

Level of Service Computation Report
 Level of Service: B
 Intersection #5 Washington Blvd and Sierra Madre Blvd
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.627
 Loss Time (sec): 4.0 (Y-R - 4 sec) Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 42 Level of Service: B

Street Name: North Bound South Bound East Bound West Bound
 Approach: L T R L T R L T R L T R
 Movement: L T R L T R L T R L T R
 Control: Protected Protected Protected Protected Protected
 Right: 0
 Min. Green: 1 0 0 1 0 1 0 1 0 2 1 0 1 0 1 0 1 0 1 0 1

Volume Module
 Base Vol: 3 22 11 524 70 122 8 782 70 2 379 262
 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 Base: 3 22 11 524 70 122 8 782 70 2 379 262
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fur: 3 22 11 524 70 122 8 782 70 2 379 262
 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: 3 22 11 524 70 122 8 782 70 2 379 262
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 3 22 11 524 70 122 8 782 70 2 379 262
 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
 M/F 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
 Final Vol: 3 22 11 524 70 122 8 782 70 2 379 262

Saturation Flow Module
 Sat/Lane: 1600 1500 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
 Adj/Status: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lane Sat: 1600 1067 513 1600 1600 1600 1600 1600 1600 1600 1600 1600
 Capacity Analysis Module:
 Vol/Sat: 0.00 0.02 0.02 0.33 0.04 0.06 0.01 0.18 0.18 0.00 0.08 0.16
 Crit Moves: *****

Level of Service Computation Report
 Level of Service: B
 Intersection #5 Washington Blvd and Sierra Madre Blvd
 Cycle (sec): 100 Critical Vol./Cap. (X): 0.627
 Loss Time (sec): 4.0 (Y-R - 4 sec) Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 42 Level of Service: B

Street Name: North Bound South Bound East Bound West Bound
 Approach: L T R L T R L T R L T R
 Movement: L T R L T R L T R L T R
 Control: Protected Protected Protected Protected Protected
 Right: 0
 Min. Green: 1 0 0 1 0 1 0 1 0 2 1 0 1 0 1 0 1 0 1 0 1

Volume Module
 Base Vol: 3 22 11 524 70 122 8 782 70 2 379 262
 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 Base: 3 22 11 524 70 122 8 782 70 2 379 262
 Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
 Initial Fur: 3 22 11 524 70 122 8 782 70 2 379 262
 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: 3 22 11 524 70 122 8 782 70 2 379 262
 Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
 Reduced Vol: 3 22 11 524 70 122 8 782 70 2 379 262
 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
 M/F 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
 Final Vol: 3 22 11 524 70 122 8 782 70 2 379 262

Saturation Flow Module
 Sat/Lane: 1600 1500 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
 Adj/Status: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
 Lane Sat: 1600 1067 513 1600 1600 1600 1600 1600 1600 1600 1600 1600
 Capacity Analysis Module:
 Vol/Sat: 0.00 0.02 0.02 0.33 0.04 0.06 0.01 0.18 0.18 0.00 0.08 0.16
 Crit Moves: *****

1000 Rose Avenue
 City of Pasadena
 AM Future without Project

Impact Analysis Report
 Level Of Service

Intersection	Base Del/V/C	Future Del/V/C	Change in
# 1 Altadena Dr and Cooley Pl	A xxxxx 0.534	A xxxxx 0.534	+ 0.000 V/C
# 2 Altadena Dr and Mountain St	E 50.0 0.000	E 50.0 0.000	+ 0.000 D/V
# 3 Altadena Dr and Orange Grove	C xxxxx 0.750	C xxxxx 0.750	+ 0.000 V/C
# 4 Washington Blvd and Woodlyn Rd	C 15.6 0.000	C 15.6 0.000	+ 0.000 D/V
# 5 Washington Blvd and Sierra Med	B xxxxx 0.643	B xxxxx 0.643	+ 0.000 V/C

1000 Rose Avenue
 City of Pasadena
 AM Future without Project

Level Of Service Computation Report
 (Future Volume Alternative)

Intersection #	Altadena Dr and Cooley Pl	South Bound	East Round	West Bound
Cycle (sec):	100	100	100	100
Loss Time (sec):	10 (V+R = 4 sec)	10	10	10
Original Cycle:	35	35	35	35
Level Of Service:	A	A	A	A

Street Name: Altadena Dr
 Approach: North Bound South Bound East Round West Bound

