APPENDIX S

SITE ACCESS AND PROJECT DRIVEWAY LEVEL OF SERVICE CALCULATION WORKSHEETS

APPENDIX S-I

YEAR 2013 WITH PROJECT TRAFFIC CONDITIONS

AM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

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Intersection #9 Douglass Road at Katella Avenue

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Cycle (sec):	100	Critical Vol./Cap.(X):	0.483
Loss Time (sec):	16	Average Delay (sec/veh):	34.6
Optimal Cycle:	100	Level Of Service:	C

****

Street Name:	Douglass Road						Katella Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	34	34	34	6	6	6	6	25	25	6	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0 1	1	1 0	0 1	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	36	17	7	108	12	57	409	980	58	20	989	100
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	36	17	7	108	12	57	409	980	58	20	989	100
Added Vol:	104	7	18	0	26	0	-2	101	302	109	-5	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	140	24	25	108	38	57	407	1081	360	129	984	100
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	140	24	25	108	38	57	407	1081	360	129	984	100
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	140	24	25	108	38	57	407	1081	360	129	984	100
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	140	24	25	108	38	57	407	1081	360	129	984	100
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.92	0.92	0.95	0.91	0.91	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	0.98	1.02	1.00	0.80	1.20	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	1720	1791	1805	1383	2075	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.04	0.01	0.01	0.06	0.03	0.03	0.12	0.21	0.22	0.04	0.19	0.06
Crit Moves:	****			****			****				****	
Green Time:	34.0	34.0	34.0	7.5	7.5	7.5	14.5	34.3	34.3	8.2	28.0	28.0
Volume/Cap:	0.12	0.04	0.04	0.80	0.37	0.37	0.80	0.61	0.65	0.45	0.68	0.22
Delay/Veh:	22.7	22.1	22.1	73.3	44.9	44.9	50.1	27.9	30.5	44.8	33.3	27.9
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	22.7	22.1	22.1	73.3	44.9	44.9	50.1	27.9	30.5	44.8	33.3	27.9
LOS by Move:	C	C	C	E	D	D	D	C	C	D	C	C
HCM2k95thQ:	3	1	1	10	4	4	16	19	19	5	20	5

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AM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #13 A. Douglass Road at Project Driveway 1

Average Delay (sec/veh): 0.2 Worst Case Level Of Service: A[8.6]

Street Name:	Douglass Road						Project Driveway 1					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 3	1	0	0 0 2	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0	60	0	0	90	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	0	0	90	0	0	0	0	0	0	0
Added Vol:	0	109	0	0	437	0	0	0	0	0	0	20
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	169	0	0	527	0	0	0	0	0	0	20
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	169	0	0	527	0	0	0	0	0	0	20
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	169	0	0	527	0	0	0	0	0	0	20
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	42
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1026
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1026
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.02
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.6
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.6		
ApproachLOS:	*			*			*			A		

Note: Queue reported is the number of cars per lane.

AM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

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Intersection #14 B. Douglass Road at Project Driveway 2

****

Cycle (sec):	90	Critical Vol./Cap.(X):	0.177
Loss Time (sec):	8	Average Delay (sec/veh):	4.0
Optimal Cycle:	90	Level Of Service:	A

****

Street Name:	Douglass Road						Project Driveway 2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	6	0	0	6	0	0	0	0	0	0	6
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	0 0	0 0	2	0 0	0 0	0	0 0	0 0	0	0 2
Volume Module:												
Base Vol:	0	60	0	0	90	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	0	0	90	0	0	0	0	0	0	0
Added Vol:	0	65	0	0	437	0	0	0	0	0	0	44
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	125	0	0	527	0	0	0	0	0	0	44
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	125	0	0	527	0	0	0	0	0	0	44
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	125	0	0	527	0	0	0	0	0	0	44
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	125	0	0	527	0	0	0	0	0	0	44
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	3610	0	0	3610	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.03	0.00	0.00	0.15	0.00	0.00	0.00	0.00	0.00	0.00	0.02
Crit Moves:					****							****
Green Time:	0.0	74.1	0.0	0.0	74.1	0.0	0.0	0.0	0.0	0.0	0.0	7.9
Volume/Cap:	0.00	0.04	0.00	0.00	0.18	0.00	0.00	0.00	0.00	0.00	0.00	0.18
Delay/Veh:	0.0	1.5	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	38.4
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	1.5	0.0	0.0	1.7	0.0	0.0	0.0	0.0	0.0	0.0	38.4
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	D
HCM2k95thQ:	0	1	0	0	3	0	0	0	0	0	0	2

