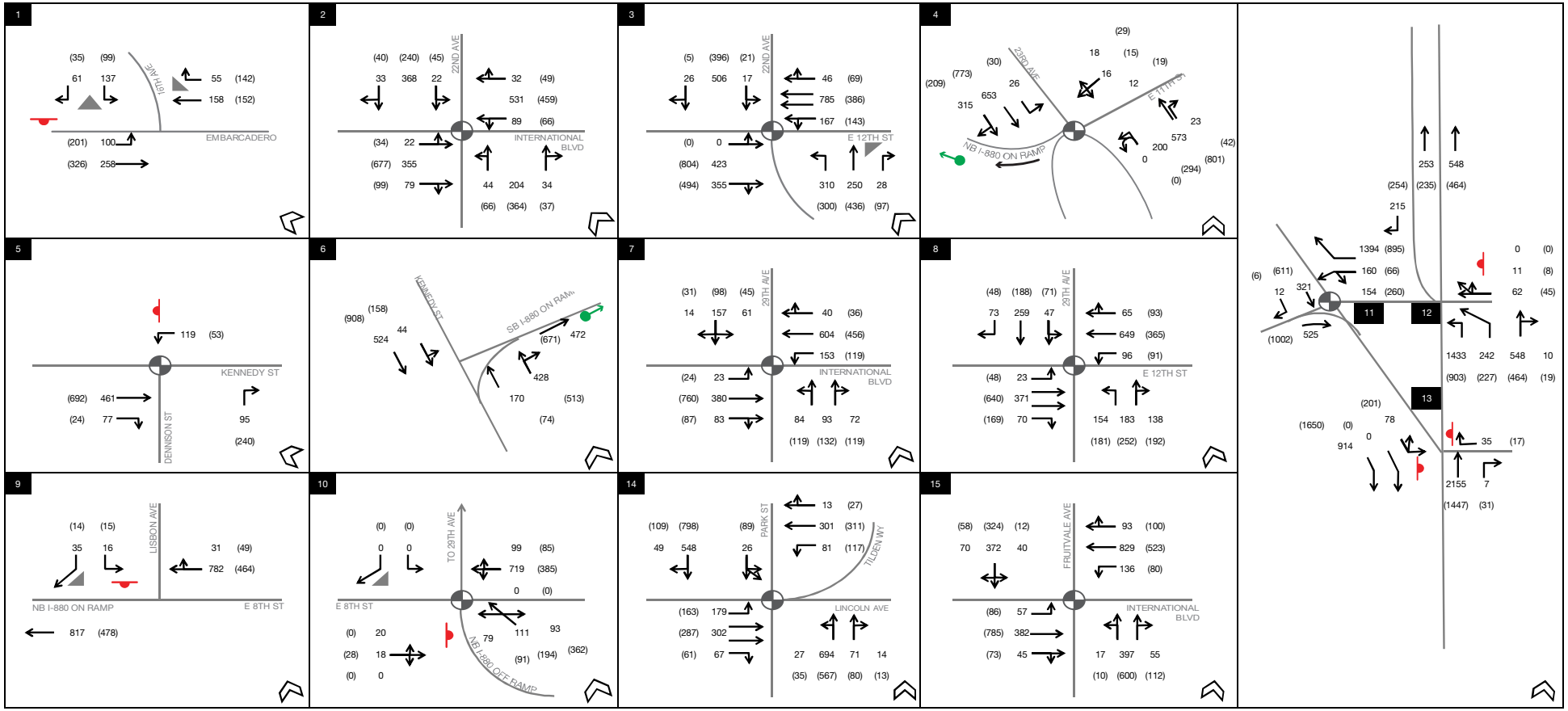
Existing No Project AM (PM)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22ND AVE
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531 (459)
89 (66)
(34) 22
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(99) 79
INTERNATIONAL BLVD
44 204 34
(66) (364) (37)
3
(5) (396) (21)
26 506 17
22ND AVE
46 (69)
785 (386)
167 (143)
(0) 0
(804) 423
(494) 355
E 12TH ST
310 250 28
(300) (436) (97)
4
(29)
18 (15)
(19)
16
12
(209) (773)
(30)
26
23RD AVE
E 11TH ST
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315
23
573 (42)
200
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(294)
(0)
NB I-880 ON RAMP
253 548
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215
1394 (895)
160 (66)
154 (260)
(6) (611)
12 321
(1002) 525
11
12
0 (0)
11 (8)
62 (45)
1433 242 548 10
(903) (227) (464) (19)
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(201)
78
(1650) (0)
914 0
35 (17)
2155 7
(1447) (31)
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KENNEDY ST
(692) 461
(24) 77
DENNISON ST
95
(240)
6
(908) (158)
44
524
KENNEDY ST
SB I-880 ON RAMP
(671) 472
428
170 (513)
(74)
7
(31) (98) (45)
14 157 61
29TH AVE
40 (36)
604 (456)
153 (119)
(24) 23
(760) 380
(87) 83
INTERNATIONAL BLVD
84 93 72
(119) (132) (119)
8
(48) (188) (71)
73 259 47
29TH AVE
65 (93)
649 (365)
96 (91)
(48) 23
(640) 371
(169) 70
E 12TH ST
154 183 138
(181) (252) (192)
9
(14) (15)
35 16
LISBON AVE
31 (49)
782 (464)
NB I-880 ON RAMP
E 8TH ST
817 (478)
10
(0) (0)
0 0
TO 29TH AVE
99 (85)
719 (385)
0 (0)
E 8TH ST
(0) 20
(28) 18
(0) 0
79
111
93
(91) (194) (362)
NB I-880 OFF RAMP
14
(109) (798)
49 548
(89)
26
PARK ST
13 (27)
301 (311)
81 (117)
TILDEN WY
(163) 179
(287) 302
(61) 67
LINCOLN AVE
27 694 71 14
(35) (567) (80) (13)
15
(58) (324) (12)
70 372 40
FRUITVALE AVE
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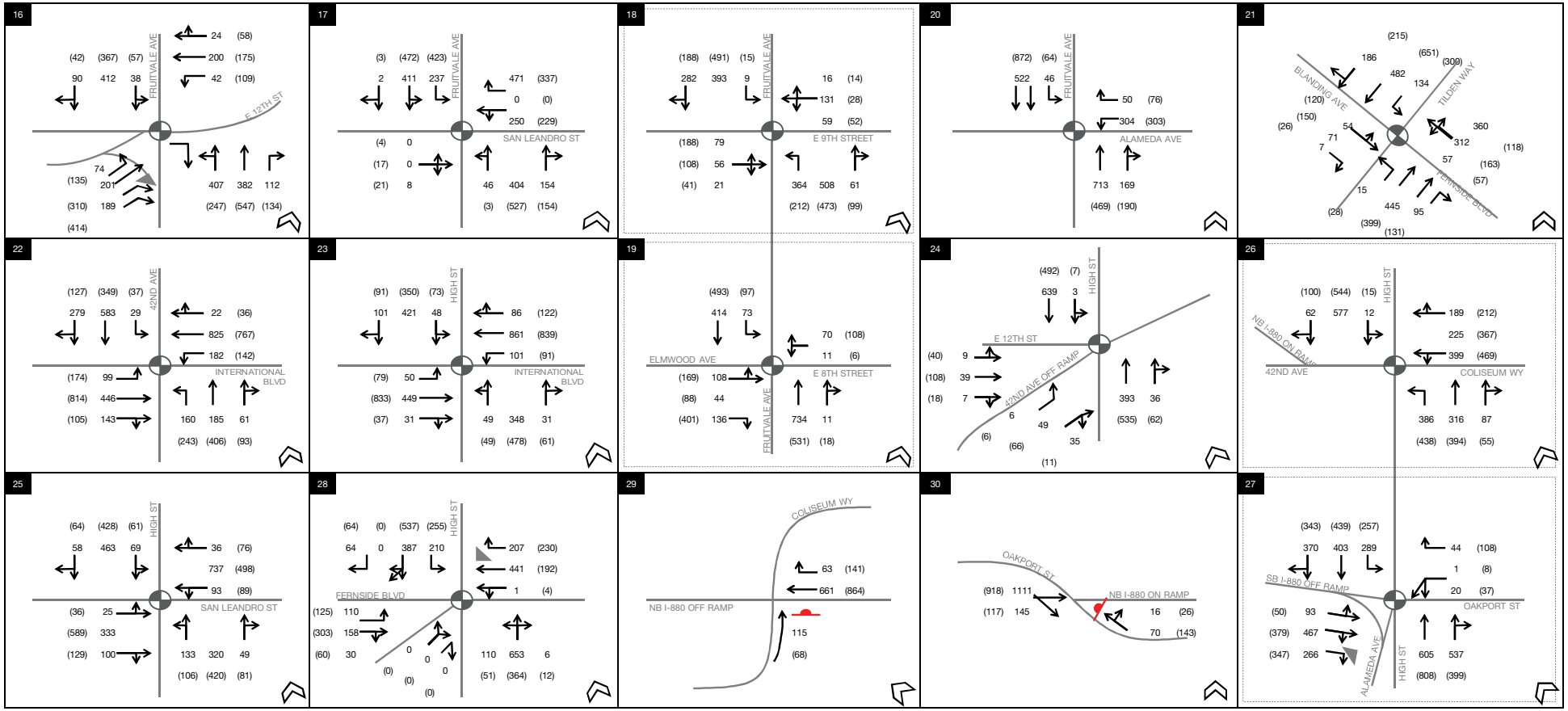
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(310) 189
(414)
407 382 112
(247) (547) (134)
17
FRUITVALE AVE
SAN LEANDRO ST
(3) (472) (423)
2 411 237
471 (337)
0 (0)
250 (229)
(4) 0
(17) 0
(21) 8
46 404 154
(3) (527) (154)
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FRUITVALE AVE
E 9TH STREET
(188) (491) (15)
282 393 9
16 (14)
131 (28)
59 (52)
(188) 79
(108) 56
(41) 21
364 508 61
(212) (473) (99)
20
FRUITVALE AVE
ALAMEDA AVE
(872) (64)
522 46
50 (76)
304 (303)
713 169
(469) (190)
21
BLANDING AVE
TILDEN WAY
FERNSIDE BLVD
(215)
186
(651)
(309)
482
134
(120)
(150)
(26)
54
71
7
360
312
(118)
57
(163)
(57)
15
(28)
445
95
(399)
(131)
22
42ND AVE
INTERNATIONAL BLVD
(127) (349) (37)
279 583 29
22 (36)
825 (767)
182 (142)
(174) 99
(814) 446
(105) 143
160 185 61
(243) (406) (93)
23
HIGH ST
INTERNATIONAL BLVD
(91) (350) (73)
101 421 48
86 (122)
861 (839)
101 (91)
(79) 50
(833) 449
(37) 31
49 348 31
(49) (478) (61)
19
ELMWOOD AVE
FRUITVALE AVE
E 8TH STREET
(493) (97)
414 73
70 (108)
11 (6)
(169) 108
(88) 44
(401) 136
734 11
(531) (18)
24
HIGH ST
E 12TH ST
42ND AVE OFF RAMP
(492) (7)
639 3
(40) 9
(108) 39
(18) 7
6
(6)
(66)
49
35
(11)
393 36
(535) (62)
26
HIGH ST
NB I-880 ON RAMP
42ND AVE
COLISEUM WY
(100) (544) (15)
62 577 12
189 (212)
225 (367)
399 (469)
386 316 87
(438) (394) (55)
25
HIGH ST
SAN LEANDRO ST
(64) (428) (61)
58 463 69
36 (76)
737 (498)
93 (89)
(36) 25
(589) 333
(129) 100
133 320 49
(106) (420) (81)
28
HIGH ST
FERNSIDE BLVD
(64) (0) (537) (255)
64 0 387 210
207 (230)
441 (192)
1 (4)
(125) 110
(303) 158
(60) 30
0
0
0
(0)
(0)
(0)
110 653 6
(51) (364) (12)
29
COLISEUM WY
NB I-880 OFF RAMP
63 (141)
661 (864)
115
(68)
30
OAKPORT ST
NB I-880 ON RAMP
(918) 1111
(117) 145
16 (26)
70 (143)
27
SB I-880 OFF RAMP
ALAMEDA AVE
HIGH ST
OAKPORT ST
(343) (439) (257)
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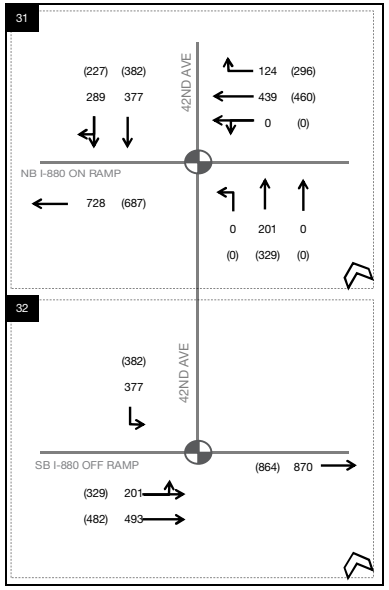
44 (108)
1 (8)
20 (37)
(50) 93
(379) 467
(347) 266
605 537
(808) (399)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289 377
124 (296)
439 (460)
0 (0)
NB I-880 ON RAMP
728 (687)
0 201 0
(0) (329) (0)

32
42ND AVE
(382)
377
SB I-880 OFF RAMP
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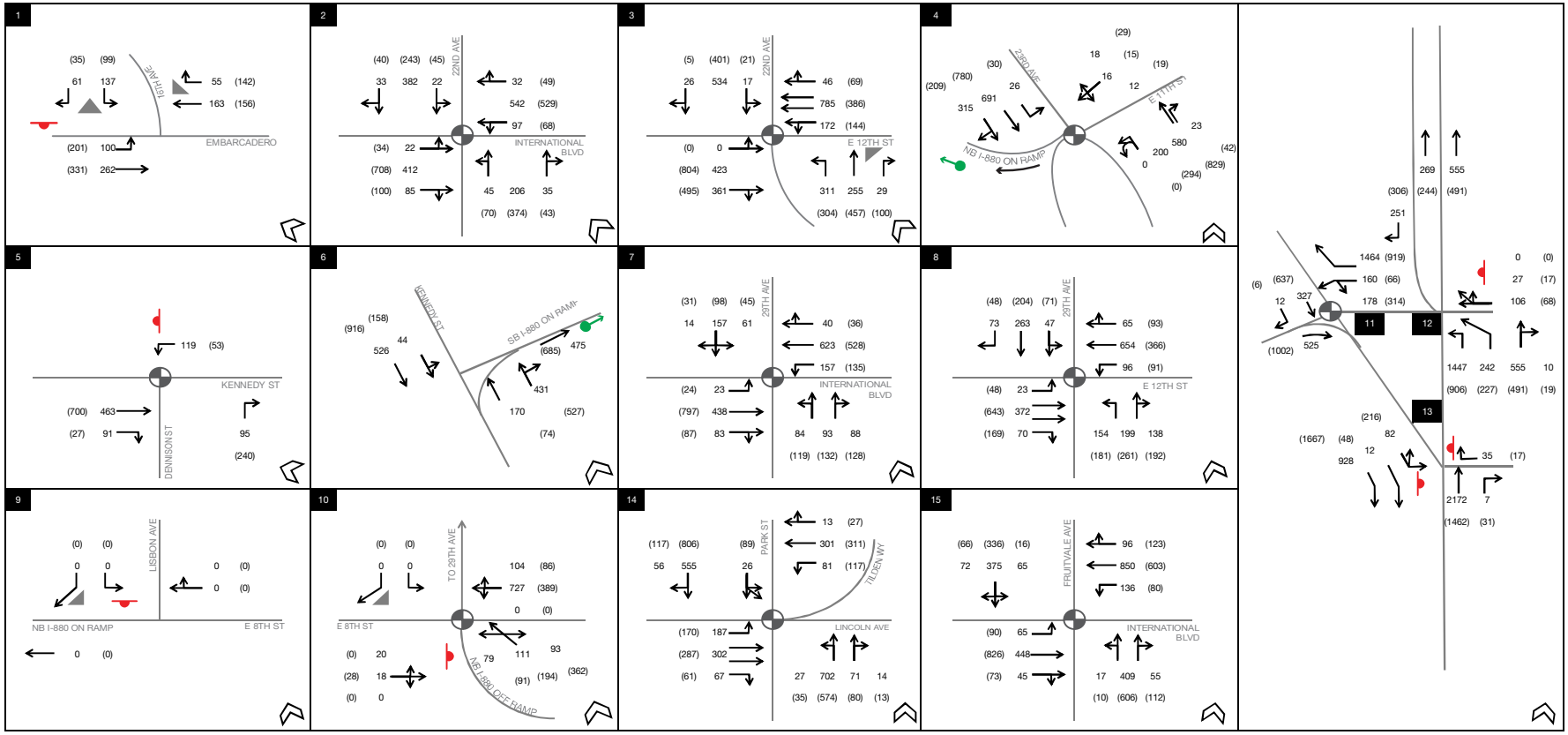
(329) 201
(482) 493

Existing With Project AM (PM)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61 137
55 (142)
163 (156)
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EMBARCADERO
(201) 100
(331) 262
2
(40) (243) (45)
33 382 22
22ND AVE
32 (49)
542 (529)
97 (68)
(34) 22
(708) 412
(100) 85
INTERNATIONAL BLVD
45 206 35
(70) (374) (43)
3
(5) (401) (21)
26 534 17
22ND AVE
46 (69)
785 (386)
172 (144)
(0) 0
(804) 423
(495) 361
E 12TH ST
311 255 29
(304) (457) (100)
4
(29)
18 (15)
(30) 16 (19)
(209) (780) 26 12
691
315
23
580
200
0
(42)
(829)
(294)
(0)
23RD AVE
E 11TH ST
NB I-880 ON RAMP
5
119 (53)
KENNEDY ST
(700) 463
(27) 91
DENINSON ST
95
(240)
6
KENNEDY ST
SB I-880 ON RAMP
(158)
(916)
44
526
475
(685)
431
170 (527)
(74)
7
(31) (98) (45)
14 157 61
29TH AVE
40 (36)
623 (528)
157 (135)
(24) 23
(797) 438
(87) 83
INTERNATIONAL BLVD
84 93 88
(119) (132) (128)
8
(48) (204) (71)
73 263 47
29TH AVE
65 (93)
654 (366)
96 (91)
(48) 23
(643) 372
(169) 70
E 12TH ST
154 199 138
(181) (261) (192)
9
(0) (0)
0 0
LISBON AVE
0 (0)
0 (0)
NB I-880 ON RAMP
E 8TH ST
0 (0)
10
(0) (0)
0 0
TO 29TH AVE
104 (86)
727 (389)
0 (0)
E 8TH ST
(0) 20
(28) 18
(0) 0
79
111
93
(91) (194) (362)
NB I-880 OFF RAMP
14
(117) (806)
56 555
(89)
26
PARK ST
13 (27)
301 (311)
81 (117)
TILDEN WY
(170) 187
(287) 302
(61) 67
LINCOLN AVE
27 702 71 14
(35) (574) (80) (13)
15
(66) (336) (16)
72 375 65
FRUITVALE AVE
96 (123)
850 (603)
136 (80)
(90) 65
(826) 448
(73) 45
INTERNATIONAL BLVD
17 409 55
(10) (606) (112)
269 555
(306) (244) (491)
251
1464 (919)
(6) (637)
12 327
160 (66)
178 (314)
0 (0)
27 (17)
106 (68)
11
12
(1002)
525
1447 242 555 10
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(216)
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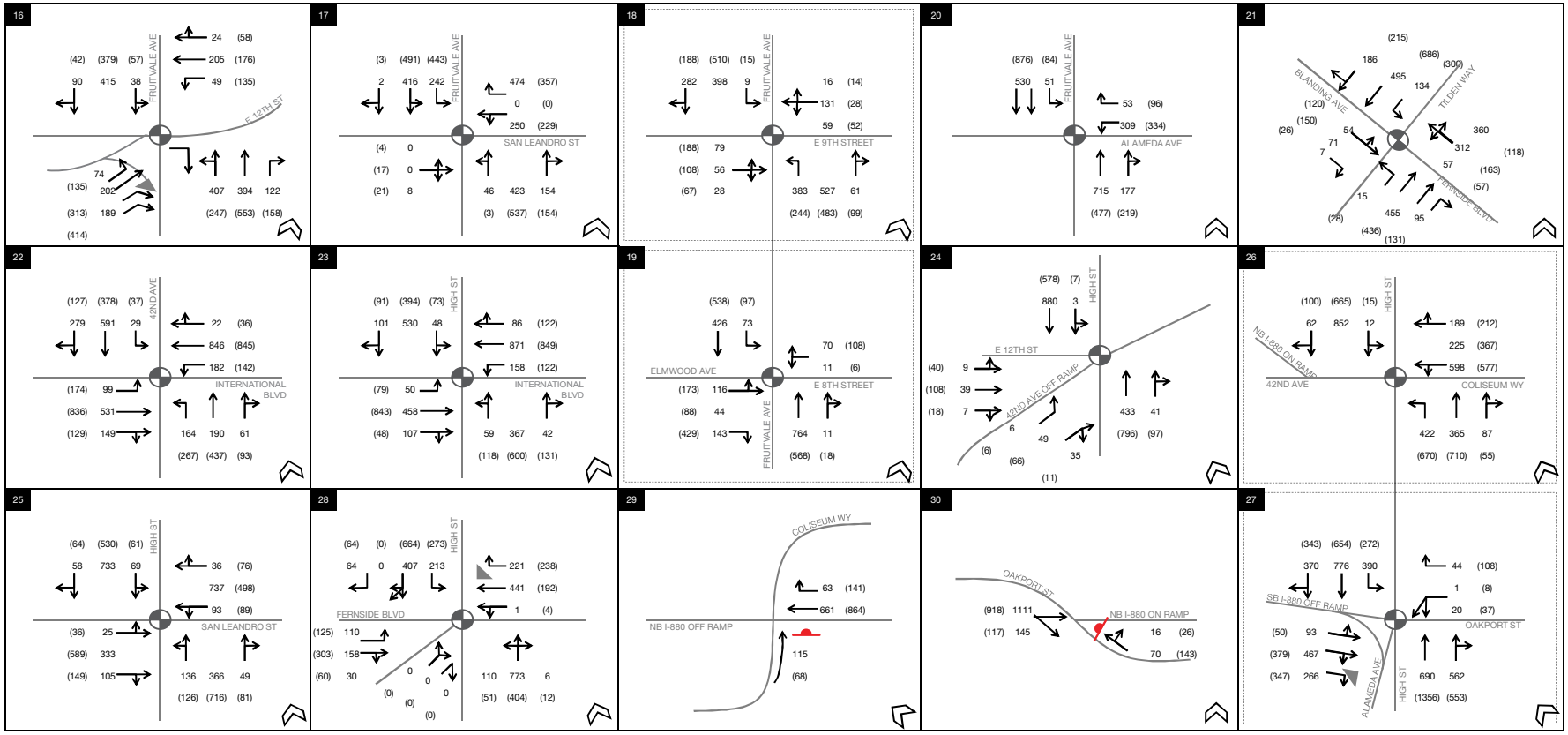
12
928
35 (17)
2172 7
(1462) (31)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(42) (379) (57) 205 (176)
90 415 38 49 (135)
74
(135) 202
(313) 189
(414)
407 394 122
(247) (553) (158)
17
FRUITVALE AVE
SAN LEANDRO ST
(3) (491) (443)
2 416 242
474 (357)
0 (0)
250 (229)
(4) 0
(17) 0
(21) 8
46 423 154
(3) (537) (154)
18
FRUITVALE AVE
E 9TH STREET
(188) (510) (15)
282 398 9
16 (14)
131 (28)
59 (52)
(188) 79
(108) 56
(67) 28
383 527 61
(244) (483) (99)
20
FRUITVALE AVE
ALAMEDA AVE
(876) (84)
530 51
53 (96)
309 (334)
715 177
(477) (219)
21
BLANDING AVE
TILDEN WAY
FAIRSIDE BLVD
(215)
186
(686)
(300)
495
134
(120)
(150)
(26)
54
71
7
360
312
(118)
57
(163)
(57)
15
455
95
(28)
(436)
(131)
22
42ND AVE
INTERNATIONAL BLVD
(127) (378) (37)
279 591 29
22 (36)
846 (845)
182 (142)
(174) 99
(836) 531
(129) 149
164 190 61
(267) (437) (93)
23
HIGH ST
INTERNATIONAL BLVD
(91) (394) (73)
101 530 48
86 (122)
871 (849)
158 (122)
(79) 50
(843) 458
(48) 107
59 367 42
(118) (600) (131)
19
ELMWOOD AVE
FRUITVALE AVE
E 8TH STREET
(538) (97)
426 73
70 (108)
11 (6)
(173) 116
(88) 44
(429) 143
764 11
(568) (18)
24
HIGH ST
E 12TH ST
42ND AVE OFF RAMP
(578) (7)
880 3
(40) 9
(108) 39
(18) 7
6
(6)
(66)
49
35
433 41
(796) (97)
(11)
26
HIGH ST
NB I-880 ON RAMP
42ND AVE
COLISEUM WY
(100) (665) (15)
62 852 12
189 (212)
225 (367)
598 (577)
422 365 87
(670) (710) (55)
25
HIGH ST
SAN LEANDRO ST
(64) (530) (61)
58 733 69
36 (76)
737 (498)
93 (89)
(36) 25
(589) 333
(149) 105
136 366 49
(126) (716) (81)
28
HIGH ST
FERNSIDE BLVD
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64 0 407 213
221 (238)
441 (192)
1 (4)
(125) 110
(303) 158
(60) 30
0
0
0
(0)
(0)
(0)
110 773 6
(51) (404) (12)
29
COLISEUM WY
NB I-880 OFF RAMP
63 (141)
661 (864)
115
(68)
30
OAKPORT ST
NB I-880 ON RAMP
(918) 1111
(117) 145
16 (26)
70 (143)
27
SB I-880 OFF RAMP
OAKPORT ST
ALAMEDA AVE
HIGH ST
(343) (654) (272)
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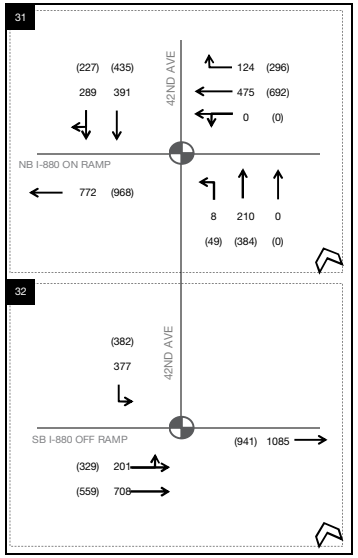
44 (108)
1 (8)
20 (37)
(50) 93
(379) 467
(347) 266
690 562
(1356) (553)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289 391
124 (296)
475 (692)
0 (0)
NB I-880 ON RAMP
772 (968)
8 210 0
(49) (384) (0)
32
42ND AVE
(382)
377
SB I-880 OFF RAMP
(941) 1085
(329) 201
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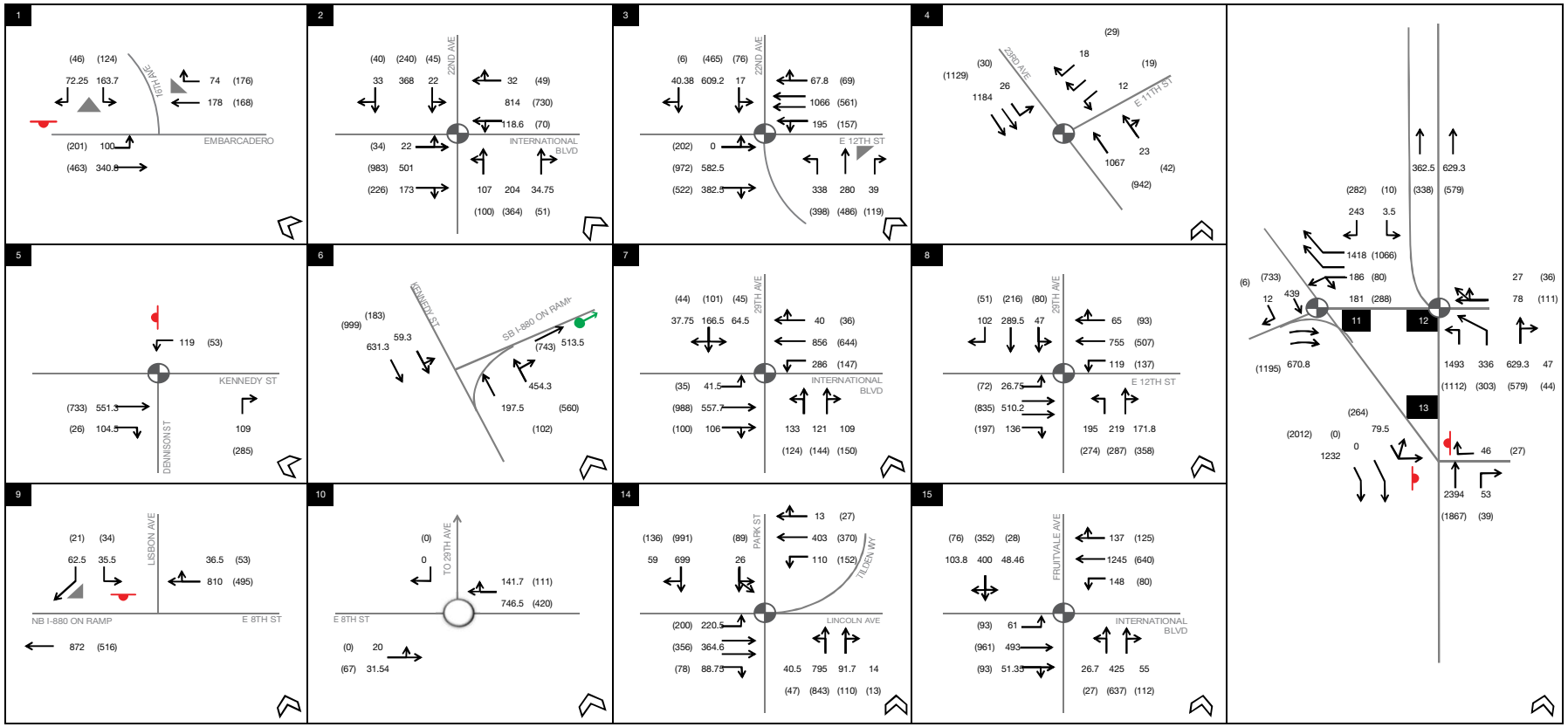
2020 No Project AM (PM)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178 (168)
EMBARCADERO
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2
(40) (240) (45)
33 368 22
22ND AVE
32 (49)
814 (730)
118.6 (70)
INTERNATIONAL BLVD
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(983) 501
(226) 173
107 204 34.75
(100) (364) (51)
3
(6) (465) (76)
40.38 609.2 17
22ND AVE
67.8 (69)
1066 (561)
195 (157)
E 12TH ST
(202) 0
(972) 582.5
(522) 382.5
338 280 39
(398) (486) (119)
4
(29)
(1129) (30)
18
26
1184
(19)
12
23
1067
(42)
(942)
22ND AVE
E 11TH ST
5
119 (53)
KENNEDY ST
(733) 551.3
(26) 104.5
DENINSON ST
109
(285)
6
(183)
(999)
59.3
631.3
KENNEDY ST
SB I-880 ON RAMP
(743) 513.5
454.3
197.5 (560)
(102)
7
(44) (101) (45)
37.75 166.5 64.5
29TH AVE
40 (36)
856 (644)
286 (147)
INTERNATIONAL BLVD
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(988) 557.7
(100) 106
133 121 109
(124) (144) (150)
8
(51) (216) (80)
102 289.5 47
29TH AVE
65 (93)
755 (507)
119 (137)
E 12TH ST
(72) 26.75
(835) 510.2
(197) 136
195 219 171.8
(274) (287) (358)
362.5 629.3
(338) (579)
(282) (10)
243 3.5
1418 (1066)
(6) (733)
186 (80)
12 439
181 (288)
27 (36)
78 (111)
11
12
(1195) 670.8
1493 336 629.3 47
(1112) (303) (579) (44)
13
(264)
(2012) (0)
79.5
0
1232
46 (27)
2394 53
(1867) (39)
9
(21) (34)
62.5 35.5
LISBON AVE
36.5 (53)
810 (495)
NB I-880 ON RAMP
E 8TH ST
872 (516)
10
(0)
0
TO 29TH AVE
141.7 (111)
746.5 (420)
E 8TH ST
(0) 20
(67) 31.54
14
(136) (991) (89)
59 699 26
PARK ST
13 (27)
403 (370)
110 (152)
TILDEN WY
(200) 220.5
(356) 364.6
(78) 88.75
LINCOLN AVE
40.5 795 91.7 14
(47) (843) (110) (13)
15
(76) (352) (28)
103.8 400 48.46
FRUITVALE AVE
137 (125)
1245 (640)
148 (80)
(93) 61
(961) 493
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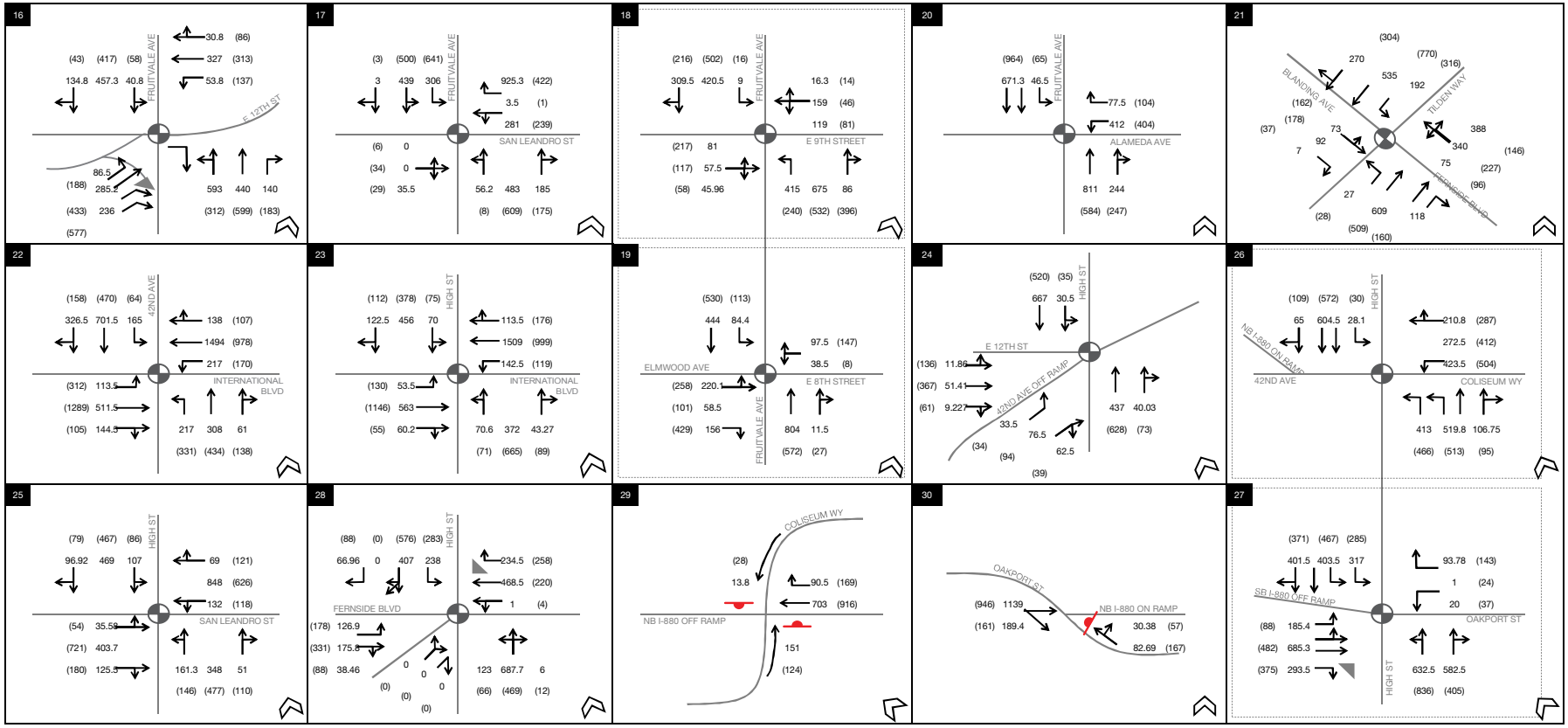
INTERNATIONAL BLVD
26.7 425 55
(27) (637) (112)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FRUITVALE AVE
E 12TH ST
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134.8 457.3 40.8 53.8 (137)
86.5
(188) 285.2
(433) 236
(577)
593 440 140
(312) (599) (183)
17
FRUITVALE AVE
SAN LEANDRO ST
(3) (500) (641)
3 439 306
925.3 (422)
3.5 (1)
281 (239)
(6) 0
(34) 0
(29) 35.5
56.2 483 185
(8) (609) (175)
18
FRUITVALE AVE
E 9TH STREET
(216) (502) (16)
309.5 420.5 9
16.3 (14)
159 (46)
119 (81)
(217) 81
(117) 57.5
(58) 45.96
415 675 86
(240) (532) (396)
20
FRUITVALE AVE
ALAMEDA AVE
(964) (65)
671.3 46.5
77.5 (104)
412 (404)
811 244
(584) (247)
21
BLANDING AVE
TILDEN WAY
FERNSIDE BLVD
(304)
270
(770)
(316)
535
192
(162)
(178)
(37)
73
388
92
340
(146)
7
75
(227)
(96)
27
609
118
(28)
(509)
(160)
22
42ND AVE
INTERNATIONAL BLVD
(158) (470) (64)
326.5 701.5 165
138 (107)
1494 (978)
217 (170)
(312) 113.5
(1289) 511.5
(105) 144.5
217 308 61
(331) (434) (138)
23
HIGH ST
INTERNATIONAL BLVD
(112) (378) (75)
122.5 456 70
113.5 (176)
1509 (999)
142.5 (119)
(130) 53.5
(1146) 563
(55) 60.2
70.6 372 43.27
(71) (665) (89)
19
ELMWOOD AVE
FRUITVALE AVE
E 8TH STREET
(530) (113)
444 84.4
97.5 (147)
38.5 (8)
(258) 220.1
(101) 58.5
(429) 156
804 11.5
(572) (27)
24
HIGH ST
E 12TH ST
42ND AVE OFF RAMP
(520) (35)
667 30.5
(136) 11.86
(367) 51.41
(61) 9.227
33.5
(34)
76.5
(94)
62.5
(39)
437 40.03
(628) (73)
26
HIGH ST
NB I-880 ON RAMP
42ND AVE
COLISEUM WY
(109) (572) (30)
65 604.5 28.1
210.8 (287)
272.5 (412)
423.5 (504)
413 519.8 106.75
(466) (513) (95)
25
HIGH ST
SAN LEANDRO ST
(79) (467) (86)
96.92 469 107
69 (121)
848 (626)
132 (118)
(54) 35.58
(721) 403.7
(180) 125.3
161.3 348 51
(146) (477) (110)
28
HIGH ST
FERNSIDE BLVD
(88) (0) (576) (283)
66.96 0 407 238
234.5 (258)
468.5 (220)
1 (4)
(178) 126.9
(331) 175.8
(88) 38.46
0
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(0)
(0)
(0)
123 687.7 6
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COLISEUM WY
NB I-880 OFF RAMP
(28)
13.8
90.5 (169)
703 (916)
151
(124)
30
OAKPORT ST
NB I-880 ON RAMP
(946) 1139
(161) 189.4
30.38 (57)
82.69 (167)
27
SB I-880 OFF RAMP
OAKPORT ST
HIGH ST
(371) (467) (285)
401.5 403.5 317
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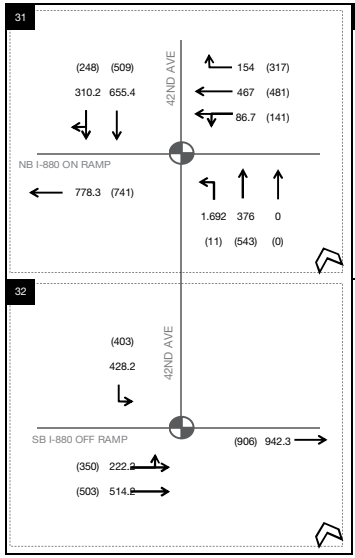
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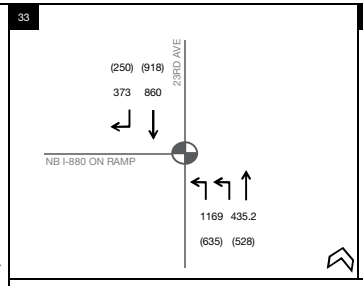
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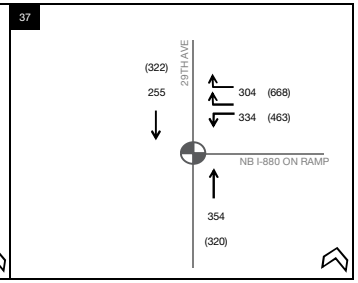
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334 (463)
NB I-880 ON RAMP
354
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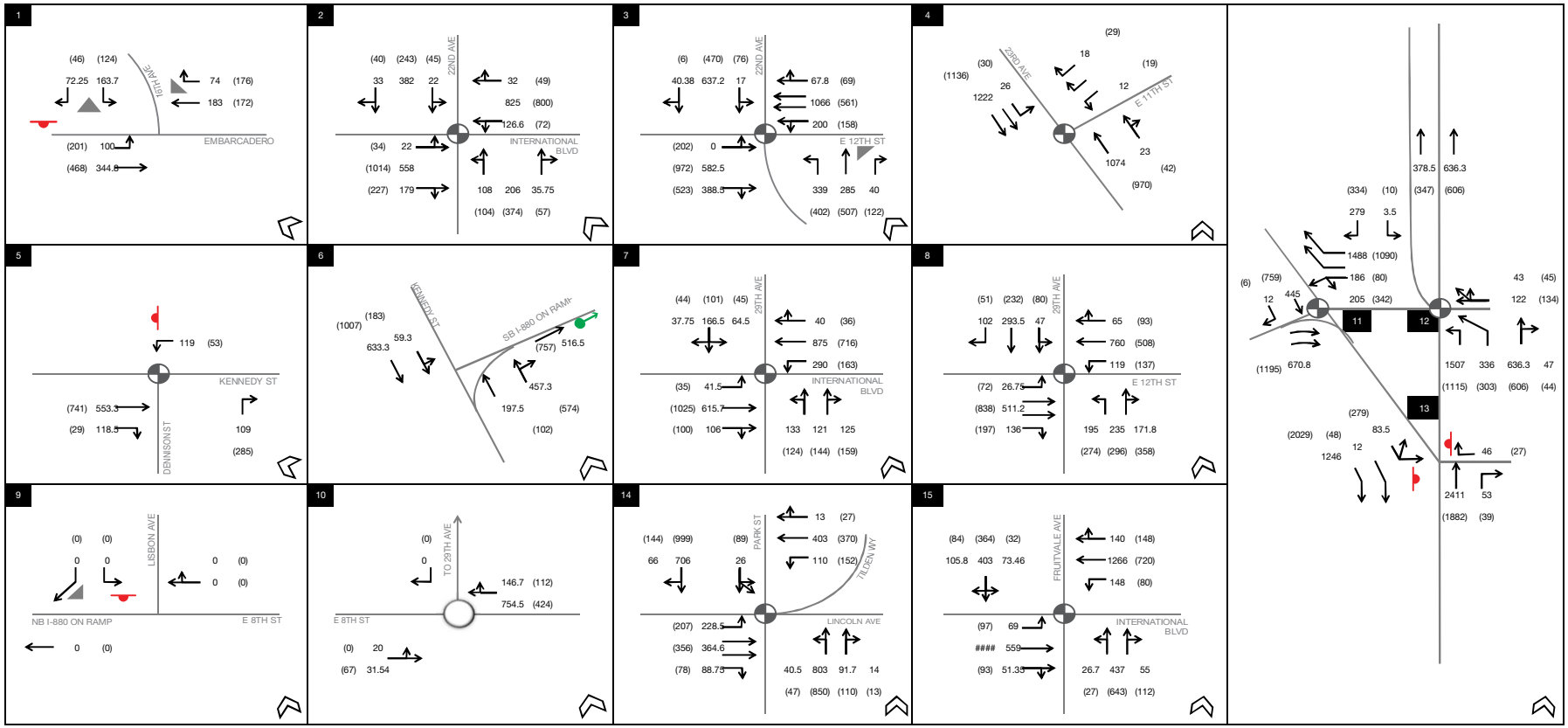
2020 With Project AM (PM)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72.25 163.7
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74 (176)
183 (172)
EMBARCADERO
(201) 100
(468) 344.8
2
(40) (243) (45)
33 382 22
22ND AVE
32 (49)
825 (800)
126.6 (72)
INTERNATIONAL BLVD
(34) 22
(1014) 558
(227) 179
108 206 35.75
(104) (374) (57)
3
(6) (470) (76)
40.38 637.2 17
22ND AVE
67.8 (69)
1066 (561)
200 (158)
E 12TH ST
(202) 0
(972) 582.5
(523) 388.5
339 285 40
(402) (507) (122)
4
(29)
18
(19)
(1136)
(30)
26
1222
23RD AVE
12
E 11TH ST
1074
23
(42)
(970)
5
119 (53)
KENNEDY ST
(741) 553.3
(29) 118.5
DENINSON ST
109
(285)
6
KENNEDY ST
(183)
(1007)
59.3
633.3
SB I-880 ON RAMP
(757) 516.5
457.3
197.5 (574)
(102)
7
(44) (101) (45)
37.75 166.5 64.5
29TH AVE
40 (36)
875 (716)
290 (163)
INTERNATIONAL BLVD
(35) 41.5
(1025) 615.7
(100) 106
133 121 125
(124) (144) (159)
8
(51) (232) (80)
102 293.5 47
29TH AVE
65 (93)
760 (508)
119 (137)
E 12TH ST
(72) 26.75
(838) 511.2
(197) 136
195 235 171.8
(274) (296) (358)
9
(0) (0)
0 0
LISBON AVE
0 (0)
0 (0)
NB I-880 ON RAMP
E 8TH ST
0 (0)
10
(0)
0
TO 29TH AVE
146.7 (112)
754.5 (424)
E 8TH ST
(0) 20
(67) 31.54
14
(144) (999)
66 706
(89)
26
PARK ST
13 (27)
403 (370)
110 (152)
TILDEN WY
(207) 228.5
(356) 364.6
(78) 88.75
LINCOLN AVE
40.5 803 91.7 14
(47) (850) (110) (13)
15
(84) (364) (32)
105.8 403 73.46
FRUITVALE AVE
140 (148)
1266 (720)
148 (80)
(97) 69
559
(93) 51.33
INTERNATIONAL BLVD
26.7 437 55
(27) (643) (112)
378.5 636.3
(334) (10)
(347) (606)
279 3.5
1488 (1090)
(6) (759)
186 (80)
12 445
205 (342)
43 (45)
122 (134)
11
12
(1195) 670.8
1507 336 636.3 47
(1115) (303) (606) (44)
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(279)
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1246
12
46 (27)
2411 53
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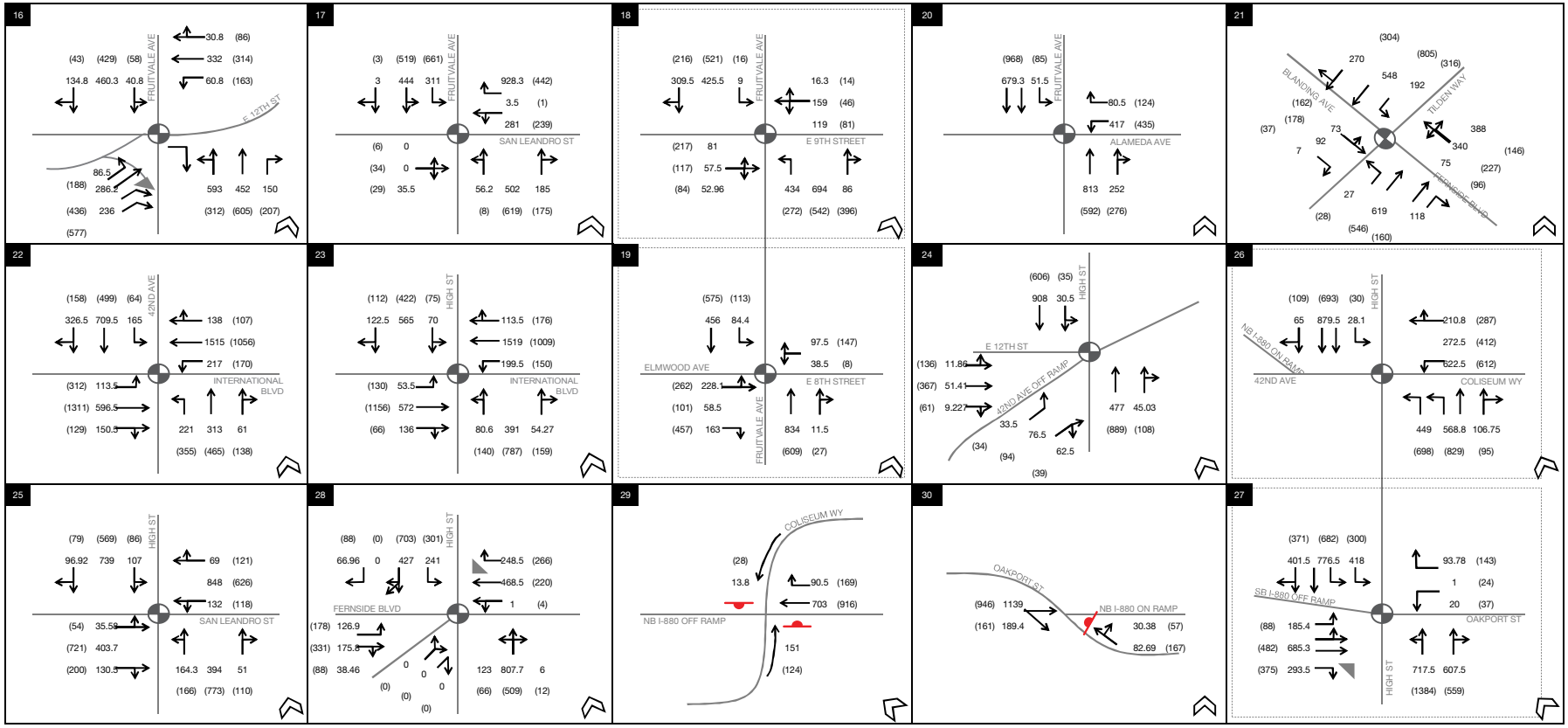
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FRUITVALE AVE
E 12TH ST
17
FRUITVALE AVE
SAN LEANDRO ST
18
FRUITVALE AVE
E 9TH STREET
20
FRUITVALE AVE
ALAMEDA AVE
21
BLANDING AVE
TILDEN WAY
FERNSIDE BLVD
22
42ND AVE
INTERNATIONAL BLVD
23
HIGH ST
INTERNATIONAL BLVD
19
ELMWOOD AVE
E 8TH STREET
FRUITVALE AVE
24
HIGH ST
E 12TH ST
42ND AVE OFF RAMP
26
HIGH ST
NB I-880 ON RAMP
42ND AVE
COLISEUM WY
25
HIGH ST
SAN LEANDRO ST
28
HIGH ST
FERNSIDE BLVD
29
COLISEUM WY
NB I-880 OFF RAMP
30
OAKPORT ST
NB I-880 ON RAMP
27
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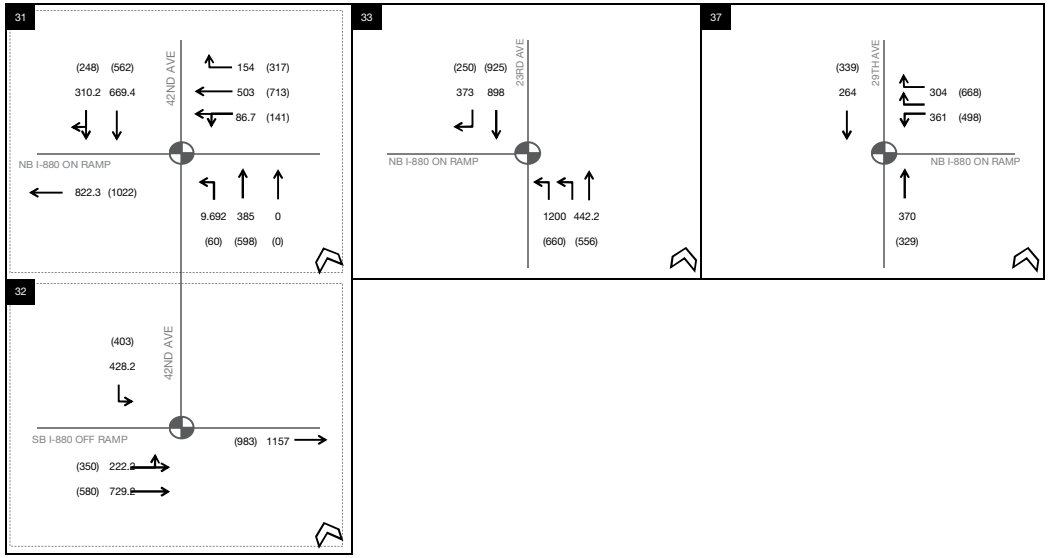
OAKPORT ST
HIGH ST


