ln)
LOS = D (Exhibit 25-4)

Speed Estimation

Merge Areas

M_S = (Exibit 25-19)
S_R= mph (Exhibit 25-19)
S_0= mph (Exhibit 25-19)
S = mph (Exhibit 25-14)

Diverge Areas

D_s = 0.446 (Exhibit 25-19)
S_R= 57.5 mph (Exhibit 25-19)
S_0= 76.8 mph (Exhibit 25-19)
S = 63.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	3/18/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB From Macassin Wallow WB - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 4000 ft

V_u = 1465 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2812	0.90	Level	10	0	0.952	1.00	3281
Ramp	387	0.90	Level	2	0	0.990	1.00	434
UpStream	1465	0.90	Level	2	0	0.990	1.00	1644
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 835.21 (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 1913 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3715	See Exhibit 25-7	No
V_{R12}	2576	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 24.1 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.354 (Exibit 25-19)

S_R= 60.1 mph (Exhibit 25-19)

S_0= 67.7 mph (Exhibit 25-19)

S = 62.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	3/18/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1299 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4621	0.90	Level	10	0	0.952	1.00	5391
Ramp	343	0.90	Level	4	0	0.980	1.00	389
UpStream								
DownStream	1299	0.90	Level	4	0	0.980	1.00	1472

Merge Areas | Diverge Areas

Estimation of v_{12} (Merge Areas)

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Estimation of v_{12} (Diverge Areas)

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.607 using Equation (Exhibit 25-11)

V_{12} = 3427 pc/h

Capacity Checks (Merge Areas)

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Capacity Checks (Diverge Areas)

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5391	7200	No
V_{12}	3427	4400:All	No
$V_{FO} = V_F - V_R$	5002	7200	No
V_R	389	2100	No

Level of Service Determination (if not F) (Merge Areas)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Level of Service Determination (if not F) (Diverge Areas)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 31.9 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation (Merge Areas)

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Speed Estimation (Diverge Areas)

D_s = 0.333 (Exhibit 25-19)

S_R= 60.7 mph (Exhibit 25-19)

S_0= 73.0 mph (Exhibit 25-19)

S = 64.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	3/18/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB From Macassin Wallow EB - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 4000 ft

V_u = 343 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4278	0.90	Level	8	0	0.962	1.00	4943
Ramp	1299	0.90	Level	4	0	0.980	1.00	1472
UpStream	343	0.90	Level	4	0	0.980	1.00	389
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1413.01 (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 2882 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6415	See Exhibit 25-7	No
V_{R12}	4699	4600:All	Yes

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$$

D_R = 40.2 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.731 (Exibit 25-19)

S_R= 49.5 mph (Exhibit 25-19)

S_0= 65.6 mph (Exhibit 25-19)

S = 53.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SUL On Ramp to I-75 Main
Date Performed	3/18/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge to I-75 SB north of Macassin

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 4000 ft

V_D = 343 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4075	0.90	Level	8	0	0.962	1.00	4709
Ramp	550	0.90	Level	4	0	0.980	1.00	623
UpStream								
DownStream	343	0.90	Level	4	0	0.980	1.00	389

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 2969.47 (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 2746 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5332	See Exhibit 25-7	No
V_{R12}	3698	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 32.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.460 (Exibit 25-19)

S_R= 57.1 mph (Exhibit 25-19)

S_0= 65.9 mph (Exhibit 25-19)

S = 59.5 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2400 ft
V_D = 1001 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3827	0.90	Level	10	0	0.952	1.00	4465
Ramp	753	0.90	Level	2	0	0.990	1.00	845
UpStream								
DownStream	1001	0.90	Level	1	0	0.995	1.00	1118

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2423 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4465	9600	No
V_{12}	2423	4400:All	No
$V_{FO} = V_F - V_R$	3620	9600	No
V_R	845	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 22.4 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.374 (Exhibit 25-19)

S_R= 59.5 mph (Exhibit 25-19)

S_0= 76.7 mph (Exhibit 25-19)

S = 66.3 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB From EB (Loop) SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2400 ft
V_u = 753 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3074	0.90	Level	9	0	0.957	1.00	3569
Ramp	1001	0.90	Level	1	0	0.995	1.00	1118
UpStream	753	0.90	Level	1	0	0.995	1.00	841
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 830.82 (Equation 25-2 or 25-3)

P_{FM} = 0.603 using Equation (Exhibit 25-5)

V_{12} = 2151 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4687	See Exhibit 25-7	No
V_{R12}	3269	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 24.8 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.361 (Exibit 25-19)

S_R= 56.7 mph (Exhibit 25-19)

S_0= 61.7 mph (Exhibit 25-19)

S = 58.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 NB From WB SR 674 - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{up} = 2200 ft

V_u = 1001 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4075	0.90	Level	10	0	0.952	1.00	4754
Ramp	1480	0.90	Level	1	0	0.995	1.00	1653
UpStream	1001	0.90	Level	1	0	0.995	1.00	1118
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.594 using Equation (Exhibit 25-5)

V_{12} = 2825 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6407	See Exhibit 25-7	No
V_{R12}	4478	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 35.9 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

M_S = 0.610 (Exibit 25-19)

S_R= 52.9 mph (Exhibit 25-19)

S_0= 64.9 mph (Exhibit 25-19)

S = 56.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 2200 ft

V_D = 370 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4747	0.90	Level	9	0	0.957	1.00	5512
Ramp	970	0.90	Level	2	0	0.990	1.00	1089
UpStream								
DownStream	370	0.90	Level	1	0	0.995	1.00	413

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 723.08 (Equation 25-8 or 25-9)

P_{FD} = 0.572 using Equation (Exhibit 25-11)

V_{12} = 3619 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5512	7200	No
V_{12}	3619	4400:All	No
$V_{FO} = V_F - V_R$	4423	7200	No
V_R	1089	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 25.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.396 (Exhibit 25-19)

S_R= 58.9 mph (Exhibit 25-19)

S_0= 73.3 mph (Exhibit 25-19)

S = 63.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB Exit (From Loop) to EB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2200 ft
V_u = 970 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3777	0.90	Level	10	0	0.952	1.00	4407
Ramp	370	0.90	Level	1	0	0.995	1.00	413
UpStream	970	0.90	Level	2	0	0.990	1.00	1089
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.631 using Equation (Exhibit 25-11)

V_{12} = 2933 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4407	7050	No
V_{12}	2933	4400:All	No
$V_{FO} = V_F - V_R$	3994	7050	No
V_R	413	2000	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 20.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.465 (Exhibit 25-19)

S_R= 54.3 mph (Exhibit 25-19)

S_0= 69.5 mph (Exhibit 25-19)

S = 58.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2400 ft

V_u = 370 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3407	0.90	Level	10	0	0.952	1.00	3975
Ramp	668	0.90	Level	1	0	0.995	1.00	746
UpStream	370	0.90	Level	1	0	0.995	1.00	413
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1272.49 (Equation 25-2 or 25-3)

P_{FM} = 0.597 using Equation (Exhibit 25-5)

V_{12} = 2373 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4721	See Exhibit 25-7	No
V_{R12}	3119	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$$

D_R = 25.1 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.346 (Exibit 25-19)

S_R= 60.3 mph (Exhibit 25-19)

S_0= 66.0 mph (Exhibit 25-19)

S = 62.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge South of SR 674 & I-75 NB Intchg

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 4000 ft

V_D = 387 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3199	0.90	Level	10	0	0.952	1.00	3732
Ramp	628	0.90	Level	1	0	0.995	1.00	701
UpStream								
DownStream	387	0.90	Level	1	0	0.995	1.00	432

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3297.71 (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 2176 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4433	See Exhibit 25-7	No
V_{R12}	3138	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 28.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.393 (Exibit 25-19)

S_R= 59.0 mph (Exhibit 25-19)

S_0= 67.1 mph (Exhibit 25-19)

S = 61.2 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 1964 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6131	0.90	Level	9	0	0.957	1.00	7119
Ramp	1130	0.90	Level	1	0	0.995	1.00	1262
UpStream								
DownStream	1964	0.90	Level	1	0	0.995	1.00	2193

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.524 using Equation (Exhibit 25-11)

V_{12} = 4331 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7119	7200	No
V_{12}	4331	4400:All	No
$V_{FO} = V_F - V_R$	5857	7200	No
V_R	1262	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 39.7 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.412 (Exhibit 25-19)

S_R= 58.5 mph (Exhibit 25-19)

S_0= 69.8 mph (Exhibit 25-19)

S = 62.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB	Junction	Big Bend Road
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB From (Loop) EB Big Bend Road - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2100 ft
V_u = 1130 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5001	0.90	Level	7	0	0.966	1.00	5751
Ramp	1964	0.90	Level	1	0	0.995	1.00	2193
UpStream	1130	0.90	Level	1	0	0.995	1.00	1262
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1723.18 (Equation 25-2 or 25-3)

P_{FM} = 0.615 using Equation (Exhibit 25-5)

V_{12} = 3537 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7944	See Exhibit 25-7	Yes
V_{R12}	5676	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 40.8 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.365 (Exibit 25-19)

S_R= 33.6 mph (Exhibit 25-19)

S_0= 58.8 mph (Exhibit 25-19)

S = 38.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Rd Diverge
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB Exit From (Loop) to Big Bend Road

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 1002 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6681	0.90	Level	7	0	0.966	1.00	7683
Ramp	2407	0.90	Level	1	0	0.995	1.00	2688
UpStream								
DownStream	1002	0.90	Level	2	0	0.990	1.00	1124

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.444 using Equation (Exhibit 25-11)

V_{12} = 4907 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7683	7050	Yes
V_{12}	4907	4400:All	Yes
$V_{FO} = V_F - V_R$	4995	7050	No
V_R	2688	2000	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 38.4 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.670 (Exhibit 25-19)

S_R= 49.6 mph (Exhibit 25-19)

S_0= 64.4 mph (Exhibit 25-19)

S = 54.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description Big Bend Road Merge Onto I-75 SB

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2100 ft

V_u = 2407 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4274	0.90	Level	9	0	0.957	1.00	4963
Ramp	1002	0.90	Level	2	0	0.990	1.00	1124
UpStream	2407	0.90	Level	1	0	0.995	1.00	2688
DownStream								

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1786.82 (Equation 25-2 or 25-3)

P_{FM} = 0.611 using Equation (Exhibit 25-5)

V_{12} = 3033 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6087	See Exhibit 25-7	No
V_{R12}	4157	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 29.9 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.462 (Exibit 25-19)

S_R= 57.1 mph (Exhibit 25-19)

S_0= 64.9 mph (Exhibit 25-19)

S = 59.3 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 SB south of Big Bend Road

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 4000 ft
V_u = 1002 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5276	0.90	Level	7	0	0.966	1.00	6067
Ramp	529	0.90	Level	1	0	0.995	1.00	591
UpStream	1002	0.90	Level	2	0	0.990	1.00	1124
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 6786.41 (Equation 25-8 or 25-9)

P_{FD} = 0.650 using Equation (Exhibit 25-11)

V_{12} = 4151 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6067	7200	No
V_{12}	4151	4400:All	No
$V_{FO} = V_F - V_R$	5476	7200	No
V_R	591	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 39.9 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.351 (Exhibit 25-19)

S_R= 60.2 mph (Exhibit 25-19)

S_0= 74.0 mph (Exhibit 25-19)

S = 63.5 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge of I-75 NB south of Big Bend Rd

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 4000 ft

V_D = 1130 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5555	0.90	Level	7	0	0.966	1.00	6388
Ramp	575	0.90	Level	1	0	0.995	1.00	642
UpStream								
DownStream	1130	0.90	Level	1	0	0.995	1.00	1262

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 9633.59 (Equation 25-2 or 25-3)

P_{FM} = 0.632 using Equation (Exhibit 25-5)

V_{12} = 4035 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7030	See Exhibit 25-7	No
V_{R12}	5161	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 44.2 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.983 (Exibit 25-19)

S_R= 42.5 mph (Exhibit 25-19)

S_0= 65.1 mph (Exhibit 25-19)

S = 46.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1763 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6965	0.90	Level	7	0	0.966	1.00	8010
Ramp	724	0.90	Level	1	0	0.995	1.00	808
UpStream								
DownStream	1763	0.90	Level	1	0	0.995	1.00	1969

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.523 using Equation (Exhibit 25-11)

V_{12} = 4572 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8010	7200	Yes
V_{12}	4572	4400:All	Yes
$V_{FO} = V_F - V_R$	7202	7200	Yes
V_R	808	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 41.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.371 (Exhibit 25-19)

S_R= 59.6 mph (Exhibit 25-19)

S_0= 68.2 mph (Exhibit 25-19)

S = 62.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB	Junction	North of Gibsonton off to SUL
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM	Analysis Year	2035 alternative 3

Project Description I-75 NB - North of Gibsonton off to SUL

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8005	0.90	Level	5	0	0.976	1.00	9117
Ramp	2285	0.90	Level	5	0	0.976	1.00	2602
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5443 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	9117	9600	No
V_{12}	5443	4400:All	Yes
$V_{FO} = V_F - V_R$	6515	9600	No
V_R	2602	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 51.2 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.532 (Exhibit 25-19)

S_R = 55.1 mph (Exhibit 25-19)

S_0 = 74.6 mph (Exhibit 25-19)

S = 60.5 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB	Junction	NofGibs Merge to SUL
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM	Analysis Year	2035 Alt 3

Project Description I-75 SB - NofGibs Merge to SUL

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6985	0.90	Level	5	0	0.976	1.00	7955
Ramp	870	0.90	Level	5	0	0.976	1.00	991
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.143 using Equation (Exhibit 25-5)

V_{12} = 1141 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8946	See Exhibit 25-7	No
V_{R12}	2268	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 22.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.341 (Exibit 25-19)

S_R= 60.5 mph (Exhibit 25-19)

S_0= 57.5 mph (Exhibit 25-19)

S = 58.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB	Junction	Gibsonton Diverge
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM	Analysis Year	2035 alt3

Project Description I-75 SB - Gibsonton Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7860	0.90	Level	5	0	0.976	1.00	8952
Ramp	2090	0.90	Level	5	0	0.976	1.00	2380
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5245 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8952	9600	No
V_{12}	5245	4400:All	Yes
$V_{FO} = V_F - V_R$	6572	9600	No
V_R	2380	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 49.4 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.512 (Exhibit 25-19)

S_R = 55.7 mph (Exhibit 25-19)

S_0 = 73.5 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB	Junction	Gibsonton Merge
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM	Analysis Year	2035 alt3

Project Description I-75 SB on-ramp from Gibsonton Drive

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5770	0.90	Level	5	0	0.976	1.00	6571
Ramp	915	0.90	Level	5	0	0.976	1.00	1042
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 using Equation (Exhibit 25-5)

V_{12} = 3843 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7613	See Exhibit 25-7	Yes
V_{R12}	4885	4600:All	Yes

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 41.5 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.814 (Exibit 25-19)

S_R= 47.2 mph (Exhibit 25-19)

S_0= 60.9 mph (Exhibit 25-19)

S = 51.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	I-75 @ Moccasin Wallow Rd
Date Performed	03/16/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 343 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3649	0.90	Level	8	0	0.962	1.00	4217
Ramp	1299	0.90	Level	2	0	0.990	1.00	1458
UpStream								
DownStream	343	0.90	Level	2	0	0.990	1.00	385