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AM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 C. Douglass Road at Project Driveway 3

Cycle (sec):	90	Critical Vol./Cap.(X):	0.197
Loss Time (sec):	12	Average Delay (sec/veh):	9.7
Optimal Cycle:	90	Level Of Service:	A

Street Name:	Douglass Road						Project Driveway 3					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	6	6	6	6	6	6	6	6	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	1 0	1 0	0	0 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	60	0	0	90	13	2	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	0	0	90	13	2	0	0	0	0	0
Added Vol:	0	65	0	244	193	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	125	0	244	283	13	2	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	125	0	244	283	13	2	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	125	0	244	283	13	2	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	125	0	244	283	13	2	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.95	0.95	0.90	0.90	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	1.00	2.87	0.13	1.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	3610	0	1805	4924	226	1805	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.03	0.00	0.14	0.06	0.06	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green Time:	0.0	14.7	0.0	57.3	72.0	72.0	6.0	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.21	0.00	0.21	0.07	0.07	0.02	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	32.8	0.0	7.0	1.9	1.9	39.3	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	32.8	0.0	7.0	1.9	1.9	39.3	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	C	A	A	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	3	0	6	1	0	0	0	0	0	0	0

AM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #16 D. Douglass Road at Project Driveway 4

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Average Delay (sec/veh): 1.1 Worst Case Level Of Service: A[8.7]

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Street Name:	Douglass Road						Project Driveway 4					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 2	0	0	0 0 3	0	0	0 0 0	0	0	0 0 0	0	1
Volume Module:												
Base Vol:	0	60	0	0	90	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	0	0	90	0	0	0	0	0	0	0
Added Vol:	0	13	0	0	193	0	0	0	0	0	0	52
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	73	0	0	283	0	0	0	0	0	0	52
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	73	0	0	283	0	0	0	0	0	0	52
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	73	0	0	283	0	0	0	0	0	0	52
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	37
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1034
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1034
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.05
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.7
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.7		
ApproachLOS:	*			*			*			A		

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Note: Queue reported is the number of cars per lane.

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AM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

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Intersection #17 E. Douglass Road at Project Driveway 5

****

Cycle (sec):	90	Critical Vol./Cap.(X):	0.108
Loss Time (sec):	8	Average Delay (sec/veh):	7.9
Optimal Cycle:	90	Level Of Service:	A

****

Street Name:	Douglass Road						Project Driveway 5					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	6	6	6	6	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1	1 0	1 0	2	0 0	0 0	0	0 0	0 0	0	0 0
Volume Module:												
Base Vol:	0	60	0	0	90	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	0	0	90	0	0	0	0	0	0	0
Added Vol:	0	13	0	141	51	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	73	0	141	141	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	73	0	141	141	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	73	0	141	141	0	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	73	0	141	141	0	0	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	1.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	3610	0	1805	3610	0	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.02	0.00	0.08	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****		****								
Green Time:	0.0	16.9	0.0	65.1	82.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.11	0.00	0.11	0.04	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	30.4	0.0	3.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	30.4	0.0	3.8	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	C	A	A	A	A	A	A	A	A	A	A
HCM2k95thQ:	0	2	0	2	0	0	0	0	0	0	0	0

****

AM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #18 F. Douglass Road at Project Driveway 6

****

Average Delay (sec/veh): 2.3 Worst Case Level Of Service: A[8.5]