31
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310.2 669.4
154 (317)
503 (713)
86.7 (141)
NB I-880 ON RAMP
822.3 (1022)
9.692 385 0
(60) (598) (0)
33
23RD AVE
(250) (925)
373 898
NB I-880 ON RAMP
1200 442.2
(660) (556)
37
29TH AVE
(339)
264
304 (668)
361 (498)
NB I-880 ON RAMP
370
(329)

32
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428.2
SB I-880 OFF RAMP
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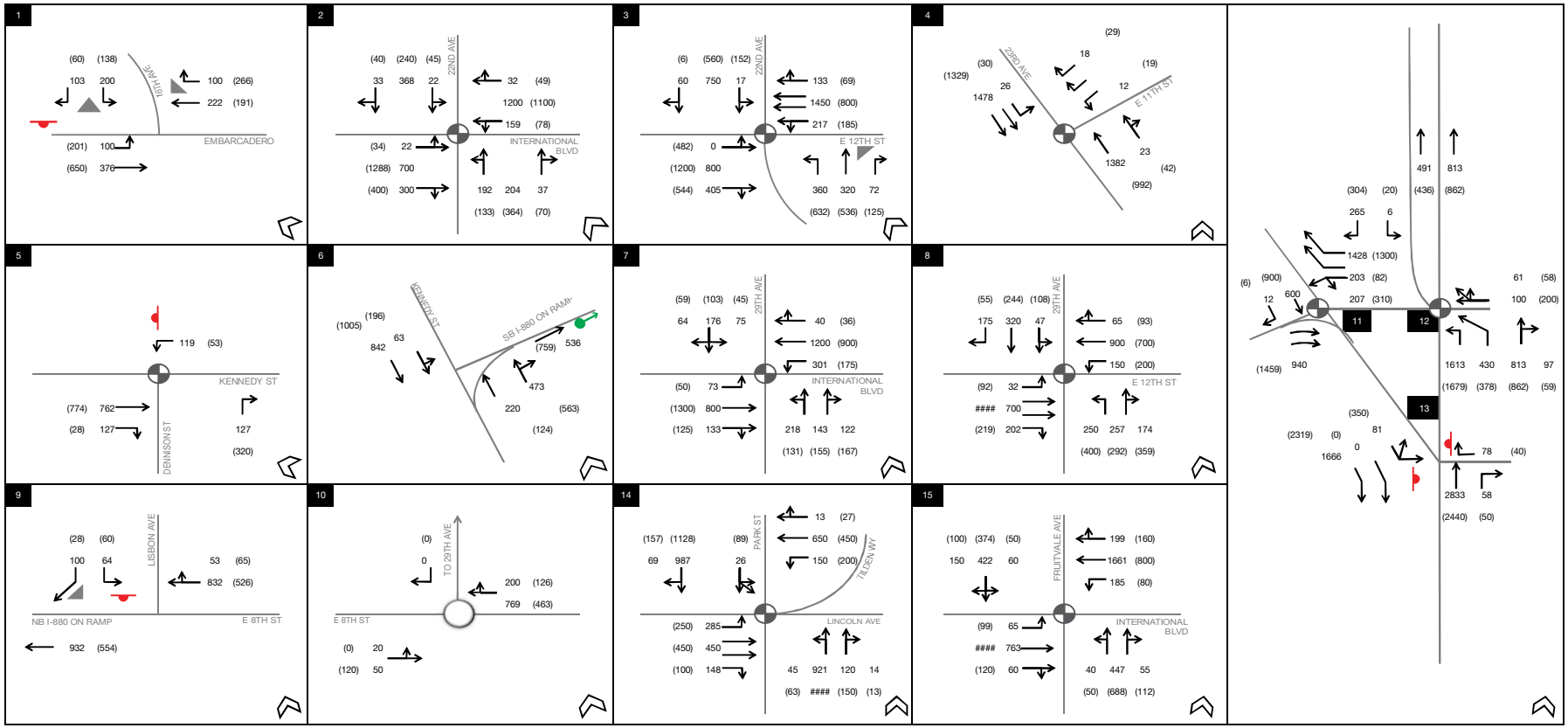
(580) 729.2

2035 No Project AM (PM)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19TH AVE
100 (266)
222 (191)
EMBARCADERO
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(650) 376
2
(40) (240) (45)
33 368 22
22ND AVE
32 (49)
1200 (1100)
159 (78)
INTERNATIONAL BLVD
(34) 22
(1288) 700
(400) 300
192 204 37
(133) (364) (70)
3
(6) (560) (152)
60 750 17
22ND AVE
133 (69)
1450 (800)
217 (185)
E 12TH ST
(482) 0
(1200) 800
(544) 405
360 320 72
(632) (536) (125)
4
(29)
(1329) (30)
1478 26
23RD AVE
18
(19)
12
E 11TH ST
1382
23
(42)
(992)
5
119 (53)
KENNEDY ST
(774) 762
(28) 127
DENINSON ST
127
(320)
6
KENNEDY ST
(1005) (196)
842 63
SB I-880 ON RAMP
(759) 536
473
220 (563)
(124)
7
(59) (103) (45)
64 176 75
29TH AVE
40 (36)
1200 (900)
301 (175)
INTERNATIONAL BLVD
(50) 73
(1300) 800
(125) 133
218 143 122
(131) (155) (167)
8
(55) (244) (108)
175 320 47
29TH AVE
65 (93)
900 (700)
150 (200)
E 12TH ST
(92) 32
700
(219) 202
250 257 174
(400) (292) (359)
9
(28) (60)
100 64
LISBON AVE
53 (65)
832 (526)
NB I-880 ON RAMP
E 8TH ST
932 (554)
10
(0)
0
TO 29TH AVE
200 (126)
769 (463)
E 8TH ST
(0) 20
(120) 50
14
(157) (1128)
69 987
(89)
26
PARK ST
13 (27)
650 (450)
150 (200)
TILDEN WY
(250) 285
(450) 450
(100) 148
LINCOLN AVE
45 921 120 14
(63) #### (150) (13)
15
(100) (374) (50)
150 422 60
FRUITVALE AVE
199 (160)
1661 (800)
185 (80)
INTERNATIONAL BLVD
(99) 65
763
(120) 60
40 447 55
(50) (688) (112)
491 813
(436) (862)
(304) (20)
265 6
1428 (1300)
203 (82)
207 (310)
(6) (900)
12 600
11
12
(1459) 940
61 (58)
100 (200)
1613 430 813 97
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(2319) (0)
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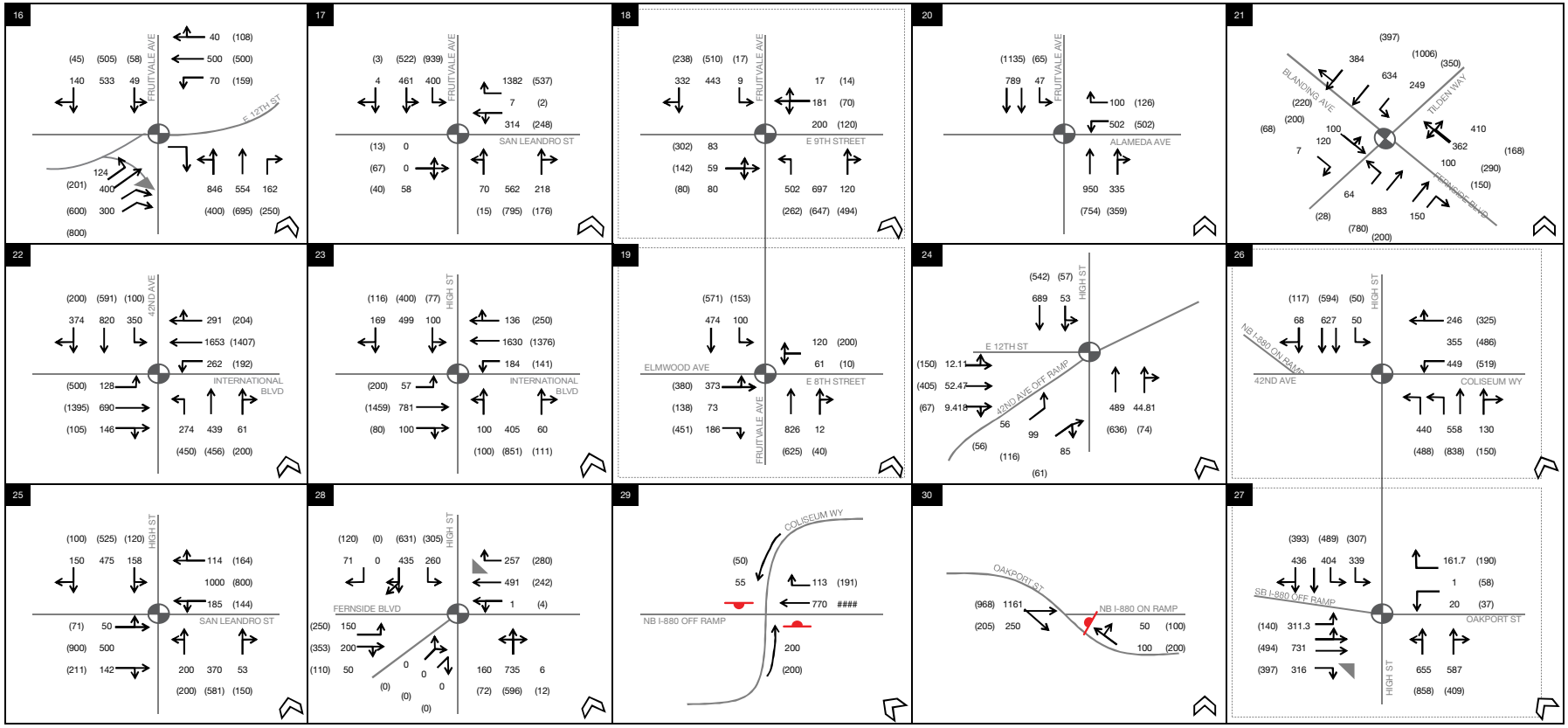
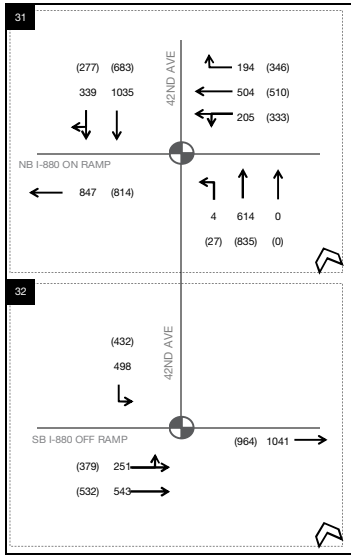
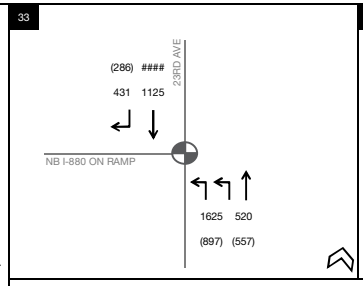

16
FRUITVALE AVE
E 12TH ST
17
FRUITVALE AVE
SAN LEANDRO ST
18
FRUITVALE AVE
E 9TH STREET
20
FRUITVALE AVE
ALAMEDA AVE
21
BLANDING AVE
TILDEN WAY
FERNSIDE BLVD
22
42ND AVE
INTERNATIONAL BLVD
23
HIGH ST
INTERNATIONAL BLVD
19
ELMWOOD AVE
E 8TH STREET
FRUITVALE AVE
24
HIGH ST
E 12TH ST
42ND AVE OFF RAMP
26
HIGH ST
NB I-880 ON RAMP
42ND AVE
COLISEUM WY
25
HIGH ST
SAN LEANDRO ST
28
HIGH ST
FERNSIDE BLVD
29
COLISEUM WY
NB I-880 OFF RAMP
30
OAKPORT ST
NB I-880 ON RAMP
27
SB I-880 OFF RAMP
OAKPORT ST
HIGH ST


31
42ND AVE
(277) (683)
339 1035
194 (346)
504 (510)
205 (333)
NB I-880 ON RAMP
847 (814)
4 614 0
(27) (835) (0)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(286) ####
431 1125
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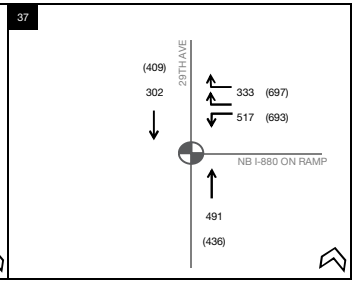
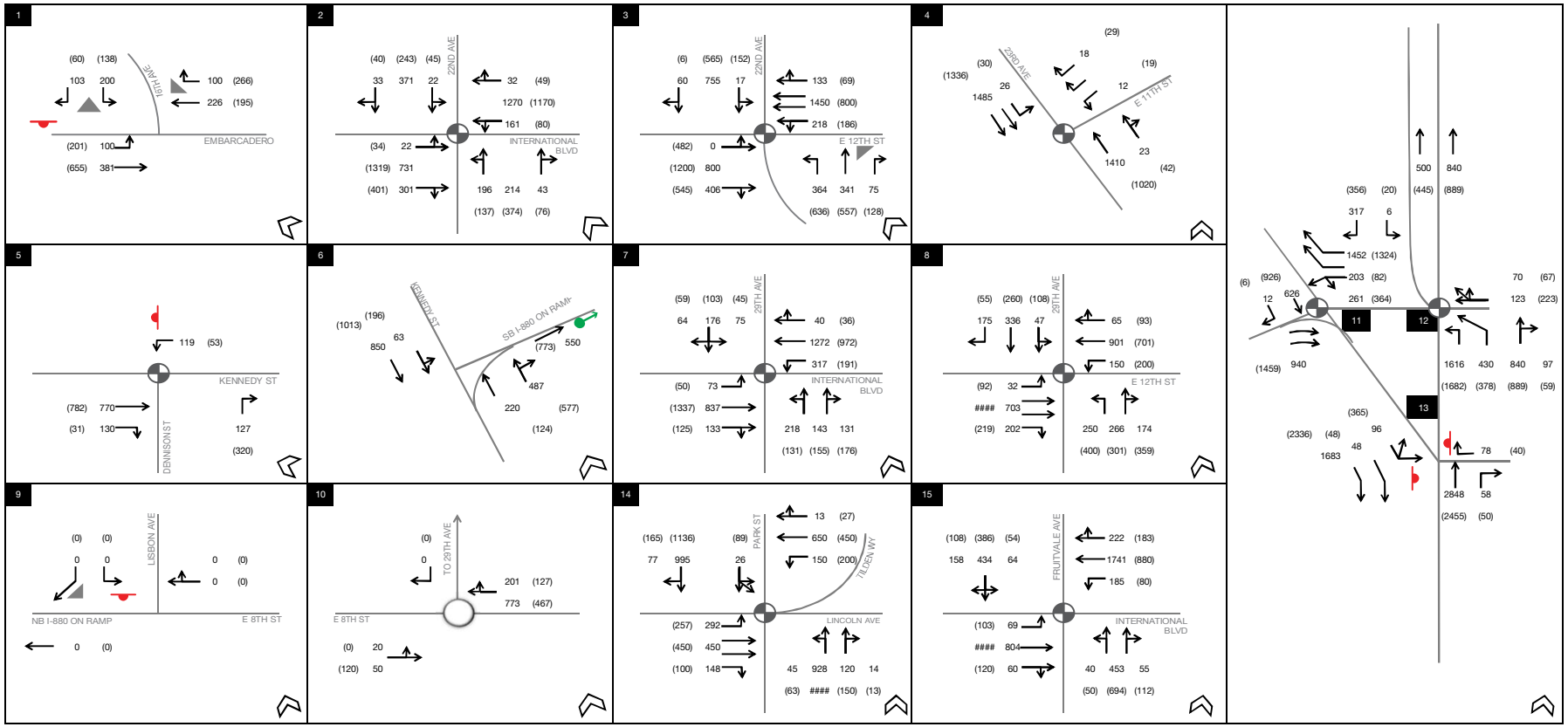
1625 520
(897) (557)


37
29TH AVE
(409)
302
333 (697)
517 (693)
NB I-880 ON RAMP
491
(436)

32
42ND AVE
(432)
498
SB I-880 OFF RAMP
(964) 1041
(379) 251
(532) 543

2035 With Project AM (PM)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100 (266)
226 (195)
19TH AVE
EMBARCADERO
(201) 100
(655) 381
2
(40) (243) (45)
33 371 22
22ND AVE
32 (49)
1270 (1170)
161 (80)
INTERNATIONAL BLVD
(34) 22
(1319) 731
(401) 301
196 214 43
(137) (374) (76)
3
(6) (565) (152)
60 755 17
22ND AVE
133 (69)
1450 (800)
218 (186)
E 12TH ST
(482) 0
(1200) 800
(545) 406
364 341 75
(636) (557) (128)
4
(29)
18
(30)
(1336)
26
1485
(19)
12
23
(42)
(1020)
1410
23RD AVE
E 11TH ST
5
119 (53)
KENNEDY ST
(782) 770
(31) 130
DEININSON ST
127
(320)
6
(196)
(1013)
63
850
KENNEDY ST
SB I-880 ON RAMP
(773) 550
487
220 (577)
(124)
7
(59) (103) (45)
64 176 75
29TH AVE
40 (36)
1272 (972)
317 (191)
INTERNATIONAL BLVD
(50) 73
(1337) 837
(125) 133
218 143 131
(131) (155) (176)
8
(55) (260) (108)
175 336 47
29TH AVE
65 (93)
901 (701)
150 (200)
E 12TH ST
(92) 32
703
(219) 202
250 266 174
(400) (301) (359)
9
(0) (0)
0 0
LISBON AVE
0 (0)
0 (0)
NB I-880 ON RAMP
E 8TH ST
0 (0)
10
(0)
0
TO 29TH AVE
201 (127)
773 (467)
E 8TH ST
(0) 20
(120) 50
14
(165) (1136)
77 995
(89)
26
PARK ST
13 (27)
650 (450)
150 (200)
TILDEN WY
LINCOLN AVE
(257) 292
(450) 450
(100) 148
45 928 120 14
(63) #### (150) (13)
15
(108) (386) (54)
158 434 64
FRUITVALE AVE
222 (183)
1741 (880)
185 (80)
INTERNATIONAL BLVD
(103) 69
804
(120) 60
40 453 55
(50) (694) (112)
500 840
(445) (889)
(356) (20)
317 6
1452 (1324)
(6) (926)
12 626
203 (82)
261 (364)
70 (67)
123 (223)
11
12
(1459) 940
1616 430 840 97
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(365)
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48
1683
13
78 (40)
2848 58
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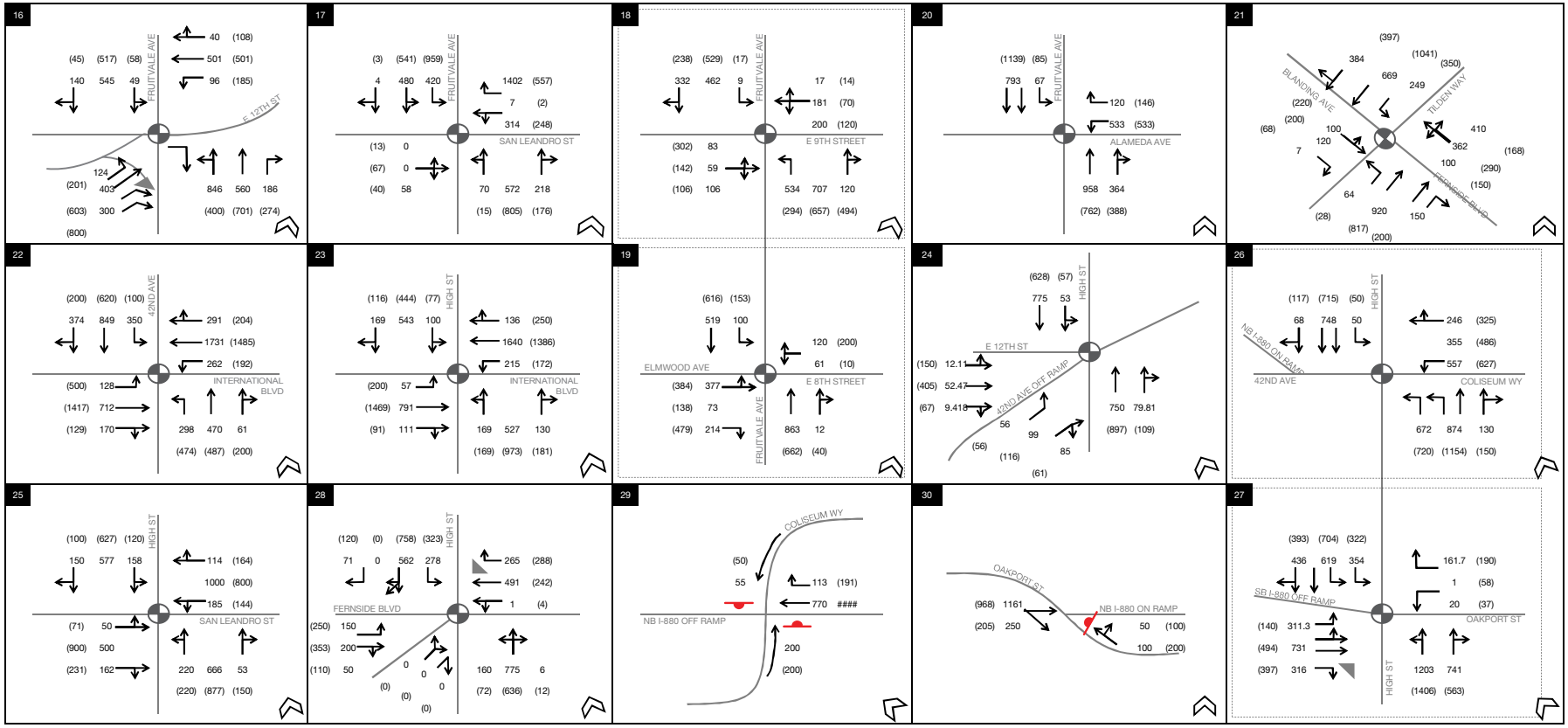
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FRUITVALE AVE
E 12TH ST
(45) (517) (58)
140 545 49
40 (108)
501 (501)
96 (185)
124
(201) 403
(603) 300
(800)
846 560 186
(400) (701) (274)
17
FRUITVALE AVE
SAN LEANDRO ST
(3) (541) (959)
4 480 420
1402 (557)
7 (2)
314 (248)
(13) 0
(67) 0
(40) 58
70 572 218
(15) (805) (176)
18
FRUITVALE AVE
E 9TH STREET
(238) (529) (17)
332 462 9
17 (14)
181 (70)
200 (120)
(302) 83
(142) 59
(106) 106
534 707 120
(294) (657) (494)
20
FRUITVALE AVE
ALAMEDA AVE
(1139) (85)
793 67
120 (146)
533 (533)
958 364
(762) (388)
21
BLANDING AVE
TILDEN WAY
FERNSIDE BLVD
(397)
384
(1041)
(350)
669
249
(220)
(200)
(68)
100
120
7
410
362
(168)
100
(290)
(150)
64
920
150
(28)
(817)
(200)
22
42ND AVE
INTERNATIONAL BLVD
(200) (620) (100)
374 849 350
291 (204)
1731 (1485)
262 (192)
(500) 128
(1417) 712
(129) 170
298 470 61
(474) (487) (200)
23
HIGH ST
INTERNATIONAL BLVD
(116) (444) (77)
169 543 100
136 (250)
1640 (1386)
215 (172)
(200) 57
(1469) 791
(91) 111
169 527 130
(169) (973) (181)
19
ELMWOOD AVE
FRUITVALE AVE
E 8TH STREET
(616) (153)
519 100
120 (200)
61 (10)
(384) 377
(138) 73
(479) 214
863 12
(662) (40)
24
HIGH ST
E 12TH ST
42ND AVE OFF RAMP
(628) (57)
775 53
(150) 12.11
(405) 52.47
(67) 9.418
56
99
85
(56)
(116)
(61)
750 79.81
(897) (109)
26
HIGH ST
NB I-880 ON RAMP
42ND AVE
COLISEUM WY
(117) (715) (50)
68 748 50
246 (325)
355 (486)
557 (627)
672 874 130
(720) (1154) (150)
25
HIGH ST
SAN LEANDRO ST
(100) (627) (120)
150 577 158
114 (164)
1000 (800)
185 (144)
(71) 50
(900) 500
(231) 162
220 666 53
(220) (877) (150)
28
HIGH ST
FERNSIDE BLVD
(120) (0) (758) (323)
71 0 562 278
265 (288)
491 (242)
1 (4)
(250) 150
(353) 200
(110) 50
0
0
0
(0)
(0)
(0)
160 775 6
(72) (636) (12)
29
COLISEUM WY
NB I-880 OFF RAMP
(50)
55
113 (191)
770 ####
200
(200)
30
OAKPORT ST
NB I-880 ON RAMP
(968) 1161
(205) 250
50 (100)
100 (200)
27
SB I-880 OFF RAMP
HIGH ST
OAKPORT ST
(393) (704) (322)
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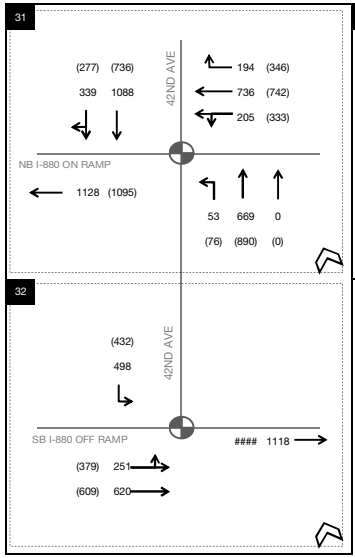
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339 1088
194 (346)
736 (742)
205 (333)
NB I-880 ON RAMP
1128 (1095)
53 669 0
(76) (890) (0)

32
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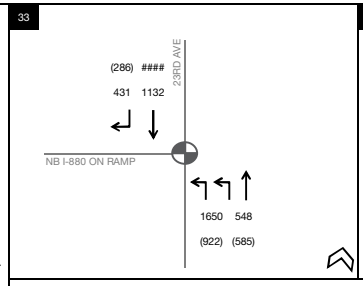
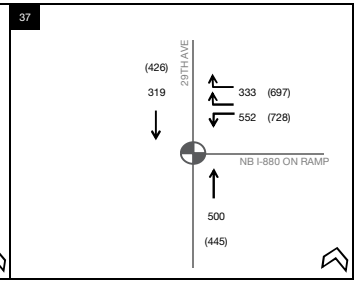
(432)
498
SB I-880 OFF RAMP
1118
(379) 251
(609) 620


33
23RD AVE
(286) ####
431 1132
NB I-880 ON RAMP
1650 548
(922) (585)


37
29TH AVE
(426)
319
333 (697)
552 (728)
NB I-880 ON RAMP
500
(445)

Synchro HCM 2000 Results

Existing No Project AM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/22/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	137	61	158	55	100	258
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	146	65	168	59	106	274
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	655	168			227	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	655	168			227	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	63	93			92	
cM capacity (veh/h)	397	876			1342	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	211	168	59	106	274
Volume Left	146	0	0	106	0
Volume Right	65	0	59	0	0
cSH	525	1700	1700	1342	1700
Volume to Capacity	0.40	0.10	0.03	0.08	0.16
Queue Length 95th (ft)	48	0	0	6	0
Control Delay (s)	16.4	0.0	0.0	7.9	0.0
Lane LOS	C			A	
Approach Delay (s)	16.4	0.0		2.2	
Approach LOS	C				

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	31.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	355	79	89	531	32	44	204	34	22	368	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.98			0.99	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		3439			3490			3448			3489	
Flt Permitted		0.91			0.84			0.85			0.93	
Satd. Flow (perm)		3145			2934			2946			3247	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	382	85	96	571	34	47	219	37	24	396	35
RTOR Reduction (vph)	0	32	0	0	7	0	0	20	0	0	12	0
Lane Group Flow (vph)	0	459	0	0	694	0	0	283	0	0	443	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		14.9			14.9			10.8			10.8	
Effective Green, g (s)		14.9			14.9			10.8			10.8	
Actuated g/C Ratio		0.44			0.44			0.32			0.32	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1390			1297			944			1040	
v/s Ratio Prot												
v/s Ratio Perm		0.15			c0.24			0.10			c0.14	
v/c Ratio		0.33			0.54			0.30			0.43	
Uniform Delay, d1		6.1			6.9			8.6			9.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.1			0.4			0.2			0.3	
Delay (s)		6.3			7.3			8.8			9.3	
Level of Service		A			A			A			A	
Approach Delay (s)		6.3			7.3			8.8			9.3	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.7	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	33.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	64.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	423	355	167	785	46	310	250	28	17	506	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	5043		1770	1863	1583		3509	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.94	
Satd. Flow (perm)		5085	1583	1770	5043		1770	1863	1583		3297	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	455	382	180	844	49	333	269	30	18	544	28
RTOR Reduction (vph)	0	0	204	0	8	0	0	0	15	0	4	0
Lane Group Flow (vph)	0	455	178	180	885	0	333	269	15	0	586	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		15.0	15.0	10.1	29.1		17.5	38.0	38.0		17.0	
Effective Green, g (s)		15.0	15.0	10.1	29.1		17.5	38.0	38.0		17.0	
Actuated g/C Ratio		0.19	0.19	0.13	0.37		0.22	0.49	0.49		0.22	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		976	304	228	1879		396	906	770		717	
v/s Ratio Prot		0.09		c0.10	0.18		c0.19	0.14				
v/s Ratio Perm			c0.11						0.01		c0.18	
v/c Ratio		0.47	0.58	0.79	0.47		0.84	0.30	0.02		0.82	
Uniform Delay, d1		28.0	28.7	33.0	18.6		29.0	12.0	10.4		29.1	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.1	1.8	15.3	0.1		14.3	0.1	0.0		6.8	
Delay (s)		28.1	30.6	48.3	18.7		43.2	12.1	10.4		35.9	
Level of Service		C	C	D	B		D	B	B		D	
Approach Delay (s)		29.2			23.7			28.4			35.9	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	28.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	78.1	Sum of lost time (s)	18.5
Intersection Capacity Utilization	67.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	12	16	18	200	573	23	26	653	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor					1.00		1.00	1.00		1.00	0.95	
Frt					0.95		1.00	0.99		1.00	0.95	
Flt Protected					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1742		1770	1852		1770	3367	
Flt Permitted					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1742		1770	1852		1770	3367	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	13	17	19	213	610	24	28	695	335
RTOR Reduction (vph)	0	0	0	0	18	0	0	2	0	0	67	0
Lane Group Flow (vph)	0	0	0	0	31	0	213	632	0	28	963	0
Turn Type				Perm	NA		Prot	NA		Prot	NA	
Protected Phases					8		5	2 9		1	6 9	
Permitted Phases				8				2 9			6 9	
Actuated Green, G (s)					3.7		20.5	32.0		10.7	22.2	
Effective Green, g (s)					3.7		20.5	32.0		10.7	22.2	
Actuated g/C Ratio					0.06		0.35	0.55		0.18	0.38	
Clearance Time (s)					4.0		4.0			4.0		
Vehicle Extension (s)					3.0		3.0			3.0		
Lane Grp Cap (vph)					110		621	1015		324	1280	
v/s Ratio Prot							0.12	c0.34		0.02	c0.29	
v/s Ratio Perm					0.02							
v/c Ratio					0.28		0.34	0.62		0.09	0.75	
Uniform Delay, d1					26.1		14.0	9.1		19.8	15.7	
Progression Factor					1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2					1.4		0.3	1.2		0.1	2.5	
Delay (s)					27.5		14.3	10.3		19.9	18.3	
Level of Service					C		B	B		B	B	
Approach Delay (s)		0.0			27.5			11.3			18.3	
Approach LOS		A			C			B			B	

Intersection Summary			
HCM Average Control Delay	15.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	58.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	52.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	170	428	44	524
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	177	446	46	546
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	765	311			623	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	765	311			623	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			95	
cM capacity (veh/h)	323	684			954	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	118	505	228	364
Volume Left	0	0	46	0
Volume Right	0	446	0	0
cSH	1700	1700	954	1700
Volume to Capacity	0.07	0.30	0.05	0.21
Queue Length 95th (ft)	0	0	4	0
Control Delay (s)	0.0	0.0	2.2	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.8	
Approach LOS				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	40.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	380	83	153	604	40	84	93	72	61	157	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.97		1.00	0.99		1.00	0.93			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3444		1770	3507		1770	1741			1823	
Flt Permitted	0.95	1.00		0.95	1.00		0.51	1.00			0.87	
Satd. Flow (perm)	1770	3444		1770	3507		943	1741			1605	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	26	422	92	170	671	44	93	103	80	68	174	16
RTOR Reduction (vph)	0	20	0	0	5	0	0	33	0	0	3	0
Lane Group Flow (vph)	26	494	0	170	710	0	93	150	0	0	255	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	10.6	23.8		10.6	23.8		14.7	14.7			14.7	
Effective Green, g (s)	10.6	23.8		10.6	23.8		14.7	14.7			14.7	
Actuated g/C Ratio	0.18	0.40		0.18	0.40		0.25	0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	317	1386		317	1412		234	433			399	
v/s Ratio Prot	0.01	0.14		c0.10	c0.20			0.09				
v/s Ratio Perm							0.10				c0.16	
v/c Ratio	0.08	0.36		0.54	0.50		0.40	0.35			0.64	
Uniform Delay, d1	20.2	12.3		22.0	13.2		18.5	18.3			19.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.0	0.1		0.9	0.1		0.4	0.2			2.5	
Delay (s)	20.2	12.4		22.9	13.3		18.9	18.4			22.3	
Level of Service	C	B		C	B		B	B			C	
Approach Delay (s)		12.7			15.2			18.6			22.3	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	15.9	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.55		
Actuated Cycle Length (s)	59.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	60.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	371	70	96	649	65	154	183	138	47	259	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3491		1770	1743			3512	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.54	1.00			0.81	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3491		1012	1743			2867	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	26	422	80	109	738	74	175	208	157	53	294	83
RTOR Reduction (vph)	0	0	57	0	11	0	0	50	0	0	0	59
Lane Group Flow (vph)	26	422	23	109	801	0	175	315	0	0	347	24
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	0.7	16.3	12.9	4.1	19.7		12.9	12.9			12.9	12.9
Effective Green, g (s)	0.7	16.3	12.9	4.1	19.7		12.9	12.9			12.9	12.9
Actuated g/C Ratio	0.02	0.37	0.29	0.09	0.44		0.29	0.29			0.29	0.29
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	27	1302	460	163	1552		294	507			834	460
v/s Ratio Prot	0.01	0.12		c0.06	c0.23			c0.18				
v/s Ratio Perm			0.01				0.17				0.12	0.02
v/c Ratio	0.96	0.32	0.05	0.67	0.52		0.60	0.62			0.42	0.05
Uniform Delay, d1	21.8	10.0	11.3	19.4	8.9		13.5	13.6			12.7	11.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	155.6	0.2	0.0	7.8	0.4		2.2	1.7			0.1	0.0
Delay (s)	177.4	10.2	11.3	27.2	9.3		15.6	15.3			12.8	11.3
Level of Service	F	B	B	C	A		B	B			B	B
Approach Delay (s)		18.6			11.4			15.4			12.5	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	44.3	Sum of lost time (s)	11.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	782	31	16	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	806	32	16	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	838				822	822
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	838				822	822
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	90
cM capacity (veh/h)	796				344	374

Direction, Lane #	WB 1	SB 1
Volume Total	822	26
Volume Left	0	8
Volume Right	16	18
cSH	1700	545
Volume to Capacity	0.48	0.05
Queue Length 95th (ft)	0	4
Control Delay (s)	0.0	15.3
Lane LOS		C
Approach Delay (s)	0.0	15.3
Approach LOS		C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	18	0	0	719	99	79	111	93	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	19	0	0	757	104	83	117	98	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	40	861	233	65	0
Volume Left (vph)	21	0	83	0	0
Volume Right (vph)	0	104	33	65	0
Hadj (s)	0.14	-0.04	0.11	-0.67	0.00
Departure Headway (s)	5.9	4.9	6.6	5.8	6.6
Degree Utilization, x	0.07	1.16	0.42	0.10	0.00
Capacity (veh/h)	586	738	542	612	540
Control Delay (s)	9.4	106.0	13.1	8.3	9.6
Approach Delay (s)	9.4	106.0	12.0		0.0
Approach LOS	A	F	B		A

Intersection Summary			
Delay	79.5		
HCM Level of Service	F		
Intersection Capacity Utilization	62.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	525	154	160	1394	0	0	0	0	321	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			1.00		1.00	1.00					1.00	1.00
Frt			0.86		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.98	1.00					1.00	1.00
Satd. Flow (prot)			1611		1818	1583					1863	1583
Flt Permitted			1.00		0.98	1.00					1.00	1.00
Satd. Flow (perm)			1611		1818	1583					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	547	160	167	1452	0	0	0	0	334	12
RTOR Reduction (vph)	0	0	40	0	38	320	0	0	0	0	0	10
Lane Group Flow (vph)	0	0	507	0	289	1132	0	0	0	0	334	2
Turn Type			custom	Perm	NA	Perm					NA	Perm
Protected Phases					8						6	
Permitted Phases			4	8		8						6
Actuated Green, G (s)			63.0		63.0	63.0					18.2	18.2
Effective Green, g (s)			63.0		63.0	63.0					18.2	18.2
Actuated g/C Ratio			0.71		0.71	0.71					0.20	0.20
Clearance Time (s)			4.0		4.0	4.0					4.0	4.0
Vehicle Extension (s)			3.0		3.0	3.0					3.0	3.0
Lane Grp Cap (vph)			1137		1284	1118					380	322
v/s Ratio Prot											c0.18	
v/s Ratio Perm			0.31		0.16	c0.71						0.00
v/c Ratio			0.45		0.23	1.01					0.88	0.01
Uniform Delay, d1			5.6		4.6	13.1					34.4	28.3
Progression Factor			1.00		1.00	1.00					1.00	1.00
Incremental Delay, d2			0.3		0.1	29.9					19.9	0.0
Delay (s)			5.9		4.7	43.0					54.4	28.3
Level of Service			A		A	D					D	C
Approach Delay (s)		5.9			36.0			0.0			53.5	
Approach LOS		A			D			A			D	

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	89.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Intersection has too many legs for HCM analysis.