Merge Areas | Diverge Areas

Estimation of v_{12}

Merge Areas

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Diverge Areas

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2661 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	4217	9600	No
V_{12}	2661	4400:All	No
$V_{FO} = V_F - V_R$	2759	9600	No
V_R	1458	2100	No

Level of Service Determination (if not F)

Merge Areas

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Diverge Areas

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 25.3 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

D_s = 0.429 (Exhibit 25-19)

S_R= 58.0 mph (Exhibit 25-19)

S_0= 76.8 mph (Exhibit 25-19)

S = 63.7 mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/16/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB From Macassin Wallow WB - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 4000 ft

V_u = 1299 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2350	0.90	Level	10	0	0.952	1.00	2742
Ramp	343	0.90	Level	2	0	0.990	1.00	385
UpStream	1299	0.90	Level	2	0	0.990	1.00	1458
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.229 using Equation (Exhibit 25-5)

V_{12} = 628 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3127	See Exhibit 25-7	No
V_{R12}	1088	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 12.7 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

M_S = 0.311 (Exibit 25-19)

S_R= 61.3 mph (Exhibit 25-19)

S_0= 68.2 mph (Exhibit 25-19)

S = 65.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/16/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB Exit to Mocassin Wallow Rd - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 4000 ft
V_D = 1465 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5002	0.90	Level	10	0	0.952	1.00	5836
Ramp	387	0.90	Level	4	0	0.980	1.00	439
UpStream								
DownStream	1465	0.90	Level	4	0	0.980	1.00	1660

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.594 using Equation (Exhibit 25-11)

V_{12} = 3644 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5836	7200	No
V_{12}	3644	4400:All	No
$V_{FO} = V_F - V_R$	5397	7200	No
V_R	439	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 33.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.338 (Exhibit 25-19)

S_R = 60.5 mph (Exhibit 25-19)

S_0 = 72.1 mph (Exhibit 25-19)

S = 64.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Moccasin Wallow Road
Date Performed	03/16/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB From Macassin Wallow EB - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 4000 ft
V_u = 387 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4615	0.90	Level	8	0	0.962	1.00	5333
Ramp	1465	0.90	Level	4	0	0.980	1.00	1660
UpStream	387	0.90	Level	4	0	0.980	1.00	439
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1536.70 (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 3110 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	6993	See Exhibit 25-7	No
V_{R12}	5143	4600:All	Yes

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 43.6 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.971 (Exibit 25-19)

S_R= 42.8 mph (Exhibit 25-19)

S_0= 65.1 mph (Exhibit 25-19)

S = 47.1 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	HOV ONRAMP TO I-75 MAIN
Date Performed	03/16/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge to I-75 SB north of Macassin

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 4000 ft

V_D = 387 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4374	0.90	Level	8	0	0.962	1.00	5054
Ramp	628	0.90	Level	4	0	0.980	1.00	712
UpStream								
DownStream	387	0.90	Level	4	0	0.980	1.00	439

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 3351.15 (Equation 25-2 or 25-3)

P_{FM} = 0.583 using Equation (Exhibit 25-5)

V_{12} = 2947 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5766	See Exhibit 25-7	No
V_{R12}	4012	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 35.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.519 (Exibit 25-19)

S_R= 55.5 mph (Exhibit 25-19)

S_0= 65.5 mph (Exhibit 25-19)

S = 58.2 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB To SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2400 ft
V_D = 1379 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3250	0.90	Level	10	0	0.952	1.00	3792
Ramp	668	0.90	Level	2	0	0.990	1.00	750
UpStream								
DownStream	1379	0.90	Level	1	0	0.995	1.00	1540

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 2076 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3792	9600	No
V_{12}	2076	4400:All	No
$V_{FO} = V_F - V_R$	3042	9600	No
V_R	750	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 19.4 (pc/mi/ln)

LOS = B (Exhibit 25-4)

Speed Estimation

D_s = 0.366 (Exhibit 25-19)

S_R = 59.8 mph (Exhibit 25-19)

S_0 = 76.8 mph (Exhibit 25-19)

S = 66.4 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB	Junction	EB SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 NB From EB SR 674 (Loop Ramp) - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1900 ft

V_u = 668 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2582	0.90	Level	5	0	0.976	1.00	2941
Ramp	1379	0.90	Level	5	0	0.976	1.00	1571
UpStream	668	0.90	Level	5	0	0.976	1.00	761
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 926.57 (Equation 25-2 or 25-3)

P_{FM} = 0.611 using Equation (Exhibit 25-5)

V_{12} = 1797 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4512	See Exhibit 25-7	No
V_{R12}	3368	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$$

D_R = 23.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.350 (Exibit 25-19)

S_R= 56.9 mph (Exhibit 25-19)

S_0= 62.7 mph (Exhibit 25-19)

S = 58.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB	Junction	WB SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 NB From WB SR 674 (Slip Ramp) - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 1900 ft
V_u = 1379 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3960	0.90	Level	5	0	0.976	1.00	4510
Ramp	965	0.90	Level	5	0	0.976	1.00	1099
UpStream	1379	0.90	Level	5	0	0.976	1.00	1571
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1684.53 (Equation 25-2 or 25-3)

P_{FM} = 0.611 using Equation (Exhibit 25-5)

V_{12} = 2756 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5609	See Exhibit 25-7	No
V_{R12}	3855	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 27.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.397 (Exibit 25-19)

S_R= 58.9 mph (Exhibit 25-19)

S_0= 65.5 mph (Exhibit 25-19)

S = 60.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB To WB SR 674 - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{down} = 2200 ft
V_D = 1161 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5875	0.90	Level	9	0	0.957	1.00	6822
Ramp	1093	0.90	Level	2	0	0.990	1.00	1227
UpStream								
DownStream	1161	0.90	Level	1	0	0.995	1.00	1296

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 2710.26 (Equation 25-8 or 25-9)

P_{FD} = 0.546 using Equation (Exhibit 25-11)

V_{12} = 4283 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6822	7200	No
V_{12}	4283	4400:All	No
$V_{FO} = V_F - V_R$	5595	7200	No
V_R	1227	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 31.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.408 (Exhibit 25-19)

S_R= 58.6 mph (Exhibit 25-19)

S_0= 70.8 mph (Exhibit 25-19)

S = 62.6 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 SB Exit (From Loop) to EB SR 674 - Diverge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 2200 ft

V_u = 1093 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4782	0.90	Level	10	0	0.952	1.00	5579
Ramp	1161	0.90	Level	1	0	0.995	1.00	1296
UpStream	1093	0.90	Level	2	0	0.990	1.00	1227
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.561 using Equation (Exhibit 25-11)

V_{12} = 3698 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	5579	7050	No
V_{12}	3698	4400:All	No
$V_{FO} = V_F - V_R$	4283	7050	No
V_R	1296	2000	No

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = 27.5 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.545 (Exhibit 25-19)

S_R= 52.5 mph (Exhibit 25-19)

S_0= 67.9 mph (Exhibit 25-19)

S = 56.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 SB From EB SR 674 - Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2400 ft
V_u = 1161 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3621	0.90	Level	10	0	0.952	1.00	4225
Ramp	753	0.90	Level	1	0	0.995	1.00	841
UpStream	1161	0.90	Level	1	0	0.995	1.00	1296
DownStream								

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 1346.32 (Equation 25-2 or 25-3)

P_{FM} = 0.597 using Equation (Exhibit 25-5)

V_{12} = 2523 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5066	See Exhibit 25-7	No
V_{R12}	3364	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$$

D_R = 26.9 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

M_S = 0.371 (Exibit 25-19)

S_R= 59.6 mph (Exhibit 25-19)

S_0= 65.7 mph (Exhibit 25-19)

S = 61.5 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge South of SR 674 & I-75 NB Intchg

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 4000 ft

V_D = 668 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2693	0.90	Level	10	0	0.952	1.00	3142
Ramp	557	0.90	Level	1	0	0.995	1.00	622
UpStream								
DownStream	668	0.90	Level	1	0	0.995	1.00	746

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 5694.66 (Equation 25-2 or 25-3)

P_{FM} = 0.598 using Equation (Exhibit 25-5)

V_{12} = 1878 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3764	See Exhibit 25-7	No
V_{R12}	2725	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 25.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.363 (Exibit 25-19)

S_R= 59.8 mph (Exhibit 25-19)

S_0= 68.1 mph (Exhibit 25-19)

S = 61.9 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 NB Exit to EB Big Bend Road - Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 2100 ft
V_D = 2650 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5190	0.90	Level	9	0	0.957	1.00	6026
Ramp	1000	0.90	Level	1	0	0.995	1.00	1117
UpStream								
DownStream	2650	0.90	Level	1	0	0.995	1.00	2959

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.558 using Equation (Exhibit 25-11)

V_{12} = 3856 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	6026	7200	No
V_{12}	3856	4400:All	No
$V_{FO} = V_F - V_R$	4909	7200	No
V_R	1117	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 35.6 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

D_s = 0.399 (Exhibit 25-19)

S_R = 58.8 mph (Exhibit 25-19)

S_0 = 72.2 mph (Exhibit 25-19)

S = 63.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB	Junction	NB Big Bend EB - Merge
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 NB From EB Big Bend (Loop Ramp) - Merge

Inputs

Upstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{up} = 1900 ft

V_u = 1000 veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4190	0.90	Level	5	0	0.976	1.00	4772
Ramp	2650	0.90	Level	5	0	0.976	1.00	3018
UpStream	1000	0.90	Level	5	0	0.976	1.00	1139
DownStream								

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1628.06 (Equation 25-2 or 25-3)

P_{FM} = 0.611 using Equation (Exhibit 25-5)

V_{12} = 2916 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7790	See Exhibit 25-7	Yes
V_{R12}	5934	4600:All	Yes

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 42.8 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 1.710 (Exibit 25-19)

S_R= 25.7 mph (Exhibit 25-19)

S_0= 60.1 mph (Exhibit 25-19)

S = 29.7 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB	Junction	Big Bend Rd Diverge
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2035 alt3

Project Description I-75 SB Exit to Big Bend Road - Loop Ramp

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 65.0 mph S_{FR} = 35.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☑ On

☐ No ☐ Off

L_{down} = 2500 ft

V_D = 1430 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7455	0.90	Level	7	0	0.966	1.00	8573
Ramp	2435	0.90	Level	1	0	0.995	1.00	2719
UpStream								
DownStream	1430	0.90	Level	2	0	0.990	1.00	1605

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.421 using Equation (Exhibit 25-11)

V_{12} = 5181 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	8573	7050	Yes
V_{12}	5181	4400:All	Yes
$V_{FO} = V_F - V_R$	5854	7050	No
V_R	2719	2000	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 40.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.673 (Exhibit 25-19)

S_R= 49.5 mph (Exhibit 25-19)

S_0= 62.0 mph (Exhibit 25-19)

S = 53.8 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB	Junction	Big Bend Rd Merge
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Alternative 3

Project Description I-75 SB Big Bend Rd Merge

Inputs

Upstream Adj Ramp
☑ Yes ☐ On
☐ No ☑ Off
L_{up} = 2500 ft
V_u = 2435 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D, V_R, V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	5020	0.90	Level	5	0	0.976	1.00	5717
Ramp	1430	0.90	Level	5	0	0.976	1.00	1629
UpStream	2435	0.90	Level	5	0	0.976	1.00	2773
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = 1656.64 (Equation 25-2 or 25-3)

P_{FM} = 0.586 using Equation (Exhibit 25-5)

V_{12} = 3350 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	7346	See Exhibit 25-7	Yes
V_{R12}	4979	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 41.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.861 (Exibit 25-19)

S_R = 45.9 mph (Exhibit 25-19)

S_0 = 63.1 mph (Exhibit 25-19)

S = 50.3 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 SB south of Big Bend Road

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 4000 ft
V_u = 1430 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6450	0.90	Level	7	0	0.966	1.00	7417
Ramp	575	0.90	Level	1	0	0.995	1.00	642
UpStream	1430	0.90	Level	2	0	0.990	1.00	1605
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = 8324.73 (Equation 25-8 or 25-9)

P_{FD} = 0.670 using Equation (Exhibit 25-11)

V_{12} = 5182 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7417	7200	Yes
V_{12}	5182	4400:All	Yes
$V_{FO} = V_F - V_R$	6775	7200	No
V_R	642	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 47.0 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.356 (Exhibit 25-19)

S_R= 60.0 mph (Exhibit 25-19)

S_0= 72.0 mph (Exhibit 25-19)

S = 63.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge of I-75 NB south of Big Bend Rd

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☑ Yes ☐ On

☐ No ☑ Off

L_{down} = 4000 ft

V_D = 1002 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	4926	0.90	Level	7	0	0.966	1.00	5665
Ramp	262	0.90	Level	1	0	0.995	1.00	293
UpStream								
DownStream	1002	0.90	Level	1	0	0.995	1.00	1119

Merge Areas

Estimation of v_{12}

$$V_{12} = V_F (P_{FM})$$

L_{EQ} = 8541.98 (Equation 25-2 or 25-3)

P_{FM} = 0.622 using Equation (Exhibit 25-5)

V_{12} = 3525 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	5958	See Exhibit 25-7	No
V_{R12}	4241	4600:All	No

Level of Service Determination (if not F)

$$D_R = 5.475 + 0.00734\, v_R + 0.0078\, V_{12} - 0.00627\, L_A$$

D_R = 37.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

M_S = 0.574 (Exibit 25-19)

S_R= 53.9 mph (Exhibit 25-19)

S_0= 65.6 mph (Exhibit 25-19)

S = 56.8 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$$V_{12} = V_R + (V_F - V_R)P_{FD}$$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$$D_R = 4.252 + 0.0086\, V_{12} - 0.0009\, L_D$$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB Diverge to Gibsonton
Agency or Company	PB Americas	Junction	Gibsonton Drive
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description I-75 NB Exit to Gibsonton Drive

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{down} = 3300 ft
V_D = 1988 veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6841	0.90	Level	7	0	0.966	1.00	7867
Ramp	816	0.90	Level	1	0	0.995	1.00	911
UpStream								
DownStream	1988	0.90	Level	1	0	0.995	1.00	2220

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.521 using Equation (Exhibit 25-11)

V_{12} = 4538 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	7867	7200	Yes
V_{12}	4538	4400:All	Yes
$V_{FO} = V_F - V_R$	6956	7200	No
V_R	911	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 40.8 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.380 (Exhibit 25-19)

S_R = 59.4 mph (Exhibit 25-19)

S_0 = 68.6 mph (Exhibit 25-19)

S = 62.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB	Junction	North of Gibsonton off to SUL
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2035 alt3

Project Description I-75 NB - North of Gibsonton off to SUL

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8015	0.90	Level	5	0	0.976	1.00	9128
Ramp	1930	0.90	Level	5	0	0.976	1.00	2198
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5219 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	9128	9600	No
V_{12}	5219	4400:All	Yes
$V_{FO} = V_F - V_R$	6930	9600	No
V_R	2198	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 49.1 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.496 (Exhibit 25-19)

S_R = 56.1 mph (Exhibit 25-19)

S_0 = 74.1 mph (Exhibit 25-19)

S = 61.7 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SUL SB
Agency or Company	PB	Junction	N of Gibsonton Merge to I-75
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2035 alt3

Project Description I-75 SUL SB - N of Gibsonton Merge to I-75

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	7300	0.90	Level	5	0	0.976	1.00	8314
Ramp	1195	0.90	Level	5	0	0.976	1.00	1361
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.097 using Equation (Exhibit 25-5)