Control	L	T	R	C	T	R	L	T	R	L	T	R
Permitted	0	0	0	0	0	0	0	0	0	0	0	0
Include	1	0	1	0	1	0	0	0	0	0	0	0
Min. Green	1	0	1	0	1	0	0	0	0	0	0	0
Lanes	1	0	1	0	1	0	0	0	0	0	0	0

Volume Module:

Base Vol:	5 611	156	86 985	7 0 0	0 0 0	173 1 99
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	5 629	161	89 1015	7 0 0	0 0 0	178 1 102
Added Vol:	0 0	0 0	0 0	0 0	0 0	0 0
PasserbyVol:	0 0	0 0	0 0	0 0	0 0	0 0
Initial Fut:	5 629	161	89 1015	7 0 0	0 0 0	178 1 102
User Adj:	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
PHF Volume:	5 629	161	89 1015	7 0 0	0 0 0	178 1 102
Reduced Vol:	0 0	0 0	0 0	0 0	0 0	0 0
Reduct Vol:	5 629	161	89 1015	7 0 0	0 0 0	178 1 102
PCF Adj:	1.00	1.00	1.00	1.00	1.00	1.00
MUF Adj:	1.00	1.00	1.00	1.00	1.00	1.00
Final Vol:	5 629	161	89 1015	7 0 0	0 0 0	178 1 102

Saturation Flow Module:

Sat/Lane:	1600 1600	1600 1600	1600 1600	1600 1600	1600 1600
Adjustment:	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00	1.00 1.00
Lanes:	1.00 1.59	0.41 1.00	1.59 0.01	0.00 0.00	0.00 1.00
Final Sat.:	1600 2549	651 1600	3177 23	0 0	1600 16 1584

Capacity Analysis Module:

Vol/Sat:	0.00 0.25	0.75 0.36	0.32 0.00	0.00 0.00	0.11 0.06
Crit Moves:	0.00 0.25	0.75 0.36	0.32 0.00	0.00 0.00	0.11 0.06

1009 Rose Avenue
City of Pasadena
AM Future without Project

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

Intersection #4 Washington Blvd and Woodlyn Rd
Average Delay (sec/veh): 1.2 Worst Case Level of Service: C (15.6)

Street Name: North Bound South Bound East Bound West Bound
Approach: 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: 1 0 1 0 1 0 1 0 0 0 0 1 0 0 1 0 0 1 0 0

Volume Module:
Base Vol: 40 375 1 1 447 21 0 0 0 71 4 1 2

Growth Adj: 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03

Initial Bse: 41 386 1 1 460 22 0 0 0 73 4 1 2

Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Est: 41 386 1 1 460 22 0 0 0 73 4 1 2

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: 41 386 1 1 460 22 0 0 0 73 4 1 2

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol: 41 386 1 1 460 22 0 0 0 73 4 1 2

Critical Gap Module:
Critical Gap: 4.1 xxxxx xxxxx xxxxx xxxxx 6.9 7.5 6.5 6.9

Followup: 2.2 xxxxx xxxxx xxxxx xxxxx 3.3 3.5 4.0 3.3

Capacity Module:
Conflict Vol: 482 xxxxx xxxxx xxxxx xxxxx 241 701 953 394

Potent Cap: 1091 xxxxx xxxxx xxxxx xxxxx 766 329 261 821

Move Cap: 1091 xxxxx xxxxx xxxxx xxxxx 766 289 251 821

Volume/Cap: 0.04 xxxxx xxxxx xxxxx xxxxx 0.10 0.01 0.06 0.00

Level of Service Module:
Queue: 0.1 xxxxx xxxxx xxxxx xxxxx 0.3 xxxxx xxxxx xxxxx

Stopped Del: 8.4 xxxxx xxxxx xxxxx xxxxx 10.2 xxxxx xxxxx xxxxx

LOS by Move: A A A B

Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT

Shared Cap: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shared Queue: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Shared LOS: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Approach: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

Approach LOS: xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx xxxxx

1000 Rose Avenue
City of Pasadena
AM Future without Project

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

Intersection #5 Washington Blvd and Sierra Madre Blvd
Average Delay (sec/veh): 1.0 (Y-R = 4 sec) Critical Vol /Cap (X): 0.643

Street Name: North Bound South Bound East Bound West Bound
Approach: L T R L T R L T R L T R

Control: Protected Protected Protected Protected
Rights: Include Include Include Include