HCM Unsignalized Intersection Capacity Analysis
13: Park St Bridge & Glascock St

7/19/2012

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	35	2155	7	78	0	914
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	36	2199	7	0	0	933
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	2669	1103			0	2206	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2669	1103			0	2206	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	83			0	100	
cM capacity (veh/h)	18	206			0	235	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	36	1466	737	0	466	466
Volume Left	0	0	0	0	0	0
Volume Right	36	0	4	0	0	0
cSH	206	1700	1700	1700	1700	1700
Volume to Capacity	0.17	0.86	0.43	0.00	0.27	0.27
Queue Length 95th (ft)	15	0	0	0	0	0
Control Delay (s)	26.1	0.0	0.0	0.0	0.0	0.0
Lane LOS	D					
Approach Delay (s)	26.1	0.0		0.0		
Approach LOS	D					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	179	302	67	40	81	301	13	27	694	71	26	548
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.99			0.99
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3272		1441	1770	3517			3486			3490
Flt Permitted		0.74		1.00	0.38	1.00			0.92			0.90
Satd. Flow (perm)		2455		1441	701	3517			3216			3161
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	188	318	71	42	85	317	14	28	731	75	27	577
RTOR Reduction (vph)	0	1	0	18	0	5	0	0	0	0	0	10
Lane Group Flow (vph)	0	580	0	20	85	326	0	0	834	0	0	646
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		21.3		21.3	21.3	21.3			23.2			23.2
Effective Green, g (s)		21.3		21.3	21.3	21.3			23.2			23.2
Actuated g/C Ratio		0.40		0.40	0.40	0.40			0.43			0.43
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		970		569	277	1389			1384			1360
v/s Ratio Prot						0.09						
v/s Ratio Perm		c0.24		0.01	0.12				c0.26			0.20
v/c Ratio		0.60		0.04	0.31	0.23			0.60			0.48
Uniform Delay, d1		12.9		10.0	11.2	10.9			11.8			11.0
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		1.0		0.0	0.6	0.1			0.7			0.3
Delay (s)		13.9		10.0	11.9	11.0			12.6			11.3
Level of Service		B		B	B	B			B			B
Approach Delay (s)		13.7				11.1			12.6			11.3
Approach LOS		B				B			B			B

Intersection Summary			
HCM 2000 Control Delay	12.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	53.9	Sum of lost time (s)	9.4
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	49
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	52
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	382	45	136	829	93	17	397	55	40	372	70
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.98			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3484		1770	3486			3470			3448	
Flt Permitted	0.95	1.00		0.95	1.00			0.93			0.89	
Satd. Flow (perm)	1770	3484		1770	3486			3232			3068	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	59	394	46	140	855	96	18	409	57	41	384	72
RTOR Reduction (vph)	0	10	0	0	10	0	0	13	0	0	17	0
Lane Group Flow (vph)	59	430	0	140	941	0	0	471	0	0	480	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.5	20.9		8.1	25.5			17.2			17.2	
Effective Green, g (s)	3.5	20.9		8.1	25.5			17.2			17.2	
Actuated g/C Ratio	0.06	0.36		0.14	0.44			0.30			0.30	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	106	1251		246	1527			955			906	
v/s Ratio Prot	0.03	0.12		c0.08	c0.27							
v/s Ratio Perm								0.15			c0.16	
v/c Ratio	0.56	0.34		0.57	0.62			0.49			0.53	
Uniform Delay, d1	26.6	13.6		23.4	12.6			16.9			17.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	6.2	0.2		3.0	0.7			0.4			0.6	
Delay (s)	32.8	13.8		26.4	13.3			17.3			17.7	
Level of Service	C	B		C	B			B			B	
Approach Delay (s)		16.0			15.0			17.3			17.7	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	16.2	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	201	189	42	200	24	407	382	112	38	412	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (prot)	1770	1863	2787	1770	3483		1610	3343	1583		3439	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (perm)	1770	1863	2787	1770	3483		1610	3343	1583		3439	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	81	221	208	46	220	26	447	420	123	42	453	99
RTOR Reduction (vph)	0	0	162	0	14	0	0	0	93	0	24	0
Lane Group Flow (vph)	81	221	46	46	232	0	282	585	30	0	570	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	6.2	13.9	13.9	2.7	10.4		15.2	15.2	15.2		14.4	
Effective Green, g (s)	6.2	13.9	13.9	2.7	10.4		15.2	15.2	15.2		14.4	
Actuated g/C Ratio	0.10	0.22	0.22	0.04	0.17		0.24	0.24	0.24		0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	176	416	622	76	582		393	816	386		796	
v/s Ratio Prot	c0.05	c0.12		0.03	0.07		c0.18	0.17			c0.17	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.46	0.53	0.07	0.61	0.40		0.72	0.72	0.08		0.72	
Uniform Delay, d1	26.4	21.3	19.1	29.2	23.1		21.5	21.5	18.1		22.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.9	1.3	0.1	12.9	0.4		6.1	3.0	0.1		3.1	
Delay (s)	28.3	22.6	19.1	42.1	23.6		27.7	24.6	18.2		25.1	
Level of Service	C	C	B	D	C		C	C	B		C	
Approach Delay (s)		22.1			26.5			24.7			25.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	62.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	8	250	0	471	46	404	154	237	411	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.86			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1611			1770	1583		3391		1610	3378	
Flt Permitted		1.00			0.75	1.00		0.88		0.95	0.94	
Satd. Flow (perm)		1611			1402	1583		3012		1610	3174	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	8	260	0	491	48	421	160	247	428	2
RTOR Reduction (vph)	0	6	0	0	0	350	0	35	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	260	141	0	594	0	220	457	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		19.8			19.8	19.8		21.0		15.8	40.8	
Effective Green, g (s)		19.8			19.8	19.8		21.0		15.8	40.8	
Actuated g/C Ratio		0.29			0.29	0.29		0.30		0.23	0.59	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		461			401	453		915		368	1920	
v/s Ratio Prot		0.00								c0.14	0.05	
v/s Ratio Perm					c0.19	0.09		c0.20			0.09	
v/c Ratio		0.00			0.65	0.31		0.65		0.60	0.24	
Uniform Delay, d1		17.6			21.6	19.3		20.9		23.8	6.7	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.0			3.6	0.4		1.6		2.6	0.1	
Delay (s)		17.6			25.2	19.7		22.5		26.4	6.8	
Level of Service		B			C	B		C		C	A	
Approach Delay (s)		17.6			21.6			22.5			13.2	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	69.1	Sum of lost time (s)	12.5
Intersection Capacity Utilization	61.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	56	21	59	131	16	364	508	61	9	393	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.94	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1784			1817		1770	1833		1770	1746	
Flt Permitted		0.59			0.85		0.16	1.00		0.44	1.00	
Satd. Flow (perm)		1080			1559		293	1833		816	1746	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	59	22	62	138	17	383	535	64	9	414	297
RTOR Reduction (vph)	0	7	0	0	3	0	0	4	0	0	26	0
Lane Group Flow (vph)	0	157	0	0	214	0	383	595	0	9	685	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.1			16.1		65.9	60.9		45.9	44.9	
Effective Green, g (s)		16.1			16.1		65.9	60.9		45.9	44.9	
Actuated g/C Ratio		0.18			0.18		0.73	0.68		0.51	0.50	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		193			279		494	1240		427	871	
v/s Ratio Prot							c0.15	0.32		0.00	0.39	
v/s Ratio Perm		c0.15			0.14		c0.42			0.01		
v/c Ratio		0.82			0.77		0.78	0.48		0.02	0.79	
Uniform Delay, d1		35.5			35.2		17.5	7.0		10.9	18.6	
Progression Factor		1.00			1.00		0.76	0.70		1.00	1.00	
Incremental Delay, d2		22.6			11.8		7.2	1.3		0.0	7.1	
Delay (s)		58.1			47.0		20.6	6.2		10.9	25.7	
Level of Service		E			D		C	A		B	C	
Approach Delay (s)		58.1			47.0			11.8			25.5	
Approach LOS		E			D			B			C	

Intersection Summary			
HCM Average Control Delay	23.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	108	44	136	11	0	70	0	734	11	73	414	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.88			1.00		1.00	1.00	
Flt Protected		0.97	1.00		0.99			1.00		0.95	1.00	
Satd. Flow (prot)		1799	1583		1634			3532		1770	1863	
Flt Permitted		0.74	1.00		0.96			1.00		0.33	1.00	
Satd. Flow (perm)		1375	1583		1572			3532		616	1863	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	111	45	140	11	0	72	0	757	11	75	427	0
RTOR Reduction (vph)	0	0	116	0	60	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	156	24	0	23	0	0	767	0	75	427	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		15.2	15.2		15.2			58.4		66.8	66.8	
Effective Green, g (s)		15.2	15.2		15.2			58.4		66.8	66.8	
Actuated g/C Ratio		0.17	0.17		0.17			0.65		0.74	0.74	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		232	267		265			2291		513	1382	
v/s Ratio Prot								c0.22		c0.01	0.23	
v/s Ratio Perm		c0.11	0.01		0.01					0.10		
v/c Ratio		0.67	0.09		0.09			0.33		0.15	0.31	
Uniform Delay, d1		35.1	31.6		31.5			7.1		5.0	3.9	
Progression Factor		1.00	1.00		1.00			1.00		0.88	0.88	
Incremental Delay, d2		7.5	0.1		0.1			0.4		0.1	0.3	
Delay (s)		42.5	31.7		31.7			7.5		4.5	3.7	
Level of Service		D	C		C			A		A	A	
Approach Delay (s)		37.4			31.7			7.5			3.8	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.43		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	49.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	304	50	713	169	46	522
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3438		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3438		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	317	52	743	176	48	544
RTOR Reduction (vph)	0	40	17	0	0	0
Lane Group Flow (vph)	317	12	902	0	48	544
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	21.5	21.5	53.0		5.5	62.5
Effective Green, g (s)	21.5	21.5	53.0		5.5	62.5
Actuated g/C Ratio	0.24	0.24	0.59		0.06	0.69
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	422	378	2024		108	2457
v/s Ratio Prot	c0.18		c0.26		c0.03	0.15
v/s Ratio Perm		0.01				
v/c Ratio	0.75	0.03	0.45		0.44	0.22
Uniform Delay, d1	31.8	26.3	10.3		40.8	5.0
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.4	0.0	0.7		2.9	0.2
Delay (s)	39.1	26.3	11.0		43.7	5.2
Level of Service	D	C	B		D	A
Approach Delay (s)	37.3		11.0			8.3
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	15.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	56.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	71	7	57	312	360	15	445	95	134	482	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1823	1583		1732		1770	3539	1583	1770	3391	
Flt Permitted		0.72	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1342	1583		1687		1770	3539	1583	1770	3391	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	56	73	7	59	322	371	15	459	98	138	497	192
RTOR Reduction (vph)	0	0	3	0	49	0	0	0	62	0	46	0
Lane Group Flow (vph)	0	129	4	0	703	0	15	459	36	138	643	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		32.6	32.6		32.6		0.6	15.6	15.6	7.0	22.0	
Effective Green, g (s)		32.6	32.6		32.6		0.6	15.6	15.6	7.0	22.0	
Actuated g/C Ratio		0.51	0.51		0.51		0.01	0.24	0.24	0.11	0.34	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		681	803		856		16	859	384	192	1162	
v/s Ratio Prot							0.01	0.13		c0.08	c0.19	
v/s Ratio Perm		0.10	0.00		c0.42				0.02			
v/c Ratio		0.19	0.00		0.82		0.94	0.53	0.09	0.72	0.55	
Uniform Delay, d1		8.6	7.8		13.3		31.8	21.1	18.8	27.6	17.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	0.0		6.4		191.7	0.6	0.1	12.1	0.6	
Delay (s)		8.7	7.8		19.7		223.5	21.8	18.9	39.8	17.7	
Level of Service		A	A		B		F	C	B	D	B	
Approach Delay (s)		8.7			19.7			26.6			21.4	
Approach LOS		A			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	64.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	446	143	182	825	22	160	185	61	29	583	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.96		1.00	1.00		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3411		1770	3525		1770	3408		1770	3367	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3411		1770	3525		1770	3408		1770	3367	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	102	460	147	188	851	23	165	191	63	30	601	288
RTOR Reduction (vph)	0	35	0	0	2	0	0	33	0	0	63	0
Lane Group Flow (vph)	102	572	0	188	872	0	165	221	0	30	826	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.1	22.7		12.1	28.7		10.5	33.4		2.8	25.7	
Effective Green, g (s)	6.1	22.7		12.1	28.7		10.5	33.4		2.8	25.7	
Actuated g/C Ratio	0.07	0.26		0.14	0.33		0.12	0.38		0.03	0.29	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	123	884		244	1156		212	1300		56	988	
v/s Ratio Prot	0.06	0.17		c0.11	c0.25		c0.09	0.06		0.02	c0.25	
v/s Ratio Perm												
v/c Ratio	0.83	0.65		0.77	0.75		0.78	0.17		0.54	0.84	
Uniform Delay, d1	40.2	28.8		36.4	26.3		37.4	17.9		41.7	28.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	34.8	1.6		13.9	2.8		16.3	0.1		9.5	6.2	
Delay (s)	75.0	30.5		50.3	29.1		53.7	17.9		51.2	35.2	
Level of Service	E	C		D	C		D	B		D	D	
Approach Delay (s)		36.9			32.8			32.0			35.7	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	34.5	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	87.5	Sum of lost time (s)	16.5
Intersection Capacity Utilization	76.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	449	31	101	861	86	49	348	31	48	421	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1770	3505		1770	3491			3481			3431	
Flt Permitted	0.22	1.00		0.46	1.00			0.84			0.88	
Satd. Flow (perm)	402	3505		854	3491			2938			3042	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	488	34	110	936	93	53	378	34	52	458	110
RTOR Reduction (vph)	0	8	0	0	11	0	0	11	0	0	35	0
Lane Group Flow (vph)	54	514	0	110	1018	0	0	454	0	0	585	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	26.2	26.2		26.2	26.2			15.6			15.6	
Effective Green, g (s)	26.2	26.2		26.2	26.2			15.6			15.6	
Actuated g/C Ratio	0.52	0.52		0.52	0.52			0.31			0.31	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	209	1825		444	1818			911			943	
v/s Ratio Prot		0.15			c0.29							
v/s Ratio Perm	0.13			0.13				0.15			c0.19	
v/c Ratio	0.26	0.28		0.25	0.56			0.50			0.62	
Uniform Delay, d1	6.7	6.8		6.6	8.2			14.2			14.8	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.7	0.1		0.3	0.4			0.4			1.3	
Delay (s)	7.3	6.9		6.9	8.5			14.6			16.1	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		6.9			8.4			14.6			16.1	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	10.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	50.3	Sum of lost time (s)	8.5
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	9	39	7	393	36	3	639	6	49	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0		3.0			3.0	3.0	3.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.99			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4942		3495			3538	1770	1583	
Flt Permitted		0.99		1.00			0.95	0.95	1.00	
Satd. Flow (perm)		4942		3495			3376	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	42	8	427	39	3	695	7	53	38
RTOR Reduction (vph)	0	0	0	9	0	0	0	0	47	0
Lane Group Flow (vph)	0	60	0	457	0	0	698	7	44	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		3.6		20.7			20.7	5.8	5.8	
Effective Green, g (s)		3.6		20.7			20.7	5.8	5.8	
Actuated g/C Ratio		0.09		0.53			0.53	0.15	0.15	
Clearance Time (s)		3.0		3.0			3.0	3.0	3.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		455		1850			1787	262	234	
v/s Ratio Prot				0.13				0.00		
v/s Ratio Perm		0.01					c0.21		c0.03	
v/c Ratio		0.13		0.25			0.39	0.03	0.19	
Uniform Delay, d1		16.3		5.0			5.5	14.2	14.6	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.1			0.1	0.0	0.4	
Delay (s)		16.4		5.1			5.6	14.3	15.0	
Level of Service		B		A			A	B	B	
Approach Delay (s)		16.4		5.1			5.6	14.9		
Approach LOS		B		A			A	B		

Intersection Summary			
HCM 2000 Control Delay	6.6	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.32		
Actuated Cycle Length (s)	39.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	39.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	333	100	93	737	36	133	320	49	69	463	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.99			0.99	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3414			3498			3441			3467	
Flt Permitted		0.86			0.79			0.63			0.82	
Satd. Flow (perm)		2930			2777			2203			2859	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	351	105	98	776	38	140	337	52	73	487	61
RTOR Reduction (vph)	0	28	0	0	4	0	0	9	0	0	9	0
Lane Group Flow (vph)	0	454	0	0	908	0	0	521	0	0	613	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		37.5			37.5			47.5			47.5	
Effective Green, g (s)		37.5			37.5			47.5			47.5	
Actuated g/C Ratio		0.39			0.39			0.50			0.50	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1156			1096			1101			1429	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.33			c0.24			0.21	
v/c Ratio		0.39			0.83			0.47			0.43	
Uniform Delay, d1		20.6			25.9			15.6			15.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			5.3			1.5			0.9	
Delay (s)		20.8			31.2			17.0			16.1	
Level of Service		C			C			B			B	
Approach Delay (s)		20.8			31.2			17.0			16.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	22.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	399	225	189	386	316	87	12	577	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.97		1.00	0.97			0.99	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3334		1770	3424			3485	
Flt Permitted					0.98		0.18	1.00			0.94	
Satd. Flow (perm)					3334		334	3424			3295	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	416	234	197	402	329	91	12	601	65
RTOR Reduction (vph)	0	0	0	0	39	0	0	33	0	0	11	0
Lane Group Flow (vph)	0	0	0	0	808	0	402	387	0	0	667	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					22.1		37.7	37.7			17.8	
Effective Green, g (s)					22.1		37.7	37.7			17.8	
Actuated g/C Ratio					0.32		0.55	0.55			0.26	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					1070		504	1876			852	
v/s Ratio Prot							c0.18	0.11				
v/s Ratio Perm					0.24		c0.26				0.20	
v/c Ratio					0.75		0.80	0.21			0.78	
Uniform Delay, d1					20.9		13.6	7.9			23.7	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					3.1		8.6	0.1			4.7	
Delay (s)					24.0		22.2	8.0			28.4	
Level of Service					C		C	A			C	
Approach Delay (s)		0.0			24.0			14.9			28.4	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	22.1	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	68.8	Sum of lost time (s)	13.5
Intersection Capacity Utilization	74.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR2	WBL2	WBL	WBR	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	93	467	266	20	1	44	605	537	289	403	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.0		4.5	4.5	4.5		3.5	4.5	
Lane Util. Factor		0.95	1.00		1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	0.93		1.00	0.93	
Flt Protected		0.99	1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)		3510	1583		1770	1583	3290		1770	3285	
Flt Permitted		0.99	1.00		0.28	1.00	1.00		0.12	1.00	
Satd. Flow (perm)		3510	1583		514	1583	3290		231	3285	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	98	492	280	21	1	46	637	565	304	424	389
RTOR Reduction (vph)	0	0	0	0	0	34	87	0	0	0	0
Lane Group Flow (vph)	0	590	280	0	22	12	1115	0	304	813	0
Turn Type	Perm	NA	Free	custom	custom	custom	NA		pm+pt	NA	
Protected Phases		4					2		1	6	
Permitted Phases	4		Free	8	8	8			6		
Actuated Green, G (s)		18.1	70.7		18.1	18.1	28.7		43.6	43.6	
Effective Green, g (s)		18.1	70.7		18.1	18.1	28.7		43.6	43.6	
Actuated g/C Ratio		0.26	1.00		0.26	0.26	0.41		0.62	0.62	
Clearance Time (s)		4.5			4.5	4.5	4.5		3.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		898	1583		131	405	1335		390	2025	
v/s Ratio Prot							0.34		c0.13	0.25	
v/s Ratio Perm		0.17	0.18		0.04	0.01			c0.35		
v/c Ratio		0.66	0.18		0.17	0.03	0.83		0.78	0.40	
Uniform Delay, d1		23.5	0.0		20.4	19.7	18.9		15.4	6.9	
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.7	0.2		0.6	0.0	4.7		9.5	0.1	
Delay (s)		25.3	0.2		21.1	19.7	23.5		24.9	7.0	
Level of Service		C	A		C	B	C		C	A	
Approach Delay (s)		17.2					23.5			11.9	
Approach LOS		B					C			B	

Intersection Summary			
HCM 2000 Control Delay	17.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	70.7	Sum of lost time (s)	12.5
Intersection Capacity Utilization	79.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	110	158	30	1	441	207	110	653	6	210	387	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.98			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1819			3539	1583		1848		1770	1765	1504
Flt Permitted	0.32	1.00			0.95	1.00		0.88		0.95	1.00	1.00
Satd. Flow (perm)	596	1819			3379	1583		1629		1770	1765	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	165	31	1	459	216	115	680	6	219	403	67
RTOR Reduction (vph)	0	0	0	0	0	167	0	0	0	0	18	19
Lane Group Flow (vph)	115	196	0	0	460	49	0	801	0	219	392	41
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	18.5	18.5			18.5	18.5		43.1		10.0	56.1	56.1
Effective Green, g (s)	18.5	18.5			18.5	18.5		43.1		10.0	56.1	56.1
Actuated g/C Ratio	0.23	0.23			0.23	0.23		0.53		0.12	0.68	0.68
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	134	410			763	357		857		216	1208	1030
v/s Ratio Prot		0.11								c0.12	0.22	
v/s Ratio Perm	c0.19				0.14	0.03		c0.49				0.03
v/c Ratio	0.86	0.48			0.60	0.14		0.93		1.01	0.32	0.04
Uniform Delay, d1	30.4	27.5			28.4	25.3		18.1		36.0	5.2	4.2
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	38.5	0.9			1.4	0.2		16.9		64.9	0.2	0.0
Delay (s)	69.0	28.4			29.8	25.5		34.9		100.8	5.4	4.2
Level of Service	E	C			C	C		C		F	A	A
Approach Delay (s)		43.4			28.4			34.9			35.6	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	14.4
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Intersection Sign configuration not allowed in HCM analysis.

Intersection Sign configuration not allowed in HCM analysis.

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	439	124	0	201	0	0	377	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	
Lane Util. Factor					0.95	1.00		0.95			0.95	
Frt					1.00	0.85		1.00			0.93	
Flt Protected					1.00	1.00		1.00			1.00	
Satd. Flow (prot)					3539	1583		3539			3309	
Flt Permitted					1.00	1.00		1.00			1.00	
Satd. Flow (perm)					3539	1583		3539			3309	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	472	133	0	216	0	0	405	311
RTOR Reduction (vph)	0	0	0	0	0	87	0	0	0	0	143	0
Lane Group Flow (vph)	0	0	0	0	472	46	0	216	0	0	573	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					10.3	10.3		11.6			11.6	
Effective Green, g (s)					10.3	10.3		11.6			11.6	
Actuated g/C Ratio					0.34	0.34		0.39			0.39	
Clearance Time (s)					4.0	4.0		4.0			4.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1219	545		1372			1283	
v/s Ratio Prot					c0.13			0.06			c0.17	
v/s Ratio Perm						0.03						
v/c Ratio					0.39	0.08		0.16			0.45	
Uniform Delay, d1					7.4	6.6		6.0			6.8	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					0.2	0.1		0.1			0.2	
Delay (s)					7.6	6.7		6.0			7.0	
Level of Service					A	A		A			A	
Approach Delay (s)		0.0			7.4			6.0			7.0	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	29.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	44.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	493	0	0	0	0	0	0	0	377	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0								4.0	4.0	
Lane Util. Factor		0.91								0.95	0.95	
Frt		1.00								1.00	1.00	
Flt Protected		0.99								0.95	0.95	
Satd. Flow (prot)		5013								1681	1681	
Flt Permitted		0.99								0.95	0.95	
Satd. Flow (perm)		5013								1681	1681	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	216	530	0	0	0	0	0	0	0	405	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	746	0	0	0	0	0	0	0	202	203	0
Turn Type	Perm	NA								Perm	NA	
Protected Phases		4									6	
Permitted Phases	4									6		
Actuated Green, G (s)		11.0								9.3	9.3	
Effective Green, g (s)		11.0								9.3	9.3	
Actuated g/C Ratio		0.39								0.33	0.33	
Clearance Time (s)		4.0								4.0	4.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		1948								552	552	
v/s Ratio Prot												
v/s Ratio Perm		0.15								0.12	0.12	
v/c Ratio		0.38								0.37	0.37	
Uniform Delay, d1		6.2								7.2	7.3	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		0.1								0.4	0.4	
Delay (s)		6.3								7.7	7.7	
Level of Service		A								A	A	
Approach Delay (s)		6.3			0.0			0.0			7.7	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	6.8	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.38		
Actuated Cycle Length (s)	28.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	45.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	378	1	32	510
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	411	1	35	554
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.94	0.97			0.97	
vC, conflicting volume	758	206			412	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	504	133			344	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	95			97	
cM capacity (veh/h)	456	869			1181	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	274	138	202	370
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	553	1700	1700	1181	1700
Volume to Capacity	0.11	0.16	0.08	0.03	0.22
Queue Length 95th (ft)	9	0	0	2	0
Control Delay (s)	12.3	0.0	0.0	0.9	0.0
Lane LOS	B			A	
Approach Delay (s)	12.3	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Existing No Project PM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/21/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	99	35	152	142	201	326
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	105	37	162	151	214	347
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	936	162			313	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	936	162			313	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	57	96			83	
cM capacity (veh/h)	244	883			1248	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	143	162	151	214	347
Volume Left	105	0	0	214	0
Volume Right	37	0	151	0	0
cSH	315	1700	1700	1248	1700
Volume to Capacity	0.45	0.10	0.09	0.17	0.20
Queue Length 95th (ft)	56	0	0	15	0
Control Delay (s)	25.5	0.0	0.0	8.5	0.0
Lane LOS	D			A	
Approach Delay (s)	25.5	0.0		3.2	
Approach LOS	D				

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	34.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	677	99	66	459	49	66	364	37	45	240	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.98			0.99			0.99			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3467			3474			3472			3450	
Flt Permitted		0.92			0.81			0.86			0.85	
Satd. Flow (perm)		3183			2816			3004			2956	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	728	106	71	494	53	71	391	40	48	258	43
RTOR Reduction (vph)	0	19	0	0	12	0	0	11	0	0	20	0
Lane Group Flow (vph)	0	852	0	0	606	0	0	491	0	0	329	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		17.9			17.9			12.7			12.7	
Effective Green, g (s)		17.9			17.9			12.7			12.7	
Actuated g/C Ratio		0.46			0.46			0.33			0.33	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1476			1305			988			972	
v/s Ratio Prot												
v/s Ratio Perm		c0.27			0.22			c0.16			0.11	
v/c Ratio		0.58			0.46			0.50			0.34	
Uniform Delay, d1		7.6			7.1			10.4			9.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.3			0.4			0.2	
Delay (s)		8.1			7.3			10.8			10.0	
Level of Service		A			A			B			A	
Approach Delay (s)		8.1			7.3			10.8			10.0	
Approach LOS		A			A			B			A	

Intersection Summary			
HCM 2000 Control Delay	8.8	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	38.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	804	494	143	386	69	300	436	97	21	396	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	4970		1770	1863	1583		3524	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.91	
Satd. Flow (perm)		5085	1583	1770	4970		1770	1863	1583		3207	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	865	531	154	415	74	323	469	104	23	426	5
RTOR Reduction (vph)	0	0	134	0	28	0	0	0	42	0	1	0
Lane Group Flow (vph)	0	865	397	154	461	0	323	469	62	0	453	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		23.9	23.9	9.5	37.4		17.3	36.4	36.4		15.6	
Effective Green, g (s)		23.9	23.9	9.5	37.4		17.3	36.4	36.4		15.6	
Actuated g/C Ratio		0.28	0.28	0.11	0.44		0.20	0.43	0.43		0.18	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1433	446	198	2191		361	799	679		589	
v/s Ratio Prot		0.17		c0.09	0.09		c0.18	0.25				
v/s Ratio Perm			c0.25						0.04		c0.14	
v/c Ratio		0.60	0.89	0.78	0.21		0.89	0.59	0.09		0.77	
Uniform Delay, d1		26.4	29.2	36.6	14.6		32.9	18.5	14.4		32.9	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.5	19.1	15.9	0.0		22.9	0.7	0.0		5.4	
Delay (s)		26.8	48.3	52.5	14.6		55.8	19.2	14.4		38.3	
Level of Service		C	D	D	B		E	B	B		D	
Approach Delay (s)		35.0			23.7			31.8			38.3	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	32.5	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	84.8	Sum of lost time (s)	18.5
Intersection Capacity Utilization	75.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	19	15	29	294	801	42	30	773	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor					1.00		1.00	1.00		1.00	0.95	
Frt					0.94		1.00	0.99		1.00	0.97	
Flt Protected					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1721		1770	1849		1770	3426	
Flt Permitted					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1721		1770	1849		1770	3426	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	20	16	31	313	852	45	32	822	222
RTOR Reduction (vph)	0	0	0	0	29	0	0	2	0	0	30	0
Lane Group Flow (vph)	0	0	0	0	38	0	313	895	0	32	1014	0
Turn Type				Perm	NA		Prot	NA		Prot	NA	
Protected Phases					8		5	2 9		1	6 9	
Permitted Phases				8				2 9			6 9	
Actuated Green, G (s)					4.0		28.9	40.2		10.4	21.7	
Effective Green, g (s)					4.0		28.9	40.2		10.4	21.7	
Actuated g/C Ratio					0.06		0.43	0.60		0.16	0.33	
Clearance Time (s)					4.0		4.0			4.0		
Vehicle Extension (s)					3.0		3.0			3.0		
Lane Grp Cap (vph)					103		768	1116		276	1116	
v/s Ratio Prot							0.18	c0.48		0.02	c0.30	
v/s Ratio Perm					0.02							
v/c Ratio					0.37		0.41	0.80		0.12	0.91	
Uniform Delay, d1					30.1		13.0	10.1		24.1	21.5	
Progression Factor					1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2					2.2		0.4	4.2		0.2	10.7	
Delay (s)					32.3		13.3	14.4		24.3	32.2	
Level of Service					C		B	B		C	C	
Approach Delay (s)		0.0			32.3			14.1			31.9	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM Average Control Delay	22.8	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	66.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	61.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	74	513	158	908
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	77	534	165	946
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1146	306			611	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1146	306			611	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			83	
cM capacity (veh/h)	160	690			964	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	51	560	480	631
Volume Left	0	0	165	0
Volume Right	0	534	0	0
cSH	1700	1700	964	1700
Volume to Capacity	0.03	0.33	0.17	0.37
Queue Length 95th (ft)	0	0	15	0
Control Delay (s)	0.0	0.0	4.6	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.0	
Approach LOS				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	55.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	760	87	119	456	36	119	132	119	45	98	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.93			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3484		1770	3500		1770	1731			1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.59	1.00			0.75	
Satd. Flow (perm)	1770	3484		1770	3500		1095	1731			1370	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	27	844	97	132	507	40	132	147	132	50	109	34
RTOR Reduction (vph)	0	9	0	0	5	0	0	39	0	0	9	0
Lane Group Flow (vph)	27	932	0	132	542	0	132	240	0	0	184	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	7.7	27.1		7.7	27.1		13.9	13.9			13.9	
Effective Green, g (s)	7.7	27.1		7.7	27.1		13.9	13.9			13.9	
Actuated g/C Ratio	0.13	0.46		0.13	0.46		0.24	0.24			0.24	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	232	1608		232	1615		259	409			324	
v/s Ratio Prot	0.02	c0.27		c0.07	0.15			c0.14				
v/s Ratio Perm							0.12				0.13	
v/c Ratio	0.12	0.58		0.57	0.34		0.51	0.59			0.57	
Uniform Delay, d1	22.5	11.6		23.9	10.1		19.4	19.9			19.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	0.3		1.9	0.0		0.6	1.4			1.4	
Delay (s)	22.6	11.9		25.8	10.1		20.0	21.2			21.1	
Level of Service	C	B		C	B		C	C			C	
Approach Delay (s)		12.2			13.2			20.9			21.1	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	14.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	58.7	Sum of lost time (s)	10.0
Intersection Capacity Utilization	67.5%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	640	169	91	365	93	181	252	192	71	188	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3431		1770	1742			3491	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.57	1.00			0.63	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3431		1065	1742			2212	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	55	727	192	103	415	106	206	286	218	81	214	55
RTOR Reduction (vph)	0	0	128	0	36	0	0	47	0	0	0	37
Lane Group Flow (vph)	55	727	64	103	485	0	206	457	0	0	295	18
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	2.6	17.8	17.3	5.7	20.9		17.3	17.3			17.3	17.3
Effective Green, g (s)	2.6	17.8	17.3	5.7	20.9		17.3	17.3			17.3	17.3
Actuated g/C Ratio	0.05	0.34	0.33	0.11	0.40		0.33	0.33			0.33	0.33
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	88	1216	528	194	1384		355	581			738	528
v/s Ratio Prot	0.03	c0.21		c0.06	0.14			c0.26				
v/s Ratio Perm			0.04				0.19				0.13	0.01
v/c Ratio	0.62	0.60	0.12	0.53	0.35		0.58	0.79			0.40	0.03
Uniform Delay, d1	24.1	14.0	12.0	21.8	10.7		14.3	15.6			13.3	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	9.6	0.9	0.0	1.4	0.2		1.6	6.4			0.1	0.0
Delay (s)	33.7	15.0	12.0	23.2	10.9		15.8	22.0			13.4	11.6
Level of Service	C	B	B	C	B		B	C			B	B
Approach Delay (s)		15.4			13.0			20.2			13.1	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	15.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	51.8	Sum of lost time (s)	11.0
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	464	49	15	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	478	51	15	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	529				504	504
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	529				504	504
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	97
cM capacity (veh/h)	1038				528	568

Direction, Lane #	WB 1	SB 1
Volume Total	504	15
Volume Left	0	8
Volume Right	25	7
cSH	1700	1020
Volume to Capacity	0.30	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	11.7
Lane LOS		B
Approach Delay (s)	0.0	11.7
Approach LOS		B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	28	0	0	385	85	91	194	362	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	29	0	0	405	89	96	204	381	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	29	495	427	254	0
Volume Left (vph)	0	0	96	0	0
Volume Right (vph)	0	89	127	254	0
Hadj (s)	0.03	-0.07	-0.06	-0.67	0.00
Departure Headway (s)	6.4	5.4	5.9	5.3	6.5
Degree Utilization, x	0.05	0.75	0.71	0.38	0.00
Capacity (veh/h)	508	646	588	656	502
Control Delay (s)	9.8	22.8	20.7	10.3	9.5
Approach Delay (s)	9.8	22.8	16.8		0.0
Approach LOS	A	C	C		A

Intersection Summary			
Delay	19.1		
HCM Level of Service	C		
Intersection Capacity Utilization	54.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1002	260	66	895	0	0	0	0	611	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			1.00		1.00	1.00					1.00	1.00
Frt			0.86		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.96	1.00					1.00	1.00
Satd. Flow (prot)			1611		1791	1583					1863	1583
Flt Permitted			1.00		0.96	1.00					1.00	1.00
Satd. Flow (perm)			1611		1791	1583					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	1044	271	69	932	0	0	0	0	636	6
RTOR Reduction (vph)	0	0	13	0	13	316	0	0	0	0	0	4
Lane Group Flow (vph)	0	0	1031	0	327	616	0	0	0	0	636	2
Turn Type			custom	Perm	NA	Perm					NA	Perm
Protected Phases					8						6	
Permitted Phases			4	8		8						6
Actuated Green, G (s)			80.7		80.7	80.7					33.3	33.3
Effective Green, g (s)			80.7		80.7	80.7					33.3	33.3
Actuated g/C Ratio			0.66		0.66	0.66					0.27	0.27
Clearance Time (s)			4.0		4.0	4.0					4.0	4.0
Vehicle Extension (s)			3.0		3.0	3.0					3.0	3.0
Lane Grp Cap (vph)			1065		1184	1047					508	432
v/s Ratio Prot											c0.34	
v/s Ratio Perm			c0.64		0.18	0.39						0.00
v/c Ratio			0.97		0.28	0.59					1.25	0.00
Uniform Delay, d1			19.5		8.6	11.5					44.4	32.3
Progression Factor			1.00		1.00	1.00					1.00	1.00
Incremental Delay, d2			20.1		0.1	0.9					128.9	0.0
Delay (s)			39.6		8.7	12.3					173.2	32.3
Level of Service			D		A	B					F	C
Approach Delay (s)		39.6			11.3			0.0			171.9	
Approach LOS		D			B			A			F	

Intersection Summary			
HCM 2000 Control Delay	56.2	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	122.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Intersection has too many legs for HCM analysis.

HCM Unsignalized Intersection Capacity Analysis
13: Park St Bridge & Glascock St

7/19/2012

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	17	1447	31	201	0	1650
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	17	1477	32	0	0	1684
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	2334	754			0	1508	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2334	754			0	1508	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	95			0	100	
cM capacity (veh/h)	31	352			0	440	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	17	984	508	0	842	842
Volume Left	0	0	0	0	0	0
Volume Right	17	0	16	0	0	0
cSH	352	1700	1700	1700	1700	1700
Volume to Capacity	0.05	0.58	0.30	0.00	0.50	0.50
Queue Length 95th (ft)	4	0	0	0	0	0
Control Delay (s)	15.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	15.8	0.0		0.0		
Approach LOS	C					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	65.5%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	163	287	61	82	117	311	27	35	567	80	89	798
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.98			0.98
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3271		1441	1770	3497			3468			3465
Flt Permitted		0.73		1.00	0.39	1.00			0.87			0.81
Satd. Flow (perm)		2439		1441	719	3497			3009			2836
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	172	302	64	86	123	327	28	37	597	84	94	840
RTOR Reduction (vph)	0	2	0	33	0	11	0	0	0	0	0	13
Lane Group Flow (vph)	0	545	0	44	123	344	0	0	718	0	0	1036
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		21.5		21.5	21.5	21.5			26.6			26.6
Effective Green, g (s)		21.5		21.5	21.5	21.5			26.6			26.6
Actuated g/C Ratio		0.37		0.37	0.37	0.37			0.46			0.46
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		911		538	268	1307			1391			1311
v/s Ratio Prot						0.10						
v/s Ratio Perm		c0.22		0.03	0.17				0.24			c0.37
v/c Ratio		0.60		0.08	0.46	0.26			0.52			0.79
Uniform Delay, d1		14.5		11.6	13.6	12.5			10.9			13.1
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		1.1		0.1	1.2	0.1			0.3			3.3
Delay (s)		15.6		11.7	14.9	12.6			11.2			16.4
Level of Service		B		B	B	B			B			B
Approach Delay (s)		15.1				13.2			11.2			16.4
Approach LOS		B				B			B			B

Intersection Summary			
HCM 2000 Control Delay	14.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	57.5	Sum of lost time (s)	9.4
Intersection Capacity Utilization	88.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	109
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	115
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	86	785	73	80	523	100	10	600	112	12	324	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3494		1770	3454			3455			3456	
Flt Permitted	0.95	1.00		0.95	1.00			0.95			0.93	
Satd. Flow (perm)	1770	3494		1770	3454			3280			3220	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	89	809	75	82	539	103	10	619	115	12	334	60
RTOR Reduction (vph)	0	8	0	0	19	0	0	17	0	0	16	0
Lane Group Flow (vph)	89	876	0	82	623	0	0	727	0	0	390	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.1	24.7		7.0	26.6			22.6			22.6	
Effective Green, g (s)	5.1	24.7		7.0	26.6			22.6			22.6	
Actuated g/C Ratio	0.08	0.37		0.11	0.40			0.34			0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	136	1301		186	1385			1118			1097	
v/s Ratio Prot	c0.05	c0.25		0.05	0.18							
v/s Ratio Perm								c0.22			0.12	
v/c Ratio	0.65	0.67		0.44	0.45			0.65			0.36	
Uniform Delay, d1	29.7	17.4		27.8	14.5			18.5			16.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	10.8	1.4		1.7	0.2			1.4			0.2	
Delay (s)	40.5	18.8		29.5	14.7			19.9			16.6	
Level of Service	D	B		C	B			B			B	
Approach Delay (s)		20.8			16.4			19.9			16.6	
Approach LOS		C			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	66.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	65.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	310	414	109	175	58	247	547	134	57	367	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	1863	2787	1770	3406		1610	3383	1583		3470	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	1863	2787	1770	3406		1610	3383	1583		3470	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	148	341	455	120	192	64	271	601	147	63	403	46
RTOR Reduction (vph)	0	0	347	0	52	0	0	0	107	0	11	0
Lane Group Flow (vph)	148	341	108	120	204	0	244	628	40	0	501	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	10.8	15.7	15.7	5.0	9.9		15.4	15.4	15.4		14.1	
Effective Green, g (s)	10.8	15.7	15.7	5.0	9.9		15.4	15.4	15.4		14.1	
Actuated g/C Ratio	0.16	0.24	0.24	0.08	0.15		0.23	0.23	0.23		0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	288	441	660	133	509		374	786	368		739	
v/s Ratio Prot	0.08	c0.18		c0.07	0.06		0.15	c0.19			c0.14	
v/s Ratio Perm			0.04						0.02			
v/c Ratio	0.51	0.77	0.16	0.90	0.40		0.65	0.80	0.11		0.68	
Uniform Delay, d1	25.3	23.6	20.0	30.4	25.5		23.0	23.9	20.0		24.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.5	8.2	0.1	49.4	0.5		4.1	5.7	0.1		2.5	
Delay (s)	26.9	31.8	20.2	79.8	26.0		27.0	29.6	20.1		26.4	
Level of Service	C	C	C	E	C		C	C	C		C	
Approach Delay (s)		25.4			43.2			27.6			26.4	
Approach LOS		C			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.7	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	66.2	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	17	21	229	0	337	3	527	154	423	472	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.93			1.00	0.85		0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.99	
Satd. Flow (prot)		1729			1770	1583		3419		1610	3351	
Flt Permitted		0.97			0.73	1.00		0.95		0.95	0.62	
Satd. Flow (perm)		1692			1357	1583		3259		1610	2117	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	4	18	22	239	0	351	3	549	160	441	492	3
RTOR Reduction (vph)	0	17	0	0	0	268	0	29	0	0	0	0
Lane Group Flow (vph)	0	27	0	0	239	83	0	683	0	304	632	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		21.2			21.2	21.2		24.9		31.4	60.3	
Effective Green, g (s)		21.2			21.2	21.2		24.9		31.4	60.3	
Actuated g/C Ratio		0.24			0.24	0.24		0.28		0.35	0.67	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		398			319	372		901		561	1848	
v/s Ratio Prot										c0.19	0.12	
v/s Ratio Perm		0.02			c0.18	0.05		c0.21			0.11	
v/c Ratio		0.07			0.75	0.22		0.76		0.54	0.34	
Uniform Delay, d1		26.7			31.9	27.7		29.8		23.5	6.4	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.1			9.3	0.3		3.7		1.1	0.1	
Delay (s)		26.8			41.2	28.1		33.5		24.6	6.5	
Level of Service		C			D	C		C		C	A	
Approach Delay (s)		26.8			33.4			33.5			12.4	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	66.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	108	41	52	28	14	212	473	99	15	491	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.98		1.00	0.97		1.00	0.96	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1783			1775		1770	1814		1770	1785	
Flt Permitted		0.78			0.73		0.14	1.00		0.39	1.00	
Satd. Flow (perm)		1436			1339		256	1814		722	1785	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	198	114	43	55	29	15	223	498	104	16	517	198
RTOR Reduction (vph)	0	5	0	0	7	0	0	9	0	0	15	0
Lane Group Flow (vph)	0	350	0	0	92	0	223	593	0	16	700	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		23.0			23.0		59.0	53.0		45.3	43.3	
Effective Green, g (s)		23.0			23.0		59.0	53.0		45.3	43.3	
Actuated g/C Ratio		0.26			0.26		0.66	0.59		0.50	0.48	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		367			342		365	1068		387	859	
v/s Ratio Prot							c0.08	0.33		0.00	c0.39	
v/s Ratio Perm		c0.24			0.07		0.32			0.02		
v/c Ratio		0.95			0.27		0.61	0.56		0.04	0.82	
Uniform Delay, d1		33.0			26.8		13.7	11.3		11.3	19.9	
Progression Factor		1.00			1.00		1.78	0.97		1.00	1.00	
Incremental Delay, d2		34.7			0.4		2.9	2.0		0.0	8.4	
Delay (s)		67.7			27.2		27.2	13.0		11.4	28.3	
Level of Service		E			C		C	B		B	C	
Approach Delay (s)		67.7			27.2			16.9			28.0	
Approach LOS		E			C			B			C	

Intersection Summary			
HCM Average Control Delay	30.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	81.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	169	88	401	6	0	108	0	531	18	97	493	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.87			0.99		1.00	1.00	
Flt Protected		0.97	1.00		1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1804	1583		1620			3521		1770	1863	
Flt Permitted		0.71	1.00		0.98			1.00		0.41	1.00	
Satd. Flow (perm)		1325	1583		1598			3521		755	1863	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	174	91	413	6	0	111	0	547	19	100	508	0
RTOR Reduction (vph)	0	0	268	0	81	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	265	145	0	36	0	0	564	0	100	508	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		24.0	24.0		24.0			49.1		58.0	58.0	
Effective Green, g (s)		24.0	24.0		24.0			49.1		58.0	58.0	
Actuated g/C Ratio		0.27	0.27		0.27			0.55		0.64	0.64	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		353	422		426			1920		541	1200	
v/s Ratio Prot								0.16		c0.01	c0.27	
v/s Ratio Perm		c0.20	0.09		0.02					0.11		
v/c Ratio		0.75	0.34		0.08			0.29		0.18	0.42	
Uniform Delay, d1		30.3	26.6		24.8			11.1		8.3	7.8	
Progression Factor		1.00	1.00		1.00			1.00		0.76	0.73	
Incremental Delay, d2		8.7	0.5		0.1			0.4		0.1	0.6	
Delay (s)		39.0	27.1		24.8			11.5		6.3	6.3	
Level of Service		D	C		C			B		A	A	
Approach Delay (s)		31.8			24.8			11.5			6.3	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	17.7	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	303	76	469	190	64	872
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3386		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3386		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	316	79	489	198	67	908
RTOR Reduction (vph)	0	60	39	0	0	0
Lane Group Flow (vph)	316	19	648	0	67	908
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	21.6	21.6	50.8		7.6	62.4
Effective Green, g (s)	21.6	21.6	50.8		7.6	62.4
Actuated g/C Ratio	0.24	0.24	0.56		0.08	0.69
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	424	379	1911		149	2453
v/s Ratio Prot	c0.18		0.19		0.04	c0.26
v/s Ratio Perm		0.01				
v/c Ratio	0.75	0.05	0.34		0.45	0.37
Uniform Delay, d1	31.7	26.3	10.6		39.2	5.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.0	0.1	0.5		2.2	0.4
Delay (s)	38.6	26.4	11.0		41.4	6.1
Level of Service	D	C	B		D	A
Approach Delay (s)	36.2		11.0			8.5
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	14.7	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	50.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	150	26	57	163	118	28	399	131	300	651	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1822	1583		1760		1770	3539	1583	1770	3407	
Flt Permitted		0.68	1.00		0.91		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1267	1583		1614		1770	3539	1583	1770	3407	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	124	155	27	59	168	122	29	411	135	309	671	222
RTOR Reduction (vph)	0	0	19	0	38	0	0	0	58	0	28	0
Lane Group Flow (vph)	0	279	8	0	311	0	29	411	77	309	865	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		14.7	14.7		14.7		0.6	13.9	13.9	10.3	23.6	
Effective Green, g (s)		14.7	14.7		14.7		0.6	13.9	13.9	10.3	23.6	
Actuated g/C Ratio		0.31	0.31		0.31		0.01	0.29	0.29	0.22	0.49	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		388	485		495		22	1026	459	380	1678	
v/s Ratio Prot							0.02	0.12		c0.17	c0.25	
v/s Ratio Perm		c0.22	0.01		0.19				0.05			
v/c Ratio		0.72	0.02		0.63		1.32	0.40	0.17	0.81	0.52	
Uniform Delay, d1		14.8	11.6		14.3		23.6	13.7	12.7	17.9	8.3	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		6.3	0.0		2.5		303.2	0.3	0.2	12.5	0.3	
Delay (s)		21.0	11.6		16.7		326.9	13.9	12.9	30.4	8.5	
Level of Service		C	B		B		F	B	B	C	A	
Approach Delay (s)		20.2			16.7			29.4			14.1	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	18.9	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	47.9	Sum of lost time (s)	9.0
Intersection Capacity Utilization	75.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	814	105	142	767	36	243	406	93	37	349	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3479		1770	3515		1770	3440		1770	3398	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3479		1770	3515		1770	3440		1770	3398	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	179	839	108	146	791	37	251	419	96	38	360	131
RTOR Reduction (vph)	0	10	0	0	4	0	0	22	0	0	44	0
Lane Group Flow (vph)	179	937	0	146	824	0	251	493	0	38	447	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.1	24.7		10.9	27.5		11.1	26.1		2.8	17.8	
Effective Green, g (s)	8.1	24.7		10.9	27.5		11.1	26.1		2.8	17.8	
Actuated g/C Ratio	0.10	0.30		0.13	0.34		0.14	0.32		0.03	0.22	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	177	1060		238	1193		242	1108		61	746	
v/s Ratio Prot	c0.10	c0.27		0.08	c0.23		c0.14	0.14		0.02	c0.13	
v/s Ratio Perm												
v/c Ratio	1.01	0.88		0.61	0.69		1.04	0.44		0.62	0.60	
Uniform Delay, d1	36.5	26.8		33.1	23.1		35.0	21.7		38.6	28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	70.6	8.9		4.6	1.7		67.9	0.3		18.1	1.3	
Delay (s)	107.1	35.7		37.7	24.8		102.8	22.0		56.7	29.7	
Level of Service	F	D		D	C		F	C		E	C	
Approach Delay (s)		47.0			26.8			48.5			31.6	
Approach LOS		D			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	81.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	833	37	91	839	122	49	478	61	73	350	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3517		1770	3472			3470			3421	
Flt Permitted	0.21	1.00		0.24	1.00			0.87			0.76	
Satd. Flow (perm)	383	3517		454	3472			3039			2628	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	905	40	99	912	133	53	520	66	79	380	99
RTOR Reduction (vph)	0	5	0	0	17	0	0	16	0	0	34	0
Lane Group Flow (vph)	86	940	0	99	1028	0	0	623	0	0	524	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	26.2	26.2		26.2	26.2			16.6			16.6	
Effective Green, g (s)	26.2	26.2		26.2	26.2			16.6			16.6	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.32			0.32	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	195	1796		231	1773			983			850	
v/s Ratio Prot		0.27			c0.30							
v/s Ratio Perm	0.22			0.22				c0.20			0.20	
v/c Ratio	0.44	0.52		0.43	0.58			0.63			0.62	
Uniform Delay, d1	7.9	8.4		7.9	8.7			14.8			14.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	1.6	0.3		1.3	0.5			1.3			1.3	
Delay (s)	9.5	8.7		9.1	9.2			16.1			16.0	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		8.7			9.2			16.1			16.0	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	8.5
Intersection Capacity Utilization	93.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	40	108	18	535	62	7	492	6	66	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.98			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4942		3484			3537	1770	1583	
Flt Permitted		0.99		1.00			0.95	0.95	1.00	
Satd. Flow (perm)		4942		3484			3348	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	43	117	20	582	67	8	535	7	72	12
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	74	0
Lane Group Flow (vph)	0	180	0	633	0	0	543	7	10	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		8.1		18.2			18.2	5.4	5.4	
Effective Green, g (s)		8.1		18.2			18.2	5.4	5.4	
Actuated g/C Ratio		0.19		0.42			0.42	0.12	0.12	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		916		1451			1394	218	195	
v/s Ratio Prot				c0.18				0.00		
v/s Ratio Perm		0.04					0.16		c0.01	
v/c Ratio		0.20		0.44			0.39	0.03	0.05	
Uniform Delay, d1		15.0		9.1			8.9	16.9	16.9	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.2			0.2	0.1	0.1	
Delay (s)		15.2		9.3			9.1	16.9	17.0	
Level of Service		B		A			A	B	B	
Approach Delay (s)		15.2		9.3			9.1	17.0		
Approach LOS		B		A			A	B		