V_{12} = 808 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	9675	See Exhibit 25-7	Yes
V_{R12}	2265	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 21.8 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 0.341 (Exibit 25-19)

S_R= 60.5 mph (Exhibit 25-19)

S_0= 55.2 mph (Exhibit 25-19)

S = 56.4 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SB
Agency or Company	PB	Junction	Gibsonton Diverge
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2035 alt3

Project Description I-75 SB - Gibsonton Diverge

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	8495	0.90	Level	5	0	0.976	1.00	9675
Ramp	1965	0.90	Level	5	0	0.976	1.00	2238
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 0.436 using Equation (Exhibit 25-11)

V_{12} = 5481 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	9675	9600	Yes
V_{12}	5481	4400:All	Yes
$V_{FO} = V_F - V_R$	7437	9600	No
V_R	2238	2100	Yes

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 51.4 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

D_s = 0.499 (Exhibit 25-19)

S_R = 56.0 mph (Exhibit 25-19)

S_0 = 72.5 mph (Exhibit 25-19)

S = 62.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	EJB	Freeway/Dir of Travel	I-75 SB Merge from Gibsonton
Agency or Company	PB	Junction	Gibsonton Dr
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2035 Alternative 3

Project Description Gibsonton Drive EB Merge Onto I-75 SB

Inputs

Upstream Adj Ramp
☑ Yes ☑ On
☐ No ☐ Off
L_{up} = 1700 ft
V_u = 1965 veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	6530	0.90	Level	7	0	0.966	1.00	7509
Ramp	925	0.90	Level	2	0	0.990	1.00	1038
UpStream	1965	0.90	Level	0	0	1.000	1.00	2183
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 0.585 using Equation (Exhibit 25-5)

V_{12} = 4391 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	8547	See Exhibit 25-7	Yes
V_{R12}	5429	4600:All	Yes

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 45.7 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Speed Estimation

M_S = 1.186 (Exibit 25-19)

S_R= 36.8 mph (Exhibit 25-19)

S_0= 58.6 mph (Exhibit 25-19)

S = 42.6 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

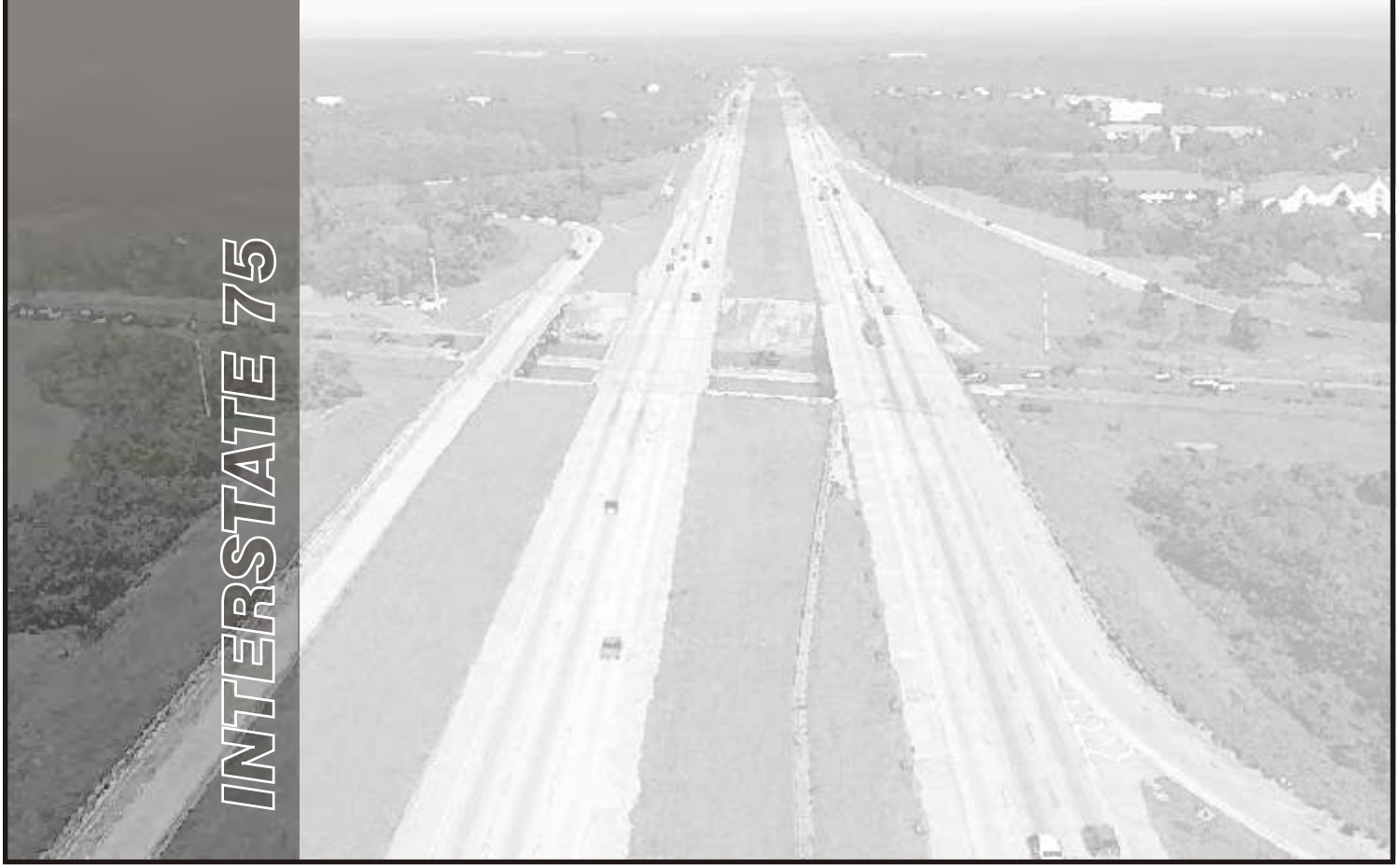
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

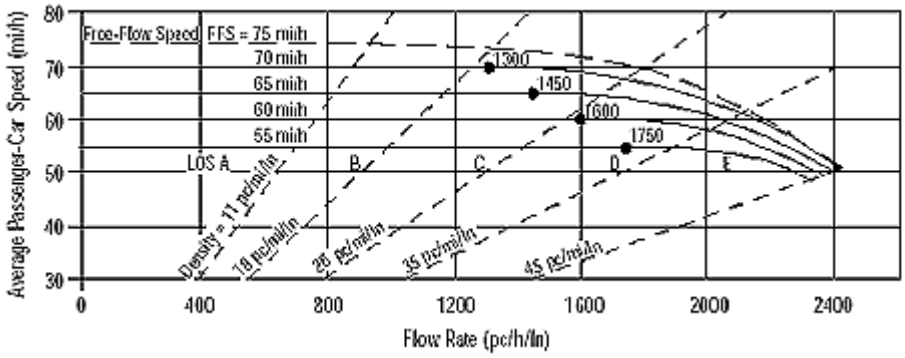
WPI Segment Number - 419235-1

Northbound I-75 Segments

Future Year (2035)
Build Alternative 3 Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Xu Wang*
Agency or Company	*PB*
Date Performed	*03/16/09*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-75 NB*
From/To	*M.W off-ramp to on-ramp*
Jurisdiction	*Manatee*
Analysis Year	*2035*

Project Description I-75 Mocassin Wallow off-ramp to on-ramp

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2810*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*0.0*	mi/h
FFS	*67.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1093*	pc/h/ln
S	*67.5*	mi/h
D = v_p / S	*16.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

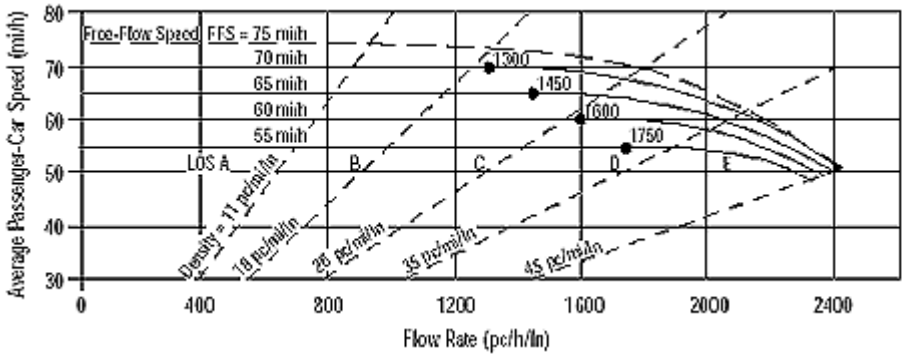
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Xu Wang*
Agency or Company	*PB*
Date Performed	*03/16/09*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-75 NB*
From/To	*M.W on-ramp to SUL on-ramp*
Jurisdiction	*Manatee*
Analysis Year	*2035*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3835*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*0.0*	mi/h
FFS	*67.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1491*	pc/h/ln
S	*67.4*	mi/h
D = v_p / S	*22.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

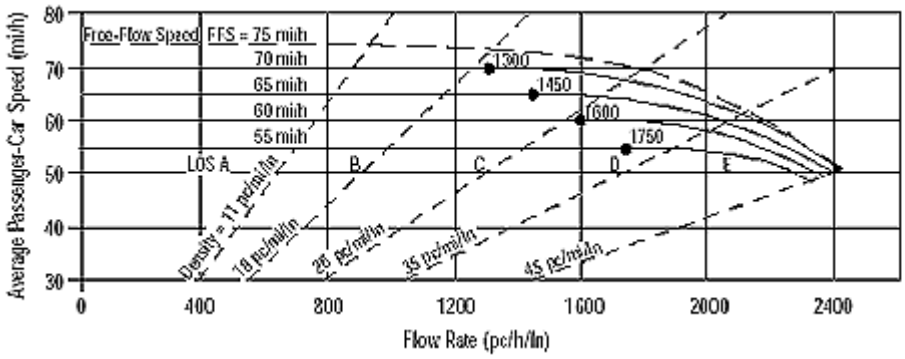
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*EJB*	Highway/Direction of Travel	*I-75 NB*
Agency or Company	*PB*	From/To	*SUL on-ramp to SR674 off-ramp*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Alternative 3*

Project Description I-75 NB - SUL on-ramp to SR674 off-ramp

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3830*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*0.0*	mi/h
FFS	*70.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1489*	pc/h/ln
S	*69.8*	mi/h
D = v_p / S	*21.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

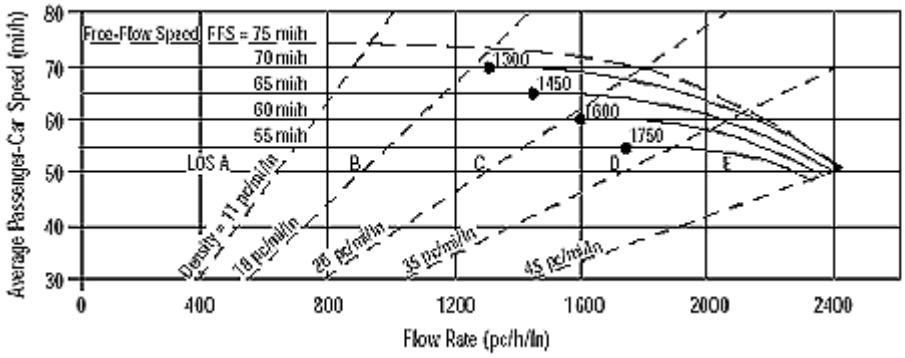
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Xu Wang*
Agency or Company	*PB*
Date Performed	*03/16/09*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-75 NB*
From/To	*SR674 off-ramp to EB on-ramp*
Jurisdiction	*Hillsborough*
Analysis Year	*2035*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3080*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*19*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.913*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*0.0*	mi/h
FFS	*67.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1249*	pc/h/ln
S	*67.5*	mi/h
D = v_p / S	*18.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

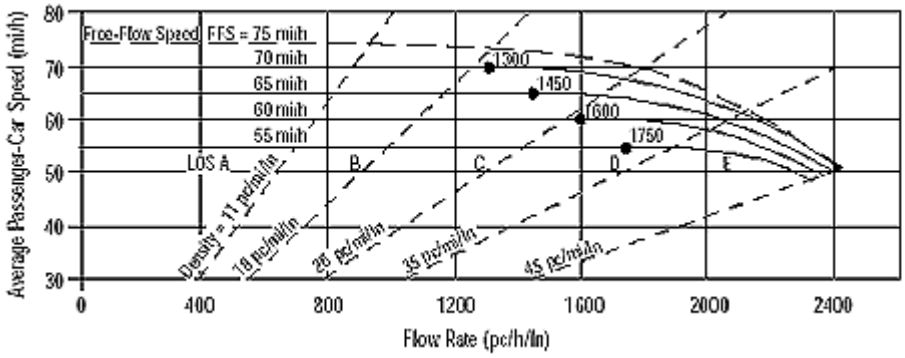
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Xu Wang*
Agency or Company	*PB*
Date Performed	*03/16/09*
Analysis Time Period	*AM*

Site Information

Highway/Direction of Travel	*I-75 NB*
From/To	*SR674 EB on to WB on*
Jurisdiction	*Hillsborough*
Analysis Year	*2035*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4080*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*17*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.922*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*7.5*	mi/h
f_N	*0.0*	mi/h
FFS	*62.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1640*	pc/h/ln
S	*62.4*	mi/h
D = v_p / S	*26.3*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

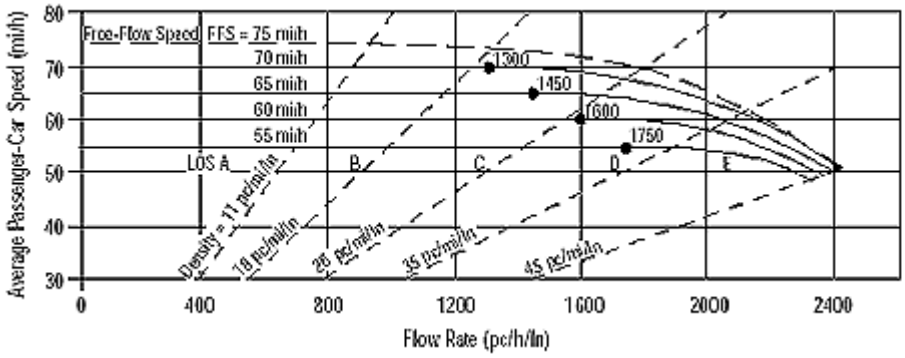
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SR 674 on WB/ On-ramp SUL*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3`*

Project Description I-75 NB From SR 674 On-Ramp WB to On-Ramp from SUL

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5555*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2150*	pc/h/ln
S	*59.6*	mi/h
D = v_p / S	*36.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

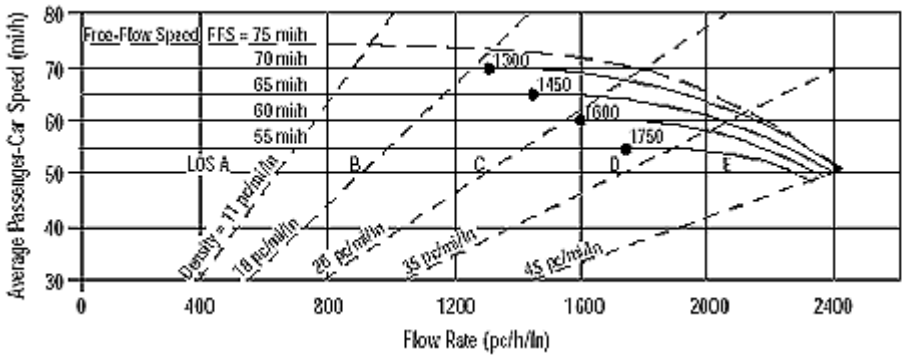
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SUL ONRAMP/ Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 NB From SUL ONRAMP to Big Bend Road Off-Ramp