Lanes: 1 0 0 1 0 1 0 1 0 1 0 2 1 0 1 0 3 0 1

Volume Module:
Base Vol: 103 23 9 270 68 243 150 363 15 4 673 348

Growth Adj: 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03

Initial Bse: 106 24 9 278 70 250 155 374 15 4 693 358

Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0

PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0

Initial Est: 106 24 9 278 70 250 155 374 15 4 693 358

User Adj: 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

PHF Volume: 106 24 9 278 70 250 155 374 15 4 693 358

Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0

Final Vol: 106 24 9 278 70 250 155 374 15 4 693 358

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600

Adj: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00

Final Sat: 1600 1600 1600 1600 1600 1600 1600 1600

Capacity Analysis Module:
Vol/Sat: 0.07 0.02 0.02 0.17 0.04 0.16 0.10 0.08 0.08 0.00 0.14 0.22

Crit Moves: ****

#2
 Signalized

1000 Rose Avenue
 City of Pasadena
 AM Future without Project

Level Of Service Computation Report
 ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Altadena Dr and Mountain St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.618
 Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 41 Level Of Service: B

Street Name:	Altadena Dr						Mountain St					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	0	1	1	0	0	0	0	1

Volume Module:	Altadena Dr			Mountain St		
Base Vol:	75	851	0	0	1149	52
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	77	877	0	0	1183	54
Added Vol:	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0
Initial Fut:	77	877	0	0	1183	54
User Adj:	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
PHF Volume:	77	877	0	0	1183	54
Reduct Vol:	0	0	0	0	0	0
Reduced Vol:	77	877	0	0	1183	54
PCE Adj:	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
Final Vol.:	77	877	0	0	1183	54

Saturation Flow Module:	Altadena Dr			Mountain St		
Sat/Lane:	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.91	0.09
Final Sat.:	1600	3200	0	0	3061	139

Capacity Analysis Module:	Altadena Dr			Mountain St		
Vol/Sat:	0.05	0.27	0.00	0.00	0.39	0.39
Crit Moves:	****			****		****

#4
Signalized

1000 Rose Avenue
City of Pasadena
AM Future without Project

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Washington Blvd and Woodlyn Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.325
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 26 Level Of Service: A

Street Name:	Washington Blvd						Woodlyn Rd					
	North Bound			South Bound			East Bound			West Bound		
Approach:	L	T	R	L	T	R	L	T	R	L	T	R
Movement:												
Control:	Permitted			Permitted			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	0	0	0	1	0	0

Volume Module:

Base Vol:	40	375	1	1	447	21	0	0	71	4	1	2
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	41	386	1	1	460	22	0	0	73	4	1	2
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	41	386	1	1	460	22	0	0	73	4	1	2
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:	41	386	1	1	460	22	0	0	73	4	1	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	41	386	1	1	460	22	0	0	73	4	1	2
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
Final Vol.:	41	386	1	1	460	22	0	0	73	4	1	2

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.99	0.01	1.00	1.91	0.09	0.00	0.00	1.00	0.57	0.14	0.29
Final Sat.:	1600	3191	9	1600	3056	144	0	0	1600	914	229	457

Capacity Analysis Module:

Vol/Sat:	0.03	0.12	0.12	0.00	0.15	0.15	0.00	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****			****					****	****		

1000 Rose Avenue
City of Pasadena
PM Future without Project

Level of Service Computation Report
2000 HCM Unsignalized Method (Future Volume Alternative)
Intersection #2 Altadena Dr and Mountain St
Average Delay (sec/veh): 2.4 Worst Case Level of Service: E (41.2)
Street Name: Altadena Dr Mountain St
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: 1 0 2 0 0 0 1 0 1 0 0 0 0 0 1 0 0 0 0 1 0 0 0

Volume Module:
Base Vol: 75 882 0 10 715 19 18 2 112 9 0 0 8
Growth Adj: 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03
Initial Bse: 77 908 0 10 736 20 19 2 114 9 0 0 8
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 77 908 0 10 736 20 19 2 114 9 0 0 8
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: 77 908 0 10 716 20 19 2 114 9 0 0 8
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0 0
Final Vol: 77 908 0 10 736 20 19 2 114 9 0 0 8
Critical Gap Module:
Critical Gap: 4.1 xxxxx xxxxxx 7.5 6.5 6.9 7.5 xxxxx 6.9
FollowUpTim: 2.2 xxxxx xxxxxx 3.5 4.0 3.3 3.5 xxxxx 3.3