****

Street Name:	Douglass Road						Project Driveway 6					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L - T - R			L - T - R			L - T - R			L - T - R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1 0	0	1 0	2 0	0	0 0	0 0	0	0 0	0 0	1
Volume Module:												
Base Vol:	0	60	0	0	90	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	60	0	0	90	0	0	0	0	0	0	0
Added Vol:	0	0	0	51	0	0	0	0	0	0	0	13
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	60	0	51	90	0	0	0	0	0	0	13
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	60	0	51	90	0	0	0	0	0	0	13
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	60	0	51	90	0	0	0	0	0	0	13
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	60	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	30
Potent Cap.:	xxxx	xxxx	xxxxx	1556	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1044
Move Cap.:	xxxx	xxxx	xxxxx	1556	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	1044
Volume/Cap:	xxxx	xxxx	xxxx	0.03	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.01
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.1	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.0
Control Del:	xxxxx	xxxx	xxxxx	7.4	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.5
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT - LTR - RT			LT - LTR - RT			LT - LTR - RT			LT - LTR - RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.5		
ApproachLOS:	*			*			*			A		

****

Note: Queue reported is the number of cars per lane.

****

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #19 G. Project Driveway 7 at Katella Avenue

****

Average Delay (sec/veh): 0.0 Worst Case Level Of Service: B[10.8]

****

Street Name:	Project Driveway 7						Katella Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0	0	1	0 0 0	0	0	0 0 3	0	1	0 0 3	0	0
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1095	0	0	1109	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1095	0	0	1109	0
Added Vol:	0	0	10	0	0	0	0	10	109	0	105	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	10	0	0	0	0	1105	109	0	1214	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	10	0	0	0	0	1105	109	0	1214	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	10	0	0	0	0	1105	109	0	1214	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	368	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	635	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	635	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.02	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.0	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	10.8	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		10.8			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		B			*			*			*	

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Note: Queue reported is the number of cars per lane.

****

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #9 Douglass Road at Katella Avenue

Cycle (sec):	100	Critical Vol./Cap.(X):	0.633
Loss Time (sec):	16	Average Delay (sec/veh):	36.7
Optimal Cycle:	100	Level Of Service:	D

Street Name:	Douglass Road						Katella Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Split Phase			Split Phase			Protected			Protected		
Rights:	Include			Include			Include			Include		
Min. Green:	34	34	34	6	6	6	6	25	25	6	28	28
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	2 0	0 1	1	1 0	0 1	1	2 0	3 0	1	2 0	3 0	1
Volume Module:												
Base Vol:	116	25	15	151	5	418	124	1022	44	31	1248	162
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	116	25	15	151	5	418	124	1022	44	31	1248	162
Added Vol:	331	21	57	0	6	-3	-2	13	68	24	-13	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	447	46	72	151	11	415	122	1035	112	55	1235	162
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	447	46	72	151	11	415	122	1035	112	55	1235	162
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	447	46	72	151	11	415	122	1035	112	55	1235	162
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	447	46	72	151	11	415	122	1035	112	55	1235	162
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	0.92	0.91	0.91	0.95	0.85	0.85	0.92	0.91	0.85	0.92	0.91	0.85
Lanes:	2.00	0.78	1.22	1.00	0.05	1.95	2.00	3.00	1.00	2.00	3.00	1.00
Final Sat.:	3502	1347	2108	1805	84	3161	3502	5187	1615	3502	5187	1615
Capacity Analysis Module:												
Vol/Sat:	0.13	0.03	0.03	0.08	0.13	0.13	0.03	0.20	0.07	0.02	0.24	0.10
Crit Moves:	****				****		****				****	
Green Time:	34.0	34.0	34.0	15.6	15.6	15.6	6.0	27.7	27.7	6.7	28.4	28.4
Volume/Cap:	0.38	0.10	0.10	0.53	0.84	0.84	0.58	0.72	0.25	0.24	0.84	0.35
Delay/Veh:	25.2	22.6	22.6	40.8	52.8	52.8	49.8	34.4	28.4	44.8	38.2	29.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	25.2	22.6	22.6	40.8	52.8	52.8	49.8	34.4	28.4	44.8	38.2	29.0
LOS by Move:	C	C	C	D	D	D	D	C	C	D	D	C
HCM2k95thQ:	10	2	2	10	17	17	6	21	6	2	27	8