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6130*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.15*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2373*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

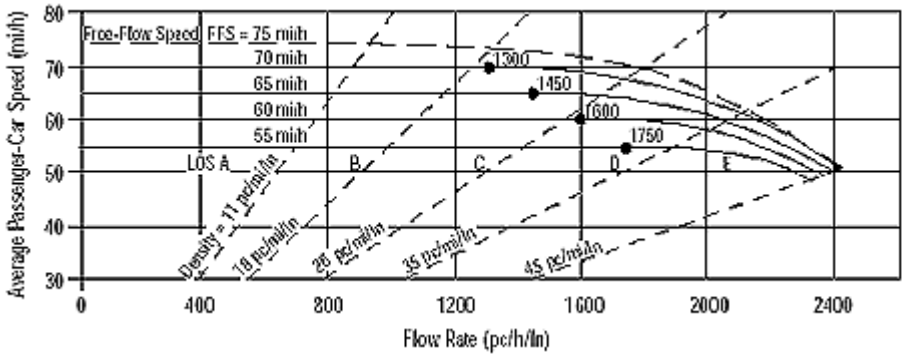
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Big Bend Road / Gibsonton Dr.*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description I-75 NB From Big Bend Road On-Ramp To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs				
Volume, V	*6965*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments			
f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

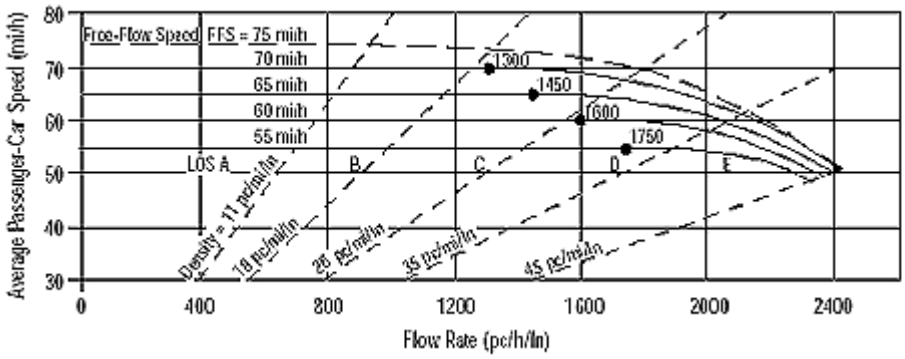
Speed Inputs			**Calc Speed Adj and FFS**		
Lane Width	*12.0*	ft	f_{LW}	*0.0*	mi/h
Rt-Shoulder Lat. Clearance	*6.0*	ft	f_{LC}	*0.0*	mi/h
Interchange Density	*0.25*	I/mi	f_{ID}	*0.0*	mi/h
Number of Lanes, N	*3*		f_N	*3.0*	mi/h
FFS (measured)		mi/h	FFS	*67.0*	mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h			

LOS and Performance Measures			**Design (N)**		
Operational (LOS)			Design (N)		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2670*	pc/h/ln	Design LOS		
S		mi/h	v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
D = v_p / S		pc/mi/ln	S		mi/h
LOS	*F*		D = v_p / S		pc/mi/ln
			Required Number of Lanes, N		

Glossary		**Factor Location**	
N - Number of lanes	S - Speed	E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
V - Hourly volume	D - Density	E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
v_p - Flow rate	FFS - Free-flow speed	f_p - Page 23-12	f_N - Exhibit 23-6
LOS - Level of service	BFFS - Base free-flow speed		

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Gibsonton Dr.On / SUL OFFRAMP*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description I-75 NB From Gibsonton Drive On-Ramp To SUL OFFRAMP

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8004*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2301*	pc/h/ln
S	*56.0*	mi/h
D = v_p / S	*41.1*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

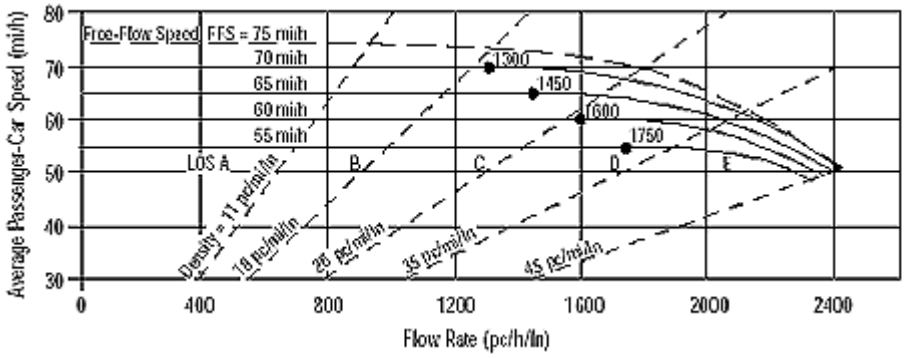
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*Xu Wang*	Highway/Direction of Travel	*I-75 NB*
Agency or Company	*PB*	From/To	*M.W off-ramp to on-ramp*
Date Performed	*03/16/09*	Jurisdiction	*Manatee*
Analysis Time Period	*PM*	Analysis Year	*2035*

Project Description Alternative 3

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2350*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*15*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.930*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*0.0*	mi/h
FFS	*67.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*936*	pc/h/ln
S	*67.5*	mi/h
D = v_p / S	*13.9*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

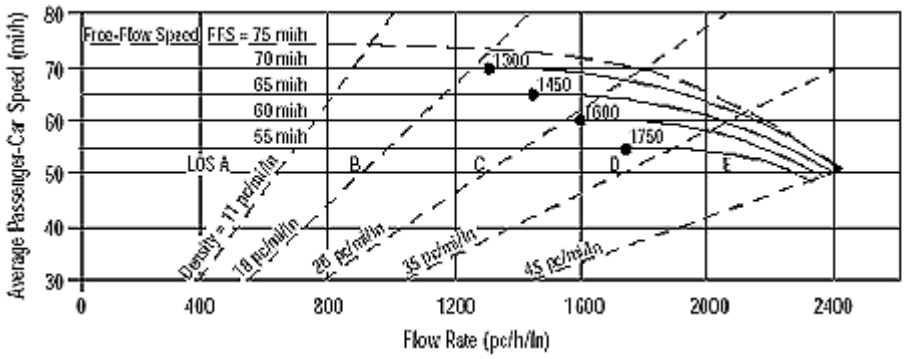
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*Xu Wang*
Agency or Company	*PB*
Date Performed	*03/16/09*
Analysis Time Period	*PM*

Site Information

Highway/Direction of Travel	*I-75 NB*
From/To	*M.W on-ramp to SUL on-ramp*
Jurisdiction	*Manatee*
Analysis Year	*2035*

Project Description

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2695*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*19*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.913*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*2.5*	mi/h
f_N	*0.0*	mi/h
FFS	*67.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1093*	pc/h/ln
S	*67.5*	mi/h
D = v_p / S	*16.2*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

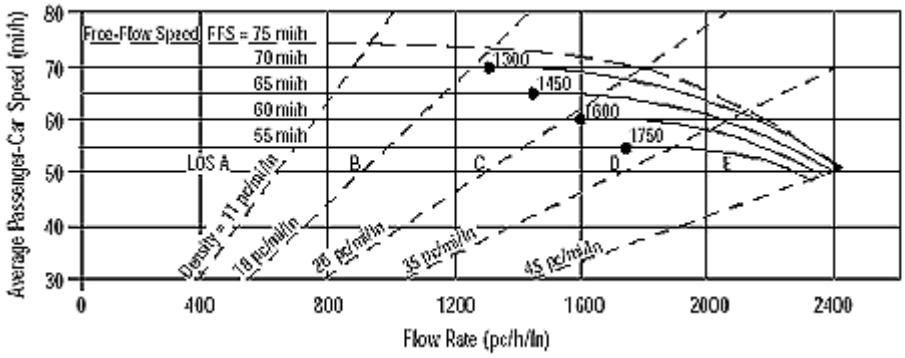
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*On-Ramp SUL / SR674 Off*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 NB On-Ramp SUL / SR674 Off

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3250*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1264*	pc/h/ln
S	*67.0*	mi/h
D = v_p / S	*18.9*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

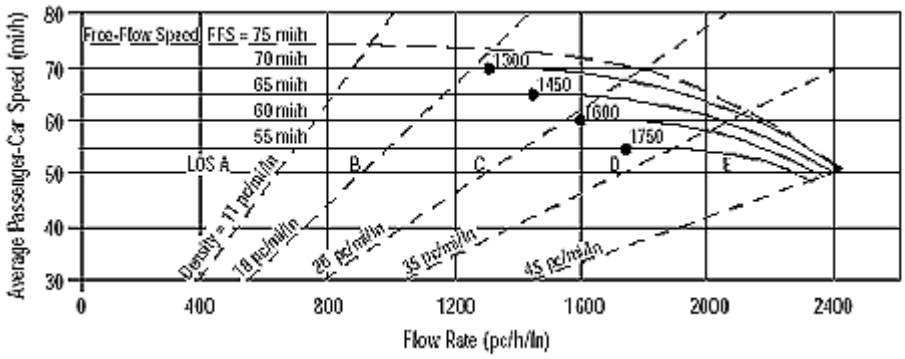
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 NorthBound*
From/To	*SR 674 On WB/ On-ramp SUL*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 NB From SR 674 On-Ramp WB to On-Ramp SUL

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4926*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1907*	pc/h/ln
S	*64.3*	mi/h
D = v_p / S	*29.7*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

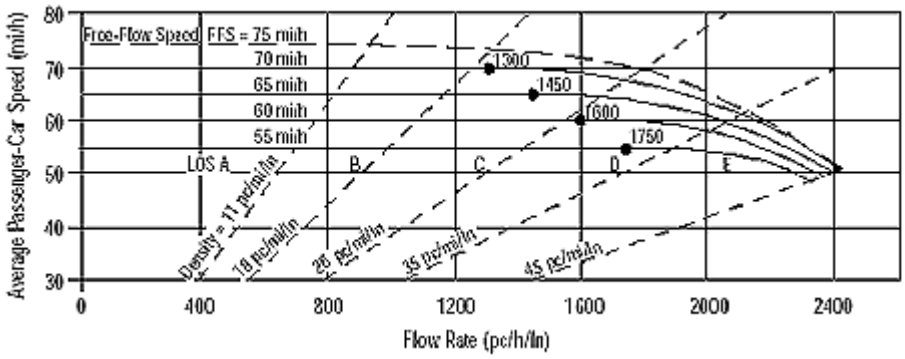
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SUL ONRAMP / Big Bend Road Off*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 NB From SUL ONRAMP to Big Bend Road

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5190*	veh/h	Peak-Hour Factor, PHF	*0.90*	
AADT		veh/day	%Trucks and Buses, P_T	*9*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*	
Driver type adjustment	*1.00*		Up/Down %		

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2009*	pc/h/ln
S	*62.7*	mi/h
D = v_p / S	*32.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

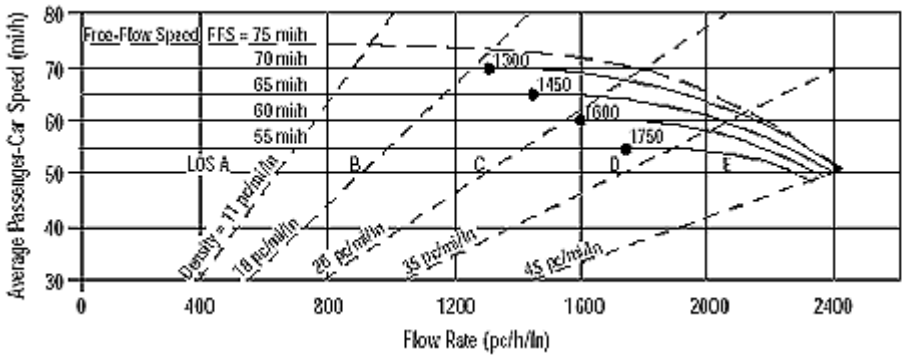
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*Big Bend EB on to Gib off*
Jurisdiction	*Hillsborough*
Analysis Year	*2035*

Project Description I-75 NB From Big Bend Road On-Ramp To Gibsonton Drive

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6840*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.25*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2622*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

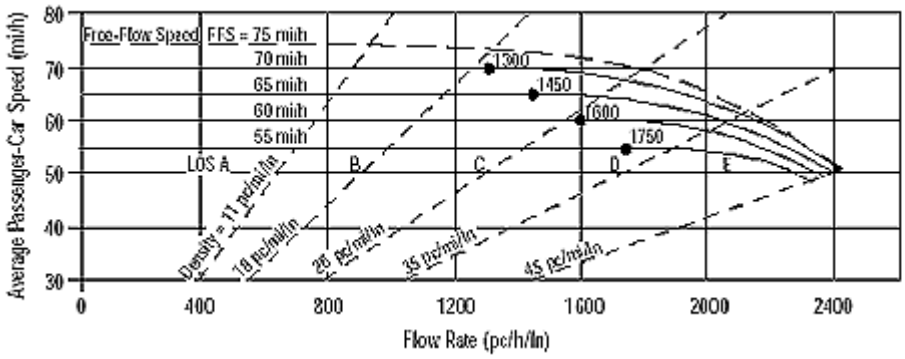
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 Northbound*
Agency or Company	*PB Americas*	From/To	*Gibsonton Dr. On / SUL OFFRAMP*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM Peak*	Analysis Year	*2035*

Project Description I-75 NB From Gibsonton Drive On-Ramp To SUL OFFRAMP

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8015*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2304*	pc/h/ln
S	*55.9*	mi/h
D = v_p / S	*41.2*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