Capacity Module:
Chfrict Vol: 908 xxxxx xxxxxx 1176 1810 378 1453 xxxxx 454
Potent Cap: 864 xxxxx xxxxxx 106 77 625 93 xxxxx 558
Move Cap: 864 xxxxx xxxxxx 96 69 625 69 xxxxx 558
Volume/Cap: 0.09 xxxxx xxxxx 0.19 0.03 0.18 0.14 xxxxx 0.01

Level Of Service Module:
Queue: 0.3 xxxxx xxxxxx
Stopped Del: 9.6 xxxxx xxxxxx
LOS by Move: A
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap: xxxxx xxxxx xxxxxx 133 xxxxxx xxxxx 117 xxxxxx
ShareQueue: xxxxx xxxxx xxxxxx 1.9 xxxxxx xxxxxx 0.5 xxxxxx
Shrd StpDel: xxxxx xxxxx xxxxxx 22.9 xxxxxx xxxxxx 41.2 xxxxxx
Shared LOS: A C
ApproachDel: xxxxxx 22.9 41.2
ApproachLOS: C B

1000 Rose Avenue
City of Pasadena
PM Future without Project

Level of Service Computation Report
ICU (Loss as Cycle Length %) Method (Future Volume Alternative)
Intersection #3 Altadena Dr and Orange Grove Blvd
Cycle (sec): 100 Critical Vol./Cap. (X): 0.730
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 54 Level Of Service: C
Street Name: Altadena Dr Orange Grove Blvd
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 Permitted Permitted
Rights: Include Include Include Include
Lanes: 1 0 1 1 0 0 1 0 1 0 0 0 1 0 1 0 0 0 1 0 1 0 0

Volume Module:
Base Vol: 49 721 119 105 618 37 93 823 49 17 420 99
Growth Adj: 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03 1.03
Initial Bse: 50 743 123 108 637 38 96 848 50 18 433 102
Added Vol: 0 0 0 0 0 0 0 0 0 0 0 0
PasserByVol: 0 0 0 0 0 0 0 0 0 0 0 0
Initial Fut: 50 743 123 108 637 38 96 848 50 18 433 102
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: 50 743 123 108 637 38 96 848 50 18 433 102
Reduct Vol: 0 0 0 0 0 0 0 0 0 0 0 0
Reduced Vol: 50 743 123 108 637 38 96 848 50 18 433 102
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
NLF 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
Final Vol: 50 743 123 108 637 38 96 848 50 18 433 102

Saturation Flow Module:
Sat/Lane: 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600 1600
Adjustment: 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00 1.00
Lanes Sat.: 1600 2747 453 1600 3019 181 1600 3020 180 1600 2590 610

Capacity Analysis Module:
Vol/Sat: 0.03 0.27 0.27 0.07 0.21 0.21 0.06 0.28 0.28 0.01 0.17 0.17
Crit Moves:

2
Signalized

1000 Rose Avenue
City of Pasadena
PM Future without Project

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Altadena Dr and Mountain St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.480
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 32 Level Of Service: A

Street Name:	Altadena Dr						Mountain St					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	1	0	1	0	0	0	0	1

Volume Module:

Base Vol:	75	882	0	10	715	19	18	2	111	9	0	8
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	77	908	0	10	736	20	19	2	114	9	0	8
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	908	0	10	736	20	19	2	114	9	0	8
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:	77	908	0	10	736	20	19	2	114	9	0	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	908	0	10	736	20	19	2	114	9	0	8
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
Final Vol.:	77	908	0	10	736	20	19	2	114	9	0	8

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.03	1.92	0.05	0.14	0.01	0.85	0.53	0.00	0.47
Final Sat.:	1600	3200	0	43	3075	82	220	24	1356	847	0	753

Capacity Analysis Module:

Vol/Sat:	0.05	0.28	0.00	0.01	0.24	0.24	0.01	0.08	0.08	0.01	0.00	0.01
Crit Moves:	****			****			****			****		

#4
Signalized

1000 Rose Avenue
City of Pasadena
PM Future without Project

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Washington Blvd and Woodlyn Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.368
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 27 Level Of Service: A

Approach:	Washington Blvd				Woodlyn Rd										
	North Bound		South Bound		East Bound		West Bound								
Movement:	L	T	R	L	T	R	L	T	R	L	T	R			
Control:	Permitted				Permitted				Permitted						
Rights:	Include				Include				Include						
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0			
Lanes:	1	0	1	1	0	1	0	1	1	0	0	0	1	0	0