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

****

Intersection #13 A. Douglass Road at Project Driveway 1

****

Average Delay (sec/veh): 0.8 Worst Case Level Of Service: A[9.3]

****

Street Name:	Douglass Road						Project Driveway 1					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0	3 1	0	0 0	2 0	0	0 0	0 0	0	0 0	0 0	1
Volume Module:												
Base Vol:	0	156	0	0	80	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	156	0	0	80	0	0	0	0	0	0	0
Added Vol:	0	347	0	0	98	0	0	0	0	0	0	62
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	503	0	0	178	0	0	0	0	0	0	62
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	503	0	0	178	0	0	0	0	0	0	62
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	503	0	0	178	0	0	0	0	0	0	62
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	126
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	908
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	908
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.07
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.2
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.3
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.3		
ApproachLOS:	*			*			*			A		

****

Note: Queue reported is the number of cars per lane.

****

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

****

Intersection #14 B. Douglass Road at Project Driveway 2

****

Cycle (sec):	90	Critical Vol./Cap.(X):	0.164
Loss Time (sec):	8	Average Delay (sec/veh):	10.7
Optimal Cycle:	90	Level Of Service:	B

****

Street Name:	Douglass Road						Project Driveway 2					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Permitted			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	6	0	0	6	0	0	0	0	0	0	6
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	2	0 0	0 0	2	0 0	0 0	0	0 0	0 0	0	0 2
Volume Module:												
Base Vol:	0	156	0	0	80	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	156	0	0	80	0	0	0	0	0	0	0
Added Vol:	0	207	0	0	98	0	0	0	0	0	0	140
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	363	0	0	178	0	0	0	0	0	0	140
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	363	0	0	178	0	0	0	0	0	0	140
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	363	0	0	178	0	0	0	0	0	0	140
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	363	0	0	178	0	0	0	0	0	0	140
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	1.00	1.00	0.95	1.00	1.00	1.00	1.00	1.00	1.00	0.75
Lanes:	0.00	2.00	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00
Final Sat.:	0	3610	0	0	3610	0	0	0	0	0	0	2842
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.00	0.00	0.05	0.00	0.00	0.00	0.00	0.00	0.00	0.05
Crit Moves:		****										****
Green Time:	0.0	55.0	0.0	0.0	55.0	0.0	0.0	0.0	0.0	0.0	0.0	27.0
Volume/Cap:	0.00	0.16	0.00	0.00	0.08	0.00	0.00	0.00	0.00	0.00	0.00	0.16
Delay/Veh:	0.0	7.6	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	23.3
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	7.6	0.0	0.0	7.2	0.0	0.0	0.0	0.0	0.0	0.0	23.3
LOS by Move:	A	A	A	A	A	A	A	A	A	A	A	C
HCM2k95thQ:	0	4	0	0	2	0	0	0	0	0	0	3

****

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Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #15 C. Douglass Road at Project Driveway 3

Cycle (sec):	90	Critical Vol./Cap.(X):	0.158
Loss Time (sec):	12	Average Delay (sec/veh):	9.1
Optimal Cycle:	90	Level Of Service:	A

Street Name:	Douglass Road						Project Driveway 3					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Split Phase			Split Phase		
Rights:	Include			Include			Include			Include		
Min. Green:	0	6	6	6	6	6	6	6	6	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1 1	0	1 0	2 1	0	1 0	0 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	156	0	0	80	5	10	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	156	0	0	80	5	10	0	0	0	0	0
Added Vol:	0	207	0	55	43	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	363	0	55	123	5	10	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	363	0	55	123	5	10	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	363	0	55	123	5	10	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	363	0	55	123	5	10	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.95	0.95	0.90	0.90	0.95	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	1.00	2.88	0.12	1.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	3610	0	1805	4954	201	1805	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.10	0.00	0.03	0.02	0.02	0.01	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****		****			****					
Green Time:	0.0	55.3	0.0	16.7	72.0	72.0	6.0	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.16	0.00	0.16	0.03	0.03	0.08	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	7.5	0.0	31.0	1.8	1.8	39.7	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	7.5	0.0	31.0	1.8	1.8	39.7	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	C	A	A	D	A	A	A	A	A
HCM2k95thQ:	0	4	0	3	1	0	1	0	0	0	0	0