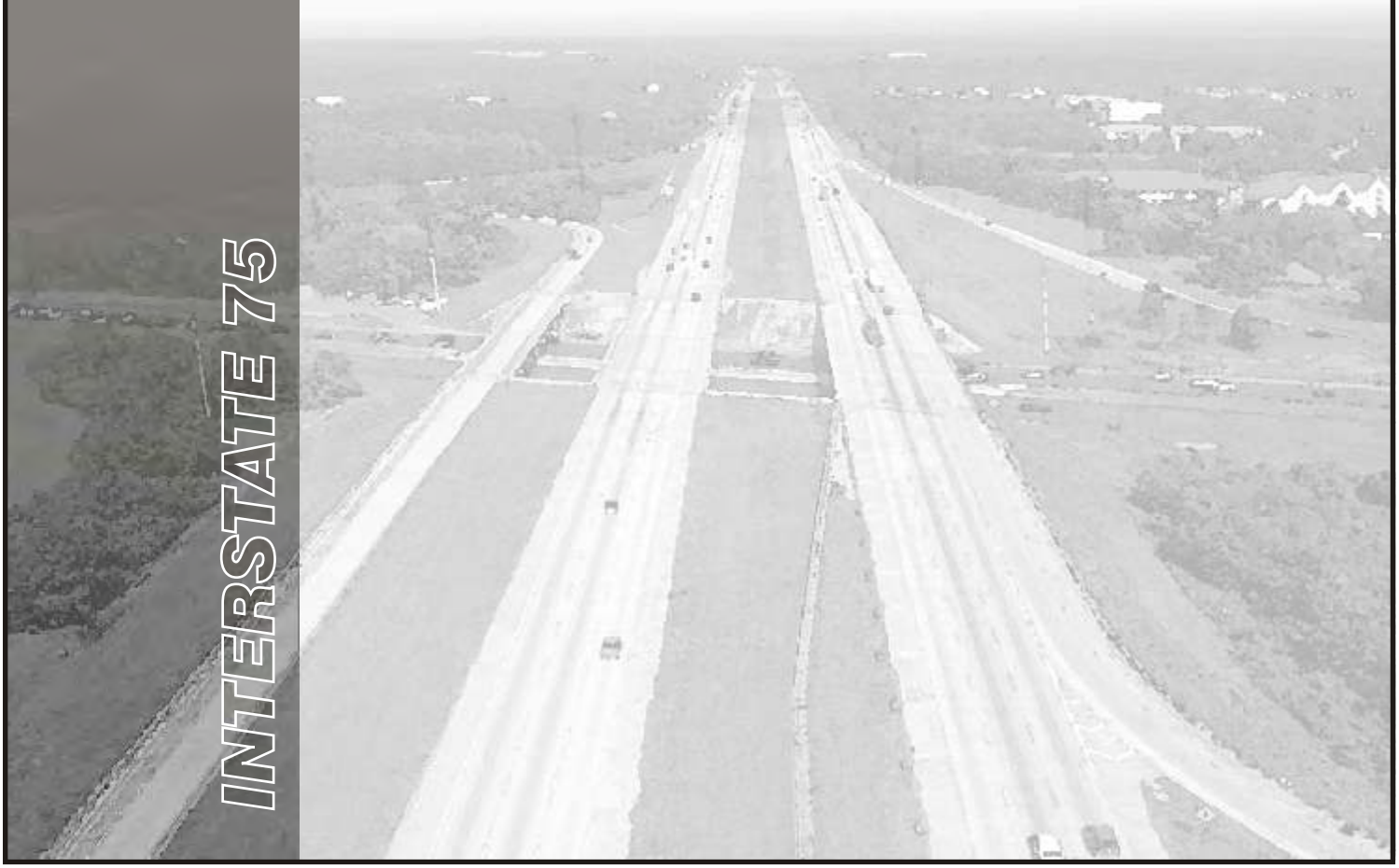
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

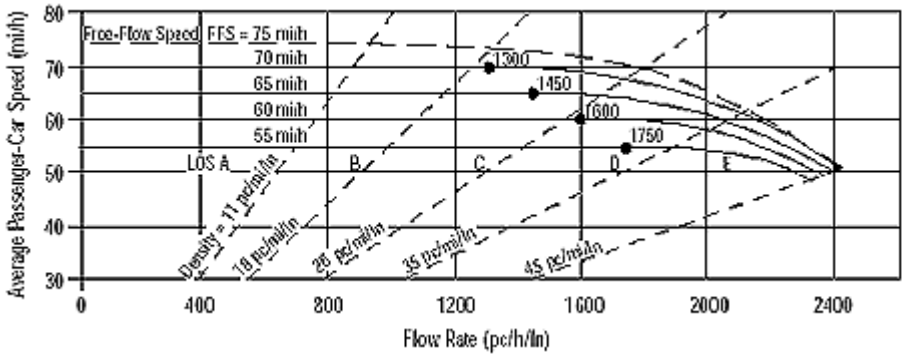
WPI Segment Number - 419235-1

Southbound I-75 Segments

Future Year (2035)
Build Alternative 3 Conditions



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*EJB*
Agency or Company	*PB*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 SB*
From/To	*SUL on-ramp to Gibsonton*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Alternative 3*

Project Description I-75 SB SUL on-ramp to Gibsonton

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7855*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*7.5*	mi/h
f_N	*0.0*	mi/h
FFS	*62.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2258*	pc/h/ln
S	*53.9*	mi/h
D = v_p / S	*41.9*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

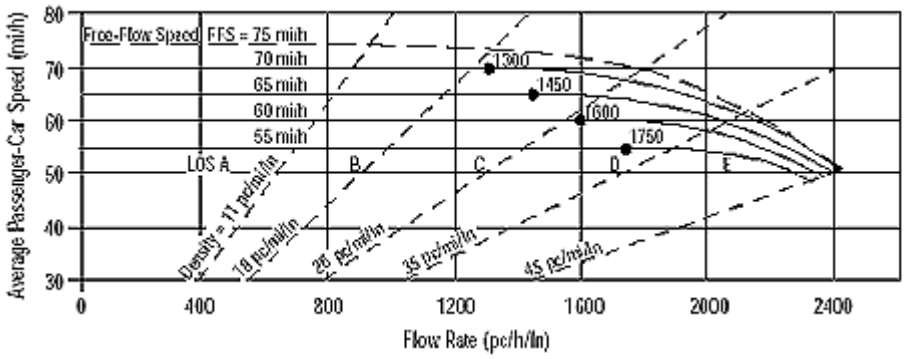
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Gibsonton Dr.On/ Big Bend Rd*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From Gibsonton On-Ramp To Big Bend Road Off-Ramp

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6680*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2561*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

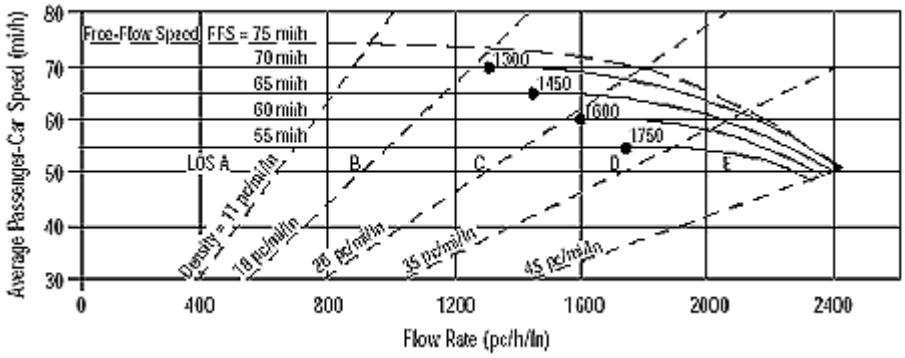
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd On / SUL Off*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From Big Bend Rd On-Ramp to SUL Off

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5276*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2042*	pc/h/ln
S	*62.0*	mi/h
D = v_p / S	*32.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

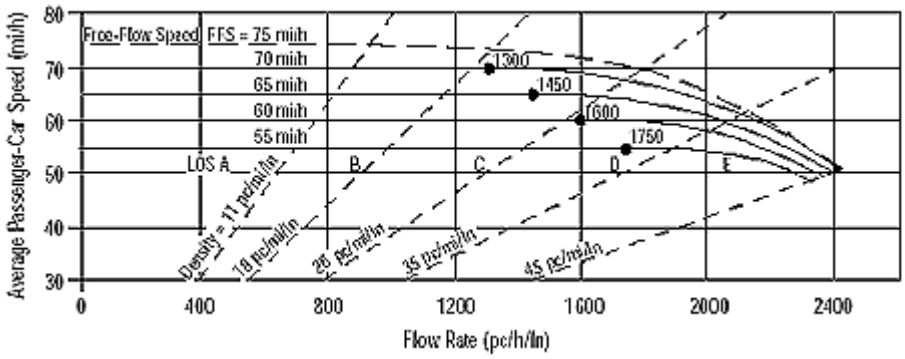
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SUL Off to SR674 OFF*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From SUL Off to SR674 OFF

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4747*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1837*	pc/h/ln
S	*65.1*	mi/h
D = v_p / S	*28.2*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

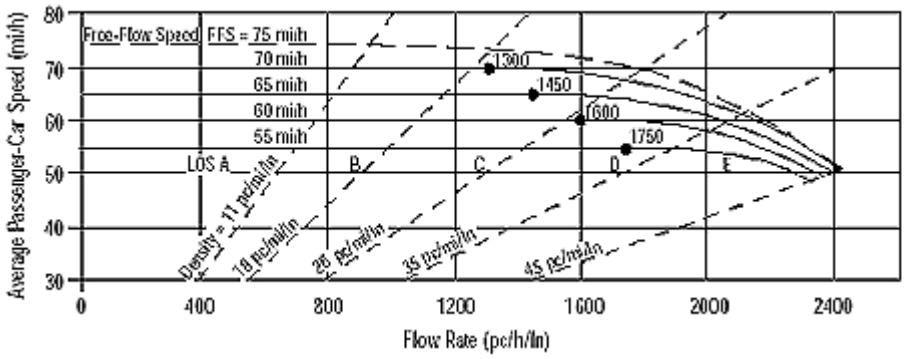
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 Southbound*
Agency or Company	*PB Americas*	From/To	*SR 674 On/ SUL ONRAMP*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From SR 674 On-Ramp To SUL ONRAMP

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4075*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1585*	pc/h/ln
S	*66.8*	mi/h
D = v_p / S	*23.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

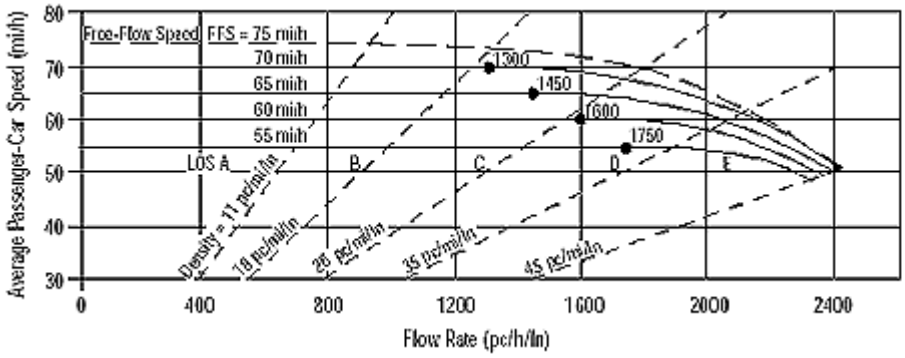
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SUL On/ Mocassin Wallow off*
Jurisdiction	*Manatee*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From SUL On-Ramp To Mocassin Wallow Off

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4625*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1799*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*27.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

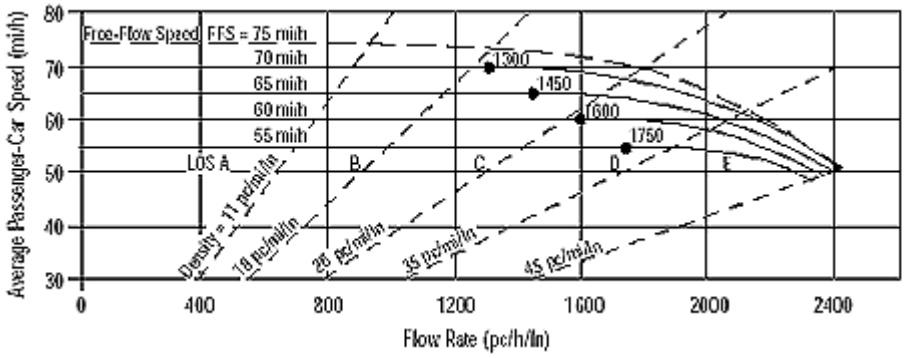
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 Southbound*
Agency or Company	*PB Americas*	From/To	*SUL ONRAMP/ Gibsonton Dr. Off*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From SUL ONRAMP To Gibsonton Drive Off-Ramp

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*8495*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*4*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*1.5*	mi/h
FFS	*68.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p) *2442* pc/h/ln

S mi/h

D = v_p / S pc/mi/ln

LOS *F*

Design (N)

Design (N)

Design LOS

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p) pc/h

S mi/h

D = v_p / S pc/mi/ln

Required Number of Lanes, N

Glossary

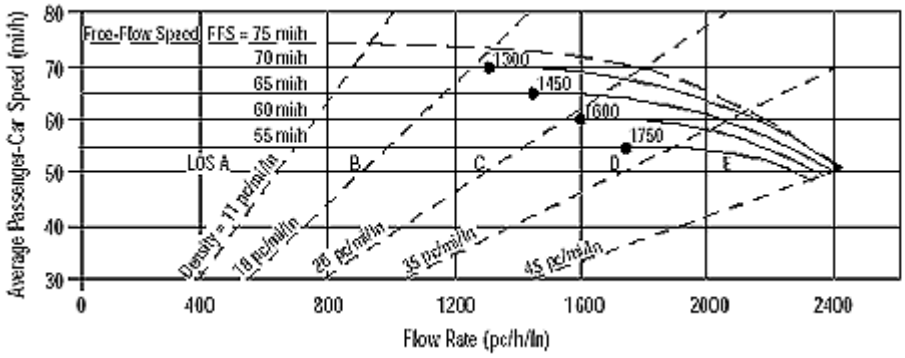
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 Southbound*
Agency or Company	*PB Americas*	From/To	*Gibsonton Dr. On/ Big Bend Rd*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*PM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From Gibsonton Drive On-Ramp To Big Bend Road Off-Ra

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*7455*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2858*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS		
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)		pc/h
S		mi/h
D = v_p / S		pc/mi/ln
Required Number of Lanes, N		

Glossary

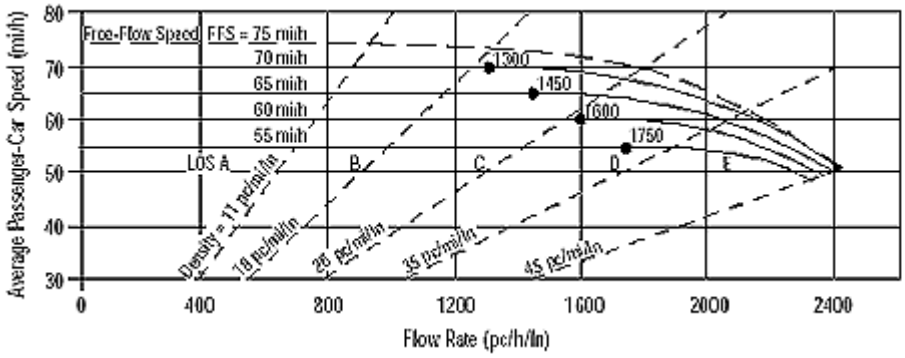
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*Big Bend Rd On / SUL Off*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From Big Bend Rd On-Ramp to SUL Off

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*6450*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2496*	pc/h/ln
S		mi/h
D = v_p / S		pc/mi/ln
LOS	*F*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

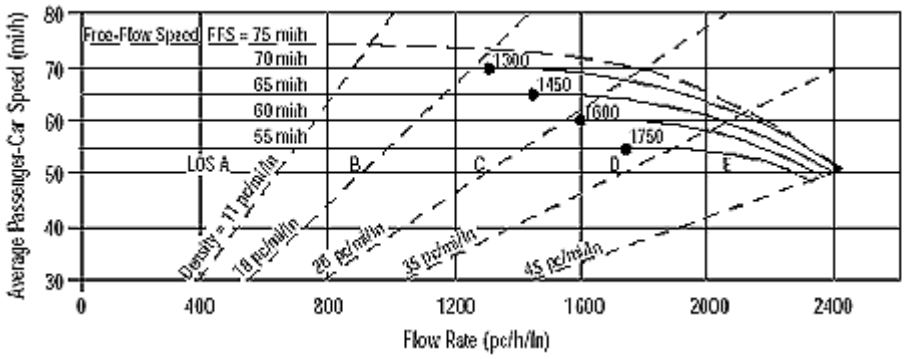
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SUL Off to SR674 Off*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From SUL Off to SR674 OFF