Intersection Summary			
HCM 2000 Control Delay	10.4	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.31		
Actuated Cycle Length (s)	43.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	37.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	589	129	89	498	76	106	420	81	61	428	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.98			0.98			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3440			3455			3438			3459	
Flt Permitted		0.87			0.62			0.73			0.81	
Satd. Flow (perm)		3015			2165			2524			2828	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	620	136	94	524	80	112	442	85	64	451	67
RTOR Reduction (vph)	0	20	0	0	11	0	0	11	0	0	9	0
Lane Group Flow (vph)	0	774	0	0	687	0	0	628	0	0	573	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		34.9			34.9			50.1			50.1	
Effective Green, g (s)		34.9			34.9			50.1			50.1	
Actuated g/C Ratio		0.37			0.37			0.53			0.53	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1107			795			1331			1491	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.32			c0.25			0.20	
v/c Ratio		0.70			0.86			0.47			0.38	
Uniform Delay, d1		25.6			27.8			14.1			13.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.0			9.6			1.2			0.8	
Delay (s)		27.5			37.5			15.3			14.1	
Level of Service		C			D			B			B	
Approach Delay (s)		27.5			37.5			15.3			14.1	
Approach LOS		C			D			B			B	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	89.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	469	367	212	438	394	55	15	544	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.97		1.00	0.98			0.98	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3357		1770	3474			3455	
Flt Permitted					0.98		0.20	1.00			0.94	
Satd. Flow (perm)					3357		369	3474			3243	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	489	382	221	456	410	57	16	567	104
RTOR Reduction (vph)	0	0	0	0	32	0	0	15	0	0	21	0
Lane Group Flow (vph)	0	0	0	0	1060	0	456	452	0	0	666	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					25.3		34.9	34.9			15.7	
Effective Green, g (s)					25.3		34.9	34.9			15.7	
Actuated g/C Ratio					0.37		0.50	0.50			0.23	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					1227		483	1752			735	
v/s Ratio Prot							c0.20	0.13				
v/s Ratio Perm					0.32		c0.28				0.21	
v/c Ratio					0.86		0.94	0.26			0.91	
Uniform Delay, d1					20.4		16.2	9.8			26.0	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					6.5		27.3	0.1			14.7	
Delay (s)					26.9		43.5	9.8			40.8	
Level of Service					C		D	A			D	
Approach Delay (s)		0.0			26.9			26.5			40.8	
Approach LOS		A			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	30.3	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	69.2	Sum of lost time (s)	13.5
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR2	WBL2	WBL	WBR	NBT	NBR	SBL	SBT	SBR
Lane Configurations											
Volume (vph)	50	379	347	37	8	108	808	399	257	439	343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5	4.0		4.5	4.5	4.5		3.5	4.5	
Lane Util. Factor		0.95	1.00		1.00	1.00	0.95		1.00	0.95	
Frt		1.00	0.85		1.00	0.85	0.95		1.00	0.93	
Flt Protected		0.99	1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)		3519	1583		1770	1583	3364		1770	3306	
Flt Permitted		0.99	1.00		0.38	1.00	1.00		0.12	1.00	
Satd. Flow (perm)		3519	1583		705	1583	3364		223	3306	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	399	365	39	8	114	851	420	271	462	361
RTOR Reduction (vph)	0	0	0	0	0	88	70	0	0	0	0
Lane Group Flow (vph)	0	452	365	0	47	26	1201	0	271	823	0
Turn Type	Perm	NA	Free	custom	custom	custom	NA		pm+pt	NA	
Protected Phases		4					2		1	6	
Permitted Phases	4		Free	8	8	8			6		
Actuated Green, G (s)		15.2	67.6		15.2	15.2	29.9		43.4	43.4	
Effective Green, g (s)		15.2	67.6		15.2	15.2	29.9		43.4	43.4	
Actuated g/C Ratio		0.22	1.00		0.22	0.22	0.44		0.64	0.64	
Clearance Time (s)		4.5			4.5	4.5	4.5		3.5	4.5	
Vehicle Extension (s)		3.0			3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		791	1583		158	355	1487		372	2122	
v/s Ratio Prot							c0.36		c0.11	0.25	
v/s Ratio Perm		0.13	0.23		0.07	0.02			0.36		
v/c Ratio		0.57	0.23		0.30	0.07	0.81		0.73	0.39	
Uniform Delay, d1		23.3	0.0		21.8	20.6	16.4		13.4	5.8	
Progression Factor		1.00	1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		1.0	0.3		1.1	0.1	3.3		7.0	0.1	
Delay (s)		24.3	0.3		22.8	20.7	19.7		20.4	5.9	
Level of Service		C	A		C	C	B		C	A	
Approach Delay (s)		13.6					19.7			9.5	
Approach LOS		B					B			A	

Intersection Summary			
HCM 2000 Control Delay	14.9	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	67.6	Sum of lost time (s)	12.5
Intersection Capacity Utilization	78.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	125	303	60	4	192	230	51	364	12	255	537	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	1.00	
Frt	1.00	0.98			1.00	0.85		1.00		1.00	1.00	
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	
Satd. Flow (prot)	1770	1817			3536	1583		1845		1770	1863	
Flt Permitted	0.62	1.00			0.95	1.00		0.89		0.95	1.00	
Satd. Flow (perm)	1162	1817			3359	1583		1658		1770	1863	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	130	316	62	4	200	240	53	379	12	266	559	0
RTOR Reduction (vph)	0	0	0	0	0	165	0	1	0	0	0	0
Lane Group Flow (vph)	130	378	0	0	204	75	0	443	0	266	559	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	18.7	18.7			18.7	18.7		21.1		10.1	34.2	
Effective Green, g (s)	18.7	18.7			18.7	18.7		21.1		10.1	34.2	
Actuated g/C Ratio	0.31	0.31			0.31	0.31		0.35		0.17	0.57	
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	361	564			1043	492		581		297	1058	
v/s Ratio Prot		c0.21								c0.15	0.30	
v/s Ratio Perm	0.11				0.06	0.05		c0.27				
v/c Ratio	0.36	0.67			0.20	0.15		0.76		0.90	0.53	
Uniform Delay, d1	16.1	18.1			15.2	15.0		17.3		24.5	8.0	
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.6	3.1			0.1	0.1		5.9		31.2	0.5	
Delay (s)	16.7	21.2			15.3	15.2		23.2		55.8	8.5	
Level of Service	B	C			B	B		C		E	A	
Approach Delay (s)		20.0			15.2			23.2			23.7	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM Average Control Delay	21.1	HCM Level of Service	C
HCM Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	60.2	Sum of lost time (s)	10.3
Intersection Capacity Utilization	89.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Intersection Sign configuration not allowed in HCM analysis.

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	918	117	0	0	143	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	977	124	0	0	152	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1101		1039	1039
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1101		1039	1039
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		40	90
cM capacity (veh/h)			634		256	280

Direction, Lane #	EB 1	NB 1
Volume Total	1039	90
Volume Left	0	76
Volume Right	62	14
cSH	1700	302
Volume to Capacity	0.61	0.30
Queue Length 95th (ft)	0	30
Control Delay (s)	0.0	24.0
Lane LOS		C
Approach Delay (s)	0.0	24.0
Approach LOS		C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	460	296	0	329	0	0	382	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	
Lane Util. Factor					0.95	1.00		0.95			0.95	
Frt					1.00	0.85		1.00			0.94	
Flt Protected					1.00	1.00		1.00			1.00	
Satd. Flow (prot)					3539	1583		3539			3341	
Flt Permitted					1.00	1.00		1.00			1.00	
Satd. Flow (perm)					3539	1583		3539			3341	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	495	318	0	354	0	0	411	244
RTOR Reduction (vph)	0	0	0	0	0	198	0	0	0	0	138	0
Lane Group Flow (vph)	0	0	0	0	495	120	0	354	0	0	517	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					11.6	11.6		11.1			11.1	
Effective Green, g (s)					11.6	11.6		11.1			11.1	
Actuated g/C Ratio					0.38	0.38		0.36			0.36	
Clearance Time (s)					4.0	4.0		4.0			4.0	
Vehicle Extension (s)					3.0	3.0		3.0			3.0	
Lane Grp Cap (vph)					1337	598		1279			1207	
v/s Ratio Prot					c0.14			0.10			c0.15	
v/s Ratio Perm						0.08						
v/c Ratio					0.37	0.20		0.28			0.43	
Uniform Delay, d1					6.9	6.4		7.0			7.4	
Progression Factor					1.00	1.00		1.00			1.00	
Incremental Delay, d2					0.2	0.2		0.1			0.2	
Delay (s)					7.1	6.6		7.1			7.6	
Level of Service					A	A		A			A	
Approach Delay (s)		0.0			6.9			7.1			7.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.2	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	30.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	329	482	0	0	0	0	0	0	0	382	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0								4.0	4.0	
Lane Util. Factor		0.91								0.95	0.95	
Frt		1.00								1.00	1.00	
Flt Protected		0.98								0.95	0.95	
Satd. Flow (prot)		4984								1681	1681	
Flt Permitted		0.98								0.95	0.95	
Satd. Flow (perm)		4984								1681	1681	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	354	518	0	0	0	0	0	0	0	411	0	0
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	872	0	0	0	0	0	0	0	205	206	0
Turn Type	Perm	NA								Perm	NA	
Protected Phases		4									6	
Permitted Phases	4									6		
Actuated Green, G (s)		12.6								9.5	9.5	
Effective Green, g (s)		12.6								9.5	9.5	
Actuated g/C Ratio		0.42								0.32	0.32	
Clearance Time (s)		4.0								4.0	4.0	
Vehicle Extension (s)		3.0								3.0	3.0	
Lane Grp Cap (vph)		2086								530	530	
v/s Ratio Prot												
v/s Ratio Perm		0.17								0.12	0.12	
v/c Ratio		0.42								0.39	0.39	
Uniform Delay, d1		6.2								8.0	8.0	
Progression Factor		1.00								1.00	1.00	
Incremental Delay, d2		0.1								0.5	0.5	
Delay (s)		6.3								8.5	8.5	
Level of Service		A								A	A	
Approach Delay (s)		6.3			0.0			0.0			8.5	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	30.1	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	378	1	32	510
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	411	1	35	554
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.97					
vC, conflicting volume	758	206			412	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	698	206			412	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	94			97	
cM capacity (veh/h)	354	800			1143	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	274	138	202	370
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	445	1700	1700	1143	1700
Volume to Capacity	0.14	0.16	0.08	0.03	0.22
Queue Length 95th (ft)	12	0	0	2	0
Control Delay (s)	14.3	0.0	0.0	1.0	0.0
Lane LOS	B			A	
Approach Delay (s)	14.3	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Existing With Project AM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/21/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	137	61	163	55	100	262
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	146	65	173	59	106	279
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	665	173			232	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	665	173			232	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	63	93			92	
cM capacity (veh/h)	391	870			1336	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	211	173	59	106	279
Volume Left	146	0	0	106	0
Volume Right	65	0	59	0	0
cSH	518	1700	1700	1336	1700
Volume to Capacity	0.41	0.10	0.03	0.08	0.16
Queue Length 95th (ft)	49	0	0	6	0
Control Delay (s)	16.6	0.0	0.0	7.9	0.0
Lane LOS	C			A	
Approach Delay (s)	16.6	0.0		2.2	
Approach LOS	C				

Intersection Summary			
Average Delay	5.2		
Intersection Capacity Utilization	31.7%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	412	85	97	542	32	45	206	35	22	382	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.98			0.99			0.98			0.99	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		3445			3489			3447			3491	
Flt Permitted		0.92			0.81			0.85			0.93	
Satd. Flow (perm)		3162			2860			2936			3251	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	443	91	104	583	34	48	222	38	24	411	35
RTOR Reduction (vph)	0	29	0	0	6	0	0	20	0	0	11	0
Lane Group Flow (vph)	0	529	0	0	715	0	0	288	0	0	459	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		15.6			15.6			11.3			11.3	
Effective Green, g (s)		15.6			15.6			11.3			11.3	
Actuated g/C Ratio		0.45			0.45			0.32			0.32	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1413			1278			950			1052	
v/s Ratio Prot												
v/s Ratio Perm		0.17			c0.25			0.10			c0.14	
v/c Ratio		0.37			0.56			0.30			0.44	
Uniform Delay, d1		6.4			7.1			8.8			9.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			0.5			0.2			0.3	
Delay (s)		6.6			7.7			9.0			9.6	
Level of Service		A			A			A			A	
Approach Delay (s)		6.6			7.7			9.0			9.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	34.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	423	361	172	785	46	311	255	29	17	534	26
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	5043		1770	1863	1583		3510	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.94	
Satd. Flow (perm)		5085	1583	1770	5043		1770	1863	1583		3300	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	455	388	185	844	49	334	274	31	18	574	28
RTOR Reduction (vph)	0	0	208	0	8	0	0	0	16	0	4	0
Lane Group Flow (vph)	0	455	180	185	885	0	334	274	15	0	616	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		15.1	15.1	10.1	29.2		17.6	38.7	38.7		17.6	
Effective Green, g (s)		15.1	15.1	10.1	29.2		17.6	38.7	38.7		17.6	
Actuated g/C Ratio		0.19	0.19	0.13	0.37		0.22	0.49	0.49		0.22	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		973	302	226	1866		394	913	776		736	
v/s Ratio Prot		0.09		c0.10	0.18		c0.19	0.15				
v/s Ratio Perm			c0.11						0.01		c0.19	
v/c Ratio		0.47	0.60	0.82	0.47		0.85	0.30	0.02		0.84	
Uniform Delay, d1		28.3	29.1	33.5	19.0		29.4	12.0	10.3		29.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.1	2.1	19.2	0.1		14.9	0.1	0.0		7.9	
Delay (s)		28.5	31.2	52.7	19.1		44.2	12.1	10.3		37.2	
Level of Service		C	C	D	B		D	B	B		D	
Approach Delay (s)		29.7			24.8			28.8			37.2	
Approach LOS		C			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	78.9	Sum of lost time (s)	18.5
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	12	16	18	200	580	23	26	691	315
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor					1.00		1.00	1.00		1.00	0.95	
Frt					0.95		1.00	0.99		1.00	0.95	
Flt Protected					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1742		1770	1852		1770	3373	
Flt Permitted					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1742		1770	1852		1770	3373	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	13	17	19	213	617	24	28	735	335
RTOR Reduction (vph)	0	0	0	0	18	0	0	2	0	0	61	0
Lane Group Flow (vph)	0	0	0	0	31	0	213	639	0	28	1009	0
Turn Type				Perm	NA		Prot	NA		Prot	NA	
Protected Phases					8		5	2 9		1	6 9	
Permitted Phases				8				2 9			6 9	
Actuated Green, G (s)					3.7		20.7	32.2		10.7	22.2	
Effective Green, g (s)					3.7		20.7	32.2		10.7	22.2	
Actuated g/C Ratio					0.06		0.35	0.55		0.18	0.38	
Clearance Time (s)					4.0		4.0			4.0		
Vehicle Extension (s)					3.0		3.0			3.0		
Lane Grp Cap (vph)					110		625	1018		323	1278	
v/s Ratio Prot							0.12	c0.34		0.02	c0.30	
v/s Ratio Perm					0.02							
v/c Ratio					0.28		0.34	0.63		0.09	0.79	
Uniform Delay, d1					26.2		13.9	9.1		19.9	16.1	
Progression Factor					1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2					1.4		0.3	1.2		0.1	3.3	
Delay (s)					27.6		14.3	10.3		20.0	19.5	
Level of Service					C		B	B		C	B	
Approach Delay (s)		0.0			27.6			11.3			19.5	
Approach LOS		A			C			B			B	

Intersection Summary			
HCM Average Control Delay	16.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	58.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	53.6%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	170	431	44	526
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	177	449	46	548
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	767	313			626	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	767	313			626	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			95	
cM capacity (veh/h)	322	683			952	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	118	508	228	365
Volume Left	0	0	46	0
Volume Right	0	449	0	0
cSH	1700	1700	952	1700
Volume to Capacity	0.07	0.30	0.05	0.21
Queue Length 95th (ft)	0	0	4	0
Control Delay (s)	0.0	0.0	2.2	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.8	
Approach LOS				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	41.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	438	83	157	623	40	84	93	88	61	157	14
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.93			0.99	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3455		1770	3507		1770	1727			1823	
Flt Permitted	0.95	1.00		0.95	1.00		0.50	1.00			0.86	
Satd. Flow (perm)	1770	3455		1770	3507		937	1727			1596	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	26	487	92	174	692	44	93	103	98	68	174	16
RTOR Reduction (vph)	0	17	0	0	5	0	0	41	0	0	3	0
Lane Group Flow (vph)	26	562	0	174	731	0	93	160	0	0	255	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	10.9	24.4		10.9	24.4		15.0	15.0			15.0	
Effective Green, g (s)	10.9	24.4		10.9	24.4		15.0	15.0			15.0	
Actuated g/C Ratio	0.18	0.40		0.18	0.40		0.25	0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	319	1398		319	1419		233	429			397	
v/s Ratio Prot	0.01	0.16		c0.10	c0.21			0.09				
v/s Ratio Perm							0.10				c0.16	
v/c Ratio	0.08	0.40		0.55	0.52		0.40	0.37			0.64	
Uniform Delay, d1	20.5	12.8		22.4	13.5		18.9	18.8			20.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.0	0.1		1.0	0.1		0.4	0.2			2.7	
Delay (s)	20.6	12.8		23.5	13.6		19.3	19.0			22.9	
Level of Service	C	B		C	B		B	B			C	
Approach Delay (s)		13.2			15.5			19.1			22.9	
Approach LOS		B			B			B			C	

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	60.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	23	372	70	96	654	65	154	199	138	47	263	73
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3491		1770	1748			3513	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.54	1.00			0.80	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3491		1008	1748			2834	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	26	423	80	109	743	74	175	226	157	53	299	83
RTOR Reduction (vph)	0	0	56	0	11	0	0	45	0	0	0	58
Lane Group Flow (vph)	26	423	24	109	806	0	175	338	0	0	352	25
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	1.5	16.8	13.6	4.1	19.4		13.6	13.6			13.6	13.6
Effective Green, g (s)	1.5	16.8	13.6	4.1	19.4		13.6	13.6			13.6	13.6
Actuated g/C Ratio	0.03	0.37	0.30	0.09	0.43		0.30	0.30			0.30	0.30
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	58	1306	473	159	1488		301	522			847	473
v/s Ratio Prot	0.01	0.12		c0.06	c0.23			c0.19				
v/s Ratio Perm			0.02				0.17				0.12	0.02
v/c Ratio	0.45	0.32	0.05	0.69	0.54		0.58	0.65			0.42	0.05
Uniform Delay, d1	21.6	10.3	11.4	20.1	9.7		13.5	13.9			12.8	11.4
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	2.0	0.2	0.0	9.4	0.5		1.8	2.1			0.1	0.0
Delay (s)	23.6	10.5	11.4	29.4	10.2		15.4	15.9			12.9	11.4
Level of Service	C	B	B	C	B		B	B			B	B
Approach Delay (s)		11.3			12.5			15.8			12.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	13.0	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	45.5	Sum of lost time (s)	11.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	782	31	16	35
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	806	32	16	36
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	838				822	822
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	838				822	822
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				95	90
cM capacity (veh/h)	796				344	374

Direction, Lane #	WB 1	SB 1
Volume Total	822	26
Volume Left	0	8
Volume Right	16	18
cSH	1700	545
Volume to Capacity	0.48	0.05
Queue Length 95th (ft)	0	4
Control Delay (s)	0.0	15.3
Lane LOS		C
Approach Delay (s)	0.0	15.3
Approach LOS		C

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	53.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	20	18	0	0	727	104	79	111	93	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	19	0	0	765	109	83	117	98	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	40	875	233	65	0
Volume Left (vph)	21	0	83	0	0
Volume Right (vph)	0	109	33	65	0
Hadj (s)	0.14	-0.04	0.11	-0.67	0.00
Departure Headway (s)	5.9	4.9	6.6	5.8	6.6
Degree Utilization, x	0.07	1.18	0.42	0.10	0.00
Capacity (veh/h)	586	738	542	612	540
Control Delay (s)	9.4	112.8	13.1	8.3	9.6
Approach Delay (s)	9.4	112.8	12.0		0.0
Approach LOS	A	F	B		A

Intersection Summary			
Delay	84.6		
HCM Level of Service	F		
Intersection Capacity Utilization	63.3%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	525	178	160	1464	0	0	0	0	327	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			1.00		1.00	1.00					1.00	1.00
Frt			0.86		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.97	1.00					1.00	1.00
Satd. Flow (prot)			1611		1815	1583					1863	1583
Flt Permitted			1.00		0.97	1.00					1.00	1.00
Satd. Flow (perm)			1611		1815	1583					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	547	185	167	1525	0	0	0	0	341	12
RTOR Reduction (vph)	0	0	28	0	28	303	0	0	0	0	0	10
Lane Group Flow (vph)	0	0	520	0	325	1222	0	0	0	0	341	2
Turn Type			custom	Perm	NA	Perm					NA	Perm
Protected Phases					8						6	
Permitted Phases			4	8		8						6
Actuated Green, G (s)			65.0		65.0	65.0					17.0	17.0
Effective Green, g (s)			65.0		65.0	65.0					17.0	17.0
Actuated g/C Ratio			0.72		0.72	0.72					0.19	0.19
Clearance Time (s)			4.0		4.0	4.0					4.0	4.0
Vehicle Extension (s)			3.0		3.0	3.0					3.0	3.0
Lane Grp Cap (vph)			1163		1310	1143					351	299
v/s Ratio Prot											c0.18	
v/s Ratio Perm			0.32		0.18	c0.77						0.00
v/c Ratio			0.45		0.25	1.07					0.97	0.01
Uniform Delay, d1			5.1		4.2	12.5					36.3	29.6
Progression Factor			1.00		1.00	1.00					1.00	1.00
Incremental Delay, d2			0.3		0.1	47.1					40.2	0.0
Delay (s)			5.4		4.3	59.6					76.5	29.7
Level of Service			A		A	E					E	C
Approach Delay (s)		5.4			49.3			0.0			74.9	
Approach LOS		A			D			A			E	

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	0	0	0	106	27	1447	242	555	1	0	251
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	0	0	109	28	1492	249	572	1	0	259
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	3318	3807	0	3521	3780	536	259			822		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	3318	3807	0	3521	3780	536	259			822		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	0	0	100	0	0	95	0			100		
cM capacity (veh/h)	0	0	1085	0	0	545	1306			808		

Direction, Lane #	WB 1	WB 2	NB 1	NB 2	SB 1	SB 2
Volume Total	73	50	1492	536	1	259
Volume Left	0	0	1492	0	1	0
Volume Right	0	14	0	286	0	259
cSH	0	0	1306	1700	808	1700
Volume to Capacity	Err	Err	1.14	0.32	0.00	0.15
Queue Length 95th (ft)	Err	Err	949	0	0	0
Control Delay (s)	Err	Err	89.2	0.0	9.5	0.0
Lane LOS	F	F	F		A	
Approach Delay (s)	Err		65.7		0.0	
Approach LOS	F					

Intersection Summary			
Average Delay	Err		
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	35	2172	7	82	4	928
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	36	2216	7	0	4	947
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	2702	1112			0	2223	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2702	1112			0	2223	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	82			0	98	
cM capacity (veh/h)	17	203			0	231	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	36	1478	742	4	473	473
Volume Left	0	0	0	4	0	0
Volume Right	36	0	4	0	0	0
cSH	203	1700	1700	231	1700	1700
Volume to Capacity	0.18	0.87	0.44	0.02	0.28	0.28
Queue Length 95th (ft)	16	0	0	1	0	0
Control Delay (s)	26.4	0.0	0.0	20.9	0.0	0.0
Lane LOS	D			C		
Approach Delay (s)	26.4	0.0		0.1		
Approach LOS	D					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	187	302	67	40	81	301	13	27	702	71	26	555
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.99			0.99
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3271		1441	1770	3517			3486			3485
Flt Permitted		0.73		1.00	0.37	1.00			0.92			0.90
Satd. Flow (perm)		2442		1441	691	3517			3214			3158
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	197	318	71	42	85	317	14	28	739	75	27	584
RTOR Reduction (vph)	0	1	0	17	0	5	0	0	0	0	0	11
Lane Group Flow (vph)	0	589	0	21	85	326	0	0	842	0	0	659
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		21.6		21.6	21.6	21.6			23.2			23.2
Effective Green, g (s)		21.6		21.6	21.6	21.6			23.2			23.2
Actuated g/C Ratio		0.40		0.40	0.40	0.40			0.43			0.43
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		973		574	275	1401			1375			1351
v/s Ratio Prot						0.09						
v/s Ratio Perm		c0.24		0.01	0.12				c0.26			0.21
v/c Ratio		0.61		0.04	0.31	0.23			0.61			0.49
Uniform Delay, d1		12.9		9.9	11.2	10.8			12.0			11.2
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		1.1		0.0	0.6	0.1			0.8			0.3
Delay (s)		14.0		10.0	11.8	10.9			12.8			11.5
Level of Service		B		A	B	B			B			B
Approach Delay (s)		13.8				11.1			12.8			11.5
Approach LOS		B				B			B			B

Intersection Summary			
HCM 2000 Control Delay	12.4	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	54.2	Sum of lost time (s)	9.4
Intersection Capacity Utilization	78.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	56
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	59
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	448	45	136	850	96	17	409	55	65	375	72
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3491		1770	3485			3472			3443	
Flt Permitted	0.95	1.00		0.95	1.00			0.93			0.84	
Satd. Flow (perm)	1770	3491		1770	3485			3232			2894	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	67	462	46	140	876	99	18	422	57	67	387	74
RTOR Reduction (vph)	0	8	0	0	10	0	0	12	0	0	16	0
Lane Group Flow (vph)	67	500	0	140	965	0	0	485	0	0	512	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	3.5	21.8		8.2	26.5			18.6			18.6	
Effective Green, g (s)	3.5	21.8		8.2	26.5			18.6			18.6	
Actuated g/C Ratio	0.06	0.36		0.14	0.44			0.31			0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	102	1255		239	1523			992			888	
v/s Ratio Prot	0.04	0.14		c0.08	c0.28							
v/s Ratio Perm								0.15			c0.18	
v/c Ratio	0.66	0.40		0.59	0.63			0.49			0.58	
Uniform Delay, d1	28.0	14.5		24.6	13.3			17.1			17.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	14.2	0.2		3.6	0.9			0.4			0.9	
Delay (s)	42.2	14.7		28.2	14.1			17.5			18.6	
Level of Service	D	B		C	B			B			B	
Approach Delay (s)		17.9			15.9			17.5			18.6	
Approach LOS		B			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	60.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	74	202	189	49	205	24	407	394	122	38	415	90
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.98		1.00	1.00	0.85		0.98	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (prot)	1770	1863	2787	1770	3484		1610	3345	1583		3439	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.99	1.00		1.00	
Satd. Flow (perm)	1770	1863	2787	1770	3484		1610	3345	1583		3439	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	81	222	208	54	225	26	447	433	134	42	456	99
RTOR Reduction (vph)	0	0	161	0	14	0	0	0	101	0	24	0
Lane Group Flow (vph)	81	222	47	54	237	0	286	594	33	0	573	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	6.2	14.0	14.0	2.7	10.5		15.2	15.2	15.2		14.4	
Effective Green, g (s)	6.2	14.0	14.0	2.7	10.5		15.2	15.2	15.2		14.4	
Actuated g/C Ratio	0.10	0.22	0.22	0.04	0.17		0.24	0.24	0.24		0.23	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	176	418	626	76	587		392	816	386		794	
v/s Ratio Prot	c0.05	c0.12		0.03	0.07		c0.18	0.18			c0.17	
v/s Ratio Perm			0.02						0.02			
v/c Ratio	0.46	0.53	0.07	0.71	0.40		0.73	0.73	0.08		0.72	
Uniform Delay, d1	26.5	21.3	19.0	29.4	23.1		21.7	21.6	18.2		22.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.9	1.3	0.1	26.7	0.5		6.7	3.3	0.1		3.3	
Delay (s)	28.4	22.6	19.1	56.1	23.6		28.3	24.9	18.3		25.4	
Level of Service	C	C	B	E	C		C	C	B		C	
Approach Delay (s)		22.1			29.3			25.0			25.4	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	62.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	57.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	8	250	0	474	46	423	154	242	416	2
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.86			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	1.00	
Satd. Flow (prot)		1611			1770	1583		3396		1610	3377	
Flt Permitted		1.00			0.75	1.00		0.89		0.95	0.93	
Satd. Flow (perm)		1611			1402	1583		3019		1610	3152	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	8	260	0	494	48	441	160	252	433	2
RTOR Reduction (vph)	0	6	0	0	0	353	0	32	0	0	0	0
Lane Group Flow (vph)	0	2	0	0	260	141	0	617	0	222	465	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		20.0			20.0	20.0		21.7		15.9	41.6	
Effective Green, g (s)		20.0			20.0	20.0		21.7		15.9	41.6	
Actuated g/C Ratio		0.29			0.29	0.29		0.31		0.23	0.59	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		459			400	451		934		365	1921	
v/s Ratio Prot		0.00								c0.14	0.05	
v/s Ratio Perm					c0.19	0.09		c0.20			0.09	
v/c Ratio		0.00			0.65	0.31		0.66		0.61	0.24	
Uniform Delay, d1		17.9			22.0	19.7		21.0		24.3	6.8	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.0			3.8	0.4		1.8		2.9	0.1	
Delay (s)		17.9			25.7	20.1		22.8		27.2	6.8	
Level of Service		B			C	C		C		C	A	
Approach Delay (s)		17.9			22.0			22.8			13.4	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.64		
Actuated Cycle Length (s)	70.1	Sum of lost time (s)	12.5
Intersection Capacity Utilization	62.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	56	28	59	131	16	383	527	61	9	398	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.99		1.00	0.98		1.00	0.94	
Flt Protected		0.98			0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1777			1817		1770	1834		1770	1747	
Flt Permitted		0.60			0.84		0.14	1.00		0.43	1.00	
Satd. Flow (perm)		1096			1546		265	1834		801	1747	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	83	59	29	62	138	17	403	555	64	9	419	297
RTOR Reduction (vph)	0	8	0	0	3	0	0	4	0	0	26	0
Lane Group Flow (vph)	0	163	0	0	214	0	403	615	0	9	690	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		16.2			16.2		65.8	60.8		44.8	43.8	
Effective Green, g (s)		16.2			16.2		65.8	60.8		44.8	43.8	
Actuated g/C Ratio		0.18			0.18		0.73	0.68		0.50	0.49	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		197			278		495	1239		409	850	
v/s Ratio Prot							c0.16	0.34		0.00	0.39	
v/s Ratio Perm		c0.15			0.14		c0.43			0.01		
v/c Ratio		0.83			0.77		0.81	0.50		0.02	0.81	
Uniform Delay, d1		35.5			35.1		20.0	7.1		11.4	19.6	
Progression Factor		1.00			1.00		0.84	0.62		1.00	1.00	
Incremental Delay, d2		23.7			12.0		9.6	1.4		0.0	8.3	
Delay (s)		59.3			47.2		26.4	5.8		11.4	27.9	
Level of Service		E			D		C	A		B	C	
Approach Delay (s)		59.3			47.2			13.9			27.7	
Approach LOS		E			D			B			C	

Intersection Summary			
HCM Average Control Delay	25.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	116	44	143	11	0	70	0	764	11	73	426	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.88			1.00		1.00	1.00	
Flt Protected		0.96	1.00		0.99			1.00		0.95	1.00	
Satd. Flow (prot)		1797	1583		1634			3532		1770	1863	
Flt Permitted		0.74	1.00		0.96			1.00		0.32	1.00	
Satd. Flow (perm)		1370	1583		1571			3532		590	1863	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	120	45	147	11	0	72	0	788	11	75	439	0
RTOR Reduction (vph)	0	0	121	0	59	0	0	1	0	0	0	0
Lane Group Flow (vph)	0	165	26	0	24	0	0	798	0	75	439	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		15.8	15.8		15.8			57.8		66.2	66.2	
Effective Green, g (s)		15.8	15.8		15.8			57.8		66.2	66.2	
Actuated g/C Ratio		0.18	0.18		0.18			0.64		0.74	0.74	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		240	277		275			2268		491	1370	
v/s Ratio Prot								c0.23		c0.01	0.24	
v/s Ratio Perm		c0.12	0.02		0.02					0.10		
v/c Ratio		0.69	0.09		0.09			0.35		0.15	0.32	
Uniform Delay, d1		34.8	31.1		31.1			7.4		5.5	4.1	
Progression Factor		1.00	1.00		1.00			1.00		0.80	0.83	
Incremental Delay, d2		7.9	0.1		0.1			0.4		0.1	0.3	
Delay (s)		42.7	31.2		31.2			7.9		4.5	3.7	
Level of Service		D	C		C			A		A	A	
Approach Delay (s)		37.3			31.2			7.9			3.8	
Approach LOS		D			C			A			A	

Intersection Summary			
HCM 2000 Control Delay	13.2	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.45		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	309	53	715	177	51	530
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3434		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3434		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	322	55	745	184	53	552
RTOR Reduction (vph)	0	42	18	0	0	0
Lane Group Flow (vph)	322	13	911	0	53	552
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	21.7	21.7	52.7		5.6	62.3
Effective Green, g (s)	21.7	21.7	52.7		5.6	62.3
Actuated g/C Ratio	0.24	0.24	0.59		0.06	0.69
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	426	381	2010		110	2449
v/s Ratio Prot	c0.18		c0.27		c0.03	0.16
v/s Ratio Perm		0.01				
v/c Ratio	0.76	0.03	0.45		0.48	0.23
Uniform Delay, d1	31.7	26.1	10.5		40.8	5.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.5	0.0	0.7		3.3	0.2
Delay (s)	39.2	26.2	11.3		44.1	5.3
Level of Service	D	C	B		D	A
Approach Delay (s)	37.3		11.3			8.7
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	15.6	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	57.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	71	7	57	312	360	15	455	95	134	495	186
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1823	1583		1732		1770	3539	1583	1770	3394	
Flt Permitted		0.72	1.00		0.97		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1338	1583		1687		1770	3539	1583	1770	3394	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	56	73	7	59	322	371	15	469	98	138	510	192
RTOR Reduction (vph)	0	0	3	0	50	0	0	0	62	0	44	0
Lane Group Flow (vph)	0	129	4	0	702	0	15	469	36	138	658	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		32.5	32.5		32.5		0.6	16.1	16.1	7.0	22.5	
Effective Green, g (s)		32.5	32.5		32.5		0.6	16.1	16.1	7.0	22.5	
Actuated g/C Ratio		0.50	0.50		0.50		0.01	0.25	0.25	0.11	0.35	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		673	796		848		16	882	394	191	1182	
v/s Ratio Prot							0.01	0.13		c0.08	c0.19	
v/s Ratio Perm		0.10	0.00		c0.42				0.02			
v/c Ratio		0.19	0.00		0.83		0.94	0.53	0.09	0.72	0.56	
Uniform Delay, d1		8.8	8.0		13.7		32.0	21.0	18.6	27.9	17.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.1	0.0		6.7		191.7	0.6	0.1	12.7	0.6	
Delay (s)		9.0	8.0		20.4		223.7	21.6	18.7	40.5	17.6	
Level of Service		A	A		C		F	C	B	D	B	
Approach Delay (s)		8.9			20.4			26.3			21.4	
Approach LOS		A			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.76		
Actuated Cycle Length (s)	64.6	Sum of lost time (s)	9.0
Intersection Capacity Utilization	81.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	531	149	182	846	22	164	190	61	29	591	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	1.00		1.00	0.96		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3423		1770	3526		1770	3410		1770	3369	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3423		1770	3526		1770	3410		1770	3369	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	102	547	154	188	872	23	169	196	63	30	609	288
RTOR Reduction (vph)	0	29	0	0	2	0	0	33	0	0	61	0
Lane Group Flow (vph)	102	672	0	188	893	0	169	226	0	30	836	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.1	23.1		12.1	29.1		10.6	33.6		2.9	25.9	
Effective Green, g (s)	6.1	23.1		12.1	29.1		10.6	33.6		2.9	25.9	
Actuated g/C Ratio	0.07	0.26		0.14	0.33		0.12	0.38		0.03	0.29	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	122	896		242	1163		212	1299		58	989	
v/s Ratio Prot	0.06	0.20		c0.11	c0.25		c0.10	0.07		0.02	c0.25	
v/s Ratio Perm												
v/c Ratio	0.84	0.75		0.78	0.77		0.80	0.17		0.52	0.84	
Uniform Delay, d1	40.6	29.9		36.7	26.5		37.8	18.1		42.0	29.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	36.6	3.6		14.4	3.1		18.5	0.1		7.6	6.7	
Delay (s)	77.2	33.5		51.2	29.6		56.2	18.2		49.5	36.0	
Level of Service	E	C		D	C		E	B		D	D	
Approach Delay (s)		39.0			33.4			33.2			36.4	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	35.6	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	88.2	Sum of lost time (s)	16.5
Intersection Capacity Utilization	77.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	458	107	158	871	86	59	367	42	48	530	101
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.97		1.00	0.99			0.99			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1770	3439		1770	3492			3469			3448	
Flt Permitted	0.20	1.00		0.40	1.00			0.77			0.89	
Satd. Flow (perm)	374	3439		742	3492			2694			3076	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	54	498	116	172	947	93	64	399	46	52	576	110
RTOR Reduction (vph)	0	31	0	0	12	0	0	14	0	0	26	0
Lane Group Flow (vph)	54	583	0	172	1028	0	0	495	0	0	712	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	26.2	26.2		26.2	26.2			18.0			18.0	
Effective Green, g (s)	26.2	26.2		26.2	26.2			18.0			18.0	
Actuated g/C Ratio	0.50	0.50		0.50	0.50			0.34			0.34	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	185	1709		368	1736			920			1050	
v/s Ratio Prot		0.17			c0.29							
v/s Ratio Perm	0.14			0.23				0.18			c0.23	
v/c Ratio	0.29	0.34		0.47	0.59			0.54			0.68	
Uniform Delay, d1	7.8	8.0		8.7	9.4			14.0			14.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	0.9	0.1		0.9	0.5			0.6			1.8	
Delay (s)	8.7	8.1		9.6	10.0			14.6			16.6	
Level of Service	A	A		A	A			B			B	
Approach Delay (s)		8.2			9.9			14.6			16.6	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.9	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	52.7	Sum of lost time (s)	8.5
Intersection Capacity Utilization	94.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations											
Volume (vph)	9	39	7	28	433	41	3	880	6	49	35
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0			3.0			3.0	3.0	3.0	
Lane Util. Factor		0.91			0.95			0.95	1.00	1.00	
Frt		0.98			0.99			1.00	1.00	0.85	
Flt Protected		0.99			1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4942			3493			3539	1770	1583	
Flt Permitted		0.99			1.00			0.95	0.95	1.00	
Satd. Flow (perm)		4942			3493			3377	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	10	42	8	30	471	45	3	957	7	53	38
RTOR Reduction (vph)	0	0	0	0	8	0	0	0	0	58	0
Lane Group Flow (vph)	0	60	0	0	508	0	0	960	7	33	0
Turn Type	Perm	NA		custom	NA		Perm	NA	NA	Perm	
Protected Phases		4			2			6	10		
Permitted Phases	4			8			6			10	
Actuated Green, G (s)		5.8			25.2			25.2	5.5	5.5	
Effective Green, g (s)		5.8			25.2			25.2	5.5	5.5	
Actuated g/C Ratio		0.13			0.55			0.55	0.12	0.12	
Clearance Time (s)		3.0			3.0			3.0	3.0	3.0	
Vehicle Extension (s)		3.0			3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		629			1934			1870	213	191	
v/s Ratio Prot					0.15				0.00		
v/s Ratio Perm		0.01						c0.28		c0.02	
v/c Ratio		0.10			0.26			0.51	0.03	0.17	
Uniform Delay, d1		17.5			5.3			6.3	17.7	18.0	
Progression Factor		1.00			1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.1			0.1			0.2	0.1	0.4	
Delay (s)		17.6			5.4			6.6	17.7	18.4	
Level of Service		B			A			A	B	B	
Approach Delay (s)		17.6			5.4			6.6	18.3		
Approach LOS		B			A			A	B		

Intersection Summary			
HCM 2000 Control Delay	Error	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	0.41		
Actuated Cycle Length (s)	45.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	25	333	105	93	737	36	136	366	49	69	733	58
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.99			0.99	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		3409			3498			3449			3489	
Flt Permitted		0.85			0.78			0.56			0.84	
Satd. Flow (perm)		2911			2758			1938			2956	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	26	351	111	98	776	38	143	385	52	73	772	61
RTOR Reduction (vph)	0	31	0	0	4	0	0	7	0	0	5	0
Lane Group Flow (vph)	0	457	0	0	908	0	0	573	0	0	901	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		37.0			37.0			48.0			48.0	
Effective Green, g (s)		37.0			37.0			48.0			48.0	
Actuated g/C Ratio		0.39			0.39			0.51			0.51	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1133			1074			979			1493	
v/s Ratio Prot												
v/s Ratio Perm		0.16			c0.33			0.30			c0.30	
v/c Ratio		0.40			0.85			0.58			0.60	
Uniform Delay, d1		21.0			26.4			16.5			16.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			6.3			2.6			1.8	
Delay (s)		21.2			32.7			19.1			18.5	
Level of Service		C			C			B			B	
Approach Delay (s)		21.2			32.7			19.1			18.5	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	23.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	598	225	189	422	365	87	12	852	62
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.97		1.00	0.97			0.99	
Flt Protected					0.97		0.95	1.00			1.00	
Satd. Flow (prot)					3341		1770	3437			3501	
Flt Permitted					0.97		0.14	1.00			0.95	
Satd. Flow (perm)					3341		256	3437			3319	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	623	234	197	440	380	91	12	888	65
RTOR Reduction (vph)	0	0	0	0	25	0	0	26	0	0	7	0
Lane Group Flow (vph)	0	0	0	0	1029	0	440	445	0	0	958	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					26.0		45.0	45.0			24.6	
Effective Green, g (s)					26.0		45.0	45.0			24.6	
Actuated g/C Ratio					0.32		0.56	0.56			0.31	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					1085		444	1933			1020	
v/s Ratio Prot							c0.20	0.13				
v/s Ratio Perm					0.31		c0.36				0.29	
v/c Ratio					1.04dl		0.99	0.23			0.94	
Uniform Delay, d1					26.3		22.1	8.8			27.0	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					16.2		40.2	0.1			15.5	
Delay (s)					42.6		62.3	8.9			42.4	
Level of Service					D		E	A			D	
Approach Delay (s)		0.0			42.6			34.7			42.4	
Approach LOS		A			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	40.1	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	93.6%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBR	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	467	215	266	20	1	44	690	562	390	776	370
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.0		4.5	4.5	4.5		3.5	4.5	
Lane Util. Factor		0.95		1.00		1.00	1.00	0.95		1.00	0.95	
Frt		0.96		0.85		1.00	0.85	0.93		1.00	0.95	
Flt Protected		0.99		1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)		3372		1583		1770	1583	3301		1770	3368	
Flt Permitted		0.99		1.00		0.16	1.00	1.00		0.10	1.00	
Satd. Flow (perm)		3372		1583		304	1583	3301		195	3368	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	98	492	226	280	21	1	46	726	592	411	817	389
RTOR Reduction (vph)	0	0	0	0	0	0	33	68	0	0	0	0
Lane Group Flow (vph)	0	816	0	280	0	22	13	1250	0	411	1206	0
Turn Type	Perm	NA		Free	custom	custom	custom	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4			Free	8	8	8			6		
Actuated Green, G (s)		24.5		89.1		24.5	24.5	34.7		55.6	55.6	
Effective Green, g (s)		24.5		89.1		24.5	24.5	34.7		55.6	55.6	
Actuated g/C Ratio		0.27		1.00		0.27	0.27	0.39		0.62	0.62	
Clearance Time (s)		4.5				4.5	4.5	4.5		3.5	4.5	
Vehicle Extension (s)		3.0				3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		927		1583		83	435	1285		429	2101	
v/s Ratio Prot								0.38		c0.19	0.36	
v/s Ratio Perm		0.24		0.18		0.07	0.01			c0.41		
v/c Ratio		0.88		0.18		0.27	0.03	0.97		0.96	0.57	
Uniform Delay, d1		30.9		0.0		25.3	23.6	26.7		26.4	9.8	
Progression Factor		1.00		1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		9.8		0.2		1.7	0.0	18.8		32.4	0.4	
Delay (s)		40.7		0.2		27.0	23.6	45.6		58.8	10.2	
Level of Service		D		A		C	C	D		E	B	
Approach Delay (s)		30.3						45.6			22.6	
Approach LOS		C						D			C	