Volume Module:

Base Vol:	33	270	0	3	621	7	1	1	67	1	0	3
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	34	278	0	3	640	7	1	1	69	1	0	3
Added Vol:	0	0	0	0	0	0	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	34	278	0	3	640	7	1	1	69	1	0	3
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:	34	278	0	3	640	7	1	1	69	1	0	3
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	34	278	0	3	640	7	1	1	69	1	0	3
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
Final Vol.:	34	278	0	3	640	7	1	1	69	1	0	3

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.98	0.02	0.01	0.01	0.98	0.25	0.00	0.75
Final Sat.:	1600	3200	0	1600	3164	36	23	23	1554	400	0	1200

Capacity Analysis Module:

Vol/Sat:	0.02	0.09	0.00	0.00	0.20	0.20	0.00	0.04	0.04	0.00	0.00	0.00
Crit Moves:	****			****			****			****		

1000 Rose Avenue
City of Pasadena
AM Future with Project

Level Of Service Computation Report
ICU Method (Future Volume Alternative)

Intersection #1 Altadena Dr and Cooley Pl

Cycle (sec): 100 Critical Vol./Cap. (X): 0.542
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 36 Level Of Service: A

Street Name: Altadena Dr Cooley Pl
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 Permitted Permitted Split Phase Split Phase
Rights: Include Include Include Include Include Include
Lanes: 1 0 1 1 0 1 0 1 0 0 0 0 0 0 1 0 0 1 0 0

Volume Module:
Base Vol: 5 611 356 86 985 7 0 0 0 0 0 0 0 173 1 99
Growth Adj: 1.03

Initial Bse: 5 629 161 89 1015 7 0 0 0 0 0 0 0 178 1 102
Added Vol: 0
PasserbyVol: 0
User Adj: 5 629 166 89 1015 7 0 0 0 0 0 0 0 191 1 102
PHF Adj: 1.00

PHF Volume: 5 629 166 89 1015 7 0 0 0 0 0 0 0 191 1 102
Reduced Vol: 5 629 166 89 1015 7 0 0 0 0 0 0 0 191 1 102
Reduced Vol: 5 629 166 89 1015 7 0 0 0 0 0 0 0 191 1 102
PCE Adj: 1.00

M/F Adj: 1.00
Final Vol: 5 629 166 89 1015 7 0 0 0 0 0 0 0 191 1 102

Saturation Flow Module:
Sat/Lane: 1600

Adjustment: 1.00
Lanes: 1600 2531 667 1600 1177 23 0 0 0 0 0 0 0 1600 16 1584
Final Sat: 1600 2531 667 1600 1177 23 0 0 0 0 0 0 0 1600 16 1584

Capacity Analysis Module:
Vol/Sat: 0.00 0.25 0.25 0.06 0.32 0.00 0.00 0.00 0.00 0.12 0.06 0.06 0.06 0.06 0.06 0.06 0.06 0.06 0.06 0.06
Crit Movs: ****

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City of Pasadena
AM Future with Project

Level Of Service Computation Report
ICU Method (Future Volume Alternative)

Intersection #2 Altadena Dr and Mountain St

Average Delay (sec/veh): 2.6 Worst Case Level Of Service: F (51.0)

Street Name: Altadena Dr Mountain St
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 Uncontrolled Uncontrolled Stop Sign Stop Sign
Rights: Include Include Include Include Include Include
Lanes: 1 0 2 0 0 0 0 0 1 1 0 0 0 0 1 0 0 0 0 0 0 0

Volume Module:
Base Vol: 75 851 0 0 1149 52 12 0 115 2 0 2
Growth Adj: 1.03

Initial Bse: 77 877 0 0 1183 54 12 0 118 2 0 2
Added Vol: 0 5 0 0 12 1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0
PasserbyVol: 0
User Adj: 77 882 0 0 1195 55 12 0 118 2 0 2
PHF Adj: 1.00

PHF Volume: 77 882 0 0 1195 55 12 0 118 2 0 2
Reduced Vol: 0
Final Vol: 77 882 0 0 1195 55 12 0 118 2 0 2
Critical Cap Module:
Critical Cap: 4.1 xxxxx xxxxxx xxxxxx xxxxxx 7.5 xxxxx 6.9 7.5 xxxxx 6.9
FollowupTm: 2.2 xxxxx xxxxxx xxxxxx xxxxxx 3.5 xxxxx 3.3 3.5 xxxxx 3.3