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5875*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*2274*	pc/h/ln
S	*56.0*	mi/h
D = v_p / S	*40.6*	pc/mi/ln
LOS	*E*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

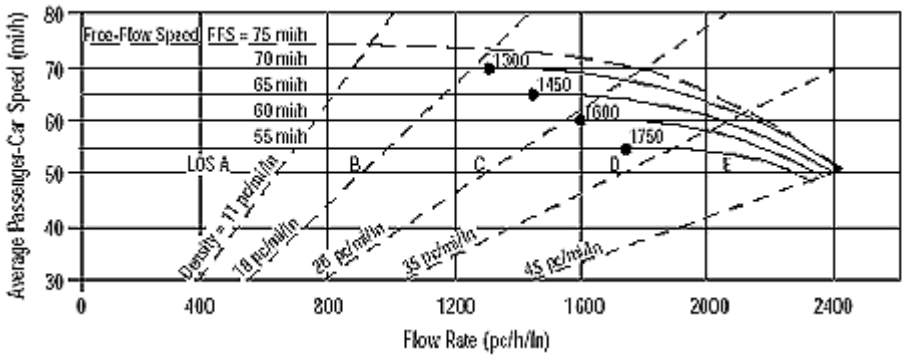
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SR 674 On/ SUL OffRAMP*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From SR 674 On-Ramp To SUL OffRAMP

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*4375*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*2.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1701*	pc/h/ln
S	*66.3*	mi/h
D = v_p / S	*25.7*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

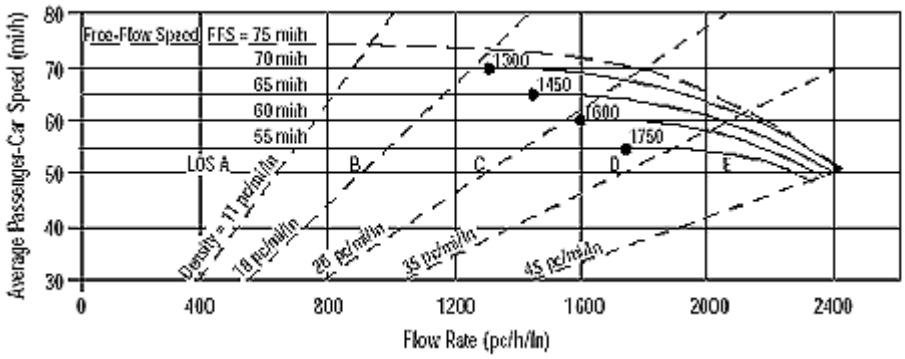
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Americas*

Site Information

Highway/Direction of Travel	*I-75 Southbound*
From/To	*SUL ON/ Mocassin Wallow Off*
Jurisdiction	*Manatee*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SB From SUL On-Ramp To Mocassin Wallow Off

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*5005*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*3*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*3.0*	mi/h
FFS	*67.0*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1946*	pc/h/ln
S	*63.7*	mi/h
D = v_p / S	*30.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

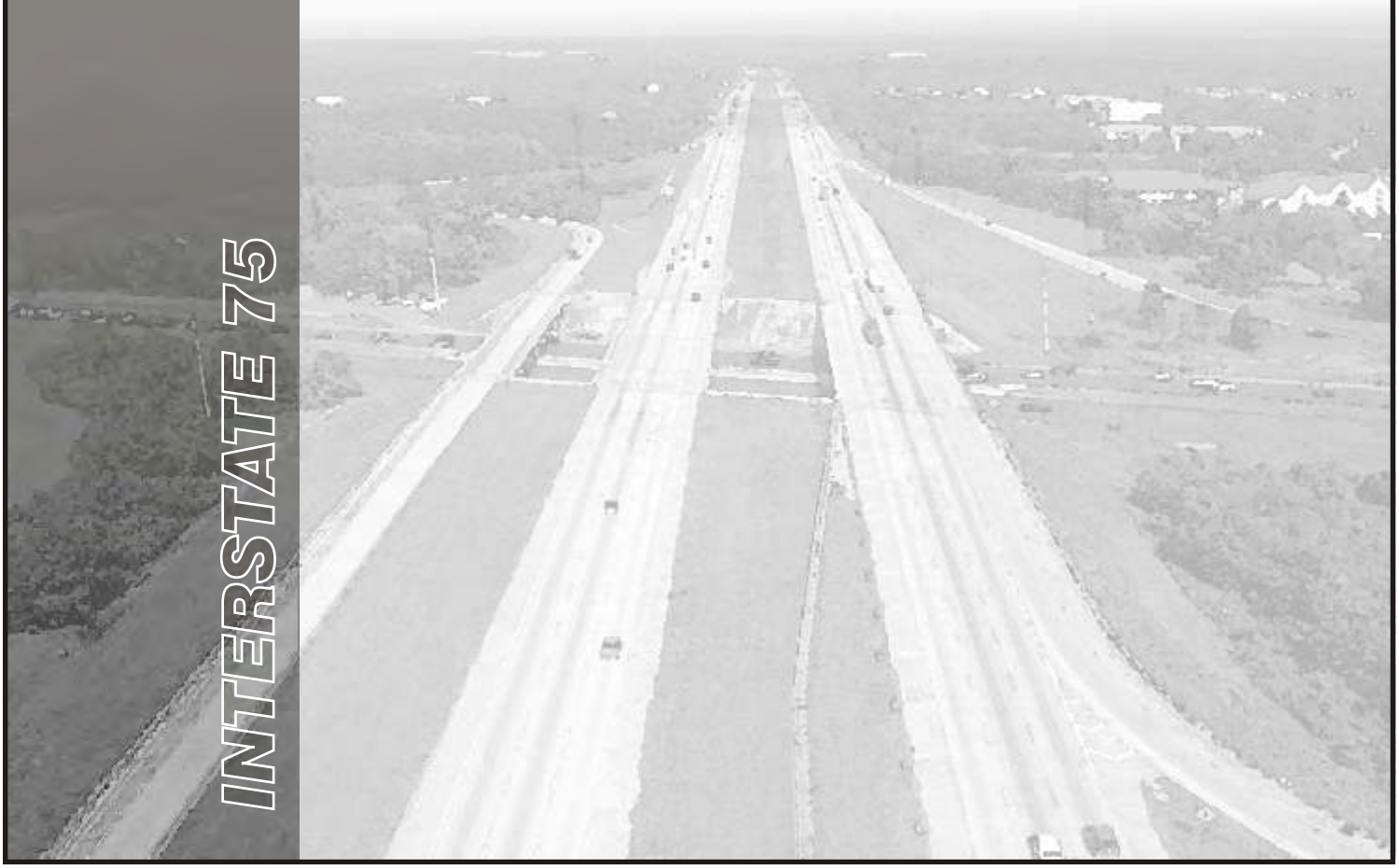
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

WPI Segment Number - 419235-1

HCS+ Freeway Segment Result Sheets & HCS+ Ramp Merge/Diverge Result Sheets

Future Year (2035)
Build Alternative 3 Conditions
Special Use Lanes



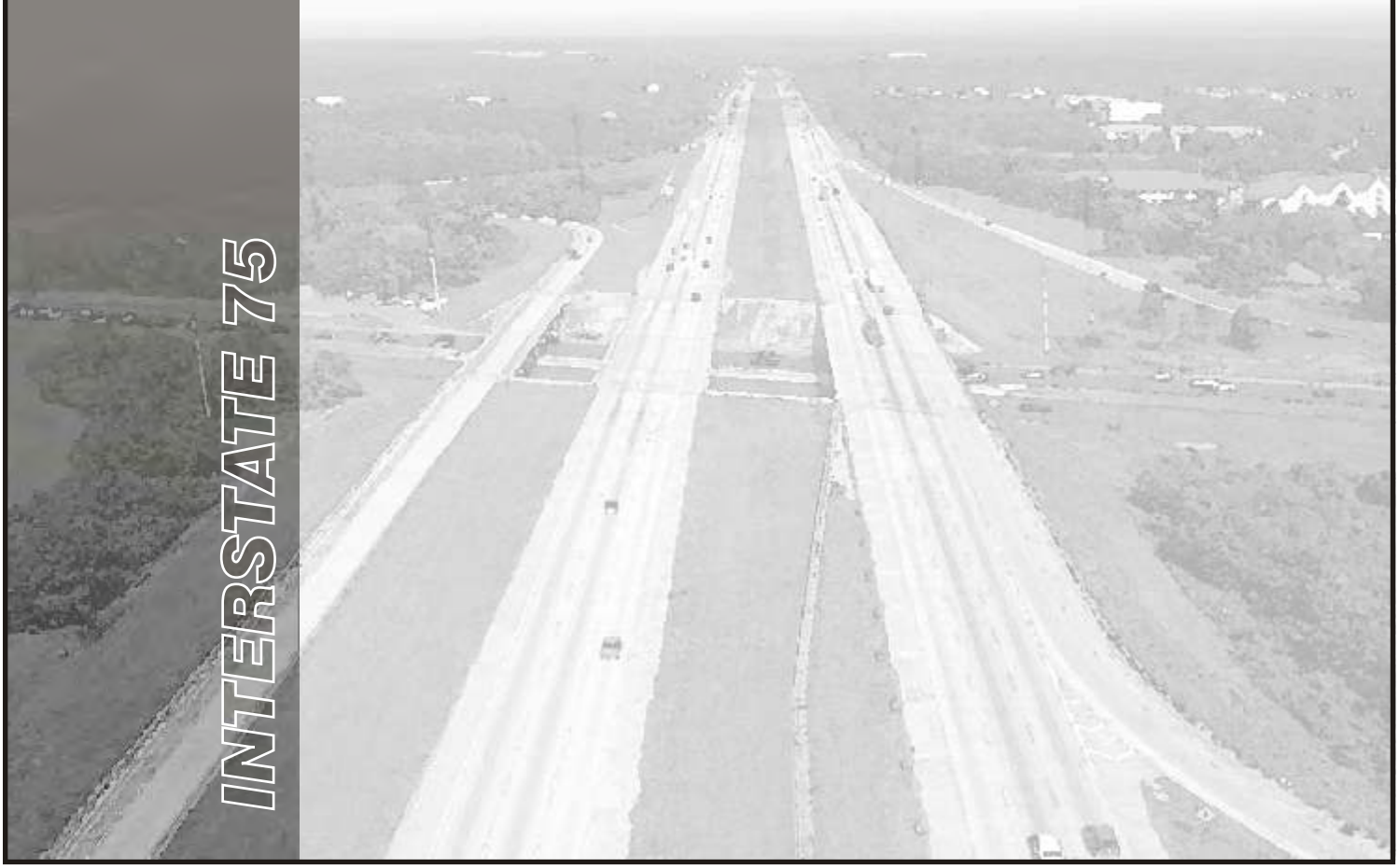
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

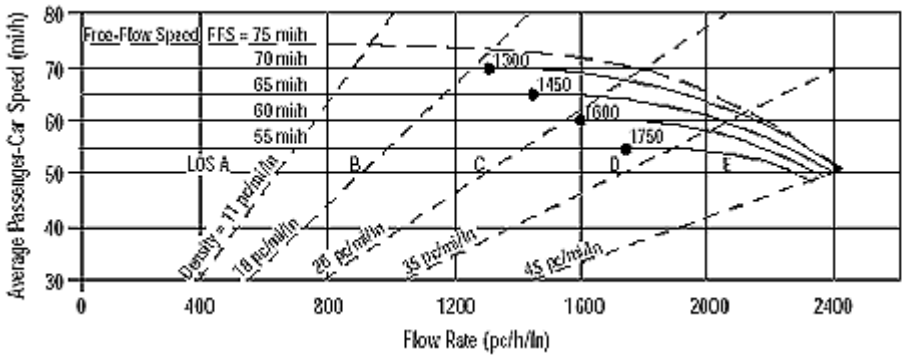
WPI Segment Number - 419235-1

Northbound I-75 Segments

Future Year (2035)
Build Alternative 3 Conditions
Special Use Lanes



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 SUL Northbound*
Agency or Company	*PB Americas*	From/To	*M.W SUL OffRamp south of SR674*
Date Performed	*03/13/09*	Jurisdiction	*Manatee*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description South end of Project to SUL OffRamp south of SR674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3178*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1854*	pc/h/ln
S	*63.8*	mi/h
D = v_p / S	*29.1*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

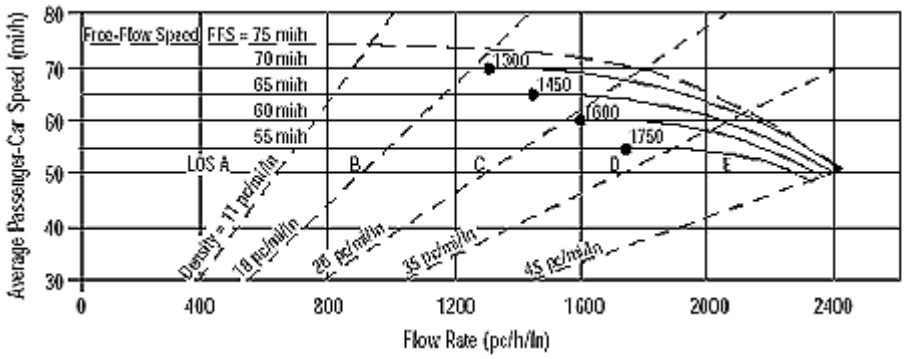
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 SUL Northbound*
Agency or Company	*PB Americas*	From/To	*SUL on-ramp to SR674 off-ramp*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description From SUL offramp south of SR674 to SUL off south to Big Bend

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2550*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1480*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*22.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

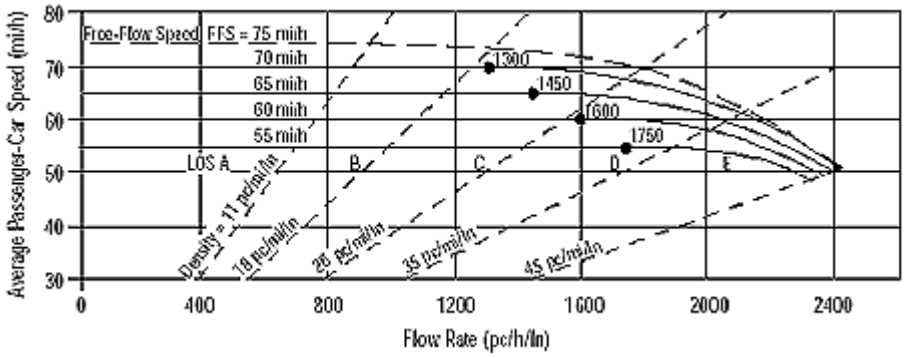
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SUL ONRAMP/ Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SUL NB From SUL offr S of BigBend to SUL onr N of Gibso

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1974*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1135*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*17.3*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 NB south of SR 674 - AM-Alternative3

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3178	0.90	Level	10	0	0.952	1.00	3708
Ramp	628	0.90	Level	2	0	0.990	1.00	705
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3708 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3708	4800	No
V_{12}	3708	4400:All	No
$V_{FO} = V_F - V_R$	3003	4800	No
V_R	705	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 34.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.361 (Exhibit 25-19)

S_R = 59.9 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 59.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SUL NB
Agency or Company	PB Americas	Junction	Big Bend Rd
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 NB south of Big Bend Rd