Intersection Summary			
HCM 2000 Control Delay	32.1	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	89.1	Sum of lost time (s)	12.5
Intersection Capacity Utilization	95.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	110	158	30	1	441	221	110	773	6	213	407	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.98			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1819			3539	1583		1850		1770	1765	1504
Flt Permitted	0.32	1.00			0.95	1.00		0.89		0.95	1.00	1.00
Satd. Flow (perm)	596	1819			3379	1583		1649		1770	1765	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	115	165	31	1	459	230	115	805	6	222	424	67
RTOR Reduction (vph)	0	0	0	0	0	178	0	0	0	0	18	19
Lane Group Flow (vph)	115	196	0	0	460	52	0	926	0	222	413	41
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	18.5	18.5			18.5	18.5		43.1		10.0	56.1	56.1
Effective Green, g (s)	18.5	18.5			18.5	18.5		43.1		10.0	56.1	56.1
Actuated g/C Ratio	0.23	0.23			0.23	0.23		0.53		0.12	0.68	0.68
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	134	410			763	357		867		216	1208	1030
v/s Ratio Prot		0.11								c0.13	0.23	
v/s Ratio Perm	c0.19				0.14	0.03		c0.56				0.03
v/c Ratio	0.86	0.48			0.60	0.15		1.07		1.03	0.34	0.04
Uniform Delay, d1	30.4	27.5			28.4	25.4		19.4		36.0	5.3	4.2
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	38.5	0.9			1.4	0.2		50.2		68.6	0.2	0.0
Delay (s)	69.0	28.4			29.8	25.6		69.6		104.6	5.5	4.2
Level of Service	E	C			C	C		E		F	A	A
Approach Delay (s)		43.4			28.4			69.6			36.2	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	81.9	Sum of lost time (s)	14.4
Intersection Capacity Utilization	105.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	115	0	0	0	0	199	661	63	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	132	0	0	0	0	229	760	72	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1253	1290	0	1283	1217	760	0			832		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1253	1290	0	1283	1217	760	0			832		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	6	100	100	100	100	86			100		
cM capacity (veh/h)	133	140	1085	22	155	406	1623			800		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	132	0	530
Volume Left	0	0	114
Volume Right	0	0	36
cSH	140	1700	1623
Volume to Capacity	0.94	0.00	0.14
Queue Length 95th (ft)	164	0	12
Control Delay (s)	122.3	0.0	2.7
Lane LOS	F	A	A
Approach Delay (s)	122.3	0.0	2.7
Approach LOS	F	A	

Intersection Summary			
Average Delay	26.6		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1111	145	0	0	70	16
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1182	154	0	0	74	17
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1336		1259	1259
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1336		1259	1259
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		60	92
cM capacity (veh/h)			516		188	208

Direction, Lane #	EB 1	NB 1
Volume Total	1259	46
Volume Left	0	37
Volume Right	77	9
cSH	1700	231
Volume to Capacity	0.74	0.20
Queue Length 95th (ft)	0	18
Control Delay (s)	0.0	27.7
Lane LOS		D
Approach Delay (s)	0.0	27.7
Approach LOS		D

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	77.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	475	124	8	210	0	0	391	289
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor					0.95	1.00	1.00	0.95			0.95	
Frt					1.00	0.85	1.00	1.00			0.94	
Flt Protected					1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					3539	1583	1770	3539			3313	
Flt Permitted					1.00	1.00	0.34	1.00			1.00	
Satd. Flow (perm)					3539	1583	637	3539			3313	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	511	133	9	226	0	0	420	311
RTOR Reduction (vph)	0	0	0	0	0	85	0	0	0	0	127	0
Lane Group Flow (vph)	0	0	0	0	511	48	9	226	0	0	604	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					11.2	11.2	11.7	11.7			11.7	
Effective Green, g (s)					11.2	11.2	11.7	11.7			11.7	
Actuated g/C Ratio					0.36	0.36	0.38	0.38			0.38	
Clearance Time (s)					4.0	4.0	4.0	4.0			4.0	
Vehicle Extension (s)					3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)					1282	573	241	1340			1254	
v/s Ratio Prot					c0.14			0.06			c0.18	
v/s Ratio Perm						0.03	0.01					
v/c Ratio					0.40	0.08	0.04	0.17			0.48	
Uniform Delay, d1					7.3	6.5	6.1	6.4			7.3	
Progression Factor					1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2					0.2	0.1	0.1	0.1			0.3	
Delay (s)					7.5	6.5	6.1	6.4			7.6	
Level of Service					A	A	A	A			A	
Approach Delay (s)		0.0			7.3			6.4			7.6	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	7.3	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.44		
Actuated Cycle Length (s)	30.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	201	708	0	0	377	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		0.99			0.95	
Satd. Flow (prot)		5030			3433	
Flt Permitted		0.99			0.95	
Satd. Flow (perm)		5030			3433	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	216	761	0	0	405	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	977	0	0	405	0
Turn Type	Perm	NA			NA	
Protected Phases		4				
Permitted Phases	4				6	
Actuated Green, G (s)		13.3			9.1	
Effective Green, g (s)		13.3			9.1	
Actuated g/C Ratio		0.44			0.30	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2200			1027	
v/s Ratio Prot						
v/s Ratio Perm		0.19			c0.12	
v/c Ratio		0.44			0.39	
Uniform Delay, d1		6.0			8.5	
Progression Factor		1.00			1.00	
Incremental Delay, d2		0.1			0.3	
Delay (s)		6.1			8.7	
Level of Service		A			A	
Approach Delay (s)		6.1	0.0		8.7	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	30.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.5%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	378	1	32	510
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	411	1	35	554
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.97	0.97			0.97	
vC, conflicting volume	758	206			412	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	698	131			342	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	95			97	
cM capacity (veh/h)	354	871			1182	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	274	138	202	370
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	454	1700	1700	1182	1700
Volume to Capacity	0.13	0.16	0.08	0.03	0.22
Queue Length 95th (ft)	11	0	0	2	0
Control Delay (s)	14.1	0.0	0.0	0.9	0.0
Lane LOS	B			A	
Approach Delay (s)	14.1	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Existing With Project PM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/21/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	99	35	156	142	201	331
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	105	37	166	151	214	352
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	946	166			317	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	946	166			317	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	56	96			83	
cM capacity (veh/h)	240	878			1243	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	143	166	151	214	352
Volume Left	105	0	0	214	0
Volume Right	37	0	151	0	0
cSH	311	1700	1700	1243	1700
Volume to Capacity	0.46	0.10	0.09	0.17	0.21
Queue Length 95th (ft)	57	0	0	16	0
Control Delay (s)	26.0	0.0	0.0	8.5	0.0
Lane LOS	D			A	
Approach Delay (s)	26.0	0.0		3.2	
Approach LOS	D				

Intersection Summary			
Average Delay	5.4		
Intersection Capacity Utilization	34.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	708	100	68	529	49	70	374	43	45	243	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.98			0.99			0.99			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3469			3480			3468			3451	
Flt Permitted		0.91			0.81			0.86			0.85	
Satd. Flow (perm)		3173			2822			2987			2947	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	761	108	73	569	53	75	402	46	48	261	43
RTOR Reduction (vph)	0	18	0	0	11	0	0	13	0	0	19	0
Lane Group Flow (vph)	0	888	0	0	684	0	0	510	0	0	333	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.2			19.2			13.3			13.3	
Effective Green, g (s)		19.2			19.2			13.3			13.3	
Actuated g/C Ratio		0.47			0.47			0.33			0.33	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1504			1337			980			967	
v/s Ratio Prot												
v/s Ratio Perm		c0.28			0.24			c0.17			0.11	
v/c Ratio		0.59			0.51			0.52			0.34	
Uniform Delay, d1		7.8			7.4			11.0			10.3	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			0.3			0.5			0.2	
Delay (s)		8.4			7.7			11.5			10.5	
Level of Service		A			A			B			B	
Approach Delay (s)		8.4			7.7			11.5			10.5	
Approach LOS		A			A			B			B	

Intersection Summary			
HCM 2000 Control Delay	9.2	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.56		
Actuated Cycle Length (s)	40.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.3%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	804	495	144	386	69	304	457	100	21	401	5
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	4970		1770	1863	1583		3525	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.91	
Satd. Flow (perm)		5085	1583	1770	4970		1770	1863	1583		3203	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	865	532	155	415	74	327	491	108	23	431	5
RTOR Reduction (vph)	0	0	134	0	28	0	0	0	42	0	1	0
Lane Group Flow (vph)	0	865	398	155	461	0	327	491	66	0	458	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		24.0	24.0	9.5	37.5		17.4	36.7	36.7		15.8	
Effective Green, g (s)		24.0	24.0	9.5	37.5		17.4	36.7	36.7		15.8	
Actuated g/C Ratio		0.28	0.28	0.11	0.44		0.20	0.43	0.43		0.19	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1432	445	197	2187		361	802	681		593	
v/s Ratio Prot		0.17		c0.09	0.09		c0.18	0.26				
v/s Ratio Perm			c0.25						0.04		c0.14	
v/c Ratio		0.60	0.90	0.79	0.21		0.91	0.61	0.10		0.77	
Uniform Delay, d1		26.5	29.4	36.9	14.7		33.1	18.7	14.4		33.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.5	19.6	17.2	0.0		24.8	1.0	0.0		5.7	
Delay (s)		27.0	49.0	54.0	14.7		57.9	19.7	14.4		38.7	
Level of Service		C	D	D	B		E	B	B		D	
Approach Delay (s)		35.4			24.2			32.6			38.7	
Approach LOS		D			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	33.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	85.2	Sum of lost time (s)	18.5
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	19	15	29	294	829	42	30	780	209
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor					1.00		1.00	1.00		1.00	0.95	
Frt					0.94		1.00	0.99		1.00	0.97	
Flt Protected					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (prot)					1721		1770	1849		1770	3427	
Flt Permitted					0.99		0.95	1.00		0.95	1.00	
Satd. Flow (perm)					1721		1770	1849		1770	3427	
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	0	0	0	20	16	31	313	882	45	32	830	222
RTOR Reduction (vph)	0	0	0	0	29	0	0	2	0	0	31	0
Lane Group Flow (vph)	0	0	0	0	38	0	313	925	0	32	1021	0
Turn Type				Perm	NA		Prot	NA		Prot	NA	
Protected Phases					8		5	2 9		1	6 9	
Permitted Phases				8				2 9			6 9	
Actuated Green, G (s)					4.1		29.9	41.1		10.3	21.5	
Effective Green, g (s)					4.1		29.9	41.1		10.3	21.5	
Actuated g/C Ratio					0.06		0.44	0.61		0.15	0.32	
Clearance Time (s)					4.0		4.0			4.0		
Vehicle Extension (s)					3.0		3.0			3.0		
Lane Grp Cap (vph)					104		784	1125		270	1091	
v/s Ratio Prot							0.18	c0.50		0.02	c0.30	
v/s Ratio Perm					0.02							
v/c Ratio					0.36		0.40	0.82		0.12	0.94	
Uniform Delay, d1					30.4		12.7	10.3		24.7	22.3	
Progression Factor					1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2					2.2		0.3	5.0		0.2	14.3	
Delay (s)					32.6		13.1	15.3		24.9	36.7	
Level of Service					C		B	B		C	D	
Approach Delay (s)		0.0			32.6			14.7			36.3	
Approach LOS		A			C			B			D	

Intersection Summary			
HCM 2000 Control Delay	25.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	67.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	63.1%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	74	527	158	916
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	77	549	165	954
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1158	313			626	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1158	313			626	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			83	
cM capacity (veh/h)	157	683			952	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	51	575	483	636
Volume Left	0	0	165	0
Volume Right	0	549	0	0
cSH	1700	1700	952	1700
Volume to Capacity	0.03	0.34	0.17	0.37
Queue Length 95th (ft)	0	0	16	0
Control Delay (s)	0.0	0.0	4.6	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.0	
Approach LOS				

Intersection Summary			
Average Delay	1.3		
Intersection Capacity Utilization	55.7%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	24	797	87	135	528	36	119	132	128	45	98	31
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.93			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3487		1770	3505		1770	1725			1795	
Flt Permitted	0.95	1.00		0.95	1.00		0.58	1.00			0.72	
Satd. Flow (perm)	1770	3487		1770	3505		1080	1725			1313	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	27	886	97	150	587	40	132	147	142	50	109	34
RTOR Reduction (vph)	0	8	0	0	5	0	0	42	0	0	9	0
Lane Group Flow (vph)	27	975	0	150	622	0	132	247	0	0	184	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	8.3	28.5		8.3	28.5		14.5	14.5			14.5	
Effective Green, g (s)	8.3	28.5		8.3	28.5		14.5	14.5			14.5	
Actuated g/C Ratio	0.14	0.46		0.14	0.46		0.24	0.24			0.24	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	239	1621		239	1629		255	408			310	
v/s Ratio Prot	0.02	c0.28		c0.08	0.18			c0.14				
v/s Ratio Perm							0.12				0.14	
v/c Ratio	0.11	0.60		0.63	0.38		0.52	0.61			0.59	
Uniform Delay, d1	23.3	12.2		25.0	10.7		20.4	20.9			20.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	0.4		3.7	0.1		0.7	1.7			2.0	
Delay (s)	23.3	12.6		28.7	10.7		21.1	22.6			22.8	
Level of Service	C	B		C	B		C	C			C	
Approach Delay (s)		12.9			14.2			22.1			22.8	
Approach LOS		B			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	15.7	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	61.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	69.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	48	643	169	91	366	93	181	261	192	71	204	48
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.97		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3431		1770	1744			3494	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.56	1.00			0.62	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3431		1046	1744			2211	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	55	731	192	103	416	106	206	297	218	81	232	55
RTOR Reduction (vph)	0	0	127	0	37	0	0	45	0	0	0	36
Lane Group Flow (vph)	55	731	65	103	485	0	206	470	0	0	313	19
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	2.6	17.8	17.6	5.7	20.9		17.6	17.6			17.6	17.6
Effective Green, g (s)	2.6	17.8	17.6	5.7	20.9		17.6	17.6			17.6	17.6
Actuated g/C Ratio	0.05	0.34	0.34	0.11	0.40		0.34	0.34			0.34	0.34
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	88	1209	534	193	1376		353	589			746	534
v/s Ratio Prot	0.03	c0.21		c0.06	0.14			c0.27				
v/s Ratio Perm			0.04				0.20				0.14	0.01
v/c Ratio	0.62	0.60	0.12	0.53	0.35		0.58	0.80			0.42	0.03
Uniform Delay, d1	24.3	14.2	11.9	21.9	10.9		14.2	15.6			13.3	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	9.6	1.0	0.0	1.4	0.2		1.6	6.9			0.1	0.0
Delay (s)	33.8	15.2	11.9	23.4	11.1		15.8	22.6			13.4	11.6
Level of Service	C	B	B	C	B		B	C			B	B
Approach Delay (s)		15.6			13.1			20.7			13.2	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	52.1	Sum of lost time (s)	11.0
Intersection Capacity Utilization	71.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	464	49	15	14
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	478	51	15	14
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	529				504	504
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	529				504	504
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				97	97
cM capacity (veh/h)	1038				528	568

Direction, Lane #	WB 1	SB 1
Volume Total	504	15
Volume Left	0	8
Volume Right	25	7
cSH	1700	1020
Volume to Capacity	0.30	0.01
Queue Length 95th (ft)	0	1
Control Delay (s)	0.0	11.7
Lane LOS		B
Approach Delay (s)	0.0	11.7
Approach LOS		B

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	37.4%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Sign Control		Stop			Stop			Stop			Stop	
Volume (vph)	0	28	0	0	389	86	91	194	362	0	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	29	0	0	409	91	96	204	381	0	0	0

Direction, Lane #	EB 1	WB 1	NB 1	NB 2	SB 1
Volume Total (vph)	29	500	427	254	0
Volume Left (vph)	0	0	96	0	0
Volume Right (vph)	0	91	127	254	0
Hadj (s)	0.03	-0.07	-0.06	-0.67	0.00
Departure Headway (s)	6.4	5.4	6.0	5.4	6.5
Degree Utilization, x	0.05	0.76	0.71	0.38	0.00
Capacity (veh/h)	507	646	587	655	500
Control Delay (s)	9.8	23.3	20.9	10.4	9.5
Approach Delay (s)	9.8	23.3	17.0		0.0
Approach LOS	A	C	C		A

Intersection Summary			
Delay	19.4		
HCM Level of Service	C		
Intersection Capacity Utilization	55.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1002	314	66	919	0	0	0	0	637	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			1.00		1.00	1.00					1.00	1.00
Frt			0.86		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.96	1.00					1.00	1.00
Satd. Flow (prot)			1611		1789	1583					1863	1583
Flt Permitted			1.00		0.96	1.00					1.00	1.00
Satd. Flow (perm)			1611		1789	1583					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	1044	327	69	957	0	0	0	0	664	6
RTOR Reduction (vph)	0	0	40	0	40	407	0	0	0	0	0	4
Lane Group Flow (vph)	0	0	1004	0	356	550	0	0	0	0	664	2
Turn Type			custom	Perm	NA	Perm					NA	Perm
Protected Phases					8						6	
Permitted Phases			4	8		8						6
Actuated Green, G (s)			69.0		69.0	69.0					43.0	43.0
Effective Green, g (s)			69.0		69.0	69.0					43.0	43.0
Actuated g/C Ratio			0.58		0.58	0.58					0.36	0.36
Clearance Time (s)			4.0		4.0	4.0					4.0	4.0
Vehicle Extension (s)			3.0		3.0	3.0					3.0	3.0
Lane Grp Cap (vph)			926		1028	910					667	567
v/s Ratio Prot											c0.36	
v/s Ratio Perm			c0.62		0.20	0.35						0.00
v/c Ratio			1.08		0.35	0.60					1.00	0.00
Uniform Delay, d1			25.5		13.5	16.6					38.4	24.7
Progression Factor			1.00		1.00	1.00					1.00	1.00
Incremental Delay, d2			55.3		0.2	1.1					33.5	0.0
Delay (s)			80.8		13.7	17.8					71.9	24.7
Level of Service			F		B	B					E	C
Approach Delay (s)		80.8			16.6			0.0			71.5	
Approach LOS		F			B			A			E	

Intersection Summary			
HCM 2000 Control Delay	50.4	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	120.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Intersection has too many legs for HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	17	1462	31	216	48	1667
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	17	1492	32	0	49	1701
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	2456	762			0	1523	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2456	762			0	1523	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	95			0	89	
cM capacity (veh/h)	23	348			0	434	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	17	995	513	49	851	851
Volume Left	0	0	0	49	0	0
Volume Right	17	0	16	0	0	0
cSH	348	1700	1700	434	1700	1700
Volume to Capacity	0.05	0.59	0.30	0.11	0.50	0.50
Queue Length 95th (ft)	4	0	0	9	0	0
Control Delay (s)	15.9	0.0	0.0	14.4	0.0	0.0
Lane LOS	C			B		
Approach Delay (s)	15.9	0.0		0.4		
Approach LOS	C					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	170	287	61	82	117	311	27	35	574	80	89	806
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.98			0.98
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3270		1441	1770	3497			3469			3463
Flt Permitted		0.73		1.00	0.38	1.00			0.86			0.81
Satd. Flow (perm)		2428		1441	710	3497			3007			2826
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	179	302	64	86	123	327	28	37	604	84	94	848
RTOR Reduction (vph)	0	2	0	33	0	11	0	0	0	0	0	14
Lane Group Flow (vph)	0	552	0	44	123	344	0	0	725	0	0	1051
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		21.6		21.6	21.6	21.6			26.6			26.6
Effective Green, g (s)		21.6		21.6	21.6	21.6			26.6			26.6
Actuated g/C Ratio		0.38		0.38	0.38	0.38			0.46			0.46
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		910		540	266	1311			1388			1305
v/s Ratio Prot						0.10						
v/s Ratio Perm		c0.23		0.03	0.17				0.24			c0.37
v/c Ratio		0.61		0.08	0.46	0.26			0.52			0.81
Uniform Delay, d1		14.6		11.6	13.6	12.5			11.0			13.3
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		1.2		0.1	1.3	0.1			0.4			3.7
Delay (s)		15.7		11.7	14.9	12.6			11.4			17.0
Level of Service		B		B	B	B			B			B
Approach Delay (s)		15.2				13.2			11.4			17.0
Approach LOS		B				B			B			B

Intersection Summary			
HCM 2000 Control Delay	14.6	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	57.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	88.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	117
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	123
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	90	826	73	80	603	123	10	606	112	16	336	66
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.97			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3496		1770	3449			3456			3449	
Flt Permitted	0.95	1.00		0.95	1.00			0.95			0.92	
Satd. Flow (perm)	1770	3496		1770	3449			3280			3181	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	93	852	75	82	622	127	10	625	115	16	346	68
RTOR Reduction (vph)	0	7	0	0	20	0	0	17	0	0	18	0
Lane Group Flow (vph)	93	920	0	82	729	0	0	733	0	0	412	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.1	26.0		7.0	27.9			23.0			23.0	
Effective Green, g (s)	5.1	26.0		7.0	27.9			23.0			23.0	
Actuated g/C Ratio	0.07	0.38		0.10	0.41			0.34			0.34	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	132	1336		182	1415			1109			1075	
v/s Ratio Prot	c0.05	c0.26		0.05	0.21							
v/s Ratio Perm								c0.22			0.13	
v/c Ratio	0.70	0.69		0.45	0.52			0.66			0.38	
Uniform Delay, d1	30.7	17.6		28.7	15.0			19.2			17.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	15.7	1.5		1.8	0.3			1.5			0.2	
Delay (s)	46.4	19.1		30.5	15.3			20.7			17.3	
Level of Service	D	B		C	B			C			B	
Approach Delay (s)		21.6			16.8			20.7			17.3	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	68.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.1%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	135	313	414	135	176	58	247	553	158	57	379	42
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.96		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	1863	2787	1770	3407		1610	3383	1583		3472	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	1863	2787	1770	3407		1610	3383	1583		3472	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	148	344	455	148	193	64	271	608	174	63	416	46
RTOR Reduction (vph)	0	0	348	0	52	0	0	0	107	0	10	0
Lane Group Flow (vph)	148	344	107	148	205	0	244	635	67	0	515	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	10.8	15.7	15.7	5.1	10.0		15.5	15.5	15.5		14.2	
Effective Green, g (s)	10.8	15.7	15.7	5.1	10.0		15.5	15.5	15.5		14.2	
Actuated g/C Ratio	0.16	0.24	0.24	0.08	0.15		0.23	0.23	0.23		0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	287	439	657	135	512		375	788	368		741	
v/s Ratio Prot	0.08	c0.18		c0.08	0.06		0.15	c0.19			c0.15	
v/s Ratio Perm			0.04						0.04			
v/c Ratio	0.52	0.78	0.16	1.10	0.40		0.65	0.81	0.18		0.69	
Uniform Delay, d1	25.5	23.8	20.2	30.7	25.5		23.1	24.1	20.4		24.1	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.6	8.9	0.1	105.6	0.5		4.0	6.0	0.2		2.8	
Delay (s)	27.0	32.7	20.3	136.3	26.1		27.1	30.1	20.7		27.0	
Level of Service	C	C	C	F	C		C	C	C		C	
Approach Delay (s)		25.8			66.3			27.8			27.0	
Approach LOS		C			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	66.5	Sum of lost time (s)	16.0
Intersection Capacity Utilization	66.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	4	17	21	229	0	357	3	537	154	443	491	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.93			1.00	0.85		0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.99	
Satd. Flow (prot)		1729			1770	1583		3421		1610	3351	
Flt Permitted		0.97			0.73	1.00		0.95		0.95	0.61	
Satd. Flow (perm)		1692			1357	1583		3260		1610	2074	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	4	18	22	239	0	372	3	559	160	461	511	3
RTOR Reduction (vph)	0	17	0	0	0	284	0	28	0	0	0	0
Lane Group Flow (vph)	0	27	0	0	239	88	0	694	0	318	657	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		21.2			21.2	21.2		25.2		31.1	60.3	
Effective Green, g (s)		21.2			21.2	21.2		25.2		31.1	60.3	
Actuated g/C Ratio		0.24			0.24	0.24		0.28		0.35	0.67	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		398			319	372		912		556	1830	
v/s Ratio Prot										c0.20	0.12	
v/s Ratio Perm		0.02			c0.18	0.06		c0.21			0.12	
v/c Ratio		0.07			0.75	0.24		0.76		0.57	0.36	
Uniform Delay, d1		26.7			31.9	27.8		29.6		24.0	6.5	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.1			9.3	0.3		3.8		1.4	0.1	
Delay (s)		26.8			41.2	28.2		33.4		25.4	6.6	
Level of Service		C			D	C		C		C	A	
Approach Delay (s)		26.8			33.3			33.4			12.7	
Approach LOS		C			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.7	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	67.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	108	67	52	28	14	244	483	99	15	510	188
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.98		1.00	0.97		1.00	0.96	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1770			1775		1770	1815		1770	1787	
Flt Permitted		0.80			0.71		0.12	1.00		0.40	1.00	
Satd. Flow (perm)		1445			1299		214	1815		747	1787	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	198	114	71	55	29	15	257	508	104	16	537	198
RTOR Reduction (vph)	0	9	0	0	7	0	0	8	0	0	14	0
Lane Group Flow (vph)	0	374	0	0	92	0	257	604	0	16	721	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		22.0			22.0		60.0	54.0		44.6	42.6	
Effective Green, g (s)		22.0			22.0		60.0	54.0		44.6	42.6	
Actuated g/C Ratio		0.24			0.24		0.67	0.60		0.50	0.47	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		353			318		374	1089		393	846	
v/s Ratio Prot							c0.10	0.33		0.00	c0.40	
v/s Ratio Perm		c0.26			0.07		0.35			0.02		
v/c Ratio		1.06			0.29		0.69	0.55		0.04	0.85	
Uniform Delay, d1		34.0			27.6		18.0	10.8		11.6	20.9	
Progression Factor		1.00			1.00		1.34	0.89		1.00	1.00	
Incremental Delay, d2		64.4			0.5		4.9	1.9		0.0	10.6	
Delay (s)		98.4			28.2		29.1	11.5		11.7	31.5	
Level of Service		F			C		C	B		B	C	
Approach Delay (s)		98.4			28.2			16.7			31.1	
Approach LOS		F			C			B			C	

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	86.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	173	88	429	6	0	108	0	568	18	97	538	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.87			1.00		1.00	1.00	
Flt Protected		0.97	1.00		1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1803	1583		1620			3523		1770	1863	
Flt Permitted		0.71	1.00		0.98			1.00		0.38	1.00	
Satd. Flow (perm)		1325	1583		1598			3523		713	1863	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	178	91	442	6	0	111	0	586	19	100	555	0
RTOR Reduction (vph)	0	0	240	0	81	0	0	2	0	0	0	0
Lane Group Flow (vph)	0	269	202	0	36	0	0	603	0	100	555	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		24.4	24.4		24.4			48.3		57.6	57.6	
Effective Green, g (s)		24.4	24.4		24.4			48.3		57.6	57.6	
Actuated g/C Ratio		0.27	0.27		0.27			0.54		0.64	0.64	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		359	429		433			1890		518	1192	
v/s Ratio Prot								0.17		c0.01	c0.30	
v/s Ratio Perm		c0.20	0.13		0.02					0.11		
v/c Ratio		0.75	0.47		0.08			0.32		0.19	0.47	
Uniform Delay, d1		30.0	27.4		24.5			11.7		8.9	8.3	
Progression Factor		1.00	1.00		1.00			1.00		0.80	0.77	
Incremental Delay, d2		8.3	0.8		0.1			0.4		0.1	0.6	
Delay (s)		38.3	28.2		24.5			12.1		7.2	7.0	
Level of Service		D	C		C			B		A	A	
Approach Delay (s)		32.0			24.5			12.1			7.0	
Approach LOS		C			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.0	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	71.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	334	96	477	219	84	876
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3372		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3372		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	348	100	497	228	88	912
RTOR Reduction (vph)	0	74	51	0	0	0
Lane Group Flow (vph)	348	26	674	0	88	912
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	23.1	23.1	48.2		8.7	60.9
Effective Green, g (s)	23.1	23.1	48.2		8.7	60.9
Actuated g/C Ratio	0.26	0.26	0.54		0.10	0.68
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	454	406	1805		171	2394
v/s Ratio Prot	c0.20		0.20		c0.05	c0.26
v/s Ratio Perm		0.02				
v/c Ratio	0.77	0.06	0.37		0.51	0.38
Uniform Delay, d1	31.0	25.3	12.1		38.6	6.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	7.6	0.1	0.6		2.6	0.5
Delay (s)	38.5	25.3	12.7		41.2	6.8
Level of Service	D	C	B		D	A
Approach Delay (s)	35.6		12.7			9.8
Approach LOS	D		B			A

Intersection Summary			
HCM 2000 Control Delay	16.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	53.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	120	150	26	57	163	118	28	436	131	300	686	215
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.95		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1822	1583		1760		1770	3539	1583	1770	3412	
Flt Permitted		0.68	1.00		0.91		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1261	1583		1614		1770	3539	1583	1770	3412	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	124	155	27	59	168	122	29	449	135	309	707	222
RTOR Reduction (vph)	0	0	19	0	38	0	0	0	58	0	26	0
Lane Group Flow (vph)	0	279	8	0	311	0	29	449	77	309	903	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		14.8	14.8		14.8		0.6	14.3	14.3	10.3	24.0	
Effective Green, g (s)		14.8	14.8		14.8		0.6	14.3	14.3	10.3	24.0	
Actuated g/C Ratio		0.31	0.31		0.31		0.01	0.30	0.30	0.21	0.50	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		385	484		493		21	1045	467	376	1691	
v/s Ratio Prot							0.02	0.13		c0.17	c0.26	
v/s Ratio Perm		c0.22	0.01		0.19				0.05			
v/c Ratio		0.72	0.02		0.63		1.38	0.43	0.17	0.82	0.53	
Uniform Delay, d1		15.0	11.7		14.4		23.9	13.8	12.6	18.2	8.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		6.6	0.0		2.6		331.9	0.3	0.2	13.5	0.3	
Delay (s)		21.6	11.7		17.1		355.8	14.0	12.8	31.6	8.7	
Level of Service		C	B		B		F	B	B	C	A	
Approach Delay (s)		20.7			17.1			29.9			14.4	
Approach LOS		C			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	19.4	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	48.4	Sum of lost time (s)	9.0
Intersection Capacity Utilization	76.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	174	836	129	142	845	36	267	437	93	37	378	127
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.98		1.00	0.99		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3468		1770	3518		1770	3446		1770	3406	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3468		1770	3518		1770	3446		1770	3406	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	179	862	133	146	871	37	275	451	96	38	390	131
RTOR Reduction (vph)	0	13	0	0	3	0	0	21	0	0	39	0
Lane Group Flow (vph)	179	982	0	146	905	0	275	526	0	38	482	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	8.1	24.8		10.9	27.6		11.1	27.0		2.8	18.7	
Effective Green, g (s)	8.1	24.8		10.9	27.6		11.1	27.0		2.8	18.7	
Actuated g/C Ratio	0.10	0.30		0.13	0.34		0.14	0.33		0.03	0.23	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	174	1048		235	1184		239	1134		60	776	
v/s Ratio Prot	c0.10	c0.28		0.08	c0.26		c0.16	0.15		0.02	c0.14	
v/s Ratio Perm												
v/c Ratio	1.03	0.94		0.62	0.76		1.15	0.46		0.63	0.62	
Uniform Delay, d1	37.0	27.8		33.6	24.3		35.5	21.8		39.1	28.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	76.0	14.8		5.0	3.0		104.9	0.3		19.8	1.5	
Delay (s)	112.9	42.7		38.6	27.3		140.4	22.1		58.9	30.0	
Level of Service	F	D		D	C		F	C		E	C	
Approach Delay (s)		53.4			28.9			61.7			32.0	
Approach LOS		D			C			E			C	

Intersection Summary			
HCM 2000 Control Delay	44.8	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	82.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	78.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	79	843	48	122	849	122	118	600	131	73	394	91
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3511		1770	3472			3434			3430	
Flt Permitted	0.17	1.00		0.21	1.00			0.74			0.70	
Satd. Flow (perm)	324	3511		387	3472			2557			2402	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	86	916	52	133	923	133	128	652	142	79	428	99
RTOR Reduction (vph)	0	7	0	0	19	0	0	25	0	0	27	0
Lane Group Flow (vph)	86	961	0	133	1037	0	0	897	0	0	579	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	26.7	26.7		26.7	26.7			23.0			23.0	
Effective Green, g (s)	26.7	26.7		26.7	26.7			23.0			23.0	
Actuated g/C Ratio	0.46	0.46		0.46	0.46			0.40			0.40	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	148	1610		177	1592			1010			949	
v/s Ratio Prot		0.27			0.30							
v/s Ratio Perm	0.27			c0.34				c0.35			0.24	
v/c Ratio	0.58	0.60		0.75	0.65			0.89			0.61	
Uniform Delay, d1	11.6	11.7		13.0	12.2			16.4			14.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	5.7	0.6		16.4	1.0			9.6			1.1	
Delay (s)	17.3	12.3		29.4	13.1			26.0			15.1	
Level of Service	B	B		C	B			C			B	
Approach Delay (s)		12.7			14.9			26.0			15.1	
Approach LOS		B			B			C			B	

Intersection Summary			
HCM 2000 Control Delay	17.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	58.2	Sum of lost time (s)	8.5
Intersection Capacity Utilization	102.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations											
Volume (vph)	40	108	18	15	796	97	7	578	6	66	11
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor	1.00	0.91	1.00		0.95			0.95	1.00	1.00	
Frt	1.00	1.00	0.85		0.98			1.00	1.00	0.85	
Flt Protected	0.95	1.00	1.00		1.00			1.00	0.95	1.00	
Satd. Flow (prot)	1770	5085	1583		3482			3537	1770	1583	
Flt Permitted	0.95	1.00	1.00		1.00			0.72	0.95	1.00	
Satd. Flow (perm)	1770	5085	1583		3482			2539	1770	1583	
Peak-hour factor, PHF	0.25	0.25	0.25	0.93	0.25	0.25	0.25	0.25	0.93	0.93	0.93
Adj. Flow (vph)	160	432	72	16	3184	388	28	2312	6	71	12
RTOR Reduction (vph)	0	0	0	0	5	0	0	0	0	3	0
Lane Group Flow (vph)	160	432	72	0	3567	0	0	2340	6	80	0
Turn Type	Perm	NA	Perm	custom	NA		Perm	NA	NA	Perm	
Protected Phases		4			2!			6	2!		
Permitted Phases	4		4	8			6			2!	
Actuated Green, G (s)	20.8	20.8	20.8		61.2			41.0	61.2	61.2	
Effective Green, g (s)	20.8	20.8	20.8		61.2			41.0	61.2	61.2	
Actuated g/C Ratio	0.15	0.15	0.15		0.45			0.30	0.45	0.45	
Clearance Time (s)	4.0	4.0	4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)	3.0	3.0	3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)	273	783	244		1579			771	802	718	
v/s Ratio Prot		0.08			c1.02				0.00		
v/s Ratio Perm	c0.09		0.05					c0.92		0.05	
v/c Ratio	0.59	0.55	0.30		2.26			3.04	0.01	0.11	
Uniform Delay, d1	53.1	52.8	50.6		36.9			47.0	20.2	21.2	
Progression Factor	1.00	1.00	1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2	3.2	0.8	0.7		568.5			919.2	0.0	0.3	
Delay (s)	56.3	53.6	51.3		605.4			966.2	20.3	21.6	
Level of Service	E	D	D		F			F	C	C	
Approach Delay (s)		54.0			605.4			966.2	21.5		
Approach LOS		D			F			F	C		

Intersection Summary			
HCM Average Control Delay	Error	HCM Level of Service	F
HCM Volume to Capacity ratio	2.23		
Actuated Cycle Length (s)	135.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

! Phase conflict between lane groups.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	589	149	89	498	76	126	716	81	61	530	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.98			0.99			0.99	
Flt Protected		1.00			0.99			0.99			1.00	
Satd. Flow (prot)		3429			3455			3469			3471	
Flt Permitted		0.87			0.61			0.69			0.75	
Satd. Flow (perm)		3004			2131			2425			2606	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	620	157	94	524	80	133	754	85	64	558	67
RTOR Reduction (vph)	0	24	0	0	11	0	0	7	0	0	8	0
Lane Group Flow (vph)	0	791	0	0	687	0	0	965	0	0	681	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		34.7			34.7			50.3			50.3	
Effective Green, g (s)		34.7			34.7			50.3			50.3	
Actuated g/C Ratio		0.37			0.37			0.53			0.53	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1097			778			1283			1379	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.32			c0.40			0.26	
v/c Ratio		0.72			0.88			0.75			0.49	
Uniform Delay, d1		26.0			28.2			17.5			14.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.4			11.5			4.1			1.3	
Delay (s)		28.3			39.8			21.6			15.5	
Level of Service		C			D			C			B	
Approach Delay (s)		28.3			39.8			21.6			15.5	
Approach LOS		C			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	95.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	102.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	577	367	212	670	710	55	15	665	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.5		4.5	4.5			4.5	
Lane Util. Factor					0.95		1.00	0.95			0.95	
Frt					0.97		1.00	0.99			0.98	
Flt Protected					0.98		0.95	1.00			1.00	
Satd. Flow (prot)					3358		1770	3501			3468	
Flt Permitted					0.98		0.16	1.00			0.93	
Satd. Flow (perm)					3358		304	3501			3229	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	601	382	221	698	740	57	16	693	104
RTOR Reduction (vph)	0	0	0	0	24	0	0	7	0	0	14	0
Lane Group Flow (vph)	0	0	0	0	1180	0	698	790	0	0	799	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)					26.0		45.0	45.0			20.0	
Effective Green, g (s)					26.0		45.0	45.0			20.0	
Actuated g/C Ratio					0.32		0.56	0.56			0.25	
Clearance Time (s)					4.5		4.5	4.5			4.5	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					1091		546	1969			807	
v/s Ratio Prot							c0.33	0.23				
v/s Ratio Perm					0.35		c0.39				0.25	
v/c Ratio					1.08		1.28	0.40			0.99	
Uniform Delay, d1					27.0		21.5	9.9			29.9	
Progression Factor					1.00		1.00	1.00			1.00	
Incremental Delay, d2					52.0		138.9	0.1			28.8	
Delay (s)					79.0		160.5	10.0			58.7	
Level of Service					E		F	B			E	
Approach Delay (s)		0.0			79.0			80.3			58.7	
Approach LOS		A			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	74.8	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	104.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	EBR2	WBL2	WBL	WBR	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	379	77	347	37	8	108	1356	553	272	654	343
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5		4.0		4.5	4.5	4.5		3.5	4.5	
Lane Util. Factor		0.95		1.00		1.00	1.00	0.95		1.00	0.95	
Frt		0.98		0.85		1.00	0.85	0.96		1.00	0.95	
Flt Protected		1.00		1.00		0.95	1.00	1.00		0.95	1.00	
Satd. Flow (prot)		3441		1583		1770	1583	3385		1770	3357	
Flt Permitted		1.00		1.00		0.17	1.00	1.00		0.05	1.00	
Satd. Flow (perm)		3441		1583		318	1583	3385		96	3357	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	399	81	365	39	8	114	1427	582	286	688	361
RTOR Reduction (vph)	0	0	0	0	0	0	93	33	0	0	0	0
Lane Group Flow (vph)	0	533	0	365	0	47	21	1976	0	286	1049	0
Turn Type	Perm	NA		Free	custom	custom	custom	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4			Free	8	8	8			6		
Actuated Green, G (s)		23.7		128.2		23.7	23.7	74.4		95.5	95.5	
Effective Green, g (s)		23.7		128.2		23.7	23.7	74.4		95.5	95.5	
Actuated g/C Ratio		0.18		1.00		0.18	0.18	0.58		0.74	0.74	
Clearance Time (s)		4.5				4.5	4.5	4.5		3.5	4.5	
Vehicle Extension (s)		3.0				3.0	3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		636		1583		58	292	1964		301	2500	
v/s Ratio Prot								c0.58		c0.13	0.31	
v/s Ratio Perm		0.15		0.23		0.15	0.01			0.58		
v/c Ratio		0.84		0.23		0.81	0.07	1.01		0.95	0.42	
Uniform Delay, d1		50.4		0.0		50.1	43.2	26.9		46.0	6.1	
Progression Factor		1.00		1.00		1.00	1.00	1.00		1.00	1.00	
Incremental Delay, d2		9.4		0.3		55.8	0.1	21.8		38.6	0.1	
Delay (s)		59.8		0.3		105.9	43.3	48.7		84.6	6.2	
Level of Service		E		A		F	D	D		F	A	
Approach Delay (s)		35.7						48.7			23.0	
Approach LOS		D						D			C	

Intersection Summary			
HCM 2000 Control Delay	38.7	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	128.2	Sum of lost time (s)	12.5
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	125	303	60	4	192	238	51	404	12	273	664	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.98			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1817			3536	1583		1846		1770	1767	1504
Flt Permitted	0.62	1.00			0.95	1.00		0.88		0.95	1.00	1.00
Satd. Flow (perm)	1162	1817			3359	1583		1628		1770	1767	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	130	316	62	4	200	248	53	421	12	284	692	67
RTOR Reduction (vph)	0	0	0	0	0	175	0	1	0	0	23	23
Lane Group Flow (vph)	130	378	0	0	204	73	0	485	0	284	676	37
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	18.7	18.7			18.7	18.7		24.1		10.1	37.2	37.2
Effective Green, g (s)	18.7	18.7			18.7	18.7		24.1		10.1	37.2	37.2
Actuated g/C Ratio	0.30	0.30			0.30	0.30		0.38		0.16	0.59	0.59
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	343	537			993	468		620		282	1040	885
v/s Ratio Prot		c0.21								c0.16	0.38	
v/s Ratio Perm	0.11				0.06	0.05		c0.30				0.02
v/c Ratio	0.38	0.70			0.21	0.16		0.78		1.01	0.65	0.04
Uniform Delay, d1	17.6	19.8			16.7	16.4		17.2		26.6	8.7	5.5
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	0.7	4.2			0.1	0.2		6.4		55.4	1.4	0.0
Delay (s)	18.3	24.0			16.8	16.6		23.6		82.0	10.1	5.5
Level of Service	B	C			B	B		C		F	B	A
Approach Delay (s)		22.5			16.7			23.6			29.4	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	63.2	Sum of lost time (s)	14.4
Intersection Capacity Utilization	99.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	68	0	0	0	0	108	864	141	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	78	0	0	0	0	124	993	162	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1322	1403	0	1280	1241	993	0			1155		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1322	1403	0	1280	1241	993	0			1155		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	39	100	100	100	100	92			100		
cM capacity (veh/h)	126	129	1085	70	161	298	1623			605		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	78	0	640
Volume Left	0	0	62
Volume Right	0	0	81
cSH	129	1700	1623
Volume to Capacity	0.61	0.00	0.08
Queue Length 95th (ft)	78	0	6
Control Delay (s)	68.7	0.0	1.5
Lane LOS	F	A	A
Approach Delay (s)	68.7	0.0	1.5
Approach LOS	F	A	

Intersection Summary			
Average Delay	8.8		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	918	117	0	0	143	26
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	977	124	0	0	152	28
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1101		1039	1039
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1101		1039	1039
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		40	90
cM capacity (veh/h)			634		256	280

Direction, Lane #	EB 1	NB 1
Volume Total	1039	90
Volume Left	0	76
Volume Right	62	14
cSH	1700	302
Volume to Capacity	0.61	0.30
Queue Length 95th (ft)	0	30
Control Delay (s)	0.0	24.0
Lane LOS		C
Approach Delay (s)	0.0	24.0
Approach LOS		C

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	70.0%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	0	692	296	49	384	0	0	435	227
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	
Lane Util. Factor					0.95	1.00	1.00	0.95			0.95	
Frt					1.00	0.85	1.00	1.00			0.95	
Flt Protected					1.00	1.00	0.95	1.00			1.00	
Satd. Flow (prot)					3539	1583	1770	3539			3357	
Flt Permitted					1.00	1.00	0.33	1.00			1.00	
Satd. Flow (perm)					3539	1583	611	3539			3357	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	0	744	318	53	413	0	0	468	244
RTOR Reduction (vph)	0	0	0	0	0	170	0	0	0	0	58	0
Lane Group Flow (vph)	0	0	0	0	744	148	53	413	0	0	654	0
Turn Type				Perm	NA	Perm	Perm	NA			NA	
Protected Phases					8			2			6	
Permitted Phases				8		8	2					
Actuated Green, G (s)					13.9	13.9	12.6	12.6			12.6	
Effective Green, g (s)					13.9	13.9	12.6	12.6			12.6	
Actuated g/C Ratio					0.40	0.40	0.37	0.37			0.37	
Clearance Time (s)					4.0	4.0	4.0	4.0			4.0	
Vehicle Extension (s)					3.0	3.0	3.0	3.0			3.0	
Lane Grp Cap (vph)					1425	637	223	1292			1226	
v/s Ratio Prot					c0.21			0.12			c0.19	
v/s Ratio Perm						0.09	0.09					
v/c Ratio					0.52	0.23	0.24	0.32			0.53	
Uniform Delay, d1					7.8	6.8	7.6	7.9			8.6	
Progression Factor					1.00	1.00	1.00	1.00			1.00	
Incremental Delay, d2					0.3	0.2	0.6	0.1			0.4	
Delay (s)					8.1	7.0	8.2	8.0			9.1	
Level of Service					A	A	A	A			A	
Approach Delay (s)		0.0			7.8			8.0			9.1	
Approach LOS		A			A			A			A	

Intersection Summary			
HCM 2000 Control Delay	8.2	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	34.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	329	559	0	0	382	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.91			0.97	
Frt		1.00			1.00	
Flt Protected		0.98			0.95	
Satd. Flow (prot)		4993			3433	
Flt Permitted		0.98			0.95	
Satd. Flow (perm)		4993			3433	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	354	601	0	0	411	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	955	0	0	411	0
Turn Type	Perm	NA			NA	
Protected Phases		4				
Permitted Phases	4				6	
Actuated Green, G (s)		13.2			9.1	
Effective Green, g (s)		13.2			9.1	
Actuated g/C Ratio		0.44			0.30	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		2175			1031	
v/s Ratio Prot						
v/s Ratio Perm		0.19			c0.12	
v/c Ratio		0.44			0.40	
Uniform Delay, d1		6.0			8.4	
Progression Factor		1.00			1.00	
Incremental Delay, d2		0.1			0.3	
Delay (s)		6.1			8.7	
Level of Service		A			A	
Approach Delay (s)		6.1	0.0		8.7	
Approach LOS		A	A		A	