Capacity Module:
Conflict Vol: 1250 xxxxx xxxxxx xxxxxx xxxxxx 1818 xxxxx 625 1614 xxxxx 441
Potential Cap: 564 xxxxx xxxxxx xxxxxx xxxxxx 50 xxxxx 433 68 xxxxx 570
Move Cap: 564 xxxxx xxxxxx xxxxxx xxxxxx 44 xxxxx 433 44 xxxxx 570
Volume/Cap: 0.14 xxxxx xxxxxx xxxxxx xxxxxx 0.28 xxxxx 0.27 0.05 xxxxx 0.00

Level Of Service Module:
Queue: 9.5 xxxxx xxxxxx
Stopped Del: 12.4 xxxxx xxxxxx
LOS by Move: B
Movement: LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT LT - LTR - RT
Shared Cap: xxxxx xxxxxx
Shared Queue: xxxxx xxxxxx
Shrd StpDel: xxxxx xxxxxx
Shared LOS: xxxxxx
ApproachDel: xxxxxx 37.6 51.0
ApproachLOS: xxxxxx E P

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Signalized

1000 Rose Avenue
City of Pasadena
AM Future with Project

Level Of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Altadena Dr and Mountain St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.622
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 42 Level Of Service: B

Street Name:	Altadena Dr				Mountain St									
Approach:	North Bound		South Bound		East Bound		West Bound							
Movement:	L	T	R	L	T	R	L	T	R					
Control:	Permitted		Permitted		Permitted		Permitted							
Rights:	Include		Include		Include		Include							
Min. Green:	0	0	0	0	0	0	0	0	0					
Lanes:	1	0	2	0	0	0	1	1	0	0	0	1	0	0

Volume Module:

Base Vol:	75	851	0	0	1149	52	12	0	115	2	0	2
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	77	877	0	0	1183	54	12	0	118	2	0	2
Added Vol:	0	5	0	0	12	1	0	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	882	0	0	1195	55	12	0	118	2	0	2
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:	77	882	0	0	1195	55	12	0	118	2	0	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	882	0	0	1195	55	12	0	118	2	0	2
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
Final Vol.:	77	882	0	0	1195	55	12	0	118	2	0	2

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.00	1.91	0.09	0.09	0.00	0.91	0.50	0.00	0.50
Final Sat.:	1600	3200	0	0	3060	140	151	0	1449	800	0	800

Capacity Analysis Module:

Vol/Sat:	0.05	0.28	0.00	0.00	0.39	0.39	0.01	0.00	0.08	0.00	0.00	0.00
Crit Moves:	****			****			****		****	****		

#4 Signalized

1000 Rose Avenue
 City of Pasadena
 AM Future with Project

Level Of Service Computation Report
 ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

 Intersection #4 Washington Blvd and Woodlyn Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.327
 Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
 Optimal Cycle: 26 Level Of Service: A

Street Name:	Washington Blvd						Woodlyn Rd					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	0	1	0	0	0	1	0	0

Volume Module:

Base Vol:	40	375	1	1	447	21	0	0	71	4	1	2
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	41	386	1	1	460	22	0	0	73	4	1	2
Added Vol:	1	0	0	0	0	0	0	0	3	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	42	386	1	1	460	22	0	0	76	4	1	2
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:	42	386	1	1	460	22	0	0	76	4	1	2
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	42	386	1	1	460	22	0	0	76	4	1	2
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
Final Vol.:	42	386	1	1	460	22	0	0	76	4	1	2

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	1.99	0.01	1.00	1.91	0.09	0.00	0.00	1.00	0.57	0.14	0.29
Final Sat.:	1600	3191	9	1600	3056	144	0	0	1600	914	229	457

Capacity Analysis Module:

Vol/Sat:	0.03	0.12	0.12	0.00	0.15	0.15	0.00	0.00	0.05	0.00	0.00	0.00
Crit Moves:	****			****			****	****		****	****	

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1000 Rose Avenue
City of Pasadena
PM Future with Project

Level of Service Computation Report
ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #2 Altadena Dr and Mountain St

Cycle (sec): 100 Critical Vol./Cap. (X): 0.486
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 33 Level Of Service: A