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2550	0.90	Level	10	0	0.952	1.00	2975
Ramp	575	0.90	Level	2	0	0.990	1.00	645
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 2975 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2975	4800	No
V_{12}	2975	4400:All	No
$V_{FO} = V_F - V_R$	2330	4800	No
V_R	645	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = 28.0 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.356 (Exhibit 25-19)

S_R = 60.0 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 60.0 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SUL NB
Agency or Company	PB	Junction	N of Gibsonton Merge to SUL
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	AM	Analysis Year	2035 alt3

Project Description I-75 SUL NB - N of Gibsonton Merge to SUL

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1975	0.90	Level	5	0	0.976	1.00	2249
Ramp	2285	0.90	Level	5	0	0.976	1.00	2602
UpStream								
DownStream								

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2249 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4851	See Exhibit 25-7	Yes
V_{R12}	4851	4600:All	Yes

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 40.9 (pc/mi/ln)

LOS = F (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.802 (Exibit 25-19)

S_R= 47.6 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 47.6 mph (Exhibit 25-14)

Speed Estimation

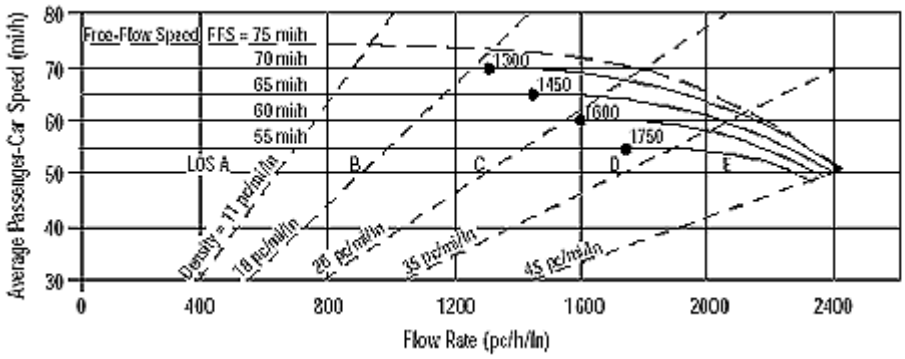
D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 SUL Northbound*
Agency or Company	*PB Americas*	From/To	*M.W SUL OffRamp south of SR674*
Date Performed	*03/16/09*	Jurisdiction	*Manatee*
Analysis Time Period	*PM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description South end of Project to SUL OffRamp south of SR674

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2721*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*10*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1587*	pc/h/ln
S	*65.4*	mi/h
D = v_p / S	*24.3*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

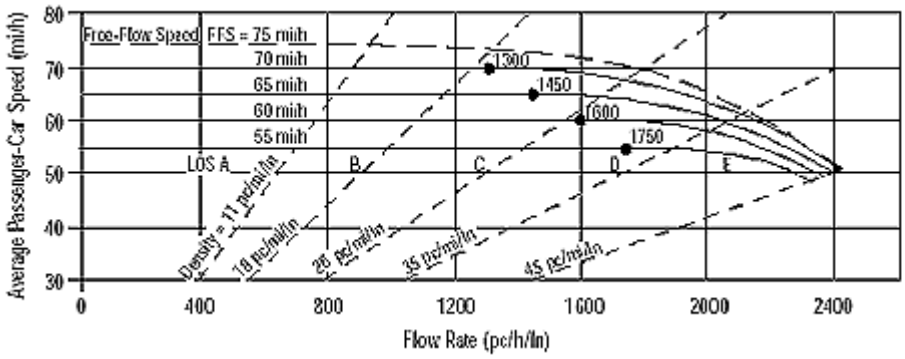
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SUL on-ramp to SR674 off-ramp*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description From SUL offramp south of SR674 to SUL off south to Big Bend

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2164*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*1.00*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1256*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*19.2*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

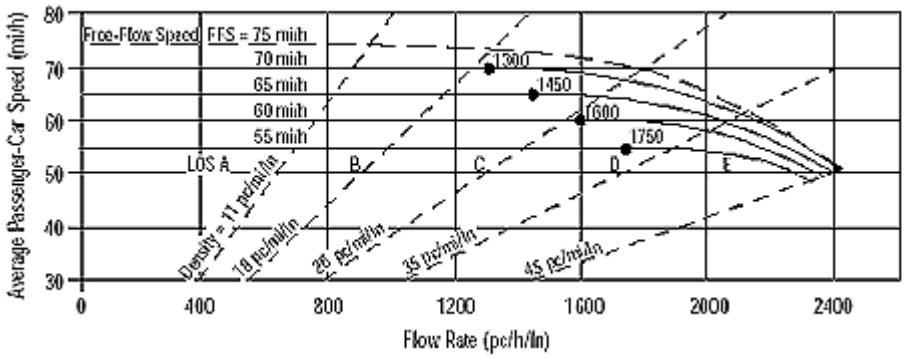
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	

Site Information

Highway/Direction of Travel	*I-75 Northbound*
From/To	*SUL ONRAMP/ Big Bend Road*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SUL NB From SUL offr S of BigBend to SUL onr N of Gibso

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*1902*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1094*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*16.7*	pc/mi/ln
LOS	*B*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 NB
Agency or Company	PB Americas	Junction	SR 674
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 NB south of SR 674 - PM-Alternative3

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2721	0.90	Level	10	0	0.952	1.00	3175
Ramp	557	0.90	Level	2	0	0.990	1.00	625
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3175 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3175	4800	No
V_{12}	3175	4400:All	No
$V_{FO} = V_F - V_R$	2550	4800	No
V_R	625	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 29.8 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.354 (Exhibit 25-19)

S_R = 60.1 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 60.1 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SUL NB
Agency or Company	PB Americas	Junction	Big Bend Rd
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 NB south of Big Bend Rd

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2165	0.90	Level	10	0	0.952	1.00	2526
Ramp	262	0.90	Level	2	0	0.990	1.00	294
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 2526 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	2526	4800	No
V_{12}	2526	4400:All	No
$V_{FO} = V_F - V_R$	2232	4800	No
V_R	294	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 24.2 (pc/mi/ln)

LOS = C (Exhibit 25-4)

Speed Estimation

D_s = 0.324 (Exhibit 25-19)

S_R = 60.9 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 60.9 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SUL NB
Agency or Company	PB	Junction	N of Gibsonton Merge to SUL
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2035 alt3

Project Description I-75 SUL NB - N of Gibsonton Merge to SUL

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	1900	0.90	Level	5	0	0.976	1.00	2164
Ramp	1930	0.90	Level	5	0	0.976	1.00	2198
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2164 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	4362	See Exhibit 25-7	No
V_{R12}	4362	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 37.2 (pc/mi/ln)

LOS = E (Exhibit 25-4)

Speed Estimation

M_S = 0.609 (Exibit 25-19)

S_R= 53.0 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 53.0 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

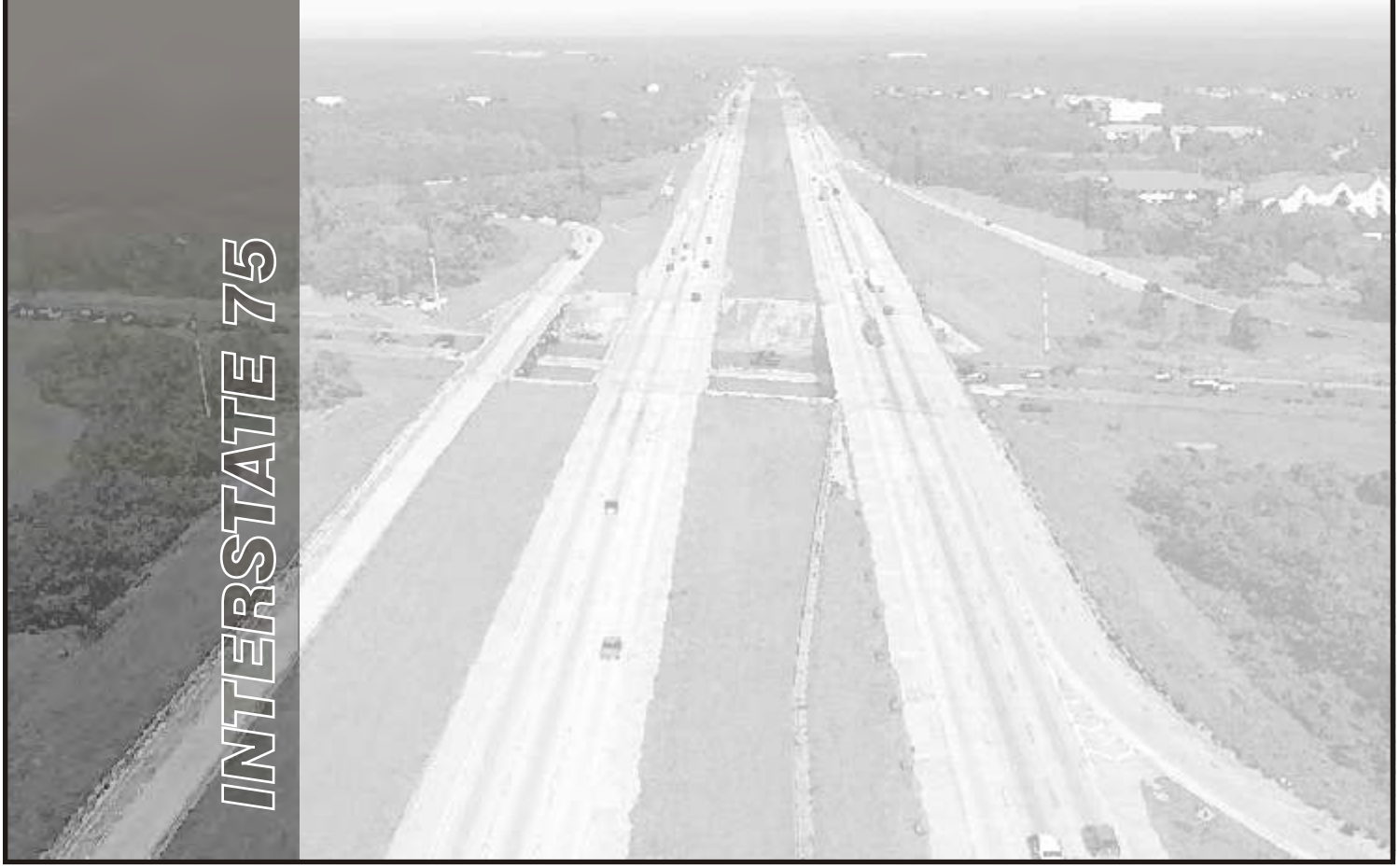
I-75 PD&E Studies

from Moccasin Wallow Road to North of Fletcher Avenue

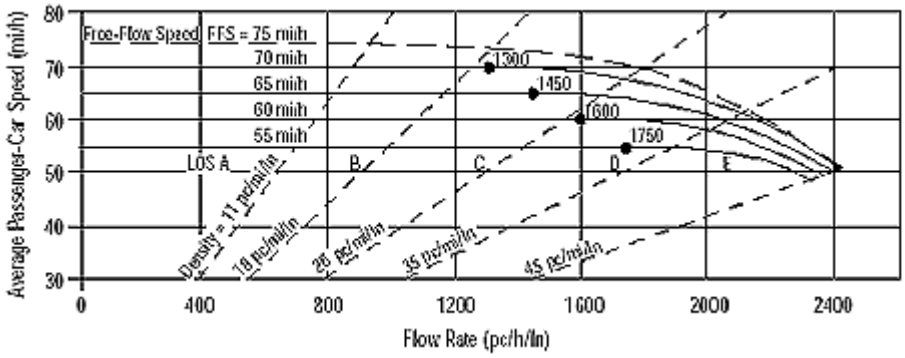
WPI Segment Number - 419235-1

Southbound I-75 Segments

Future Year (2035)
Build Alternative 3 Conditions
Special Use Lanes



BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 SUL SB*
Agency or Company	*PB Americas*	From/To	*Gibsonton Dr.On / SUL OFFRAMP*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description From SUL offr North of Gibsonton to SUL onr south of BigBend

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2559*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1471*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*22.5*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

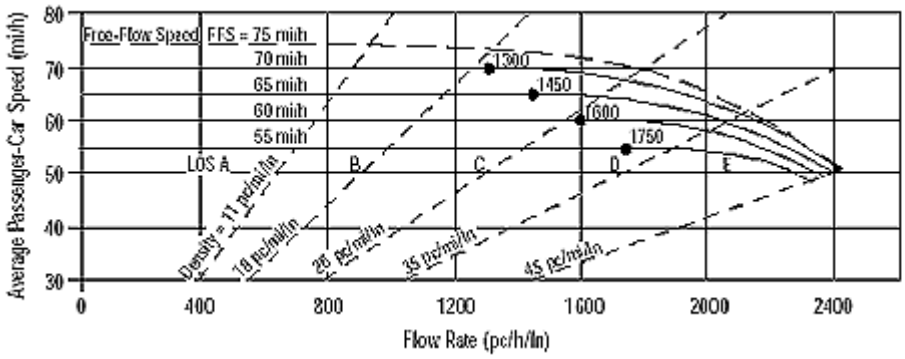
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information		***Site Information***	
Analyst	*DS*	Highway/Direction of Travel	*I-75 SUL SB*
Agency or Company	*PB Americas*	From/To	*Gibsonton Dr.On / SUL OFFRAMP*
Date Performed	*03/16/09*	Jurisdiction	*Hillsborough*
Analysis Time Period	*AM Peak*	Analysis Year	*2035 Build Alternative 3*

Project Description From SUL onr S of Big Bend to SUL offramp North of Moccas

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3088*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*9*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1793*	pc/h/ln
S	*64.4*	mi/h
D = v_p / S	*27.9*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

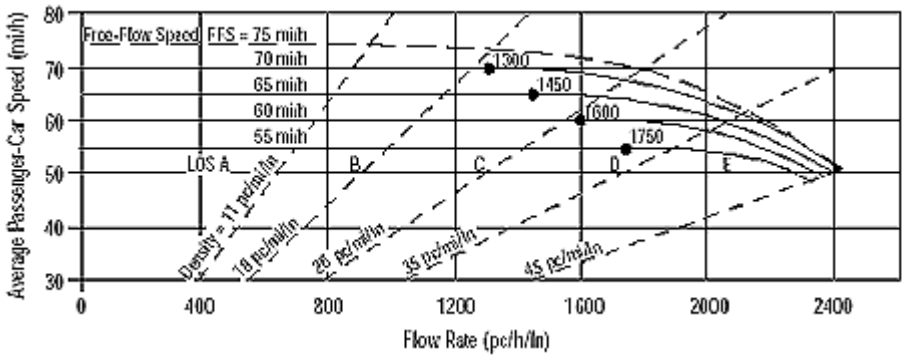
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*AM Peak*

Site Information

Highway/Direction of Travel	*I-75 SUL SB*
From/To	*Gibsonton Dr.On / SUL OFFRAMP*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SUL SB from offramp N of Moccassin to South end of Proj

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2542*	veh/h	Peak-Hour Factor, PHF	*0.90*	
AADT		veh/day	%Trucks and Buses, P_T	*10*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*	
Driver type adjustment	*1.00*		Up/Down %		

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1483*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*22.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SUL SB
Agency or Company	PB	Junction	N of Gibsonton SUL off to I-75
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	AM	Analysis Year	2035 alt3