PM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

Intersection #16 D. Douglass Road at Project Driveway 4

Average Delay (sec/veh): 3.3 Worst Case Level Of Service: A[9.6]

Street Name:	Douglass Road								Project Driveway 4					
Approach:	North Bound			South Bound			East Bound			West Bound				
Movement:	L	- T	- R	L	- T	- R	L	- T	- R	L	- T	- R		
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign				
Rights:	Include			Include			Include			Include				
Lanes:	0 0	2	0 0	0 0	3	0 0	0 0	0	0 0	0 0	0	0 1		
Volume Module:														
Base Vol:	0	156	0	0	80	0	0	0	0	0	0	0		
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
Initial Bse:	0	156	0	0	80	0	0	0	0	0	0	0		
Added Vol:	0	41	0	0	43	0	0	0	0	0	0	166		
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0		
Initial Fut:	0	197	0	0	123	0	0	0	0	0	0	166		
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00		
PHF Volume:	0	197	0	0	123	0	0	0	0	0	0	166		
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0		
FinalVolume:	0	197	0	0	123	0	0	0	0	0	0	166		
Critical Gap Module:														
Critical Gp:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9		
FollowUpTim:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3		
Capacity Module:														
Cnflict Vol:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	99		
Potent Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	945		
Move Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	945		
Volume/Cap:	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.18		
Level Of Service Module:														
2Way95thQ:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.6		
Control Del:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	9.6		
LOS by Move:	*	*	*	*	*	*	*	*	*	*	*	A		
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT		
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx		
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx		
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*		
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			9.6				
ApproachLOS:	*			*			*			A				

Note: Queue reported is the number of cars per lane.

PM Cumulative Plus Project (Year 2013)
ARTIC, Anaheim [2.10.3123.1]
Linscott, Law & Greenspan, Engineers

Level Of Service Computation Report
2000 HCM Operations Method (Future Volume Alternative)

Intersection #17 E. Douglass Road at Project Driveway 5

Cycle (sec):	90	Critical Vol./Cap.(X):	0.079
Loss Time (sec):	8	Average Delay (sec/veh):	5.7
Optimal Cycle:	90	Level Of Service:	A

Street Name:	Douglass Road						Project Driveway 5					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Permitted			Protected			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	6	6	6	6	0	0	0	0	0	0	0
Y+R:	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0	4.0
Lanes:	0 0	1 1	0	1 0	2 0	0	0 0	0 0	0	0 0	0 0	0
Volume Module:												
Base Vol:	0	156	0	0	80	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	156	0	0	80	0	0	0	0	0	0	0
Added Vol:	0	41	0	32	12	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	197	0	32	92	0	0	0	0	0	0	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	197	0	32	92	0	0	0	0	0	0	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	0	197	0	32	92	0	0	0	0	0	0	0
PCE Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
MLF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
FinalVolume:	0	197	0	32	92	0	0	0	0	0	0	0
Saturation Flow Module:												
Sat/Lane:	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Adjustment:	1.00	0.95	0.95	0.95	0.95	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	0.00	2.00	0.00	1.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Final Sat.:	0	3610	0	1805	3610	0	0	0	0	0	0	0
Capacity Analysis Module:												
Vol/Sat:	0.00	0.05	0.00	0.02	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Crit Moves:		****		****								
Green Time:	0.0	61.9	0.0	20.1	82.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Volume/Cap:	0.00	0.08	0.00	0.08	0.03	0.00	0.00	0.00	0.00	0.00	0.00	0.00
Delay/Veh:	0.0	4.7	0.0	27.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
User DelAdj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
AdjDel/Veh:	0.0	4.7	0.0	27.7	0.4	0.0	0.0	0.0	0.0	0.0	0.0	0.0
LOS by Move:	A	A	A	C	A	A	A	A	A	A	A	A
HCM2k95thQ:	0	2	0	1	0	0	0	0	0	0	0	0