Intersection Summary			
HCM 2000 Control Delay	6.9	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.42		
Actuated Cycle Length (s)	30.3	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	378	1	32	510
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	411	1	35	554
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.96					
vC, conflicting volume	758	206			412	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	670	206			412	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	90	94			97	
cM capacity (veh/h)	364	800			1143	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	274	138	202	370
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	456	1700	1700	1143	1700
Volume to Capacity	0.13	0.16	0.08	0.03	0.22
Queue Length 95th (ft)	11	0	0	2	0
Control Delay (s)	14.1	0.0	0.0	1.0	0.0
Lane LOS	B			A	
Approach Delay (s)	14.1	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

2020 No Project AM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	164	72	178	74	100	341
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	174	77	189	79	106	363
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	765	189			268	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	765	189			268	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	49	91			92	
cM capacity (veh/h)	341	852			1296	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	251	189	79	106	363
Volume Left	174	0	0	106	0
Volume Right	77	0	79	0	0
cSH	454	1700	1700	1296	1700
Volume to Capacity	0.55	0.11	0.05	0.08	0.21
Queue Length 95th (ft)	82	0	0	7	0
Control Delay (s)	22.3	0.0	0.0	8.0	0.0
Lane LOS	C			A	
Approach Delay (s)	22.3	0.0		1.8	
Approach LOS	C				

Intersection Summary			
Average Delay	6.5		
Intersection Capacity Utilization	34.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	501	173	119	814	32	107	204	35	22	368	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.96			1.00			0.98			0.99	
Flt Protected		1.00			0.99			0.98			1.00	
Satd. Flow (prot)		3402			3500			3432			3489	
Flt Permitted		0.91			0.77			0.70			0.92	
Satd. Flow (perm)		3104			2713			2448			3235	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	539	186	128	875	34	115	219	38	24	396	35
RTOR Reduction (vph)	0	12	0	0	5	0	0	6	0	0	5	0
Lane Group Flow (vph)	0	737	0	0	1032	0	0	366	0	0	450	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		28.4			28.4			16.2			16.2	
Effective Green, g (s)		28.4			28.4			16.2			16.2	
Actuated g/C Ratio		0.54			0.54			0.31			0.31	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1675			1464			753			996	
v/s Ratio Prot												
v/s Ratio Perm		0.24			c0.38			c0.15			0.14	
v/c Ratio		0.44			0.71			0.49			0.45	
Uniform Delay, d1		7.3			9.0			14.8			14.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			1.6			0.5			0.3	
Delay (s)		7.5			10.6			15.3			15.0	
Level of Service		A			B			B			B	
Approach Delay (s)		7.5			10.6			15.3			15.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	52.6	Sum of lost time (s)	8.0
Intersection Capacity Utilization	82.1%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	583	383	195	1066	68	338	280	39	17	609	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	5040		1770	1863	1583		3503	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.94	
Satd. Flow (perm)		5085	1583	1770	5040		1770	1863	1583		3299	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	627	412	210	1146	73	363	301	42	18	655	43
RTOR Reduction (vph)	0	0	113	0	6	0	0	0	22	0	4	0
Lane Group Flow (vph)	0	627	299	210	1213	0	363	301	20	0	712	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		25.0	25.0	14.9	43.9		21.4	51.9	51.9		27.0	
Effective Green, g (s)		25.0	25.0	14.9	43.9		21.4	51.9	51.9		27.0	
Actuated g/C Ratio		0.23	0.23	0.14	0.41		0.20	0.49	0.49		0.25	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1190	370	246	2071		354	905	769		834	
v/s Ratio Prot		0.12		c0.12	0.24		c0.21	0.16				
v/s Ratio Perm			c0.19						0.01		c0.22	
v/c Ratio		0.53	0.81	0.85	0.59		1.03	0.33	0.03		0.85	
Uniform Delay, d1		35.7	38.6	44.9	24.4		42.7	16.8	14.3		38.0	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.2	11.5	23.1	0.3		54.5	0.1	0.0		8.2	
Delay (s)		35.9	50.1	68.0	24.7		97.2	16.9	14.3		46.2	
Level of Service		D	D	E	C		F	B	B		D	
Approach Delay (s)		41.6			31.0			58.0			46.2	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	41.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	106.8	Sum of lost time (s)	18.5
Intersection Capacity Utilization	76.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	18	1067	23	26	1184
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.88	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3528		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3528		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	13	19	1135	24	28	1260
RTOR Reduction (vph)	0	18	2	0	0	0
Lane Group Flow (vph)	13	1	1157	0	28	1260
Turn Type	NA	custom	NA		Prot	NA
Protected Phases			2 9		1	6 9
Permitted Phases	8	8	2 9			6 9
Actuated Green, G (s)	2.3	2.3	34.4		14.4	25.6
Effective Green, g (s)	2.3	2.3	34.4		14.4	25.6
Actuated g/C Ratio	0.04	0.04	0.55		0.23	0.41
Clearance Time (s)	4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	64	101	1923		403	1435
v/s Ratio Prot			c0.33		0.02	c0.36
v/s Ratio Perm	c0.01	0.00				
v/c Ratio	0.20	0.01	0.60		0.07	0.88
Uniform Delay, d1	29.5	29.3	9.7		19.1	17.3
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.6	0.0	0.5		0.1	6.4
Delay (s)	31.1	29.3	10.2		19.2	23.7
Level of Service	C	C	B		B	C
Approach Delay (s)	30.0		10.2			23.6
Approach LOS	C		B			C

Intersection Summary			
HCM 2000 Control Delay	17.4	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	63.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	42.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	198	454	59	631
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	206	473	61	657
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	894	340			679	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	894	340			679	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			93	
cM capacity (veh/h)	262	656			909	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	138	542	281	438
Volume Left	0	0	61	0
Volume Right	0	473	0	0
cSH	1700	1700	909	1700
Volume to Capacity	0.08	0.32	0.07	0.26
Queue Length 95th (ft)	0	0	5	0
Control Delay (s)	0.0	0.0	2.6	0.0
Lane LOS			A	
Approach Delay (s)	0.0		1.0	
Approach LOS				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	45.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	558	106	286	856	40	133	121	109	65	167	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.93			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3454		1770	3516		1770	1730			1806	
Flt Permitted	0.95	1.00		0.95	1.00		0.46	1.00			0.77	
Satd. Flow (perm)	1770	3454		1770	3516		855	1730			1414	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	620	118	318	951	44	148	134	121	72	186	42
RTOR Reduction (vph)	0	25	0	0	5	0	0	58	0	0	11	0
Lane Group Flow (vph)	47	713	0	318	990	0	148	197	0	0	289	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	11.8	20.1		11.8	20.1		13.9	13.9			13.9	
Effective Green, g (s)	11.8	20.1		11.8	20.1		13.9	13.9			13.9	
Actuated g/C Ratio	0.21	0.36		0.21	0.36		0.25	0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	374	1244		374	1266		212	430			352	
v/s Ratio Prot	0.03	0.21		c0.18	c0.28			0.11				
v/s Ratio Perm							0.17				c0.20	
v/c Ratio	0.13	0.57		0.85	0.78		0.70	0.46			0.82	
Uniform Delay, d1	17.8	14.4		21.2	15.9		19.0	17.8			19.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	0.4		16.1	3.0		7.8	0.3			13.7	
Delay (s)	17.9	14.8		37.3	18.9		26.9	18.0			33.5	
Level of Service	B	B		D	B		C	B			C	
Approach Delay (s)		15.0			23.3			21.3			33.5	
Approach LOS		B			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	21.8	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	55.8	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	510	136	119	755	65	195	219	172	47	290	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.93			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3497		1770	1740			3515	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.46	1.00			0.63	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3497		864	1740			2221	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	31	580	155	135	858	74	222	249	195	53	330	116
RTOR Reduction (vph)	0	0	114	0	7	0	0	35	0	0	0	77
Lane Group Flow (vph)	31	580	41	135	925	0	222	409	0	0	383	39
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	2.0	39.5	21.0	8.5	46.0		21.0	21.0			21.0	21.0
Effective Green, g (s)	2.0	39.5	21.0	8.5	46.0		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.02	0.49	0.26	0.11	0.58		0.26	0.26			0.26	0.26
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	44	1747	415	188	2010		226	456			583	415
v/s Ratio Prot	0.02	c0.16		c0.08	c0.26			0.23				
v/s Ratio Perm			0.03				c0.26				0.17	0.02
v/c Ratio	0.70	0.33	0.10	0.72	0.46		0.98	0.90			0.66	0.09
Uniform Delay, d1	38.7	12.3	22.3	34.6	9.8		29.3	28.4			26.3	22.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			0.94	0.56
Incremental Delay, d2	34.2	0.5	0.0	10.4	0.8		54.4	19.3			0.2	0.0
Delay (s)	72.9	12.8	22.4	45.0	10.6		83.7	47.8			24.8	12.4
Level of Service	E	B	C	D	B		F	D			C	B
Approach Delay (s)		17.1			14.9			59.8			21.9	
Approach LOS		B			B			E			C	

Intersection Summary			
HCM 2000 Control Delay	26.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	810	37	36	63
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	835	38	37	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	873				854	854
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	873				854	854
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				89	82
cM capacity (veh/h)	773				329	358

Direction, Lane #	WB 1	SB 1
Volume Total	854	51
Volume Left	0	19
Volume Right	19	32
cSH	1700	563
Volume to Capacity	0.50	0.09
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	16.2
Lane LOS		C
Approach Delay (s)	0.0	16.2
Approach LOS		C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	20	32	747	142	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	34	786	149	0	0
Approach Volume (veh/h)		55	936		0	
Crossing Volume (veh/h)		0	21		786	
High Capacity (veh/h)		1385	1362		741	
High v/c (veh/h)		0.04	0.69		0.00	
Low Capacity (veh/h)		1161	1141		585	
Low v/c (veh/h)		0.05	0.82		0.00	

Intersection Summary			
Maximum v/c High	0.69		
Maximum v/c Low	0.82		
Intersection Capacity Utilization	51.3%	ICU Level of Service	A

Intersection	
Intersection Delay (sec/veh)	22.9
Intersection LOS	C

Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	55	935	0
Demand Flow Rate (pc/h)	56	954	0
Vehicles Circulating (pc/h)	0	21	802
Vehicles Exiting (pc/h)	802	35	173
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	3.6	24.0	0.0
Approach LOS	A	C	-

Lane	Left	Left
Designated moves	LT	TR
Assumed Moves	LT	TR
Right Turn Channelized		
Lane Utilization	1.000	1.000
Critical Headway (s)	5.193	5.193
Entry Flow Rate (pc/h)	56	954
Capacity, Entry Lane (pc/h)	1130	1106
Entry HV Adjustment Factor	0.988	0.980
Flow Rate, Entry (vph)	55	935
Capacity, Entry (vph)	1116	1085
Volume to Capacity Ratio	0.050	0.862
Control Delay (sec/veh)	3.6	24.0
Level of Service	A	C
95th-Percentile Queue (veh)	0	12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	671	181	186	1418	0	0	0	0	439	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.98	1.00					1.00	1.00
Satd. Flow (prot)			2787		1818	2787					1863	1583
Flt Permitted			1.00		0.98	1.00					1.00	1.00
Satd. Flow (perm)			2787		1818	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	699	189	194	1477	0	0	0	0	457	12
RTOR Reduction (vph)	0	0	343	0	43	864	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	356	0	340	613	0	0	0	0	457	12
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			33.2		33.2	33.2					38.8	80.0
Effective Green, g (s)			33.2		33.2	33.2					38.8	80.0
Actuated g/C Ratio			0.42		0.42	0.42					0.48	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1156		754	1156					903	1583
v/s Ratio Prot											c0.25	
v/s Ratio Perm			0.13		0.19	c0.22						0.01
v/c Ratio			0.31		0.45	0.53					0.51	0.01
Uniform Delay, d1			15.7		16.8	17.6					14.1	0.0
Progression Factor			1.00		1.00	1.86					1.00	1.00
Incremental Delay, d2			0.2		0.3	0.3					2.0	0.0
Delay (s)			15.8		17.2	33.0					16.1	0.0
Level of Service			B		B	C					B	A
Approach Delay (s)		15.8			29.7			0.0			15.7	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	24.3	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.52		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	78	27	1493	336	629	4	0	243
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.96		1.00	0.90			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1798		3433	1681			1614	
Flt Permitted	1.00		0.60	1.00			0.99	
Satd. Flow (perm)	1798		2173	1681			1600	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	80	28	1539	346	648	4	0	251
RTOR Reduction (vph)	0	0	0	0	0	0	53	0
Lane Group Flow (vph)	108	0	1539	994	0	0	202	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	8.8		63.2	63.2			63.2	
Effective Green, g (s)	8.8		63.2	63.2			63.2	
Actuated g/C Ratio	0.11		0.79	0.79			0.79	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	197		1716	1327			1264	
v/s Ratio Prot	c0.06			0.59				
v/s Ratio Perm			c0.71				0.13	
v/c Ratio	0.55		0.90	0.75			0.16	
Uniform Delay, d1	33.7		6.1	4.3			2.0	
Progression Factor	1.00		1.00	1.00			2.52	
Incremental Delay, d2	3.1		7.8	3.9			0.1	
Delay (s)	36.8		13.9	8.2			5.2	
Level of Service	D		B	A			A	
Approach Delay (s)	36.8			11.7			5.2	
Approach LOS	D			B			A	

Intersection Summary			
HCM 2000 Control Delay	12.0	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	46	2394	53	80	0	1232
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	47	2443	54	0	0	1257
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	3098	1248			0	2497	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3098	1248			0	2497	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	71			0	100	
cM capacity (veh/h)	9	165			0	180	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	47	1629	841	0	629	629
Volume Left	0	0	0	0	0	0
Volume Right	47	0	27	0	0	0
cSH	165	1700	1700	1700	1700	1700
Volume to Capacity	0.29	0.96	0.49	0.00	0.37	0.37
Queue Length 95th (ft)	28	0	0	0	0	0
Control Delay (s)	35.4	0.0	0.0	0.0	0.0	0.0
Lane LOS	E					
Approach Delay (s)	35.4	0.0		0.0		
Approach LOS	E					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	77.9%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	221	365	89	54	110	403	13	41	795	92	26	699
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	1.00			0.99			0.99
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3266		1441	1770	3522			3479			3494
Flt Permitted		0.67		1.00	0.25	1.00			0.88			0.90
Satd. Flow (perm)		2223		1441	457	3522			3081			3156
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	233	384	94	57	116	424	14	43	837	97	27	736
RTOR Reduction (vph)	0	1	0	13	0	3	0	0	0	0	0	8
Lane Group Flow (vph)	0	716	0	38	116	435	0	0	977	0	0	817
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		28.8		28.8	28.8	28.8			41.6			41.6
Effective Green, g (s)		28.8		28.8	28.8	28.8			41.6			41.6
Actuated g/C Ratio		0.36		0.36	0.36	0.36			0.52			0.52
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		802		520	164	1271			1606			1645
v/s Ratio Prot						0.12						
v/s Ratio Perm		c0.32		0.03	0.25				c0.32			0.26
v/c Ratio		0.89		0.07	0.71	0.34			0.61			0.50
Uniform Delay, d1		24.0		16.7	21.9	18.6			13.4			12.3
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		12.3		0.1	13.0	0.2			0.7			0.2
Delay (s)		36.4		16.8	34.9	18.8			14.0			12.6
Level of Service		D		B	C	B			B			B
Approach Delay (s)		35.1				22.1			14.0			12.6
Approach LOS		D				C			B			B

Intersection Summary			
HCM 2000 Control Delay	20.3	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	79.8	Sum of lost time (s)	9.4
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	59
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	62
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	61	493	51	148	1245	137	27	425	55	48	400	104
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3489		1770	3487			3472			3424	
Flt Permitted	0.95	1.00		0.95	1.00			0.89			0.81	
Satd. Flow (perm)	1770	3489		1770	3487			3093			2787	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	63	508	53	153	1284	141	28	438	57	49	412	107
RTOR Reduction (vph)	0	7	0	0	8	0	0	7	0	0	16	0
Lane Group Flow (vph)	63	554	0	153	1417	0	0	516	0	0	552	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.2	42.4		13.3	50.5			25.5			25.5	
Effective Green, g (s)	5.2	42.4		13.3	50.5			25.5			25.5	
Actuated g/C Ratio	0.06	0.45		0.14	0.54			0.27			0.27	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	98	1587		252	1889			846			762	
v/s Ratio Prot	0.04	0.16		c0.09	c0.41							
v/s Ratio Perm								0.17			c0.20	
v/c Ratio	0.64	0.35		0.61	0.75			0.61			0.72	
Uniform Delay, d1	43.1	16.5		37.5	16.5			29.5			30.7	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	13.5	0.1		4.1	1.7			1.3			3.4	
Delay (s)	56.6	16.6		41.6	18.2			30.8			34.1	
Level of Service	E	B		D	B			C			C	
Approach Delay (s)		20.6			20.5			30.8			34.1	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	24.5	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	93.2	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	87	285	236	54	327	31	593	440	140	41	457	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	1863	2787	1770	3493		1610	3329	1583		3415	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	1863	2787	1770	3493		1610	3329	1583		3415	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	96	313	259	59	359	34	652	484	154	45	502	148
RTOR Reduction (vph)	0	0	182	0	9	0	0	0	114	0	30	0
Lane Group Flow (vph)	96	313	77	59	384	0	372	764	40	0	665	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.8	23.8	23.8	3.2	22.2		21.0	21.0	21.0		16.0	
Effective Green, g (s)	4.8	23.8	23.8	3.2	22.2		21.0	21.0	21.0		16.0	
Actuated g/C Ratio	0.06	0.30	0.30	0.04	0.28		0.26	0.26	0.26		0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	106	554	829	70	969		422	873	415		683	
v/s Ratio Prot	c0.05	c0.17		c0.03	0.11		c0.23	0.23			c0.19	
v/s Ratio Perm			0.03						0.03			
v/c Ratio	0.91	0.56	0.09	0.84	0.40		0.88	0.88	0.10		0.97	
Uniform Delay, d1	37.4	23.7	20.3	38.2	23.5		28.3	28.2	22.3		31.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.88	0.88	0.88		1.00	
Incremental Delay, d2	57.9	4.1	0.2	56.9	1.2		5.9	2.8	0.0		27.6	
Delay (s)	95.3	27.9	20.5	95.0	24.7		30.7	27.6	19.7		59.4	
Level of Service	F	C	C	F	C		C	C	B		E	
Approach Delay (s)		34.7			33.9			27.5			59.4	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	37.1	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	36	281	4	925	56	483	185	306	439	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.86			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.99	
Satd. Flow (prot)		1611			1775	1583		3390		1610	3366	
Flt Permitted		1.00			0.70	1.00		0.84		0.95	0.74	
Satd. Flow (perm)		1611			1306	1583		2860		1610	2504	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	38	293	4	964	58	503	193	319	457	3
RTOR Reduction (vph)	0	22	0	0	0	260	0	38	0	0	1	0
Lane Group Flow (vph)	0	16	0	0	297	704	0	716	0	252	526	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		38.5			38.5	38.5		24.6		14.4	43.0	
Effective Green, g (s)		38.5			38.5	38.5		24.6		14.4	43.0	
Actuated g/C Ratio		0.43			0.43	0.43		0.27		0.16	0.48	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		689			558	677		781		257	1334	
v/s Ratio Prot		0.01								c0.16	0.06	
v/s Ratio Perm					0.23	c0.44		c0.25			0.13	
v/c Ratio		0.02			0.53	1.04		0.92		0.98	0.39	
Uniform Delay, d1		14.9			19.1	25.8		31.7		37.7	15.1	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.0	45.2		15.4		50.5	0.2	
Delay (s)		14.9			20.1	71.0		47.1		88.2	15.3	
Level of Service		B			C	E		D		F	B	
Approach Delay (s)		14.9			59.0			47.1			38.9	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	49.7	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	93.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	58	46	119	159	16	415	675	86	9	421	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.99		1.00	0.98		1.00	0.94	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1762			1812		1770	1831		1770	1744	
Flt Permitted		0.66			0.74		0.08	1.00		0.33	1.00	
Satd. Flow (perm)		1190			1363		148	1831		606	1744	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	85	61	48	125	167	17	437	711	91	9	443	326
RTOR Reduction (vph)	0	12	0	0	2	0	0	4	0	0	28	0
Lane Group Flow (vph)	0	182	0	0	307	0	437	798	0	9	741	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.6			21.6		70.4	65.4		47.4	46.4	
Effective Green, g (s)		21.6			21.6		70.4	65.4		47.4	46.4	
Actuated g/C Ratio		0.22			0.22		0.70	0.65		0.47	0.46	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		257			294		428	1197		298	809	
v/s Ratio Prot							c0.20	0.44		0.00	0.42	
v/s Ratio Perm		0.15			c0.22		c0.51			0.01		
v/c Ratio		0.71			1.04		1.02	0.67		0.03	0.92	
Uniform Delay, d1		36.3			39.2		32.2	10.6		14.0	25.0	
Progression Factor		1.00			1.00		0.92	1.06		1.00	1.00	
Incremental Delay, d2		8.6			64.2		47.1	2.7		0.0	16.8	
Delay (s)		44.9			103.4		76.7	13.9		14.1	41.8	
Level of Service		D			F		E	B		B	D	
Approach Delay (s)		44.9			103.4			36.1			41.5	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	46.7	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	59	156	39	2	98	1	804	12	84	444	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.90			1.00		1.00	0.97	
Flt Protected		0.96	1.00		0.99			1.00		0.95	1.00	
Satd. Flow (prot)		1792	1583		1662			3531		1770	1814	
Flt Permitted		0.65	1.00		0.80			0.95		0.27	1.00	
Satd. Flow (perm)		1202	1583		1349			3372		510	1814	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	61	161	40	2	101	1	829	12	87	458	97
RTOR Reduction (vph)	0	0	114	0	72	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	288	47	0	71	0	0	841	0	87	549	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		28.9	28.9		28.9			54.7		63.1	63.1	
Effective Green, g (s)		28.9	28.9		28.9			54.7		63.1	63.1	
Actuated g/C Ratio		0.29	0.29		0.29			0.55		0.63	0.63	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		347	457		389			1844		377	1144	
v/s Ratio Prot										c0.01	c0.30	
v/s Ratio Perm		c0.24	0.03		0.05			0.25		0.14		
v/c Ratio		0.83	0.10		0.18			0.46		0.23	0.48	
Uniform Delay, d1		33.3	26.0		26.7			13.7		13.2	9.8	
Progression Factor		1.00	1.00		1.00			1.00		1.09	1.13	
Incremental Delay, d2		15.1	0.1		0.2			0.8		0.2	0.7	
Delay (s)		48.3	26.1		26.9			14.5		14.6	11.8	
Level of Service		D	C		C			B		B	B	
Approach Delay (s)		40.4			26.9			14.5			12.1	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.2	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	412	78	811	244	47	671
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.97		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3417		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3417		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	429	81	845	254	49	699
RTOR Reduction (vph)	0	54	41	0	0	0
Lane Group Flow (vph)	429	27	1058	0	49	699
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	18.0	18.0	22.3		3.0	29.3
Effective Green, g (s)	18.0	18.0	22.3		3.0	29.3
Actuated g/C Ratio	0.34	0.34	0.42		0.06	0.55
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	597	534	1429		99	1945
v/s Ratio Prot	c0.24		c0.31		0.03	c0.20
v/s Ratio Perm		0.02				
v/c Ratio	0.72	0.05	0.74		0.49	0.36
Uniform Delay, d1	15.4	11.9	13.1		24.4	6.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.1	0.0	2.1		3.9	0.1
Delay (s)	19.6	11.9	15.2		28.3	6.8
Level of Service	B	B	B		C	A
Approach Delay (s)	18.4		15.2			8.3
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	13.7	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	53.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	92	7	75	340	388	27	609	118	192	535	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	0.95	
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1823	1583		1733		1770	3539	1583	1770	3361	
Flt Permitted		0.60	1.00		0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1122	1583		1667		1770	3539	1583	1770	3361	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	75	95	7	77	351	400	28	628	122	198	552	278
RTOR Reduction (vph)	0	0	4	0	50	0	0	0	42	0	95	0
Lane Group Flow (vph)	0	170	3	0	778	0	28	628	80	198	735	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		28.1	28.1		28.1		1.5	18.7	18.7	7.0	24.2	
Effective Green, g (s)		28.1	28.1		28.1		1.5	18.7	18.7	7.0	24.2	
Actuated g/C Ratio		0.45	0.45		0.45		0.02	0.30	0.30	0.11	0.39	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		502	708		745		42	1053	471	197	1295	
v/s Ratio Prot							0.02	0.18		c0.11	c0.22	
v/s Ratio Perm		0.15	0.00		c0.47				0.05			
v/c Ratio		0.34	0.00		1.04		0.67	0.60	0.17	1.01	0.57	
Uniform Delay, d1		11.3	9.6		17.3		30.4	18.8	16.3	27.9	15.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4	0.0		45.0		33.4	0.9	0.2	65.4	0.6	
Delay (s)		11.7	9.6		62.3		63.8	19.7	16.5	93.3	15.8	
Level of Service		B	A		E		E	B	B	F	B	
Approach Delay (s)		11.6			62.3			20.8			30.7	
Approach LOS		B			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.1	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	62.8	Sum of lost time (s)	9.0
Intersection Capacity Utilization	89.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	512	145	217	1494	138	217	308	61	165	702	327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3422		1770	3494		1770	3451		1770	3371	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3422		1770	3494		1770	3451		1770	3371	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	118	528	149	224	1540	142	224	318	63	170	724	337
RTOR Reduction (vph)	0	19	0	0	6	0	0	12	0	0	42	0
Lane Group Flow (vph)	118	658	0	224	1677	0	224	369	0	170	1019	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.0	44.5		21.0	58.5		14.0	30.9		17.1	34.0	
Effective Green, g (s)	7.0	44.5		21.0	58.5		14.0	30.9		17.1	34.0	
Actuated g/C Ratio	0.05	0.34		0.16	0.45		0.11	0.24		0.13	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	95	1171		285	1572		190	820		232	881	
v/s Ratio Prot	c0.07	0.19		0.13	c0.48		c0.13	0.11		0.10	c0.30	
v/s Ratio Perm												
v/c Ratio	1.24	0.56		0.79	1.07		1.18	0.45		0.73	1.16	
Uniform Delay, d1	61.5	34.8		52.3	35.8		58.0	42.3		54.3	48.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	170.9	0.6		13.3	42.8		121.8	0.4		11.3	83.2	
Delay (s)	232.4	35.4		65.6	78.5		179.8	42.7		65.6	131.2	
Level of Service	F	D		E	E		F	D		E	F	
Approach Delay (s)		64.7			77.0			93.5			122.2	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	89.3	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	107.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	563	60	143	1509	114	71	372	43	70	456	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.99			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3488		1770	3502			3467			3420	
Flt Permitted	0.10	1.00		0.34	1.00			0.73			0.83	
Satd. Flow (perm)	184	3488		639	3502			2534			2852	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	612	65	155	1640	124	77	404	47	76	496	134
RTOR Reduction (vph)	0	10	0	0	7	0	0	9	0	0	8	0
Lane Group Flow (vph)	59	667	0	155	1757	0	0	519	0	0	698	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Effective Green, g (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	93	1765		323	1772			981			1105	
v/s Ratio Prot		0.19			c0.50							
v/s Ratio Perm	0.32			0.24				0.20			c0.24	
v/c Ratio	0.63	0.38		0.48	0.99			0.53			0.63	
Uniform Delay, d1	14.4	12.1		12.9	19.6			18.9			19.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	13.3	0.1		1.1	19.3			2.0			2.7	
Delay (s)	27.7	12.2		14.0	38.9			20.9			22.6	
Level of Service	C	B		B	D			C			C	
Approach Delay (s)		13.4			36.9			20.9			22.6	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.7	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	112.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	12	51	9	437	40	31	667	34	77	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.99			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4946		3495			3531	1770	1583	
Flt Permitted		0.99		1.00			0.92	0.95	1.00	
Satd. Flow (perm)		4946		3495			3258	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	55	10	475	43	34	725	37	84	68
RTOR Reduction (vph)	0	0	0	11	0	0	0	0	75	0
Lane Group Flow (vph)	0	78	0	507	0	0	759	37	77	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		5.4		21.0			21.0	8.3	8.3	
Effective Green, g (s)		5.4		21.0			21.0	8.3	8.3	
Actuated g/C Ratio		0.12		0.45			0.45	0.18	0.18	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		571		1571			1465	314	281	
v/s Ratio Prot				0.15				0.02		
v/s Ratio Perm		0.02					c0.23		c0.05	
v/c Ratio		0.14		0.32			0.52	0.12	0.27	
Uniform Delay, d1		18.6		8.3			9.2	16.1	16.6	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.1			0.3	0.2	0.5	
Delay (s)		18.7		8.4			9.5	16.3	17.1	
Level of Service		B		A			A	B	B	
Approach Delay (s)		18.7		8.4			9.5	17.0		
Approach LOS		B		A			A	B		

Intersection Summary			
HCM 2000 Control Delay	10.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.40		
Actuated Cycle Length (s)	46.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	58.9%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	404	126	132	848	69	161	348	51	107	469	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.99			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3410			3482			3441			3435	
Flt Permitted		0.80			0.72			0.56			0.66	
Satd. Flow (perm)		2743			2528			1956			2279	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	425	133	139	893	73	169	366	54	113	494	102
RTOR Reduction (vph)	0	19	0	0	4	0	0	5	0	0	9	0
Lane Group Flow (vph)	0	577	0	0	1101	0	0	584	0	0	700	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		61.6			61.6			42.8			42.8	
Effective Green, g (s)		61.6			61.6			42.8			42.8	
Actuated g/C Ratio		0.54			0.54			0.37			0.37	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1477			1361			731			852	
v/s Ratio Prot												
v/s Ratio Perm		0.21			c0.44			0.30			c0.31	
v/c Ratio		0.39			0.81			0.91dl			0.82	
Uniform Delay, d1		15.4			21.6			32.0			32.4	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			3.7			6.1			6.4	
Delay (s)		15.6			25.3			38.1			38.8	
Level of Service		B			C			D			D	
Approach Delay (s)		15.6			25.3			38.1			38.8	
Approach LOS		B			C			D			D	

Intersection Summary			
HCM 2000 Control Delay	29.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	114.4	Sum of lost time (s)	10.0
Intersection Capacity Utilization	97.5%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	424	273	211	413	520	107	28	605	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		1.00	0.91	
Frt				1.00	0.93		1.00	0.97		1.00	0.99	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1741		3433	3449		1770	5011	
Flt Permitted				0.95	1.00		0.95	1.00		0.40	1.00	
Satd. Flow (perm)				1770	1741		3433	3449		752	5011	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	442	284	220	430	542	111	29	630	68
RTOR Reduction (vph)	0	0	0	0	37	0	0	24	0	0	19	0
Lane Group Flow (vph)	0	0	0	442	467	0	430	629	0	29	679	0
Turn Type				Perm	NA		Prot	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8						6		
Actuated Green, G (s)				22.2	22.2		10.6	30.7		15.6	15.6	
Effective Green, g (s)				22.2	22.2		10.6	30.7		15.6	15.6	
Actuated g/C Ratio				0.36	0.36		0.17	0.50		0.25	0.25	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				635	624		588	1711		190	1263	
v/s Ratio Prot					c0.27		c0.13	0.18			c0.14	
v/s Ratio Perm				0.25						0.04		
v/c Ratio				0.70	0.75		0.73	0.37		0.15	0.54	
Uniform Delay, d1				17.0	17.4		24.3	9.6		18.0	20.0	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				3.3	4.9		4.7	0.1		0.4	0.4	
Delay (s)				20.3	22.3		29.0	9.8		18.4	20.5	
Level of Service				C	C		C	A		B	C	
Approach Delay (s)		0.0			21.4			17.4			20.4	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	61.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	63.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	685	0	1	0	94	28	633	583	317	404	402
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91		1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00		1.00		0.85		0.93		1.00	0.93	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3386		1770		1583		3287		3433	3274	
Flt Permitted	0.95	1.00		0.18		1.00		0.92		0.11	1.00	
Satd. Flow (perm)	1610	3386		343		1583		3031		399	3274	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	195	721	0	1	0	99	29	666	614	334	425	423
RTOR Reduction (vph)	0	0	0	0	0	69	0	35	0	0	177	0
Lane Group Flow (vph)	175	741	0	1	0	30	0	1274	0	334	671	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	22.7	22.7		22.7		22.7		32.7		44.2	44.2	
Effective Green, g (s)	22.7	22.7		22.7		22.7		32.7		44.2	44.2	
Actuated g/C Ratio	0.30	0.30		0.30		0.30		0.43		0.58	0.58	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	481	1012		102		473		1305		552	1906	
v/s Ratio Prot										c0.06	0.21	
v/s Ratio Perm	0.11	0.22		0.00		0.02		c0.42		0.29		
v/c Ratio	0.36	0.73		0.01		0.06		0.98		0.61	0.35	
Uniform Delay, d1	20.9	23.9		18.7		19.0		21.2		13.1	8.3	
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.5	2.8		0.0		0.1		19.3		1.9	0.1	
Delay (s)	21.4	26.6		18.7		19.1		40.5		15.0	8.4	
Level of Service	C	C		B		B		D		B	A	
Approach Delay (s)		25.6			19.1			40.5			10.3	
Approach LOS		C			B			D			B	

Intersection Summary			
HCM 2000 Control Delay	25.8	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	75.9	Sum of lost time (s)	12.5
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	127	176	38	1	469	235	123	688	6	238	407	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.97			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1813			3539	1583		1847		1770	1765	1504
Flt Permitted	0.30	1.00			0.95	1.00		0.86		0.95	1.00	1.00
Satd. Flow (perm)	550	1813			3379	1583		1593		1770	1765	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	132	183	40	1	489	245	128	717	6	248	424	70
RTOR Reduction (vph)	0	0	0	0	0	129	0	0	0	0	12	20
Lane Group Flow (vph)	132	223	0	0	490	116	0	851	0	248	419	43
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	31.1	31.1			31.1	31.1		64.5		16.0	83.5	83.5
Effective Green, g (s)	31.1	31.1			31.1	31.1		64.5		16.0	83.5	83.5
Actuated g/C Ratio	0.26	0.26			0.26	0.26		0.53		0.13	0.68	0.68
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	140	462			862	403		842		232	1209	1030
v/s Ratio Prot		0.12								c0.14	0.24	
v/s Ratio Perm	c0.24				0.15	0.07		c0.53				0.03
v/c Ratio	0.94	0.48			0.57	0.29		1.01		1.07	0.35	0.04
Uniform Delay, d1	44.5	38.6			39.6	36.5		28.7		53.0	7.9	6.2
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	58.5	0.8			0.9	0.4		33.7		78.5	0.2	0.0
Delay (s)	103.1	39.4			40.4	36.9		62.4		131.5	8.1	6.2
Level of Service	F	D			D	D		E		F	A	A
Approach Delay (s)		63.0			39.2			62.4			49.2	
Approach LOS		E			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	52.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	121.9	Sum of lost time (s)	14.4
Intersection Capacity Utilization	104.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	151	0	0	14	0	0	703	91	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	174	0	0	16	0	0	808	105	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	868	913	0	895	808	808	0			913		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	868	913	0	895	808	808	0			913		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	37	100	100	95	100	100			100		
cM capacity (veh/h)	262	274	1085	129	315	381	1623			747		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	174	16	456
Volume Left	0	0	0
Volume Right	0	0	52
cSH	274	315	1700
Volume to Capacity	0.63	0.05	0.27
Queue Length 95th (ft)	99	4	0
Control Delay (s)	38.5	17.1	0.0
Lane LOS	E	C	
Approach Delay (s)	38.5	17.1	0.0
Approach LOS	E	C	

Intersection Summary			
Average Delay	10.8		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1139	189	0	0	83	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1212	201	0	0	88	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1413		1312	1312
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1413		1312	1312
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		50	84
cM capacity (veh/h)			483		175	194

Direction, Lane #	EB 1	NB 1
Volume Total	1413	120
Volume Left	0	88
Volume Right	201	32
cSH	1700	238
Volume to Capacity	0.83	0.50
Queue Length 95th (ft)	0	65
Control Delay (s)	0.0	40.2
Lane LOS		E
Approach Delay (s)	0.0	40.2
Approach LOS		E

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	87	467	154	2	376	0	0	655	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	4.0
Lane Util. Factor					0.95	1.00		1.00			1.00	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3512	1583		1862			1863	1583
Flt Permitted					0.99	1.00		1.00			1.00	1.00
Satd. Flow (perm)					3512	1583		1860			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	94	502	166	2	404	0	0	704	333
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	596	166	0	406	0	0	704	333
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					19.9	80.0		52.1			52.1	80.0
Effective Green, g (s)					19.9	80.0		52.1			52.1	80.0
Actuated g/C Ratio					0.25	1.00		0.65			0.65	1.00
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					874	1583		1211			1213	1583
v/s Ratio Prot											c0.38	
v/s Ratio Perm					0.17	0.10		0.22				0.21
v/c Ratio					0.68	0.10		0.34			0.58	0.21
Uniform Delay, d1					27.2	0.0		6.2			7.8	0.0
Progression Factor					1.00	1.00		2.19			1.00	1.00
Incremental Delay, d2					2.2	0.1		0.7			2.0	0.3
Delay (s)					29.4	0.1		14.4			9.9	0.3
Level of Service					C	A		B			A	A
Approach Delay (s)		0.0			23.0			14.4			6.8	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM Average Control Delay	13.8	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	222	514	0	0	428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.95			1.00	
Frt		1.00			1.00	
Flt Protected		0.99			0.95	
Satd. Flow (prot)		3487			1770	
Flt Permitted		0.99			0.95	
Satd. Flow (perm)		3487			1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	239	553	0	0	460	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	792	0	0	460	0
Turn Type	Perm	NA			NA	
Protected Phases		4			6	
Permitted Phases	4					
Actuated Green, G (s)		26.6			45.4	
Effective Green, g (s)		26.6			45.4	
Actuated g/C Ratio		0.33			0.57	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1159			1004	
v/s Ratio Prot					c0.26	
v/s Ratio Perm		0.23				
v/c Ratio		0.68			0.46	
Uniform Delay, d1		23.1			10.1	
Progression Factor		1.00			0.82	
Incremental Delay, d2		1.7			1.2	
Delay (s)		24.7			9.5	
Level of Service		C			A	
Approach Delay (s)		24.7	0.0		9.5	
Approach LOS		C	A		A	

Intersection Summary			
HCM Average Control Delay	19.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	1169	435	860	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	1257	468	925	401
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1257	468	925	401
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			15.0	40.0	17.0	40.0
Effective Green, g (s)			15.0	40.0	17.0	40.0
Actuated g/C Ratio			0.38	1.00	0.42	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			1287	1863	791	1583
v/s Ratio Prot			c0.37	0.25	c0.50	
v/s Ratio Perm						0.25
v/c Ratio			0.98	0.25	1.17	0.25
Uniform Delay, d1			12.3	0.0	11.5	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			19.5	0.1	89.6	0.4
Delay (s)			31.8	0.1	101.1	0.4
Level of Service			C	A	F	A
Approach Delay (s)	0.0			23.2	70.6	
Approach LOS	A			C	E	

Intersection Summary			
HCM 2000 Control Delay	43.8	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.08		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	85.3%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	334	304	354	0	0	255
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	359	327	381	0	0	274
RTOR Reduction (vph)	0	220	0	0	0	0
Lane Group Flow (vph)	359	107	381	0	0	274
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	13.1	13.1	18.9			18.9
Effective Green, g (s)	13.1	13.1	18.9			18.9
Actuated g/C Ratio	0.33	0.33	0.47			0.47
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	579	912	880			880
v/s Ratio Prot	c0.20		c0.20			0.15
v/s Ratio Perm		0.04				
v/c Ratio	0.62	0.12	0.43			0.31
Uniform Delay, d1	11.3	9.4	7.0			6.5
Progression Factor	1.00	1.00	1.04			1.00
Incremental Delay, d2	2.1	0.1	1.1			0.9
Delay (s)	13.4	9.5	8.4			7.4
Level of Service	B	A	A			A
Approach Delay (s)	11.5		8.4			7.4
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	9.8	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.51		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.94	0.94			0.94	
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	436	56			312	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	92	95			97	
cM capacity (veh/h)	500	936			1168	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	604	1700	1700	1168	1700
Volume to Capacity	0.10	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	8	0	0	2	0
Control Delay (s)	11.6	0.0	0.0	0.9	0.0
Lane LOS	B			A	
Approach Delay (s)	11.6	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	0.7		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

2020 No Project PM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	124	46	168	176	201	463
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	132	49	179	187	214	493
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1099	179			366	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1099	179			366	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	32	94			82	
cM capacity (veh/h)	193	864			1193	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	181	179	187	214	493
Volume Left	132	0	0	214	0
Volume Right	49	0	187	0	0
cSH	251	1700	1700	1193	1700
Volume to Capacity	0.72	0.11	0.11	0.18	0.29
Queue Length 95th (ft)	124	0	0	16	0
Control Delay (s)	49.2	0.0	0.0	8.7	0.0
Lane LOS	E			A	
Approach Delay (s)	49.2	0.0		2.6	
Approach LOS	E				

Intersection Summary			
Average Delay	8.6		
Intersection Capacity Utilization	37.9%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	983	226	70	730	49	100	364	51	45	240	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.99			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3438			3494			3453			3450	
Flt Permitted		0.91			0.73			0.79			0.83	
Satd. Flow (perm)		3142			2569			2771			2881	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	1057	243	75	785	53	108	391	55	48	258	43
RTOR Reduction (vph)	0	33	0	0	8	0	0	6	0	0	9	0
Lane Group Flow (vph)	0	1304	0	0	905	0	0	548	0	0	340	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		33.6			33.6			16.3			16.3	
Effective Green, g (s)		33.6			33.6			16.3			16.3	
Actuated g/C Ratio		0.58			0.58			0.28			0.28	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1823			1490			780			811	
v/s Ratio Prot												
v/s Ratio Perm		c0.41			0.35			c0.20			0.12	
v/c Ratio		0.72			0.61			0.70			0.42	
Uniform Delay, d1		8.7			7.9			18.6			16.9	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.4			0.7			2.9			0.4	
Delay (s)		10.1			8.6			21.5			17.3	
Level of Service		B			A			C			B	
Approach Delay (s)		10.1			8.6			21.5			17.3	
Approach LOS		B			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	12.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	57.9	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	202	972	522	157	561	69	398	486	119	76	465	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)		5042	1583	1770	5002		1770	1863	1583		3509	
Flt Permitted		0.72	1.00	0.95	1.00		0.95	1.00	1.00		0.79	
Satd. Flow (perm)		3685	1583	1770	5002		1770	1863	1583		2775	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	217	1045	561	169	603	74	428	523	128	82	500	6
RTOR Reduction (vph)	0	0	67	0	12	0	0	0	27	0	1	0
Lane Group Flow (vph)	0	1262	494	169	665	0	428	523	101	0	587	0
Turn Type	Perm	NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)		43.0	43.0	11.0	58.0		30.0	61.0	61.0		27.5	
Effective Green, g (s)		43.0	43.0	11.0	58.0		30.0	61.0	61.0		27.5	
Actuated g/C Ratio		0.33	0.33	0.08	0.45		0.23	0.47	0.47		0.21	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1218	523	149	2231		408	874	742		587	
v/s Ratio Prot				c0.10	0.13		c0.24	0.28				
v/s Ratio Perm		c0.34	0.31						0.06		c0.21	
v/c Ratio		1.04	0.94	1.13	0.30		1.05	0.60	0.14		1.00	
Uniform Delay, d1		43.5	42.3	59.5	23.0		50.0	25.5	19.6		51.2	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		35.6	25.8	114.3	0.0		58.0	0.7	0.0		37.2	
Delay (s)		79.1	68.1	173.8	23.0		108.0	26.2	19.6		88.5	
Level of Service		E	E	F	C		F	C	B		F	
Approach Delay (s)		75.7			53.2			57.9			88.5	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	68.6	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	94.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	19	29	942	42	30	1129
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.88	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3516		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3516		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	31	1002	45	32	1201
RTOR Reduction (vph)	0	29	4	0	0	0
Lane Group Flow (vph)	20	2	1043	0	32	1201
Turn Type	NA	custom	NA		Prot	NA
Protected Phases			2 9		1	6 9
Permitted Phases	8	8	2 9			6 9
Actuated Green, G (s)	3.6	3.6	33.3		14.5	25.8
Effective Green, g (s)	3.6	3.6	33.3		14.5	25.8
Actuated g/C Ratio	0.06	0.06	0.53		0.23	0.41
Clearance Time (s)	4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	100	158	1846		404	1440
v/s Ratio Prot			c0.30		0.02	c0.34
v/s Ratio Perm	c0.01	0.00				
v/c Ratio	0.20	0.01	0.56		0.08	0.83
Uniform Delay, d1	28.5	28.2	10.2		19.2	16.9
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.0	0.4		0.1	4.3
Delay (s)	29.5	28.2	10.6		19.3	21.2
Level of Service	C	C	B		B	C
Approach Delay (s)	28.7		10.6			21.2
Approach LOS	C		B			C

Intersection Summary			
HCM 2000 Control Delay	16.6	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	63.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.2%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	102	560	183	999
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	106	583	191	1041
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1299	345			690	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1299	345			690	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			79	
cM capacity (veh/h)	121	651			901	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	71	619	538	694
Volume Left	0	0	191	0
Volume Right	0	583	0	0
cSH	1700	1700	901	1700
Volume to Capacity	0.04	0.36	0.21	0.41
Queue Length 95th (ft)	0	0	20	0
Control Delay (s)	0.0	0.0	5.3	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.3	
Approach LOS				