Project Description I-75 SUL SB - N of Gibsonton SUL off to I-75

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3430	0.90	Level	5	0	0.976	1.00	3906
Ramp	870	0.90	Level	5	0	0.976	1.00	991
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3906 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3906	4800	No
V_{12}	3906	4400:All	No
$V_{FO} = V_F - V_R$	2915	4800	No
V_R	991	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 33.3 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.387 (Exhibit 25-19)

S_R = 59.2 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 59.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SUL SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	3/18/09	Jurisdiction	Hillsborough
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge of I-75 SB South of Big Bend Rd

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2559	0.90	Level	7	0	0.966	1.00	2943
Ramp	529	0.90	Level	1	0	0.995	1.00	591
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2943 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3534	See Exhibit 25-7	No
V_{R12}	3887	4600:All	No

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734 v_R + 0.0078 V_{12} - 0.00627 L_A$

D_R = 31.5 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

M_S = 0.493 (Exibit 25-19)

S_R= 56.2 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 56.2 mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086 V_{12} - 0.0009 L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

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RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SUL SB
Agency or Company	PB Americas	Junction	Mocassin Rd
Date Performed	03/16/09	Jurisdiction	Manatee
Analysis Time Period	AM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 SB North of Mocassin Rd

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3088	0.90	Level	10	0	0.952	1.00	3603
Ramp	550	0.90	Level	2	0	0.990	1.00	617
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3603 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3603	4800	No
V_{12}	3603	4400:All	No
$V_{FO} = V_F - V_R$	2986	4800	No
V_R	617	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 33.4 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

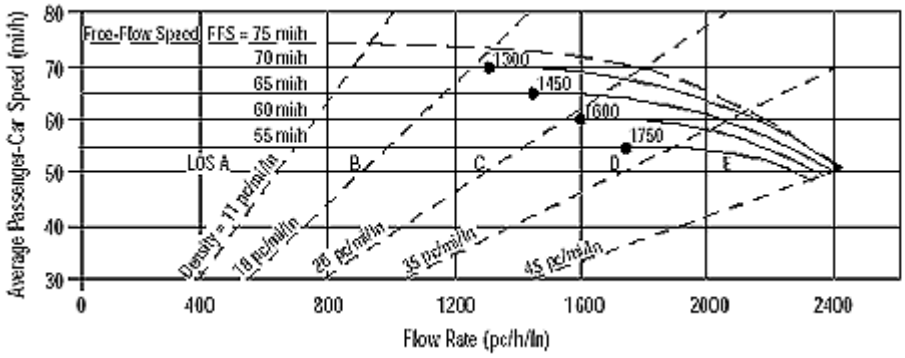
D_s = 0.354 (Exhibit 25-19)

S_R = 60.1 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 60.1 mph (Exhibit 25-15)

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 SUL SB*
From/To	*SUL n of Gib from Xtown*
Jurisdiction	*Hillsborough*
Analysis Year	*2035*

Project Description I-75 SUL SB from US 301 Intch to SUL offramp North of Gibson

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*3340*	veh/h	Peak-Hour Factor, PHF	*0.90*
AADT		veh/day	%Trucks and Buses, P_T	*7*
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*
Peak-Hr Direction Prop, D			General Terrain:	*Level*
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*
Driver type adjustment	*1.00*		Up/Down %	

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1920*	pc/h/ln
S	*63.0*	mi/h
D = v_p / S	*30.5*	pc/mi/ln
LOS	*D*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

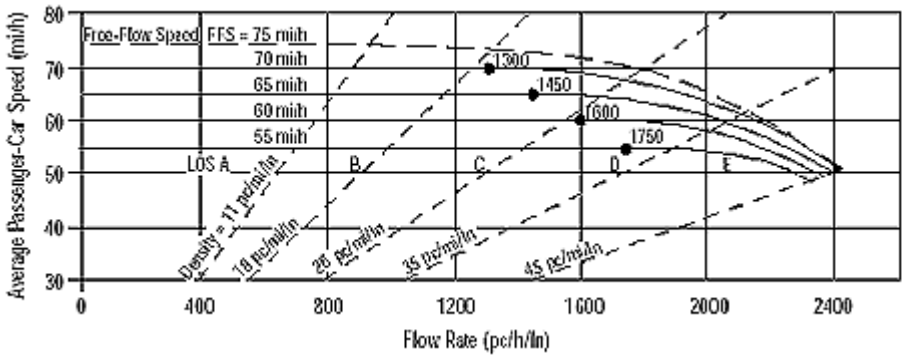
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed
LOS - Level of service	BFFS - Base free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3	f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 SUL SB*
From/To	*Gibsonton Dr.On / SUL OFFRAMP*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description From SUL offr North of Gibsonton to SUL onr south of BigBend

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2145*	veh/h	Peak-Hour Factor, PHF	*0.90*	
AADT		veh/day	%Trucks and Buses, P_T	*7*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*	
Driver type adjustment	*1.00*		Up/Down %		

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.966*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1233*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*18.8*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

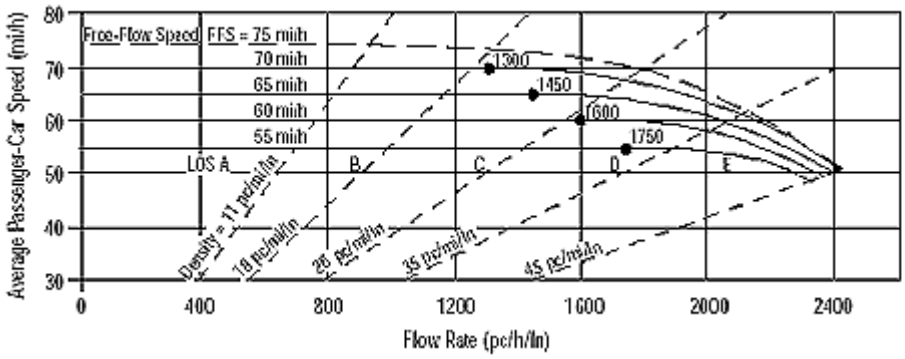
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 SUL SB*
From/To	*Gibsonton Dr.On / SUL OFFRAMP*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description From SUL onr S of Big Bend to SUL offramp North of Moccas

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2720*	veh/h	Peak-Hour Factor, PHF	*0.90*	
AADT		veh/day	%Trucks and Buses, P_T	*9*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*	
Driver type adjustment	*1.00*		Up/Down %		

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.957*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1579*	pc/h/ln
S	*65.4*	mi/h
D = v_p / S	*24.1*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

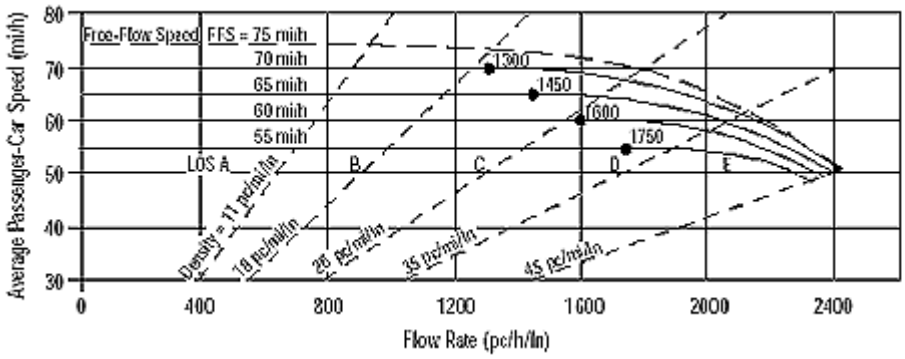
N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

BASIC FREEWAY SEGMENTS WORKSHEET



Application	Input	Output
Operational (LOS)	FFS, N, v_p	LOS, S, D
Design (N)	FFS, LOS, v_p	N, S, D
Design (v_p)	FFS, LOS, N	v_p, S, D
Planning (LOS)	FFS, N, AADT	LOS, S, D
Planning (N)	FFS, LOS, AADT	N, S, D
Planning (v_p)	FFS, LOS, N	v_p, S, D

General Information

Analyst	*DS*
Agency or Company	*PB Americas*
Date Performed	*03/16/09*
Analysis Time Period	*PM Peak*

Site Information

Highway/Direction of Travel	*I-75 SUL SB*
From/To	*Gibsonton Dr.On / SUL OFFRAMP*
Jurisdiction	*Hillsborough*
Analysis Year	*2035 Build Alternative 3*

Project Description I-75 SUL SB from offramp N of Moccassin to South end of Proj

☑ Oper.(LOS) ☐ Des.(N) ☐ Planning Data

Flow Inputs

Volume, V	*2092*	veh/h	Peak-Hour Factor, PHF	*0.90*	
AADT		veh/day	%Trucks and Buses, P_T	*10*	
Peak-Hr Prop. of AADT, K			%RVs, P_R	*0*	
Peak-Hr Direction Prop, D			General Terrain:	*Level*	
DDHV = AADT x K x D		veh/h	Grade % Length	*mi*	
Driver type adjustment	*1.00*		Up/Down %		

Calculate Flow Adjustments

f_p	*1.00*	E_R	*1.2*
E_T	*1.5*	$f_{HV} = 1/[1+P_T(E_T - 1) + P_R(E_R - 1)]$	*0.952*

Speed Inputs

Lane Width	*12.0*	ft
Rt-Shoulder Lat. Clearance	*6.0*	ft
Interchange Density	*0.30*	I/mi
Number of Lanes, N	*2*	
FFS (measured)		mi/h
Base free-flow Speed, BFFS	*70.0*	mi/h

Calc Speed Adj and FFS

f_{LW}	*0.0*	mi/h
f_{LC}	*0.0*	mi/h
f_{ID}	*0.0*	mi/h
f_N	*4.5*	mi/h
FFS	*65.5*	mi/h

LOS and Performance Measures

Operational (LOS)

v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	*1220*	pc/h/ln
S	*65.5*	mi/h
D = v_p / S	*18.6*	pc/mi/ln
LOS	*C*	

Design (N)

Design (N)

Design LOS	
v_p = (V or DDHV) / (PHF x N x f_{HV} x f_p)	pc/h
S	mi/h
D = v_p / S	pc/mi/ln
Required Number of Lanes, N	

Glossary

N - Number of lanes	S - Speed
V - Hourly volume	D - Density
v_p - Flow rate	FFS - Free-flow speed

Factor Location

E_R - Exhibits23-8, 23-10	f_{LW} - Exhibit 23-4
E_T - Exhibits 23-8, 23-10, 23-11	f_{LC} - Exhibit 23-5
f_p - Page 23-12	f_N - Exhibit 23-6

LOS - Level of service BFFS - Base free-flow speed DDHV - Directional design hour volume	LOS, S, FFS, v_p - Exhibits 23-2, 23-3 f_{ID} - Exhibit 23-7

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	Xu Wang	Freeway/Dir of Travel	I-75 SUL SB
Agency or Company	PB	Junction	N of Gibsonton SUL off to I-75
Date Performed	03/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM	Analysis Year	2035 alt3

Project Description I-75 SUL SB - N of Gibsonton SUL off to I-75

Inputs

Upstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{up} = ft
V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp
☐ Yes ☐ On
☑ No ☐ Off
L_{down} = ft
V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	3340	0.90	Level	5	0	0.976	1.00	3804
Ramp	1195	0.90	Level	5	0	0.976	1.00	1361
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3804 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3804	4800	No
V_{12}	3804	4400:All	No
$V_{FO} = V_F - V_R$	2443	4800	No
V_R	1361	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 32.5 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.420 (Exhibit 25-19)

S_R = 58.2 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 58.2 mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SUL SB
Agency or Company	PB Americas	Junction	Big Bend Road
Date Performed	3/16/09	Jurisdiction	Hillsborough
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Merge of I-75 SB South of Big Bend Rd

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2145	0.90	Level	7	0	0.966	1.00	2467
Ramp	575	0.90	Level	1	0	0.995	1.00	642
UpStream								
DownStream								

Merge Areas | Diverge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = 1.000 using Equation (Exhibit 25-5)

V_{12} = 2467 pc/h

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = using Equation (Exhibit 25-11)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}	3109	See Exhibit 25-7	No
V_{R12}	3405	4600:All	No

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$			
V_{12}			
$V_{FO} = V_F - V_R$			
V_R			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = 28.2 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = 0.420 (Exibit 25-19)

S_R= 58.2 mph (Exhibit 25-19)

S_0= N/A mph (Exhibit 25-19)

S = 58.2 mph (Exhibit 25-14)

Speed Estimation

D_s = (Exhibit 25-19)

S_R= mph (Exhibit 25-19)

S_0= mph (Exhibit 25-19)

S = mph (Exhibit 25-15)

RAMPS AND RAMP JUNCTIONS WORKSHEET

General Information / Site Information

Analyst	DS	Freeway/Dir of Travel	I-75 SUL SB
Agency or Company	PB Americas	Junction	Mocassin Rd
Date Performed	3/16/09	Jurisdiction	Manatee
Analysis Time Period	PM Peak	Analysis Year	2035 Build Alternative 3

Project Description SUL Diverge to I-75 SB North of Mocassin Rd

Inputs

Upstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{up} = ft

V_u = veh/h

Terrain: Level

S_{FF} = 70.0 mph S_{FR} = 45.0 mph

Sketch (show lanes, L_A, L_D,V_R,V_f)

Downstream Adj Ramp

☐ Yes ☐ On

☑ No ☐ Off

L_{down} = ft

V_D = veh/h

Conversion to pc/h Under Base Conditions

(pc/h)	V (Veh/hr)	PHF	Terrain	%Truck	%Rv	f_{HV}	f_p	v = V/PHF x f_{HV} x f_p
Freeway	2720	0.90	Level	10	0	0.952	1.00	3173
Ramp	628	0.90	Level	2	0	0.990	1.00	705
UpStream								
DownStream								

Merge Areas

Estimation of v_{12}

$V_{12} = V_F (P_{FM})$

L_{EQ} = (Equation 25-2 or 25-3)

P_{FM} = using Equation (Exhibit 25-5)

V_{12} = pc/h

Capacity Checks

	Actual	Maximum	LOS F?
V_{FO}			
V_{R12}			

Level of Service Determination (if not F)

$D_R = 5.475 + 0.00734\ v_R + 0.0078\ V_{12} - 0.00627\ L_A$

D_R = (pc/mi/ln)

LOS = (Exhibit 25-4)

Speed Estimation

M_S = (Exibit 25-19)

S_R = mph (Exhibit 25-19)

S_0 = mph (Exhibit 25-19)

S = mph (Exhibit 25-14)

Diverge Areas

Estimation of v_{12}

$V_{12} = V_R + (V_F - V_R)P_{FD}$

L_{EQ} = (Equation 25-8 or 25-9)

P_{FD} = 1.000 using Equation (Exhibit 25-11)

V_{12} = 3173 pc/h

Capacity Checks

	Actual	Maximum	LOS F?
$V_{FI} = V_F$	3173	4800	No
V_{12}	3173	4400:All	No
$V_{FO} = V_F - V_R$	2468	4800	No
V_R	705	2100	No

Level of Service Determination (if not F)

$D_R = 4.252 + 0.0086\ V_{12} - 0.0009\ L_D$

D_R = 29.7 (pc/mi/ln)

LOS = D (Exhibit 25-4)

Speed Estimation

D_s = 0.361 (Exhibit 25-19)

S_R = 59.9 mph (Exhibit 25-19)

S_0 = N/A mph (Exhibit 25-19)

S = 59.9 mph (Exhibit 25-15)