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #18 F. Douglass Road at Project Driveway 6

****

Average Delay (sec/veh): 1.6 Worst Case Level Of Service: A[8.9]

****

Street Name:	Douglass Road						Project Driveway 6					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Uncontrolled			Uncontrolled			Stop Sign			Stop Sign		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 1	1	0	1 0	2	0 0	0 0	0	0 0 0	0 0	0	1
Volume Module:												
Base Vol:	0	156	0	0	80	0	0	0	0	0	0	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	156	0	0	80	0	0	0	0	0	0	0
Added Vol:	0	0	0	12	0	0	0	0	0	0	0	41
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	156	0	12	80	0	0	0	0	0	0	41
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	156	0	12	80	0	0	0	0	0	0	41
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	156	0	12	80	0	0	0	0	0	0	41
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	xxxxx	4.1	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	6.9
FollowUpTim:	xxxxx	xxxx	xxxxx	2.2	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	3.3
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	xxxxx	156	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	78
Potent Cap.:	xxxx	xxxx	xxxxx	1436	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	973
Move Cap.:	xxxx	xxxx	xxxxx	1436	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	973
Volume/Cap:	xxxx	xxxx	xxxx	0.01	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	0.04
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	xxxxx	0.0	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	0.1
Control Del:	xxxxx	xxxx	xxxxx	7.5	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	8.9
LOS by Move:	*	*	*	A	*	*	*	*	*	*	*	A
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:	xxxxxx			xxxxxx			xxxxxx			8.9		
ApproachLOS:	*			*			*			A		

****

Note: Queue reported is the number of cars per lane.

****

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Level Of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)

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Intersection #19 G. Project Driveway 7 at Katella Avenue

****

Average Delay (sec/veh): 0.1 Worst Case Level Of Service: B[11.4]

****

Street Name:	Project Driveway 7						Katella Avenue					
Approach:	North Bound			South Bound			East Bound			West Bound		
Movement:	L	T	R	L	T	R	L	T	R	L	T	R
Control:	Stop Sign			Stop Sign			Uncontrolled			Uncontrolled		
Rights:	Include			Include			Include			Include		
Lanes:	0 0 0 0 1			0 0 0 0 0			0 0 3 0 1			0 0 3 0 0		
Volume Module:												
Base Vol:	0	0	0	0	0	0	0	1188	0	0	1441	0
Growth Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Initial Bse:	0	0	0	0	0	0	0	1188	0	0	1441	0
Added Vol:	0	0	31	0	0	0	0	45	24	0	12	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	0	0	31	0	0	0	0	1233	24	0	1453	0
User Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Adj:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
PHF Volume:	0	0	31	0	0	0	0	1233	24	0	1453	0
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
FinalVolume:	0	0	31	0	0	0	0	1233	24	0	1453	0
Critical Gap Module:												
Critical Gp:	xxxxx	xxxx	6.9	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
FollowUpTim:	xxxxx	xxxx	3.3	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Capacity Module:												
Cnflict Vol:	xxxx	xxxx	411	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Potent Cap.:	xxxx	xxxx	596	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Move Cap.:	xxxx	xxxx	596	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Volume/Cap:	xxxx	xxxx	0.05	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx	xxxx
Level Of Service Module:												
2Way95thQ:	xxxx	xxxx	0.2	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
Control Del:	xxxxx	xxxx	11.4	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
LOS by Move:	*	*	B	*	*	*	*	*	*	*	*	*
Movement:	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT	LT -	LTR -	RT
Shared Cap.:	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx	xxxx	xxxx	xxxxx
SharedQueue:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shrd ConDel:	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx	xxxxx	xxxx	xxxxx
Shared LOS:	*	*	*	*	*	*	*	*	*	*	*	*
ApproachDel:		11.4			xxxxxx			xxxxxx			xxxxxx	
ApproachLOS:		B			*			*			*	

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Note: Queue reported is the number of cars per lane.

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