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	60.6%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	988	100	147	644	36	124	144	150	45	101	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3490		1770	3511		1770	1720			1783	
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00			0.50	
Satd. Flow (perm)	1770	3490		1770	3511		906	1720			895	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	39	1098	111	163	716	40	138	160	167	50	112	49
RTOR Reduction (vph)	0	8	0	0	5	0	0	51	0	0	15	0
Lane Group Flow (vph)	39	1201	0	163	751	0	138	276	0	0	196	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	6.0	47.1		6.0	47.1		16.9	16.9			16.9	
Effective Green, g (s)	6.0	47.1		6.0	47.1		16.9	16.9			16.9	
Actuated g/C Ratio	0.08	0.59		0.08	0.59		0.21	0.21			0.21	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	132	2054		132	2067		191	363			189	
v/s Ratio Prot	0.02	c0.34		c0.09	0.21			0.16				
v/s Ratio Perm							0.15				c0.22	
v/c Ratio	0.30	0.58		1.23	0.36		0.72	0.76			1.04	
Uniform Delay, d1	35.0	10.3		37.0	8.6		29.4	29.6			31.6	
Progression Factor	1.00	1.00		1.00	1.00		0.60	0.55			1.00	
Incremental Delay, d2	0.5	1.2		154.7	0.5		1.1	0.8			75.5	
Delay (s)	35.5	11.5		191.7	9.1		18.7	17.2			107.1	
Level of Service	D	B		F	A		B	B			F	
Approach Delay (s)		12.3			41.5			17.6			107.1	
Approach LOS		B			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	79.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	835	197	137	507	93	274	287	358	80	216	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3457		1770	1708			3492	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.55	1.00			0.54	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3457		1023	1708			1896	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	82	949	224	156	576	106	311	326	407	91	245	58
RTOR Reduction (vph)	0	0	133	0	22	0	0	70	0	0	0	34
Lane Group Flow (vph)	82	949	91	156	660	0	311	663	0	0	336	24
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	5.4	21.4	26.2	6.0	22.0		26.2	26.2			26.2	26.2
Effective Green, g (s)	5.4	21.4	26.2	6.0	22.0		26.2	26.2			26.2	26.2
Actuated g/C Ratio	0.08	0.33	0.41	0.09	0.34		0.41	0.41			0.41	0.41
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	147	1172	642	164	1177		414	692			768	642
v/s Ratio Prot	0.05	c0.27		c0.09	0.19			c0.39				
v/s Ratio Perm			0.06				0.30				0.18	0.01
v/c Ratio	0.56	0.81	0.14	0.95	0.56		0.75	0.96			0.44	0.04
Uniform Delay, d1	28.5	19.7	12.1	29.2	17.4		16.4	18.7			13.9	11.6
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	2.6	4.5	0.0	55.3	0.7		6.7	23.8			0.1	0.0
Delay (s)	31.0	24.2	12.1	84.5	18.1		23.1	42.5			14.0	11.6
Level of Service	C	C	B	F	B		C	D			B	B
Approach Delay (s)		22.5			30.5			36.7			13.7	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	27.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	64.6	Sum of lost time (s)	11.0
Intersection Capacity Utilization	91.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	495	53	34	21
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	510	55	35	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	565				538	538
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	565				538	538
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				93	96
cM capacity (veh/h)	1007				504	543

Direction, Lane #	WB 1	SB 1
Volume Total	538	28
Volume Left	0	18
Volume Right	27	11
cSH	1700	816
Volume to Capacity	0.32	0.03
Queue Length 95th (ft)	0	3
Control Delay (s)	0.0	12.2
Lane LOS		B
Approach Delay (s)	0.0	12.2
Approach LOS		B

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	39.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	0	67	420	111	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	71	442	117	0	0
Approach Volume (veh/h)		71	559		0	
Crossing Volume (veh/h)		0	0		442	
High Capacity (veh/h)		1385	1385		978	
High v/c (veh/h)		0.05	0.40		0.00	
Low Capacity (veh/h)		1161	1161		794	
Low v/c (veh/h)		0.06	0.48		0.00	

Intersection Summary			
Maximum v/c High	0.40		
Maximum v/c Low	0.48		
Intersection Capacity Utilization	32.2%	ICU Level of Service	A

Intersection	
Intersection Delay (sec/veh)	8.4
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	71	559	0
Demand Flow Rate (pc/h)	72	570	0
Vehicles Circulating (pc/h)	0	0	451
Vehicles Exiting (pc/h)	451	72	119
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	3.8	9.0	0.0
Approach LOS	A	A	-

Lane	Left	Left
Designated moves	LT	TR
Assumed Moves	LT	TR
Right Turn Channelized		
Lane Utilization	1.000	1.000
Critical Headway (s)	5.193	5.193
Entry Flow Rate (pc/h)	72	570
Capacity, Entry Lane (pc/h)	1130	1130
Entry HV Adjustment Factor	0.980	0.981
Flow Rate, Entry (vph)	71	559
Capacity, Entry (vph)	1108	1108
Volume to Capacity Ratio	0.064	0.504
Control Delay (sec/veh)	3.8	9.0
Level of Service	A	A
95th-Percentile Queue (veh)	0	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1195	288	80	1066	0	0	0	0	733	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.96	1.00					1.00	1.00
Satd. Flow (prot)			2787		1793	2787					1863	1583
Flt Permitted			1.00		0.96	1.00					1.00	1.00
Satd. Flow (perm)			2787		1793	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	1245	300	83	1110	0	0	0	0	764	6
RTOR Reduction (vph)	0	0	150	0	85	649	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1095	0	298	461	0	0	0	0	764	6
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			33.2		33.2	33.2					38.8	80.0
Effective Green, g (s)			33.2		33.2	33.2					38.8	80.0
Actuated g/C Ratio			0.42		0.42	0.42					0.48	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1157		744	1157					904	1583
v/s Ratio Prot											c0.41	
v/s Ratio Perm			c0.39		0.17	0.17						0.00
v/c Ratio			0.95		0.40	0.40					0.85	0.00
Uniform Delay, d1			22.5		16.4	16.4					18.0	0.0
Progression Factor			1.00		0.73	1.11					1.00	1.00
Incremental Delay, d2			15.2		0.3	0.2					9.6	0.0
Delay (s)			37.7		12.3	18.4					27.5	0.0
Level of Service			D		B	B					C	A
Approach Delay (s)		37.7			16.9			0.0			27.3	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM Average Control Delay	26.6	HCM Level of Service	C
HCM Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	110.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	111	36	1112	303	579	10	0	282
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.97		1.00	0.90			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1801		3433	1679			1617	
Flt Permitted	1.00		0.60	1.00			0.97	
Satd. Flow (perm)	1801		2175	1679			1577	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	114	37	1146	312	597	10	0	291
RTOR Reduction (vph)	0	0	0	0	0	0	72	0
Lane Group Flow (vph)	151	0	1146	909	0	0	229	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	11.8		60.2	60.2			60.2	
Effective Green, g (s)	11.8		60.2	60.2			60.2	
Actuated g/C Ratio	0.15		0.75	0.75			0.75	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	265		1636	1263			1186	
v/s Ratio Prot	c0.08			c0.54				
v/s Ratio Perm			0.53				0.15	
v/c Ratio	0.57		0.70	0.72			0.19	
Uniform Delay, d1	31.7		5.2	5.3			2.9	
Progression Factor	1.00		1.00	1.00			2.29	
Incremental Delay, d2	2.8		2.5	3.6			0.1	
Delay (s)	34.5		7.7	8.9			6.6	
Level of Service	C		A	A			A	
Approach Delay (s)	34.5			8.2			6.6	
Approach LOS	C			A			A	

Intersection Summary			
HCM 2000 Control Delay	9.6	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.69		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	27	1867	39	264	0	2012
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	28	1905	40	0	0	2053
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	2952	972			0	1945	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	2952	972			0	1945	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	89			0	100	
cM capacity (veh/h)	11	252			0	297	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	1270	655	0	1027	1027
Volume Left	0	0	0	0	0	0
Volume Right	28	0	20	0	0	0
cSH	252	1700	1700	1700	1700	1700
Volume to Capacity	0.11	0.75	0.39	0.00	0.60	0.60
Queue Length 95th (ft)	9	0	0	0	0	0
Control Delay (s)	21.0	0.0	0.0	0.0	0.0	0.0
Lane LOS	C					
Approach Delay (s)	21.0	0.0		0.0		
Approach LOS	C					

Intersection Summary			
Average Delay	0.1		
Intersection Capacity Utilization	80.8%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	200	356	78	83	152	370	27	47	843	110	89	991
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.98			0.98
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3271		1441	1770	3504			3473			3467
Flt Permitted		0.67		1.00	0.23	1.00			0.80			0.72
Satd. Flow (perm)		2220		1441	427	3504			2770			2494
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	211	375	82	87	160	389	28	49	887	116	94	1043
RTOR Reduction (vph)	0	1	0	17	0	6	0	0	0	0	0	11
Lane Group Flow (vph)	0	676	0	61	160	411	0	0	1052	0	0	1269
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		28.3		28.3	28.3	28.3			52.2			52.2
Effective Green, g (s)		28.3		28.3	28.3	28.3			52.2			52.2
Actuated g/C Ratio		0.31		0.31	0.31	0.31			0.58			0.58
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		698		453	134	1103			1608			1448
v/s Ratio Prot						0.12						
v/s Ratio Perm		0.30		0.04	c0.37				0.38			c0.51
v/c Ratio		0.97		0.13	1.19	0.37			0.65			0.88
Uniform Delay, d1		30.4		22.0	30.8	23.9			12.7			16.1
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		26.2		0.1	139.2	0.2			1.0			6.3
Delay (s)		56.6		22.2	170.0	24.1			13.7			22.4
Level of Service		E		C	F	C			B			C
Approach Delay (s)		53.0				64.6			13.7			22.4
Approach LOS		D				E			B			C

Intersection Summary			
HCM 2000 Control Delay	32.8	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	89.9	Sum of lost time (s)	9.4
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	136
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	143
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	93	961	93	80	640	125	27	637	112	28	352	76
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3492		1770	3452			3457			3440	
Flt Permitted	0.95	1.00		0.95	1.00			0.93			0.85	
Satd. Flow (perm)	1770	3492		1770	3452			3208			2942	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	96	991	96	82	660	129	28	657	115	29	363	78
RTOR Reduction (vph)	0	7	0	0	18	0	0	10	0	0	12	0
Lane Group Flow (vph)	96	1080	0	82	771	0	0	790	0	0	458	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.3	37.2		7.9	39.8			30.8			30.8	
Effective Green, g (s)	5.3	37.2		7.9	39.8			30.8			30.8	
Actuated g/C Ratio	0.06	0.42		0.09	0.45			0.35			0.35	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	106	1477		159	1563			1124			1030	
v/s Ratio Prot	c0.05	c0.31		0.05	c0.22							
v/s Ratio Perm								c0.25			0.16	
v/c Ratio	0.91	0.73		0.52	0.49			0.70			0.44	
Uniform Delay, d1	41.1	21.2		38.2	16.9			24.6			22.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	57.9	1.9		2.8	0.2			2.0			0.3	
Delay (s)	99.0	23.1		41.0	17.2			26.6			22.3	
Level of Service	F	C		D	B			C			C	
Approach Delay (s)		29.2			19.4			26.6			22.3	
Approach LOS		C			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	25.1	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.71		
Actuated Cycle Length (s)	87.9	Sum of lost time (s)	12.0
Intersection Capacity Utilization	82.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	433	577	137	313	86	312	599	183	58	417	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	1863	2787	1770	3424		1610	3382	1583		3476	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	1863	2787	1770	3424		1610	3382	1583		3476	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	207	476	634	151	344	95	343	658	201	64	458	47
RTOR Reduction (vph)	0	0	439	0	29	0	0	0	122	0	7	0
Lane Group Flow (vph)	207	476	195	151	410	0	309	692	79	0	562	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	20.0	27.0	27.0	9.0	16.0		20.0	20.0	20.0		15.8	
Effective Green, g (s)	20.0	27.0	27.0	9.0	16.0		20.0	20.0	20.0		15.8	
Actuated g/C Ratio	0.23	0.31	0.31	0.10	0.18		0.23	0.23	0.23		0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	403	572	857	181	623		366	770	360		625	
v/s Ratio Prot	0.12	c0.26		c0.09	0.12		0.19	c0.20			c0.16	
v/s Ratio Perm			0.07						0.05			
v/c Ratio	0.51	0.83	0.23	0.83	0.66		0.84	0.90	0.22		0.90	
Uniform Delay, d1	29.6	28.3	22.6	38.7	33.4		32.4	32.9	27.6		35.2	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	1.1	10.0	0.1	26.8	2.5		16.1	13.2	0.3		15.7	
Delay (s)	30.8	38.3	22.8	65.5	35.9		48.5	46.2	27.9		50.9	
Level of Service	C	D	C	E	D		D	D	C		D	
Approach Delay (s)		29.6			43.4			43.7			50.9	
Approach LOS		C			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	39.7	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	87.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	75.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	34	29	239	1	422	8	609	175	641	500	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.94			1.00	0.85		0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.98	
Satd. Flow (prot)		1749			1774	1583		3420		1610	3330	
Flt Permitted		0.97			0.75	1.00		0.95		0.95	0.54	
Satd. Flow (perm)		1711			1392	1583		3240		1610	1817	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	35	30	249	1	440	8	634	182	668	521	3
RTOR Reduction (vph)	0	22	0	0	0	247	0	29	0	0	0	0
Lane Group Flow (vph)	0	49	0	0	250	193	0	795	0	387	805	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		22.1			22.1	22.1		32.0		13.4	49.4	
Effective Green, g (s)		22.1			22.1	22.1		32.0		13.4	49.4	
Actuated g/C Ratio		0.28			0.28	0.28		0.40		0.17	0.62	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		473			385	437		1296		270	1375	
v/s Ratio Prot										c0.24	0.10	
v/s Ratio Perm		0.03			c0.18	0.12		c0.25			0.26	
v/c Ratio		0.10			0.65	0.44		0.61		1.43	0.59	
Uniform Delay, d1		21.6			25.5	23.9		19.1		33.3	9.2	
Progression Factor		1.00			1.00	1.00		1.00		0.73	0.73	
Incremental Delay, d2		0.1			3.8	0.7		2.2		208.9	0.4	
Delay (s)		21.7			29.3	24.6		21.3		233.4	7.1	
Level of Service		C			C	C		C		F	A	
Approach Delay (s)		21.7			26.3			21.3			80.6	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM Average Control Delay	48.0	HCM Level of Service	D
HCM Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	74.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	217	117	58	81	46	14	240	532	396	16	502	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.99		1.00	0.94		1.00	0.95	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1776			1786		1770	1743		1770	1779	
Flt Permitted		0.75			0.69		0.12	1.00		0.10	1.00	
Satd. Flow (perm)		1377			1273		222	1743		190	1779	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	228	123	61	85	48	15	253	560	417	17	528	227
RTOR Reduction (vph)	0	8	0	0	5	0	0	30	0	0	19	0
Lane Group Flow (vph)	0	404	0	0	143	0	253	947	0	17	736	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.1			21.1		51.3	46.3		40.3	39.3	
Effective Green, g (s)		21.1			21.1		51.3	46.3		40.3	39.3	
Actuated g/C Ratio		0.26			0.26		0.64	0.58		0.50	0.49	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		361			334		295	1003		114	869	
v/s Ratio Prot							c0.09	c0.54		0.00	0.41	
v/s Ratio Perm		c0.29			0.11		0.46			0.07		
v/c Ratio		1.12			0.43		0.86	0.94		0.15	0.85	
Uniform Delay, d1		29.7			24.6		16.9	15.8		15.6	17.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		83.5			0.9		21.0	16.5		0.6	7.6	
Delay (s)		113.2			25.5		37.9	32.4		16.2	25.6	
Level of Service		F			C		D	C		B	C	
Approach Delay (s)		113.2			25.5			33.5			25.4	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	43.4	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.02		
Actuated Cycle Length (s)	80.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	258	101	429	8	3	147	0	572	27	113	530	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.87			0.99		1.00	0.99	
Flt Protected		0.97	1.00		1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1798	1583		1624			3515		1770	1841	
Flt Permitted		0.65	1.00		0.98			1.00		0.34	1.00	
Satd. Flow (perm)		1206	1583		1598			3515		642	1841	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	266	104	442	8	3	152	0	590	28	116	546	45
RTOR Reduction (vph)	0	0	178	0	98	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	370	264	0	65	0	0	615	0	116	588	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		35.8	35.8		35.8			43.9		56.2	56.2	
Effective Green, g (s)		35.8	35.8		35.8			43.9		56.2	56.2	
Actuated g/C Ratio		0.36	0.36		0.36			0.44		0.56	0.56	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		432	567		572			1543		454	1035	
v/s Ratio Prot								0.17		0.02	c0.32	
v/s Ratio Perm		c0.31	0.17		0.04					0.12		
v/c Ratio		0.86	0.46		0.11			0.40		0.26	0.57	
Uniform Delay, d1		29.7	24.7		21.5			19.1		16.0	14.1	
Progression Factor		1.00	1.00		1.00			1.00		0.72	0.68	
Incremental Delay, d2		15.3	0.6		0.1			0.8		0.2	1.4	
Delay (s)		45.0	25.3		21.6			19.8		11.7	11.0	
Level of Service		D	C		C			B		B	B	
Approach Delay (s)		34.3			21.6			19.8			11.1	
Approach LOS		C			C			B			B	

Intersection Summary			
HCM Average Control Delay	22.4	HCM Level of Service	C
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	76.8%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	404	104	584	247	65	964
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3381		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3381		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	421	108	608	257	68	1004
RTOR Reduction (vph)	0	71	71	0	0	0
Lane Group Flow (vph)	421	37	794	0	68	1004
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	17.1	17.1	19.6		2.9	26.5
Effective Green, g (s)	17.1	17.1	19.6		2.9	26.5
Actuated g/C Ratio	0.34	0.34	0.40		0.06	0.53
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	610	545	1336		103	1890
v/s Ratio Prot	c0.24		c0.23		0.04	c0.28
v/s Ratio Perm		0.02				
v/c Ratio	0.69	0.07	0.59		0.66	0.53
Uniform Delay, d1	14.0	10.9	11.9		22.9	7.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	3.4	0.1	0.7		14.7	0.3
Delay (s)	17.3	11.0	12.6		37.6	7.8
Level of Service	B	B	B		D	A
Approach Delay (s)	16.0		12.6			9.7
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	12.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	49.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	61.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	162	178	37	96	227	146	28	509	160	316	770	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1819	1583		1766		1770	3539	1583	1770	3389	
Flt Permitted		0.59	1.00		0.81		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1106	1583		1448		1770	3539	1583	1770	3389	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	167	184	38	99	234	151	29	525	165	326	794	313
RTOR Reduction (vph)	0	0	24	0	27	0	0	0	67	0	58	0
Lane Group Flow (vph)	0	351	14	0	457	0	29	525	98	326	1049	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		20.7	20.7		20.7		1.3	17.2	17.2	7.4	23.3	
Effective Green, g (s)		20.7	20.7		20.7		1.3	17.2	17.2	7.4	23.3	
Actuated g/C Ratio		0.38	0.38		0.38		0.02	0.32	0.32	0.14	0.43	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		421	603		552		42	1121	501	241	1454	
v/s Ratio Prot							0.02	0.15		c0.18	c0.31	
v/s Ratio Perm		c0.32	0.01		0.32				0.06			
v/c Ratio		0.83	0.02		0.83		0.69	0.47	0.20	1.35	0.72	
Uniform Delay, d1		15.2	10.5		15.2		26.3	14.9	13.5	23.4	12.8	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		13.3	0.0		9.9		39.1	0.3	0.2	183.5	1.8	
Delay (s)		28.5	10.5		25.1		65.4	15.2	13.7	206.9	14.6	
Level of Service		C	B		C		E	B	B	F	B	
Approach Delay (s)		26.7			25.1			16.9			58.4	
Approach LOS		C			C			B			E	

Intersection Summary			
HCM 2000 Control Delay	39.1	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	54.3	Sum of lost time (s)	9.0
Intersection Capacity Utilization	92.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	312	1289	105	170	978	107	331	434	138	64	470	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3499		1770	3487		1770	3411		1770	3406	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3499		1770	3487		1770	3411		1770	3406	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	322	1329	108	175	1008	110	341	447	142	66	485	163
RTOR Reduction (vph)	0	5	0	0	7	0	0	23	0	0	25	0
Lane Group Flow (vph)	322	1432	0	175	1111	0	341	566	0	66	623	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	23.0	53.5		13.0	43.5		24.0	40.1		7.7	23.8	
Effective Green, g (s)	23.0	53.5		13.0	43.5		24.0	40.1		7.7	23.8	
Actuated g/C Ratio	0.18	0.41		0.10	0.33		0.18	0.31		0.06	0.18	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	311	1431		175	1159		324	1045		104	619	
v/s Ratio Prot	c0.18	c0.41		0.10	0.32		c0.19	0.17		0.04	c0.18	
v/s Ratio Perm												
v/c Ratio	1.04	1.00		1.00	0.96		1.05	0.54		0.63	1.01	
Uniform Delay, d1	53.9	38.7		58.9	42.8		53.4	37.7		60.2	53.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	60.5	24.0		68.0	17.2		64.4	0.6		12.0	37.6	
Delay (s)	114.4	62.7		126.9	60.0		117.8	38.3		72.2	91.1	
Level of Service	F	E		F	E		F	D		E	F	
Approach Delay (s)		72.1			69.1			67.5			89.4	
Approach LOS		E			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	73.0	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	130.8	Sum of lost time (s)	16.5
Intersection Capacity Utilization	98.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	1146	55	119	999	176	71	665	89	75	378	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3515		1770	3460			3467			3411	
Flt Permitted	0.12	1.00		0.11	1.00			0.81			0.65	
Satd. Flow (perm)	214	3515		200	3460			2816			2240	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	1246	60	129	1086	191	77	723	97	82	411	122
RTOR Reduction (vph)	0	4	0	0	18	0	0	12	0	0	27	0
Lane Group Flow (vph)	141	1302	0	129	1259	0	0	885	0	0	588	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Effective Green, g (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	108	1779		101	1751			1091			868	
v/s Ratio Prot		0.37			0.36							
v/s Ratio Perm	c0.66			0.65				c0.31			0.26	
v/c Ratio	1.31	0.73		1.28	0.72			0.81			0.68	
Uniform Delay, d1	19.8	15.5		19.8	15.3			21.9			20.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	189.2	1.6		181.3	1.4			6.6			4.2	
Delay (s)	209.0	17.1		201.0	16.8			28.5			24.6	
Level of Service	F	B		F	B			C			C	
Approach Delay (s)		35.8			33.7			28.5			24.6	
Approach LOS		D			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	107.9%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	136	367	61	628	73	35	520	34	94	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.98			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4943		3484			3528	1770	1583	
Flt Permitted		0.99		1.00			0.88	0.95	1.00	
Satd. Flow (perm)		4943		3484			3115	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	148	399	66	683	79	38	565	37	102	42
RTOR Reduction (vph)	0	0	0	17	0	0	0	0	77	0
Lane Group Flow (vph)	0	613	0	745	0	0	603	37	67	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		13.6		19.2			19.2	8.3	8.3	
Effective Green, g (s)		13.6		19.2			19.2	8.3	8.3	
Actuated g/C Ratio		0.26		0.36			0.36	0.16	0.16	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		1266		1259			1126	276	247	
v/s Ratio Prot				c0.21				0.02		
v/s Ratio Perm		0.12					0.19		c0.04	
v/c Ratio		0.48		0.59			0.54	0.13	0.27	
Uniform Delay, d1		16.8		13.8			13.4	19.3	19.7	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.3		0.8			0.5	0.2	0.6	
Delay (s)		17.1		14.5			13.9	19.5	20.3	
Level of Service		B		B			B	B	C	
Approach Delay (s)		17.1		14.5			13.9	20.2		
Approach LOS		B		B			B	C		

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	53.1	Sum of lost time (s)	12.0
Intersection Capacity Utilization	67.9%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	721	180	118	626	121	146	477	110	86	467	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.98			0.98			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3430			3442			3425			3449	
Flt Permitted		0.85			0.62			0.66			0.70	
Satd. Flow (perm)		2931			2159			2277			2426	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	759	189	124	659	127	154	502	116	91	492	83
RTOR Reduction (vph)	0	37	0	0	24	0	0	26	0	0	20	0
Lane Group Flow (vph)	0	968	0	0	886	0	0	746	0	0	646	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		24.0			24.0			19.5			19.5	
Effective Green, g (s)		24.0			24.0			19.5			19.5	
Actuated g/C Ratio		0.45			0.45			0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1314			968			829			884	
v/s Ratio Prot												
v/s Ratio Perm		0.33			c0.41			c0.33			0.27	
v/c Ratio		0.74			0.92			0.90			0.73	
Uniform Delay, d1		12.1			13.8			16.1			14.7	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		2.2			12.9			12.6			3.1	
Delay (s)		14.3			26.7			28.6			17.9	
Level of Service		B			C			C			B	
Approach Delay (s)		14.3			26.7			28.6			17.9	
Approach LOS		B			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	21.7	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	53.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	107.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	504	412	287	466	513	95	30	572	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		0.97	0.95	
Frt				1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1748		3433	3456		3433	3454	
Flt Permitted				0.95	1.00		0.20	1.00		0.41	1.00	
Satd. Flow (perm)				1770	1748		712	3456		1487	3454	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	525	429	299	485	534	99	31	596	114
RTOR Reduction (vph)	0	0	0	0	39	0	0	24	0	0	25	0
Lane Group Flow (vph)	0	0	0	525	689	0	485	609	0	31	685	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)				27.1	27.1		27.8	27.8		15.8	15.8	
Effective Green, g (s)				27.1	27.1		27.8	27.8		15.8	15.8	
Actuated g/C Ratio				0.42	0.42		0.44	0.44		0.25	0.25	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				750	741		629	1503		367	854	
v/s Ratio Prot					c0.39		c0.09	0.18			0.20	
v/s Ratio Perm				0.30			c0.24			0.02		
v/c Ratio				0.70	0.93		0.77	0.41		0.08	0.80	
Uniform Delay, d1				15.1	17.5		13.6	12.4		18.5	22.6	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				2.9	18.2		5.8	0.2		0.1	5.5	
Delay (s)				17.9	35.7		19.4	12.6		18.6	28.1	
Level of Service				B	D		B	B		B	C	
Approach Delay (s)		0.0			28.3			15.5			27.7	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	23.5	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	63.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	83.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	482	0	24	0	143	13	836	405	285	467	371
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91		1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00		1.00		0.85		0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3387		1770		1583		3366		3433	3304	
Flt Permitted	0.95	1.00		0.32		1.00		0.94		0.11	1.00	
Satd. Flow (perm)	1610	3387		589		1583		3177		388	3304	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	507	0	25	0	151	14	880	426	300	492	391
RTOR Reduction (vph)	0	0	0	0	0	113	0	57	0	0	149	0
Lane Group Flow (vph)	84	516	0	25	0	38	0	1263	0	300	734	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	17.1	17.1		17.1		17.1		33.8		42.4	42.4	
Effective Green, g (s)	17.1	17.1		17.1		17.1		33.8		42.4	42.4	
Actuated g/C Ratio	0.25	0.25		0.25		0.25		0.49		0.62	0.62	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	401	845		147		395		1567		466	2045	
v/s Ratio Prot										c0.05	0.22	
v/s Ratio Perm	0.05	0.15		0.04		0.02		c0.40		0.35		
v/c Ratio	0.21	0.61		0.17		0.10		0.81		0.64	0.36	
Uniform Delay, d1	20.3	22.8		20.1		19.8		14.6		10.3	6.4	
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.3	1.3		0.6		0.1		3.1		3.0	0.1	
Delay (s)	20.6	24.1		20.7		19.9		17.7		13.3	6.5	
Level of Service	C	C		C		B		B		B	A	
Approach Delay (s)		23.6			20.0			17.7			8.2	
Approach LOS		C			B			B			A	

Intersection Summary			
HCM 2000 Control Delay	15.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	68.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	178	331	88	4	220	258	66	469	12	283	576	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.97			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1804			3536	1583		1846		1770	1766	1504
Flt Permitted	0.59	1.00			0.95	1.00		0.87		0.95	1.00	1.00
Satd. Flow (perm)	1103	1804			3361	1583		1612		1770	1766	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	185	345	92	4	229	269	69	489	12	295	600	92
RTOR Reduction (vph)	0	0	0	0	0	179	0	1	0	0	14	27
Lane Group Flow (vph)	185	437	0	0	233	90	0	569	0	295	595	56
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	28.8	28.8			28.8	28.8		35.8		11.1	49.9	49.9
Effective Green, g (s)	28.8	28.8			28.8	28.8		35.8		11.1	49.9	49.9
Actuated g/C Ratio	0.33	0.33			0.33	0.33		0.42		0.13	0.58	0.58
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	369	604			1125	530		671		228	1024	872
v/s Ratio Prot		c0.24								c0.17	0.34	
v/s Ratio Perm	0.17				0.07	0.06		c0.35				0.04
v/c Ratio	0.50	0.72			0.21	0.17		0.85		1.29	0.58	0.06
Uniform Delay, d1	22.9	25.1			20.4	20.2		22.7		37.5	11.4	7.9
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	4.3			0.1	0.2		9.8		160.8	0.8	0.0
Delay (s)	23.9	29.4			20.5	20.3		32.4		198.3	12.3	7.9
Level of Service	C	C			C	C		C		F	B	A
Approach Delay (s)		27.8			20.4			32.4			67.5	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	14.4
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	178	331	88	4	220	258	66	469	12	283	576	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.97			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1804			3536	1583		1846		1770	1766	1504
Flt Permitted	0.59	1.00			0.95	1.00		0.87		0.95	1.00	1.00
Satd. Flow (perm)	1103	1804			3361	1583		1612		1770	1766	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	185	345	92	4	229	269	69	489	12	295	600	92
RTOR Reduction (vph)	0	0	0	0	0	179	0	1	0	0	14	27
Lane Group Flow (vph)	185	437	0	0	233	90	0	569	0	295	595	56
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	28.8	28.8			28.8	28.8		35.8		11.1	49.9	49.9
Effective Green, g (s)	28.8	28.8			28.8	28.8		35.8		11.1	49.9	49.9
Actuated g/C Ratio	0.33	0.33			0.33	0.33		0.42		0.13	0.58	0.58
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	369	604			1125	530		671		228	1024	872
v/s Ratio Prot		c0.24								c0.17	0.34	
v/s Ratio Perm	0.17				0.07	0.06		c0.35				0.04
v/c Ratio	0.50	0.72			0.21	0.17		0.85		1.29	0.58	0.06
Uniform Delay, d1	22.9	25.1			20.4	20.2		22.7		37.5	11.4	7.9
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.1	4.3			0.1	0.2		9.8		160.8	0.8	0.0
Delay (s)	23.9	29.4			20.5	20.3		32.4		198.3	12.3	7.9
Level of Service	C	C			C	C		C		F	B	A
Approach Delay (s)		27.8			20.4			32.4			67.5	
Approach LOS		C			C			C			E	

Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.92		
Actuated Cycle Length (s)	86.0	Sum of lost time (s)	14.4
Intersection Capacity Utilization	103.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	124	0	0	28	0	0	916	169	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	143	0	0	32	0	0	1053	194	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1166	1247	0	1124	1053	1053	0			1247		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1166	1247	0	1124	1053	1053	0			1247		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	18	100	100	86	100	100			100		
cM capacity (veh/h)	152	173	1085	57	226	275	1623			558		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	143	32	624
Volume Left	0	0	0
Volume Right	0	0	97
cSH	173	226	1700
Volume to Capacity	0.82	0.14	0.37
Queue Length 95th (ft)	141	12	0
Control Delay (s)	82.0	23.5	0.0
Lane LOS	F	C	
Approach Delay (s)	82.0	23.5	0.0
Approach LOS	F	C	

Intersection Summary			
Average Delay	15.6		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	946	161	0	0	167	57
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1006	171	0	0	178	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1178		1092	1092
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1178		1092	1092
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		25	77
cM capacity (veh/h)			593		237	261

Direction, Lane #	EB 1	NB 1
Volume Total	1178	238
Volume Left	0	178
Volume Right	171	61
cSH	1700	281
Volume to Capacity	0.69	0.85
Queue Length 95th (ft)	0	179
Control Delay (s)	0.0	61.6
Lane LOS		F
Approach Delay (s)	0.0	61.6
Approach LOS		F

Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	141	481	317	11	543	0	0	509	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	4.0
Lane Util. Factor					0.95	1.00		1.00			1.00	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3499	1583		1861			1863	1583
Flt Permitted					0.99	1.00		0.99			1.00	1.00
Satd. Flow (perm)					3499	1583		1843			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	152	517	341	12	584	0	0	547	267
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	669	341	0	596	0	0	547	267
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					21.6	80.0		50.4			50.4	80.0
Effective Green, g (s)					21.6	80.0		50.4			50.4	80.0
Actuated g/C Ratio					0.27	1.00		0.63			0.63	1.00
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					945	1583		1161			1174	1583
v/s Ratio Prot											0.29	
v/s Ratio Perm					0.19	0.22		c0.32				0.17
v/c Ratio					0.71	0.22		0.51			0.47	0.17
Uniform Delay, d1					26.4	0.0		8.1			7.8	0.0
Progression Factor					1.00	1.00		2.27			1.00	1.00
Incremental Delay, d2					2.4	0.3		1.6			1.3	0.2
Delay (s)					28.8	0.3		20.0			9.1	0.2
Level of Service					C	A		B			A	A
Approach Delay (s)		0.0			19.2			20.0			6.2	
Approach LOS		A			B			B			A	

Intersection Summary			
HCM Average Control Delay	15.0	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.5%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	350	503	0	0	403	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.95			1.00	
Frt		1.00			1.00	
Flt Protected		0.98			0.95	
Satd. Flow (prot)		3468			1770	
Flt Permitted		0.98			0.95	
Satd. Flow (perm)		3468			1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	376	541	0	0	433	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	917	0	0	433	0
Turn Type	Perm	NA			NA	
Protected Phases		4			6	
Permitted Phases	4					
Actuated Green, G (s)		30.6			41.4	
Effective Green, g (s)		30.6			41.4	
Actuated g/C Ratio		0.38			0.52	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1327			916	
v/s Ratio Prot					c0.24	
v/s Ratio Perm		0.26				
v/c Ratio		0.69			0.47	
Uniform Delay, d1		20.7			12.3	
Progression Factor		1.00			0.66	
Incremental Delay, d2		1.6			1.6	
Delay (s)		22.3			9.6	
Level of Service		C			A	
Approach Delay (s)		22.3	0.0		9.6	
Approach LOS		C	A		A	

Intersection Summary			
HCM Average Control Delay	18.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.57		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	635	528	918	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	683	568	987	269
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	683	568	987	269
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			14.1	55.2	33.1	55.2
Effective Green, g (s)			14.1	55.2	33.1	55.2
Actuated g/C Ratio			0.26	1.00	0.60	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			876	1863	1117	1583
v/s Ratio Prot			0.20	c0.30	c0.53	
v/s Ratio Perm						0.17
v/c Ratio			0.78	0.30	0.88	0.17
Uniform Delay, d1			19.1	0.0	9.4	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			4.4	0.1	8.5	0.2
Delay (s)			23.5	0.1	17.9	0.2
Level of Service			C	A	B	A
Approach Delay (s)	0.0			12.9	14.1	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	13.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.98		
Actuated Cycle Length (s)	55.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	73.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	463	668	320	0	0	322
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	498	718	344	0	0	346
RTOR Reduction (vph)	0	382	0	0	0	0
Lane Group Flow (vph)	498	336	344	0	0	346
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	15.8	15.8	16.2			16.2
Effective Green, g (s)	15.8	15.8	16.2			16.2
Actuated g/C Ratio	0.40	0.40	0.40			0.40
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	699	1100	754			754
v/s Ratio Prot	c0.28		0.18			c0.19
v/s Ratio Perm		0.12				
v/c Ratio	0.71	0.31	0.46			0.46
Uniform Delay, d1	10.2	8.3	8.7			8.7
Progression Factor	1.00	1.00	1.06			1.00
Incremental Delay, d2	3.4	0.2	1.4			2.0
Delay (s)	13.6	8.5	10.6			10.7
Level of Service	B	A	B			B
Approach Delay (s)	10.6		10.6			10.7
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	10.6	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	49.3%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.94					
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	729	240			479	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	94			97	
cM capacity (veh/h)	324	761			1079	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	412	1700	1700	1079	1700
Volume to Capacity	0.15	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	13	0	0	2	0
Control Delay (s)	15.2	0.0	0.0	0.9	0.0
Lane LOS	C			A	
Approach Delay (s)	15.2	0.0		0.3	
Approach LOS	C				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

2020 With Project AM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	164	72	183	74	100	345
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	174	77	195	79	106	367
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	774	195			273	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	774	195			273	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	48	91			92	
cM capacity (veh/h)	336	847			1290	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	251	195	79	106	367
Volume Left	174	0	0	106	0
Volume Right	77	0	79	0	0
cSH	448	1700	1700	1290	1700
Volume to Capacity	0.56	0.11	0.05	0.08	0.22
Queue Length 95th (ft)	84	0	0	7	0
Control Delay (s)	22.8	0.0	0.0	8.0	0.0
Lane LOS	C			A	
Approach Delay (s)	22.8	0.0		1.8	
Approach LOS	C				

Intersection Summary			
Average Delay	6.6		
Intersection Capacity Utilization	34.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	558	179	127	825	32	108	206	36	22	382	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.96			1.00			0.98			0.99	
Flt Protected		1.00			0.99			0.98			1.00	
Satd. Flow (prot)		3409			3499			3432			3491	
Flt Permitted		0.91			0.74			0.68			0.93	
Satd. Flow (perm)		3117			2594			2385			3237	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	600	192	137	887	34	116	222	39	24	411	35
RTOR Reduction (vph)	0	10	0	0	4	0	0	6	0	0	4	0
Lane Group Flow (vph)	0	806	0	0	1054	0	0	371	0	0	466	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		30.2			30.2			16.3			16.3	
Effective Green, g (s)		30.2			30.2			16.3			16.3	
Actuated g/C Ratio		0.55			0.55			0.30			0.30	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1727			1437			713			968	
v/s Ratio Prot												
v/s Ratio Perm		0.26			c0.41			c0.16			0.14	
v/c Ratio		0.47			0.73			0.52			0.48	
Uniform Delay, d1		7.3			9.1			15.9			15.6	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			2.0			0.6			0.4	
Delay (s)		7.5			11.1			16.5			16.0	
Level of Service		A			B			B			B	
Approach Delay (s)		7.5			11.1			16.5			16.0	
Approach LOS		A			B			B			B	

Intersection Summary			
HCM 2000 Control Delay	11.6	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	54.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	84.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	583	389	200	1066	68	339	285	40	17	637	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	5040		1770	1863	1583		3504	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.94	
Satd. Flow (perm)		5085	1583	1770	5040		1770	1863	1583		3301	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	627	418	215	1146	73	365	306	43	18	685	43
RTOR Reduction (vph)	0	0	115	0	6	0	0	0	22	0	4	0
Lane Group Flow (vph)	0	627	303	215	1213	0	365	306	21	0	742	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		25.4	25.4	15.2	44.6		21.3	52.8	52.8		28.0	
Effective Green, g (s)		25.4	25.4	15.2	44.6		21.3	52.8	52.8		28.0	
Actuated g/C Ratio		0.23	0.23	0.14	0.41		0.20	0.49	0.49		0.26	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1191	370	248	2073		347	907	771		852	
v/s Ratio Prot		0.12		c0.12	0.24		c0.21	0.16				
v/s Ratio Perm			c0.19						0.01		c0.22	
v/c Ratio		0.53	0.82	0.87	0.59		1.05	0.34	0.03		0.87	
Uniform Delay, d1		36.2	39.3	45.6	24.7		43.6	17.1	14.5		38.5	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		0.2	12.6	25.0	0.3		62.6	0.1	0.0		9.4	
Delay (s)		36.4	51.9	70.6	25.0		106.1	17.1	14.5		47.9	
Level of Service		D	D	E	C		F	B	B		D	
Approach Delay (s)		42.6			31.8			62.5			47.9	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	43.3	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	108.4	Sum of lost time (s)	18.5
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	18	1074	23	26	1222
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.88	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3528		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3528		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	13	19	1143	24	28	1300
RTOR Reduction (vph)	0	18	2	0	0	0
Lane Group Flow (vph)	13	1	1165	0	28	1300
Turn Type	NA	custom	NA		Prot	NA
Protected Phases			2 9		1	6 9
Permitted Phases	8	8	2 9			6 9
Actuated Green, G (s)	2.3	2.3	34.4		14.4	25.6
Effective Green, g (s)	2.3	2.3	34.4		14.4	25.6
Actuated g/C Ratio	0.04	0.04	0.55		0.23	0.41
Clearance Time (s)	4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	64	101	1923		403	1435
v/s Ratio Prot			c0.33		0.02	c0.37
v/s Ratio Perm	c0.01	0.00				
v/c Ratio	0.20	0.01	0.61		0.07	0.91
Uniform Delay, d1	29.5	29.3	9.7		19.1	17.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.6	0.0	0.5		0.1	8.5
Delay (s)	31.1	29.3	10.3		19.2	26.1
Level of Service	C	C	B		B	C
Approach Delay (s)	30.0		10.3			25.9
Approach LOS	C		B			C

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	63.1	Sum of lost time (s)	16.0
Intersection Capacity Utilization	43.8%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	198	457	59	633
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	206	476	61	659
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	897	341			682	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	897	341			682	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			93	
cM capacity (veh/h)	260	655			906	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	138	545	281	440
Volume Left	0	0	61	0
Volume Right	0	476	0	0
cSH	1700	1700	906	1700
Volume to Capacity	0.08	0.32	0.07	0.26
Queue Length 95th (ft)	0	0	5	0
Control Delay (s)	0.0	0.0	2.6	0.0
Lane LOS			A	
Approach Delay (s)	0.0		1.0	
Approach LOS				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	42	616	106	290	875	40	133	121	125	65	167	38
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	0.99		1.00	0.92			0.98	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3461		1770	3516		1770	1720			1806	
Flt Permitted	0.95	1.00		0.95	1.00		0.45	1.00			0.72	
Satd. Flow (perm)	1770	3461		1770	3516		835	1720			1314	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	47	684	118	322	972	44	148	134	139	72	186	42
RTOR Reduction (vph)	0	22	0	0	5	0	0	67	0	0	11	0
Lane Group Flow (vph)	47	780	0	322	1011	0	148	206	0	0	289	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	12.0	23.1		12.0	23.1		14.9	14.9			14.9	
Effective Green, g (s)	12.0	23.1		12.0	23.1		14.9	14.9			14.9	
Actuated g/C Ratio	0.20	0.39		0.20	0.39		0.25	0.25			0.25	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	354	1332		354	1353		207	427			326	
v/s Ratio Prot	0.03	0.23		c0.18	c0.29			0.12				
v/s Ratio Perm							0.18				c0.22	
v/c Ratio	0.13	0.59		0.91	0.75		0.71	0.48			0.89	
Uniform Delay, d1	19.7	14.7		23.5	15.9		20.6	19.3			21.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	1.9		25.7	3.8		9.4	0.3			23.4	
Delay (s)	19.8	16.5		49.2	19.7		30.0	19.6			45.2	
Level of Service	B	B		D	B		C	B			D	
Approach Delay (s)		16.7			26.8			23.2			45.2	
Approach LOS		B			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	25.2	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.83		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	27	511	136	119	760	65	195	235	172	47	294	102
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3497		1770	1745			3515	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.46	1.00			0.61	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3497		857	1745			2155	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	31	581	155	135	864	74	222	267	195	53	334	116
RTOR Reduction (vph)	0	0	114	0	7	0	0	33	0	0	0	77
Lane Group Flow (vph)	31	581	41	135	931	0	222	429	0	0	387	39
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	2.0	39.5	21.0	8.5	46.0		21.0	21.0			21.0	21.0
Effective Green, g (s)	2.0	39.5	21.0	8.5	46.0		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.02	0.49	0.26	0.11	0.58		0.26	0.26			0.26	0.26
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	44	1747	415	188	2010		224	458			565	415
v/s Ratio Prot	0.02	c0.16		c0.08	c0.27			0.25				
v/s Ratio Perm			0.03				c0.26				0.18	0.02
v/c Ratio	0.70	0.33	0.10	0.72	0.46		0.99	0.94			0.68	0.09
Uniform Delay, d1	38.7	12.3	22.3	34.6	9.8		29.4	28.8			26.5	22.3
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			0.96	0.55
Incremental Delay, d2	34.2	0.5	0.0	10.4	0.8		57.3	26.3			0.3	0.0
Delay (s)	72.9	12.8	22.4	45.0	10.6		86.8	55.2			25.7	12.2
Level of Service	E	B	C	D	B		F	E			C	B
Approach Delay (s)		17.1			14.9			65.4			22.6	
Approach LOS		B			B			E			C	

Intersection Summary			
HCM 2000 Control Delay	28.2	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.66		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	74.6%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	810	37	36	63
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	835	38	37	65
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	873				854	854
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	873				854	854
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				89	82
cM capacity (veh/h)	773				329	358

Direction, Lane #	WB 1	SB 1
Volume Total	854	51
Volume Left	0	19
Volume Right	19	32
cSH	1700	563
Volume to Capacity	0.50	0.09
Queue Length 95th (ft)	0	7
Control Delay (s)	0.0	16.2
Lane LOS		C
Approach Delay (s)	0.0	16.2
Approach LOS		C

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	55.4%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	20	32	755	147	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	34	795	155	0	0
Approach Volume (veh/h)		55	949		0	
Crossing Volume (veh/h)		0	21		795	
High Capacity (veh/h)		1385	1362		736	
High v/c (veh/h)		0.04	0.70		0.00	
Low Capacity (veh/h)		1161	1141		581	
Low v/c (veh/h)		0.05	0.83		0.00	

Intersection Summary			
Maximum v/c High	0.70		
Maximum v/c Low	0.83		
Intersection Capacity Utilization	52.0%	ICU Level of Service	A

Intersection	
Intersection Delay (sec/veh)	24.3
Intersection LOS	C

Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	55	950	0
Demand Flow Rate (pc/h)	56	969	0
Vehicles Circulating (pc/h)	0	21	811
Vehicles Exiting (pc/h)	811	35	179
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	3.6	25.5	0.0
Approach LOS	A	D	-

Lane	Left	Left
Designated moves	LT	TR
Assumed Moves	LT	TR
Right Turn Channelized		
Lane Utilization	1.000	1.000
Critical Headway (s)	5.193	5.193
Entry Flow Rate (pc/h)	56	969
Capacity, Entry Lane (pc/h)	1130	1106
Entry HV Adjustment Factor	0.988	0.980
Flow Rate, Entry (vph)	55	950
Capacity, Entry (vph)	1116	1085
Volume to Capacity Ratio	0.050	0.876
Control Delay (sec/veh)	3.6	25.5
Level of Service	A	D
95th-Percentile Queue (veh)	0	12

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	671	205	186	1488	0	0	0	0	445	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.97	1.00					1.00	1.00
Satd. Flow (prot)			2787		1815	2787					1863	1583
Flt Permitted			1.00		0.97	1.00					1.00	1.00
Satd. Flow (perm)			2787		1815	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	699	214	194	1550	0	0	0	0	464	12
RTOR Reduction (vph)	0	0	327	0	47	880	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	372	0	361	670	0	0	0	0	464	12
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			34.6		34.6	34.6					37.4	80.0
Effective Green, g (s)			34.6		34.6	34.6					37.4	80.0
Actuated g/C Ratio			0.43		0.43	0.43					0.47	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1205		785	1205					871	1583
v/s Ratio Prot											c0.25	
v/s Ratio Perm			0.13		0.20	c0.24						0.01
v/c Ratio			0.31		0.46	0.56					0.53	0.01
Uniform Delay, d1			14.9		16.1	17.0					15.1	0.0
Progression Factor			1.00		0.98	1.30					1.00	1.00
Incremental Delay, d2			0.1		0.2	0.3					2.3	0.0
Delay (s)			15.0		16.0	22.4					17.4	0.0
Level of Service			B		B	C					B	A
Approach Delay (s)		15.0			21.1			0.0			17.0	
Approach LOS		B			C			A			B	