Street Name:	Altadena Dr						Mountain St					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	2	0	1	0	1	0	0	0	1	0

Volume Module:

Base Vol:	75	882	0	10	715	19	18	2	111	9	0	8
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	77	908	0	10	736	20	19	2	114	9	0	8
Added Vol:	0	15	0	0	8	1	2	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0	0	0	0	0	0	0
Initial Fut:	77	923	0	10	744	21	21	2	114	9	0	8
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:	77	923	0	10	744	21	21	2	114	9	0	8
Reduct Vol:	0	0	0	0	0	0	0	0	0	0	0	0
Reduced Vol:	77	923	0	10	744	21	21	2	114	9	0	8
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
Final Vol.:	77	923	0	10	744	21	21	2	114	9	0	8

Saturation Flow Module:

Sat/Lane:	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	0.03	1.92	0.05	0.15	0.02	0.83	0.53	0.00	0.47
Final Sat.:	1600	3200	0	43	3073	85	240	24	1336	847	0	753

Capacity Analysis Module:

Vol/Sat:	0.05	0.29	0.00	0.01	0.24	0.24	0.01	0.09	0.09	0.01	0.00	0.01
Crit Moves:	****			****			****			****		

#4
Signalized

1000 Rose Avenue
City of Pasadena
PM Future with Project

Level Of Service Computation Report

ICU 1(Loss as Cycle Length %) Method (Future Volume Alternative)

Intersection #4 Washington Blvd and Woodlyn Rd

Cycle (sec): 100 Critical Vol./Cap. (X): 0.371
Loss Time (sec): 10 (Y+R = 4 sec) Average Delay (sec/veh): xxxxxx
Optimal Cycle: 27 Level Of Service: A

Street Name:	Washington Blvd						Woodlyn Rd					
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			Permitted			Permitted		
Rights:	Include			Include			Include			Include		
Min. Green:	0	0	0	0	0	0	0	0	0	0	0	0
Lanes:	1	0	1	1	1	0	0	0	1	0	0	1

Volume Module:	Washington Blvd			Woodlyn Rd		
Base Vol:	33	270	0	3	621	7
Growth Adj:	1.03	1.03	1.03	1.03	1.03	1.03
Initial Bse:	34	278	0	3	640	7
Added Vol:	2	0	0	0	0	0
PasserByVol:	0	0	0	0	0	0
Initial Fut:	36	278	0	3	640	7
User Adj:	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
PHF Volume:	36	278	0	3	640	7
Reduct Vol:	0	0	0	0	0	0
Reduced Vol:	36	278	0	3	640	7
PCE Adj:	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
Final Vol.:	36	278	0	3	640	7

Saturation Flow Module:	Washington Blvd			Woodlyn Rd		
Sat/Lane:	1600	1600	1600	1600	1600	1600
Adjustment:	1.00	1.00	1.00	1.00	1.00	1.00
Lanes:	1.00	2.00	0.00	1.00	1.98	0.02
Final Sat.:	1600	3200	0	1600	3164	36

Capacity Analysis Module:	Washington Blvd			Woodlyn Rd		
Vol/Sat:	0.02	0.09	0.00	0.00	0.20	0.20
Crit Movs:	****			****		

APPENDIX B

STREET SEGMENT IMPACT THRESHOLDS



Street Segments (ADT Impact Thresholds)

The following are thresholds for impacts to any street segment by a development project (excluding ambient growth) and the required traffic mitigation:

ADT Growth on Street Segment	Required Traffic Mitigations
<u>0.0 - 2.4% ADT Growth</u> <ul style="list-style-type: none">• Project review and Initial Study	<ul style="list-style-type: none">• Staff Review and Conditions
<u>2.5% - 4.9% ADT Growth</u> <ul style="list-style-type: none">• Examined by Initial Study• Focused Traffic Study	<ul style="list-style-type: none">• Soft Mitigation Required• TDM, Rideshare, etc.
<u>5.0% - 7.4 % ADT Growth</u> <ul style="list-style-type: none">• Examined by Initial Study• Full Traffic Study Required	<ul style="list-style-type: none">• Soft Mitigation Required• Physical Mitigation Required• Project Alternatives Considered
<u>7.5% + ADT Growth</u> <ul style="list-style-type: none">• Examined by Initial Study• Full Traffic Study Required	<ul style="list-style-type: none">• Soft Mitigation Required• Extensive Physical Mitigation Required• Project Alternatives Considered