Intersection Summary			
HCM Average Control Delay	19.1	HCM Level of Service	B
HCM Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	122	43	1507	336	636	4	0	279
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.97		1.00	0.90			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1798		3433	1680			1614	
Flt Permitted	1.00		0.61	1.00			0.99	
Satd. Flow (perm)	1798		2192	1680			1601	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	126	44	1554	346	656	4	0	288
RTOR Reduction (vph)	0	0	0	0	0	0	73	0
Lane Group Flow (vph)	170	0	1554	1002	0	0	219	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	12.4		59.6	59.6			59.6	
Effective Green, g (s)	12.4		59.6	59.6			59.6	
Actuated g/C Ratio	0.16		0.75	0.75			0.75	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	278		1633	1251			1192	
v/s Ratio Prot	c0.09			0.60				
v/s Ratio Perm			c0.71				0.14	
v/c Ratio	0.61		0.95	0.80			0.18	
Uniform Delay, d1	31.6		8.9	6.4			3.0	
Progression Factor	1.00		1.00	1.00			2.39	
Incremental Delay, d2	3.9		13.4	5.5			0.1	
Delay (s)	35.5		22.4	11.9			7.3	
Level of Service	D		C	B			A	
Approach Delay (s)	35.5			18.3			7.3	
Approach LOS	D			B			A	

Intersection Summary			
HCM 2000 Control Delay	18.2	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	93.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	46	2411	53	84	12	1246
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	47	2460	54	0	12	1271
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	3147	1257			0	2514	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3147	1257			0	2514	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	71			0	93	
cM capacity (veh/h)	8	162			0	177	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	47	1640	847	12	636	636
Volume Left	0	0	0	12	0	0
Volume Right	47	0	27	0	0	0
cSH	162	1700	1700	177	1700	1700
Volume to Capacity	0.29	0.96	0.50	0.07	0.37	0.37
Queue Length 95th (ft)	28	0	0	6	0	0
Control Delay (s)	36.0	0.0	0.0	26.8	0.0	0.0
Lane LOS	E			D		
Approach Delay (s)	36.0	0.0		0.3		
Approach LOS	E					

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	229	365	89	54	110	403	13	41	803	92	26	706
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	1.00			0.99			0.99
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3266		1441	1770	3522			3479			3490
Flt Permitted		0.67		1.00	0.24	1.00			0.88			0.90
Satd. Flow (perm)		2212		1441	445	3522			3078			3153
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	241	384	94	57	116	424	14	43	845	97	27	743
RTOR Reduction (vph)	0	1	0	13	0	3	0	0	0	0	0	9
Lane Group Flow (vph)	0	724	0	38	116	435	0	0	985	0	0	830
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		28.8		28.8	28.8	28.8			42.1			42.1
Effective Green, g (s)		28.8		28.8	28.8	28.8			42.1			42.1
Actuated g/C Ratio		0.36		0.36	0.36	0.36			0.52			0.52
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		793		516	159	1263			1613			1653
v/s Ratio Prot						0.12						
v/s Ratio Perm		c0.33		0.03	0.26				c0.32			0.26
v/c Ratio		0.91		0.07	0.73	0.34			0.61			0.50
Uniform Delay, d1		24.6		17.0	22.4	18.8			13.4			12.3
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		14.8		0.1	15.4	0.2			0.7			0.2
Delay (s)		39.4		17.0	37.8	19.0			14.1			12.6
Level of Service		D		B	D	B			B			B
Approach Delay (s)		37.9				22.9			14.1			12.6
Approach LOS		D				C			B			B

Intersection Summary			
HCM 2000 Control Delay	21.1	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	80.3	Sum of lost time (s)	9.4
Intersection Capacity Utilization	96.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	66
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	69
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	559	51	148	1266	140	27	437	55	73	403	106
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.99			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3494		1770	3486			3474			3421	
Flt Permitted	0.95	1.00		0.95	1.00			0.90			0.74	
Satd. Flow (perm)	1770	3494		1770	3486			3137			2536	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	71	576	53	153	1305	144	28	451	57	75	415	109
RTOR Reduction (vph)	0	6	0	0	8	0	0	7	0	0	14	0
Lane Group Flow (vph)	71	623	0	153	1441	0	0	529	0	0	585	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.1	44.8		13.5	53.2			32.1			32.1	
Effective Green, g (s)	5.1	44.8		13.5	53.2			32.1			32.1	
Actuated g/C Ratio	0.05	0.44		0.13	0.52			0.31			0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	88	1528		233	1811			983			794	
v/s Ratio Prot	0.04	0.18		c0.09	c0.41							
v/s Ratio Perm								0.17			c0.23	
v/c Ratio	0.81	0.41		0.66	0.80			0.54			0.74	
Uniform Delay, d1	48.2	19.7		42.2	20.1			29.0			31.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	39.8	0.2		6.5	2.5			0.6			3.6	
Delay (s)	88.0	19.9		48.8	22.7			29.6			35.0	
Level of Service	F	B		D	C			C			C	
Approach Delay (s)		26.8			25.1			29.6			35.0	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	27.9	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	102.4	Sum of lost time (s)	12.0
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	87	286	236	61	332	31	593	452	150	41	460	135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	1863	2787	1770	3494		1610	3331	1583		3416	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	1863	2787	1770	3494		1610	3331	1583		3416	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	96	314	259	67	365	34	652	497	165	45	505	148
RTOR Reduction (vph)	0	0	182	0	9	0	0	0	122	0	30	0
Lane Group Flow (vph)	96	314	77	67	390	0	378	771	43	0	668	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	4.8	23.8	23.8	3.2	22.2		21.0	21.0	21.0		16.0	
Effective Green, g (s)	4.8	23.8	23.8	3.2	22.2		21.0	21.0	21.0		16.0	
Actuated g/C Ratio	0.06	0.30	0.30	0.04	0.28		0.26	0.26	0.26		0.20	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	106	554	829	70	969		422	874	415		683	
v/s Ratio Prot	c0.05	c0.17		c0.04	0.11		c0.23	0.23			c0.20	
v/s Ratio Perm			0.03						0.03			
v/c Ratio	0.91	0.57	0.09	0.96	0.40		0.90	0.88	0.10		0.98	
Uniform Delay, d1	37.4	23.7	20.3	38.3	23.5		28.4	28.3	22.4		31.8	
Progression Factor	1.00	1.00	1.00	1.00	1.00		0.97	0.97	1.30		1.00	
Incremental Delay, d2	57.9	4.2	0.2	91.8	1.2		6.2	2.8	0.0		28.5	
Delay (s)	95.3	27.9	20.5	130.1	24.8		33.8	30.2	29.1		60.4	
Level of Service	F	C	C	F	C		C	C	C		E	
Approach Delay (s)		34.7			39.9			31.1			60.4	
Approach LOS		C			D			C			E	

Intersection Summary			
HCM 2000 Control Delay	39.6	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.80		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	69.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	36	281	4	928	56	502	185	311	444	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.86			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.99	
Satd. Flow (prot)		1611			1775	1583		3394		1610	3366	
Flt Permitted		1.00			0.70	1.00		0.84		0.95	0.73	
Satd. Flow (perm)		1611			1306	1583		2863		1610	2464	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	38	293	4	967	58	523	193	324	462	3
RTOR Reduction (vph)	0	22	0	0	0	257	0	36	0	0	1	0
Lane Group Flow (vph)	0	16	0	0	297	710	0	738	0	256	532	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		38.5			38.5	38.5		24.8		14.2	43.0	
Effective Green, g (s)		38.5			38.5	38.5		24.8		14.2	43.0	
Actuated g/C Ratio		0.43			0.43	0.43		0.28		0.16	0.48	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		689			558	677		788		254	1319	
v/s Ratio Prot		0.01								c0.16	0.06	
v/s Ratio Perm					0.23	c0.45		c0.26			0.13	
v/c Ratio		0.02			0.53	1.05		0.94		1.01	0.40	
Uniform Delay, d1		14.9			19.1	25.8		31.8		37.9	15.2	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.0			1.0	48.1		19.8		58.5	0.2	
Delay (s)		14.9			20.1	73.8		51.7		96.4	15.4	
Level of Service		B			C	E		D		F	B	
Approach Delay (s)		14.9			61.2			51.7			41.7	
Approach LOS		B			E			D			D	

Intersection Summary			
HCM 2000 Control Delay	52.6	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	93.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	81	58	53	119	159	16	434	694	86	9	426	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.96			0.99		1.00	0.98		1.00	0.94	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1756			1812		1770	1832		1770	1745	
Flt Permitted		0.67			0.73		0.08	1.00		0.31	1.00	
Satd. Flow (perm)		1200			1342		148	1832		578	1745	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	85	61	56	125	167	17	457	731	91	9	448	326
RTOR Reduction (vph)	0	13	0	0	2	0	0	4	0	0	27	0
Lane Group Flow (vph)	0	189	0	0	307	0	457	818	0	9	747	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		21.5			21.5		70.5	65.5		47.5	46.5	
Effective Green, g (s)		21.5			21.5		70.5	65.5		47.5	46.5	
Actuated g/C Ratio		0.22			0.22		0.70	0.66		0.48	0.46	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		258			288		428	1199		286	811	
v/s Ratio Prot							c0.21	0.45		0.00	0.43	
v/s Ratio Perm		0.16			c0.23		c0.54			0.01		
v/c Ratio		0.73			1.06		1.07	0.68		0.03	0.92	
Uniform Delay, d1		36.6			39.2		32.2	10.8		14.0	25.0	
Progression Factor		1.00			1.00		0.92	1.00		1.00	1.00	
Incremental Delay, d2		10.2			71.2		60.7	2.9		0.0	17.3	
Delay (s)		46.7			110.4		90.4	13.6		14.1	42.4	
Level of Service		D			F		F	B		B	D	
Approach Delay (s)		46.7			110.4			41.1			42.0	
Approach LOS		D			F			D			D	

Intersection Summary			
HCM 2000 Control Delay	50.1	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.5%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	228	59	163	39	2	98	1	834	12	84	456	94
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.90			1.00		1.00	0.97	
Flt Protected		0.96	1.00		0.99			1.00		0.95	1.00	
Satd. Flow (prot)		1792	1583		1662			3532		1770	1815	
Flt Permitted		0.65	1.00		0.80			0.95		0.26	1.00	
Satd. Flow (perm)		1203	1583		1345			3372		483	1815	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	235	61	168	40	2	101	1	860	12	87	470	97
RTOR Reduction (vph)	0	0	118	0	71	0	0	1	0	0	6	0
Lane Group Flow (vph)	0	296	50	0	72	0	0	872	0	87	561	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		29.5	29.5		29.5			54.1		62.5	62.5	
Effective Green, g (s)		29.5	29.5		29.5			54.1		62.5	62.5	
Actuated g/C Ratio		0.29	0.29		0.29			0.54		0.62	0.62	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		354	466		396			1824		358	1134	
v/s Ratio Prot										c0.01	c0.31	
v/s Ratio Perm		c0.25	0.03		0.05			0.26		0.14		
v/c Ratio		0.84	0.11		0.18			0.48		0.24	0.50	
Uniform Delay, d1		33.0	25.7		26.3			14.2		14.2	10.2	
Progression Factor		1.00	1.00		1.00			1.00		1.02	1.08	
Incremental Delay, d2		15.6	0.1		0.2			0.9		0.2	0.7	
Delay (s)		48.6	25.8		26.5			15.1		14.6	11.7	
Level of Service		D	C		C			B		B	B	
Approach Delay (s)		40.3			26.5			15.1			12.1	
Approach LOS		D			C			B			B	

Intersection Summary			
HCM 2000 Control Delay	20.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.65		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	85.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	417	81	813	252	52	679
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3414		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3414		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	434	84	847	262	54	707
RTOR Reduction (vph)	0	56	42	0	0	0
Lane Group Flow (vph)	434	28	1067	0	54	707
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	18.1	18.1	22.4		3.0	29.4
Effective Green, g (s)	18.1	18.1	22.4		3.0	29.4
Actuated g/C Ratio	0.34	0.34	0.42		0.06	0.55
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	598	535	1429		99	1944
v/s Ratio Prot	c0.25		c0.31		0.03	c0.20
v/s Ratio Perm		0.02				
v/c Ratio	0.73	0.05	0.75		0.55	0.36
Uniform Delay, d1	15.5	11.9	13.1		24.6	6.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.4	0.0	2.2		6.0	0.1
Delay (s)	19.9	12.0	15.3		30.6	6.9
Level of Service	B	B	B		C	A
Approach Delay (s)	18.6		15.3			8.6
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	13.9	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.73		
Actuated Cycle Length (s)	53.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	68.6%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	92	7	75	340	388	27	619	118	192	548	270
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.93		1.00	1.00	0.85	1.00	0.95	
Flt Protected		0.98	1.00		1.00		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1823	1583		1733		1770	3539	1583	1770	3364	
Flt Permitted		0.60	1.00		0.96		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1119	1583		1667		1770	3539	1583	1770	3364	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	75	95	7	77	351	400	28	638	122	198	565	278
RTOR Reduction (vph)	0	0	4	0	50	0	0	0	41	0	90	0
Lane Group Flow (vph)	0	170	3	0	778	0	28	638	81	198	753	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		28.1	28.1		28.1		1.5	18.9	18.9	7.0	24.4	
Effective Green, g (s)		28.1	28.1		28.1		1.5	18.9	18.9	7.0	24.4	
Actuated g/C Ratio		0.45	0.45		0.45		0.02	0.30	0.30	0.11	0.39	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		499	706		743		42	1061	474	196	1302	
v/s Ratio Prot							0.02	0.18		c0.11	c0.22	
v/s Ratio Perm		0.15	0.00		c0.47				0.05			
v/c Ratio		0.34	0.00		1.05		0.67	0.60	0.17	1.01	0.58	
Uniform Delay, d1		11.4	9.7		17.4		30.5	18.8	16.3	28.0	15.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		0.4	0.0		45.8		33.4	1.0	0.2	66.9	0.6	
Delay (s)		11.8	9.7		63.3		63.9	19.8	16.4	94.9	15.9	
Level of Service		B	A		E		E	B	B	F	B	
Approach Delay (s)		11.7			63.3			20.8			30.9	
Approach LOS		B			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	36.4	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	63.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	90.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	114	597	151	217	1515	138	221	313	61	165	710	327
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.99		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3432		1770	3495		1770	3453		1770	3372	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3432		1770	3495		1770	3453		1770	3372	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	118	615	156	224	1562	142	228	323	63	170	732	337
RTOR Reduction (vph)	0	16	0	0	5	0	0	11	0	0	39	0
Lane Group Flow (vph)	118	755	0	224	1699	0	228	375	0	170	1030	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	7.0	51.9		20.6	65.5		15.0	33.0		18.0	36.0	
Effective Green, g (s)	7.0	51.9		20.6	65.5		15.0	33.0		18.0	36.0	
Actuated g/C Ratio	0.05	0.37		0.15	0.47		0.11	0.24		0.13	0.26	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	88	1272		260	1635		189	813		227	867	
v/s Ratio Prot	c0.07	0.22		0.13	c0.49		c0.13	0.11		0.10	c0.31	
v/s Ratio Perm												
v/c Ratio	1.34	0.59		0.86	1.04		1.21	0.46		0.75	1.19	
Uniform Delay, d1	66.5	35.5		58.3	37.2		62.5	45.9		58.8	52.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	211.7	2.0		24.1	33.2		132.0	0.4		12.7	96.3	
Delay (s)	278.2	37.6		82.4	70.4		194.5	46.3		71.5	148.3	
Level of Service	F	D		F	E		F	D		E	F	
Approach Delay (s)		69.5			71.8			101.3			137.8	
Approach LOS		E			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	92.8	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	108.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	572	136	200	1519	114	81	391	54	70	565	123
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.97		1.00	0.99			0.98			0.98	
Flt Protected	0.95	1.00		0.95	1.00			0.99			1.00	
Satd. Flow (prot)	1770	3437		1770	3502			3458			3437	
Flt Permitted	0.10	1.00		0.30	1.00			0.66			0.82	
Satd. Flow (perm)	184	3437		555	3502			2286			2843	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	59	622	148	217	1651	124	88	425	59	76	614	134
RTOR Reduction (vph)	0	26	0	0	7	0	0	11	0	0	7	0
Lane Group Flow (vph)	59	744	0	217	1768	0	0	561	0	0	817	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Effective Green, g (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	93	1739		280	1772			885			1101	
v/s Ratio Prot		0.22			c0.50							
v/s Ratio Perm	0.32			0.39				0.25			c0.29	
v/c Ratio	0.63	0.43		0.78	1.00			0.63			0.74	
Uniform Delay, d1	14.4	12.4		16.0	19.7			19.9			21.1	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	13.3	0.2		12.6	20.7			3.4			4.5	
Delay (s)	27.7	12.6		28.6	40.4			23.3			25.6	
Level of Service	C	B		C	D			C			C	
Approach Delay (s)		13.7			39.1			23.3			25.6	
Approach LOS		B			D			C			C	

Intersection Summary			
HCM 2000 Control Delay	29.3	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	12	51	9	477	45	31	908	34	77	63
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.99			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4946		3493			3533	1770	1583	
Flt Permitted		0.99		1.00			0.93	0.95	1.00	
Satd. Flow (perm)		4946		3493			3279	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	55	10	518	49	34	987	37	84	68
RTOR Reduction (vph)	0	0	0	11	0	0	0	0	76	0
Lane Group Flow (vph)	0	78	0	556	0	0	1021	37	76	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		5.5		25.4			25.4	8.4	8.4	
Effective Green, g (s)		5.5		25.4			25.4	8.4	8.4	
Actuated g/C Ratio		0.11		0.50			0.50	0.16	0.16	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		530		1729			1623	289	259	
v/s Ratio Prot				0.16				0.02		
v/s Ratio Perm		0.02					c0.31		c0.05	
v/c Ratio		0.15		0.32			0.63	0.13	0.29	
Uniform Delay, d1		20.8		7.8			9.5	18.3	18.8	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.1			0.8	0.2	0.6	
Delay (s)		20.9		7.9			10.3	18.5	19.5	
Level of Service		C		A			B	B	B	
Approach Delay (s)		20.9		7.9			10.3	19.3		
Approach LOS		C		A			B	B		

Intersection Summary			
HCM 2000 Control Delay	10.9	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.49		
Actuated Cycle Length (s)	51.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	66.8%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	36	404	131	132	848	69	164	394	51	107	739	97
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.99			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3407			3482			3448			3465	
Flt Permitted		0.76			0.71			0.50			0.68	
Satd. Flow (perm)		2599			2474			1764			2365	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	38	425	138	139	893	73	173	415	54	113	778	102
RTOR Reduction (vph)	0	22	0	0	4	0	0	4	0	0	5	0
Lane Group Flow (vph)	0	579	0	0	1101	0	0	638	0	0	988	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		63.9			63.9			54.6			54.6	
Effective Green, g (s)		63.9			63.9			54.6			54.6	
Actuated g/C Ratio		0.50			0.50			0.42			0.42	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1292			1230			749			1004	
v/s Ratio Prot												
v/s Ratio Perm		0.22			c0.45			0.36			c0.42	
v/c Ratio		0.45			0.90			1.37dl			0.98	
Uniform Delay, d1		20.9			29.3			33.3			36.5	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			8.7			9.2			24.3	
Delay (s)		21.1			38.0			42.5			60.8	
Level of Service		C			D			D			E	
Approach Delay (s)		21.1			38.0			42.5			60.8	
Approach LOS		C			D			D			E	

Intersection Summary			
HCM 2000 Control Delay	42.6	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	128.5	Sum of lost time (s)	10.0
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	623	273	211	449	569	107	28	880	65
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		1.00	0.91	
Frt				1.00	0.93		1.00	0.98		1.00	0.99	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1741		3433	3456		1770	5033	
Flt Permitted				0.95	1.00		0.19	1.00		0.38	1.00	
Satd. Flow (perm)				1770	1741		702	3456		715	5033	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	649	284	220	468	593	111	29	917	68
RTOR Reduction (vph)	0	0	0	0	43	0	0	23	0	0	13	0
Lane Group Flow (vph)	0	0	0	649	461	0	468	681	0	29	972	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)				26.2	26.2		28.1	28.1		16.1	16.1	
Effective Green, g (s)				26.2	26.2		28.1	28.1		16.1	16.1	
Actuated g/C Ratio				0.41	0.41		0.44	0.44		0.25	0.25	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				732	720		635	1534		181	1280	
v/s Ratio Prot					0.26		c0.09	0.20			0.19	
v/s Ratio Perm				c0.37			c0.24			0.04		
v/c Ratio				0.89	0.64		0.74	0.44		0.16	0.76	
Uniform Delay, d1				17.2	14.8		12.9	12.2		18.3	21.8	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				12.5	1.9		4.5	0.2		0.4	2.6	
Delay (s)				29.7	16.7		17.3	12.4		18.8	24.5	
Level of Service				C	B		B	B		B	C	
Approach Delay (s)		0.0			24.0			14.4			24.3	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	20.7	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	63.3	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	185	685	215	1	0	94	28	718	608	418	777	402
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91	1.00	1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00		0.85		0.93		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3386	1583	1770		1583		3297		3433	3358	
Flt Permitted	0.95	1.00	1.00	0.17		1.00		0.90		0.08	1.00	
Satd. Flow (perm)	1610	3386	1583	312		1583		2978		303	3358	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	195	721	226	1	0	99	29	756	640	440	818	423
RTOR Reduction (vph)	0	0	112	0	0	72	0	14	0	0	72	0
Lane Group Flow (vph)	175	741	114	1	0	27	0	1411	0	440	1169	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	23.9	23.9	23.9	23.9		23.9		44.2		55.6	55.6	
Effective Green, g (s)	23.9	23.9	23.9	23.9		23.9		44.2		55.6	55.6	
Actuated g/C Ratio	0.27	0.27	0.27	0.27		0.27		0.50		0.63	0.63	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	434	914	427	84		427		1487		469	2109	
v/s Ratio Prot										c0.08	0.35	
v/s Ratio Perm	0.11	0.22	0.07	0.00		0.02		0.47		c0.50		
v/c Ratio	0.40	0.81	0.27	0.01		0.06		0.95		0.94	0.55	
Uniform Delay, d1	26.5	30.2	25.4	23.7		24.0		21.1		23.2	9.4	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.6	5.5	0.3	0.1		0.1		13.0		26.5	0.3	
Delay (s)	27.1	35.7	25.7	23.7		24.0		34.1		49.7	9.7	
Level of Service	C	D	C	C		C		C		D	A	
Approach Delay (s)		32.4			24.0			34.1			20.2	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	88.5	Sum of lost time (s)	12.5
Intersection Capacity Utilization	106.4%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	127	176	38	1	469	249	123	808	6	241	427	67
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.97			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1813			3539	1583		1849		1770	1765	1504
Flt Permitted	0.28	1.00			0.95	1.00		0.87		0.95	1.00	1.00
Satd. Flow (perm)	526	1813			3379	1583		1613		1770	1765	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	132	183	40	1	489	259	128	842	6	251	445	70
RTOR Reduction (vph)	0	0	0	0	0	127	0	0	0	0	11	18
Lane Group Flow (vph)	132	223	0	0	490	132	0	976	0	251	441	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	32.5	32.5			32.5	32.5		73.1		16.0	92.1	92.1
Effective Green, g (s)	32.5	32.5			32.5	32.5		73.1		16.0	92.1	92.1
Actuated g/C Ratio	0.25	0.25			0.25	0.25		0.55		0.12	0.70	0.70
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	129	446			832	390		893		214	1232	1050
v/s Ratio Prot		0.12								c0.14	0.25	
v/s Ratio Perm	c0.25				0.15	0.08		c0.60				0.03
v/c Ratio	1.02	0.50			0.59	0.34		1.09		1.17	0.36	0.04
Uniform Delay, d1	49.7	42.7			43.8	40.9		29.4		58.0	8.0	6.2
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	85.6	0.9			1.1	0.5		58.7		116.1	0.2	0.0
Delay (s)	135.3	43.6			44.9	41.4		88.1		174.0	8.2	6.2
Level of Service	F	D			D	D		F		F	A	A
Approach Delay (s)		77.7			43.7			88.1			62.4	
Approach LOS		E			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	68.2	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	131.9	Sum of lost time (s)	14.4
Intersection Capacity Utilization	111.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	151	0	0	14	0	199	703	91	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	174	0	0	16	0	229	808	105	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1326	1370	0	1405	1318	860	0			913		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1326	1370	0	1405	1318	860	0			913		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	0	100	0	88	100	86			100		
cM capacity (veh/h)	108	126	1085	0	135	355	1623			747		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	174	16	975
Volume Left	0	0	114
Volume Right	0	0	52
cSH	126	135	1623
Volume to Capacity	1.38	0.12	0.14
Queue Length 95th (ft)	290	10	12
Control Delay (s)	278.1	35.2	2.8
Lane LOS	F	E	A
Approach Delay (s)	278.1	35.2	2.8
Approach LOS	F	E	

Intersection Summary			
Average Delay	44.3		
Intersection Capacity Utilization	68.1%	ICU Level of Service	C
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1139	189	0	0	83	30
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1212	201	0	0	88	32
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1413		1312	1312
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1413		1312	1312
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		50	84
cM capacity (veh/h)			483		175	194

Direction, Lane #	EB 1	NB 1
Volume Total	1413	120
Volume Left	0	88
Volume Right	201	32
cSH	1700	238
Volume to Capacity	0.83	0.50
Queue Length 95th (ft)	0	65
Control Delay (s)	0.0	40.2
Lane LOS		E
Approach Delay (s)	0.0	40.2
Approach LOS		E

Intersection Summary			
Average Delay	3.2		
Intersection Capacity Utilization	82.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	87	503	154	10	385	0	0	669	310
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	4.0
Lane Util. Factor					0.95	1.00		1.00			1.00	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3513	1583		1860			1863	1583
Flt Permitted					0.99	1.00		0.98			1.00	1.00
Satd. Flow (perm)					3513	1583		1831			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	94	541	166	11	414	0	0	719	333
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	635	166	0	425	0	0	719	333
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					20.9	80.0		51.1			51.1	80.0
Effective Green, g (s)					20.9	80.0		51.1			51.1	80.0
Actuated g/C Ratio					0.26	1.00		0.64			0.64	1.00
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					918	1583		1170			1190	1583
v/s Ratio Prot											c0.39	
v/s Ratio Perm					0.18	0.10		0.23				0.21
v/c Ratio					0.69	0.10		0.36			0.60	0.21
Uniform Delay, d1					26.6	0.0		6.8			8.5	0.0
Progression Factor					1.00	1.00		2.01			1.00	1.00
Incremental Delay, d2					2.3	0.1		0.8			2.3	0.3
Delay (s)					28.9	0.1		14.5			10.8	0.3
Level of Service					C	A		B			B	A
Approach Delay (s)		0.0			22.9			14.5			7.5	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	222	729	0	0	428	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.95			1.00	
Frt		1.00			1.00	
Flt Protected		0.99			0.95	
Satd. Flow (prot)		3498			1770	
Flt Permitted		0.99			0.95	
Satd. Flow (perm)		3498			1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	239	784	0	0	460	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1023	0	0	460	0
Turn Type	Perm	NA			NA	
Protected Phases		4			6	
Permitted Phases	4					
Actuated Green, G (s)		33.3			38.7	
Effective Green, g (s)		33.3			38.7	
Actuated g/C Ratio		0.42			0.48	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1456			856	
v/s Ratio Prot					c0.26	
v/s Ratio Perm		0.29				
v/c Ratio		0.70			0.54	
Uniform Delay, d1		19.3			14.4	
Progression Factor		1.00			0.76	
Incremental Delay, d2		1.6			1.9	
Delay (s)		20.8			12.9	
Level of Service		C			B	
Approach Delay (s)		20.8	0.0		12.9	
Approach LOS		C	A		B	

Intersection Summary			
HCM Average Control Delay	18.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	57.0%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	1200	442	898	373
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	1290	475	966	401
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1290	475	966	401
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			15.0	40.0	17.0	40.0
Effective Green, g (s)			15.0	40.0	17.0	40.0
Actuated g/C Ratio			0.38	1.00	0.42	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			1287	1863	791	1583
v/s Ratio Prot			c0.38	0.26	c0.52	
v/s Ratio Perm						0.25
v/c Ratio			1.00	0.25	1.22	0.25
Uniform Delay, d1			12.5	0.0	11.5	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			25.6	0.1	110.8	0.4
Delay (s)			38.1	0.1	122.3	0.4
Level of Service			D	A	F	A
Approach Delay (s)	0.0			27.9	86.6	
Approach LOS	A			C	F	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	361	304	370	0	0	264
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	388	327	398	0	0	284
RTOR Reduction (vph)	0	217	0	0	0	0
Lane Group Flow (vph)	388	110	398	0	0	284
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	13.4	13.4	18.6			18.6
Effective Green, g (s)	13.4	13.4	18.6			18.6
Actuated g/C Ratio	0.34	0.34	0.47			0.47
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	592	933	866			866
v/s Ratio Prot	c0.22		c0.21			0.15
v/s Ratio Perm		0.04				
v/c Ratio	0.66	0.12	0.46			0.33
Uniform Delay, d1	11.3	9.2	7.3			6.8
Progression Factor	1.00	1.00	1.13			1.00
Incremental Delay, d2	2.6	0.1	1.1			1.0
Delay (s)	13.9	9.3	9.3			7.8
Level of Service	B	A	A			A
Approach Delay (s)	11.8		9.3			7.8
Approach LOS	B		A			A

Intersection Summary			
HCM 2000 Control Delay	10.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.54		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	46.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.94	0.94			0.94	
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	746	72			327	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	95			97	
cM capacity (veh/h)	319	919			1160	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	421	1700	1700	1160	1700
Volume to Capacity	0.14	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	12	0	0	2	0
Control Delay (s)	15.0	0.0	0.0	0.9	0.0
Lane LOS	B			A	
Approach Delay (s)	15.0	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

2020 With Project PM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	124	46	172	176	201	468
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	132	49	183	187	214	498
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1109	183			370	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1109	183			370	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	31	94			82	
cM capacity (veh/h)	190	859			1188	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	181	183	187	214	498
Volume Left	132	0	0	214	0
Volume Right	49	0	187	0	0
cSH	248	1700	1700	1188	1700
Volume to Capacity	0.73	0.11	0.11	0.18	0.29
Queue Length 95th (ft)	126	0	0	16	0
Control Delay (s)	50.8	0.0	0.0	8.7	0.0
Lane LOS	F			A	
Approach Delay (s)	50.8	0.0		2.6	
Approach LOS	F				

Intersection Summary			
Average Delay	8.7		
Intersection Capacity Utilization	38.2%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	1014	227	72	800	49	104	374	57	45	243	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3440			3497			3449			3451	
Flt Permitted		0.91			0.73			0.78			0.80	
Satd. Flow (perm)		3131			2551			2706			2795	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	1090	244	77	860	53	112	402	61	48	261	43
RTOR Reduction (vph)	0	31	0	0	7	0	0	7	0	0	9	0
Lane Group Flow (vph)	0	1340	0	0	983	0	0	568	0	0	343	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		35.7			35.7			16.3			16.3	
Effective Green, g (s)		35.7			35.7			16.3			16.3	
Actuated g/C Ratio		0.60			0.60			0.27			0.27	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1862			1517			735			759	
v/s Ratio Prot												
v/s Ratio Perm		c0.43			0.39			c0.21			0.12	
v/c Ratio		0.72			0.65			0.77			0.45	
Uniform Delay, d1		8.6			8.0			20.1			18.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		1.4			1.0			5.1			0.4	
Delay (s)		10.0			9.0			25.2			18.6	
Level of Service		A			A			C			B	
Approach Delay (s)		10.0			9.0			25.2			18.6	
Approach LOS		A			A			C			B	

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	99.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	202	972	523	158	561	69	402	507	122	76	470	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.98		1.00	1.00	0.85		1.00	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)		5042	1583	1770	5002		1770	1863	1583		3510	
Flt Permitted		0.72	1.00	0.95	1.00		0.95	1.00	1.00		0.78	
Satd. Flow (perm)		3679	1583	1770	5002		1770	1863	1583		2755	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	217	1045	562	170	603	74	432	545	131	82	505	6
RTOR Reduction (vph)	0	0	62	0	11	0	0	0	25	0	1	0
Lane Group Flow (vph)	0	1262	500	170	666	0	432	545	106	0	592	0
Turn Type	Perm	NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)		47.0	47.0	13.0	64.0		32.0	65.0	65.0		29.5	
Effective Green, g (s)		47.0	47.0	13.0	64.0		32.0	65.0	65.0		29.5	
Actuated g/C Ratio		0.34	0.34	0.09	0.46		0.23	0.46	0.46		0.21	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1235	531	164	2286		404	864	734		580	
v/s Ratio Prot				c0.10	0.13		c0.24	0.29				
v/s Ratio Perm		c0.34	0.32						0.07		c0.21	
v/c Ratio		1.02	0.94	1.04	0.29		1.07	0.63	0.14		1.02	
Uniform Delay, d1		46.5	45.1	63.5	23.8		54.0	28.4	21.5		55.2	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		31.3	24.9	80.3	0.0		64.5	1.1	0.0		42.8	
Delay (s)		77.8	70.0	143.8	23.8		118.5	29.5	21.6		98.0	
Level of Service		E	E	F	C		F	C	C		F	
Approach Delay (s)		75.4			47.9			63.3			98.0	
Approach LOS		E			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	70.1	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	18.5
Intersection Capacity Utilization	95.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	19	29	970	42	30	1136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.88	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3517		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3517		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	31	1032	45	32	1209
RTOR Reduction (vph)	0	29	4	0	0	0
Lane Group Flow (vph)	20	2	1073	0	32	1209
Turn Type	NA	custom	NA		Prot	NA
Protected Phases			2 9		1	6 9
Permitted Phases	8	8	2 9			6 9
Actuated Green, G (s)	3.7	3.7	34.2		14.5	25.8
Effective Green, g (s)	3.7	3.7	34.2		14.5	25.8
Actuated g/C Ratio	0.06	0.06	0.53		0.23	0.40
Clearance Time (s)	4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	101	160	1867		398	1417
v/s Ratio Prot			c0.31		0.02	c0.34
v/s Ratio Perm	c0.01	0.00				
v/c Ratio	0.20	0.01	0.57		0.08	0.85
Uniform Delay, d1	28.9	28.6	10.2		19.7	17.6
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.0	0.4		0.1	5.2
Delay (s)	29.9	28.7	10.6		19.8	22.8
Level of Service	C	C	B		B	C
Approach Delay (s)	29.1		10.6			22.7
Approach LOS	C		B			C

Intersection Summary			
HCM 2000 Control Delay	17.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.88		
Actuated Cycle Length (s)	64.4	Sum of lost time (s)	16.0
Intersection Capacity Utilization	41.4%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	102	574	183	1007
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	106	598	191	1049
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1311	352			704	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1311	352			704	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			79	
cM capacity (veh/h)	118	644			890	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	71	633	540	699
Volume Left	0	0	191	0
Volume Right	0	598	0	0
cSH	1700	1700	890	1700
Volume to Capacity	0.04	0.37	0.21	0.41
Queue Length 95th (ft)	0	0	20	0
Control Delay (s)	0.0	0.0	5.4	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.3	
Approach LOS				

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	35	1025	100	163	716	36	124	144	159	45	101	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3492		1770	3514		1770	1716			1783	
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00			0.49	
Satd. Flow (perm)	1770	3492		1770	3514		913	1716			876	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	39	1139	111	181	796	40	138	160	177	50	112	49
RTOR Reduction (vph)	0	8	0	0	4	0	0	54	0	0	15	0
Lane Group Flow (vph)	39	1242	0	181	832	0	138	283	0	0	196	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	6.0	46.8		6.0	46.8		17.2	17.2			17.2	
Effective Green, g (s)	6.0	46.8		6.0	46.8		17.2	17.2			17.2	
Actuated g/C Ratio	0.08	0.58		0.08	0.58		0.21	0.21			0.21	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	132	2042		132	2055		196	368			188	
v/s Ratio Prot	0.02	c0.36		c0.10	0.24			0.16				
v/s Ratio Perm							0.15				c0.22	
v/c Ratio	0.30	0.61		1.37	0.40		0.70	0.77			1.04	
Uniform Delay, d1	35.0	10.7		37.0	9.0		29.0	29.5			31.4	
Progression Factor	1.00	1.00		1.00	1.00		0.58	0.53			1.00	
Incremental Delay, d2	0.5	1.4		207.6	0.6		0.9	0.8			77.4	
Delay (s)	35.5	12.1		244.6	9.6		17.8	16.6			108.8	
Level of Service	D	B		F	A		B	B			F	
Approach Delay (s)		12.8			51.4			16.9			108.8	
Approach LOS		B			D			B			F	

Intersection Summary			
HCM 2000 Control Delay	33.3	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	81.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	72	838	197	137	508	93	274	296	358	80	232	51
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3457		1770	1710			3494	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.54	1.00			0.53	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3457		1005	1710			1884	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	82	952	224	156	577	106	311	336	407	91	264	58
RTOR Reduction (vph)	0	0	131	0	20	0	0	64	0	0	0	34
Lane Group Flow (vph)	82	952	93	156	663	0	311	679	0	0	355	24
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	5.6	22.6	29.2	7.2	24.2		29.2	29.2			29.2	29.2
Effective Green, g (s)	5.6	22.6	29.2	7.2	24.2		29.2	29.2			29.2	29.2
Actuated g/C Ratio	0.08	0.32	0.42	0.10	0.35		0.42	0.42			0.42	0.42
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	141	1142	660	182	1195		419	713			785	660
v/s Ratio Prot	0.05	c0.27		c0.09	0.19			c0.40				
v/s Ratio Perm			0.06				0.31				0.19	0.02
v/c Ratio	0.58	0.83	0.14	0.86	0.55		0.74	0.95			0.86dl	0.04
Uniform Delay, d1	31.1	22.0	12.6	30.9	18.5		17.2	19.7			14.7	12.1
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	3.9	7.2	0.0	29.6	1.9		6.1	22.5			0.2	0.0
Delay (s)	35.0	29.2	12.7	60.5	20.4		23.3	42.3			14.8	12.1
Level of Service	C	C	B	E	C		C	D			B	B
Approach Delay (s)		26.6			27.9			36.7			14.4	
Approach LOS		C			C			D			B	

Intersection Summary			
HCM 2000 Control Delay	28.5	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	92.0%	ICU Level of Service	F
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	495	53	74	21
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	510	55	76	22
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	565				538	538
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	565				538	538
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				85	96
cM capacity (veh/h)	1007				504	543

Direction, Lane #	WB 1	SB 1
Volume Total	538	49
Volume Left	0	38
Volume Right	27	11
cSH	1700	647
Volume to Capacity	0.32	0.08
Queue Length 95th (ft)	0	6
Control Delay (s)	0.0	12.5
Lane LOS		B
Approach Delay (s)	0.0	12.5
Approach LOS		B

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	40.0%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	0	67	424	112	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	71	446	118	0	0
Approach Volume (veh/h)		71	564		0	
Crossing Volume (veh/h)		0	0		446	
High Capacity (veh/h)		1385	1385		974	
High v/c (veh/h)		0.05	0.41		0.00	
Low Capacity (veh/h)		1161	1161		791	
Low v/c (veh/h)		0.06	0.49		0.00	

Intersection Summary			
Maximum v/c High	0.41		
Maximum v/c Low	0.49		
Intersection Capacity Utilization	32.5%	ICU Level of Service	A

Intersection	
Intersection Delay (sec/veh)	8.5
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	71	564	0
Demand Flow Rate (pc/h)	72	575	0
Vehicles Circulating (pc/h)	0	0	455
Vehicles Exiting (pc/h)	455	72	120
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	3.8	9.1	0.0
Approach LOS	A	A	-

Lane	Left	Left
Designated moves	LT	TR
Assumed Moves	LT	TR
Right Turn Channelized		
Lane Utilization	1.000	1.000
Critical Headway (s)	5.193	5.193
Entry Flow Rate (pc/h)	72	575
Capacity, Entry Lane (pc/h)	1130	1130
Entry HV Adjustment Factor	0.980	0.981
Flow Rate, Entry (vph)	71	564
Capacity, Entry (vph)	1108	1108
Volume to Capacity Ratio	0.064	0.509
Control Delay (sec/veh)	3.8	9.1
Level of Service	A	A
95th-Percentile Queue (veh)	0	3

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1195	342	80	1090	0	0	0	0	759	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.96	1.00					1.00	1.00
Satd. Flow (prot)			2787		1790	2787					1863	1583
Flt Permitted			1.00		0.96	1.00					1.00	1.00
Satd. Flow (perm)			2787		1790	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	1245	356	83	1135	0	0	0	0	791	6
RTOR Reduction (vph)	0	0	139	0	79	664	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1106	0	360	471	0	0	0	0	791	6
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			33.2		33.2	33.2					38.8	80.0
Effective Green, g (s)			33.2		33.2	33.2					38.8	80.0
Actuated g/C Ratio			0.42		0.42	0.42					0.48	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1156		742	1156					903	1583
v/s Ratio Prot											c0.42	
v/s Ratio Perm			c0.40		0.20	0.17						0.00
v/c Ratio			0.96		0.49	0.41					0.88	0.00
Uniform Delay, d1			22.7		17.1	16.5					18.4	0.0
Progression Factor			1.00		0.78	0.94					1.00	1.00
Incremental Delay, d2			16.9		0.4	0.2					11.6	0.0
Delay (s)			39.6		13.8	15.7					30.1	0.0
Level of Service			D		B	B					C	A
Approach Delay (s)		39.6			15.2			0.0			29.9	
Approach LOS		D			B			A			C	

Intersection Summary			
HCM 2000 Control Delay	26.8	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	134	45	1115	303	606	10	0	334
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.97		1.00	0.90			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1800		3433	1676			1616	
Flt Permitted	1.00		0.57	1.00			0.98	
Satd. Flow (perm)	1800		2049	1676			1581	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	138	46	1149	312	625	10	0	344
RTOR Reduction (vph)	0	0	0	0	0	0	90	0
Lane Group Flow (vph)	184	0	1149	937	0	0	264	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	12.9		59.1	59.1			59.1	
Effective Green, g (s)	12.9		59.1	59.1			59.1	
Actuated g/C Ratio	0.16		0.74	0.74			0.74	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	290		1513	1238			1167	
v/s Ratio Prot	c0.10			0.56				
v/s Ratio Perm			c0.56				0.17	
v/c Ratio	0.63		0.76	0.76			0.23	
Uniform Delay, d1	31.3		6.2	6.2			3.3	
Progression Factor	1.00		1.00	1.00			2.61	
Incremental Delay, d2	4.5		3.6	4.4			0.1	
Delay (s)	35.8		9.9	10.5			8.6	
Level of Service	D		A	B			A	
Approach Delay (s)	35.8			10.2			8.6	
Approach LOS	D			B			A	

Intersection Summary			
HCM 2000 Control Delay	11.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	27	1882	39	279	48	2029
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	28	1920	40	0	49	2070
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	3073	980			0	1960	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3073	980			0	1960	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	89			0	83	
cM capacity (veh/h)	8	249			0	293	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	28	1280	660	49	1035	1035
Volume Left	0	0	0	49	0	0
Volume Right	28	0	20	0	0	0
cSH	249	1700	1700	293	1700	1700
Volume to Capacity	0.11	0.75	0.39	0.17	0.61	0.61
Queue Length 95th (ft)	9	0	0	15	0	0
Control Delay (s)	21.2	0.0	0.0	19.7	0.0	0.0
Lane LOS	C			C		
Approach Delay (s)	21.2	0.0		0.5		
Approach LOS	C					

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	84.7%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	207	356	78	83	152	370	27	47	850	110	89	999
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.98			0.98
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3270		1441	1770	3504			3473			3465
Flt Permitted		0.67		1.00	0.22	1.00			0.79			0.72
Satd. Flow (perm)		2212		1441	418	3504			2754			2489
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	218	375	82	87	160	389	28	49	895	116	94	1052
RTOR Reduction (vph)	0	1	0	17	0	6	0	0	0	0	0	11
Lane Group Flow (vph)	0	683	0	61	160	411	0	0	1060	0	0	1287
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		28.3		28.3	28.3	28.3			52.3			52.3
Effective Green, g (s)		28.3		28.3	28.3	28.3			52.3			52.3
Actuated g/C Ratio		0.31		0.31	0.31	0.31			0.58			0.58
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		695		453	131	1101			1600			1446
v/s Ratio Prot						0.12						
v/s Ratio Perm		0.31		0.04	c0.38				0.38			c0.52
v/c Ratio		0.98		0.13	1.22	0.37			0.66			0.89
Uniform Delay, d1		30.6		22.1	30.9	24.0			12.8			16.4
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		29.7		0.1	150.0	0.2			1.0			7.1
Delay (s)		60.3		22.2	180.8	24.2			13.9			23.5
Level of Service		E		C	F	C			B			C
Approach Delay (s)		56.4				67.6			13.9			23.5
Approach LOS		E				E			B			C

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	109.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	144
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	152
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	97	1002	93	80	720	148	27	643	112	32	364	84
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.97			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3494		1770	3448			3457			3434	
Flt Permitted	0.95	1.00		0.95	1.00			0.92			0.82	
Satd. Flow (perm)	1770	3494		1770	3448			3203			2834	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	100	1033	96	82	742	153	28	663	115	33	375	87
RTOR Reduction (vph)	0	6	0	0	18	0	0	9	0	0	12	0
Lane Group Flow (vph)	100	1123	0	82	877	0	0	797	0	0	483	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.2	39.4		8.1	42.3			32.1			32.1	
Effective Green, g (s)	5.2	39.4		8.1	42.3			32.1			32.1	
Actuated g/C Ratio	0.06	0.43		0.09	0.46			0.35			0.35	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	100	1502		156	1592			1122			993	
v/s Ratio Prot	c0.06	c0.32		0.05	c0.25							
v/s Ratio Perm								c0.25			0.17	
v/c Ratio	1.00	0.75		0.53	0.55			0.71			0.49	
Uniform Delay, d1	43.2	21.9		39.9	17.8			25.7			23.3	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	90.0	2.1		3.2	0.4			2.1			0.4	
Delay (s)	133.2	24.0		43.1	18.2			27.9			23.7	
Level of Service	F	C		D	B			C			C	
Approach Delay (s)		32.9			20.3			27.9			23.7	
Approach LOS		C			C			C			C	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.72		
Actuated Cycle Length (s)	91.6	Sum of lost time (s)	12.0
Intersection Capacity Utilization	84.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	188	436	577	163	314	86	312	605	207	58	429	43
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)	1770	1863	2787	1770	3425		1610	3382	1583		3477	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (perm)	1770	1863	2787	1770	3425		1610	3382	1583		3477	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	207	479	634	179	345	95	343	665	227	64	471	47
RTOR Reduction (vph)	0	0	459	0	31	0	0	0	139	0	8	0
Lane Group Flow (vph)	207	479	175	179	409	0	309	699	88	0	574	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	13.0	22.1	22.1	9.3	18.4		17.0	17.0	17.0		15.6	
Effective Green, g (s)	13.0	22.1	22.1	9.3	18.4		17.0	17.0	17.0		15.6	
Actuated g/C Ratio	0.16	0.28	0.28	0.12	0.23		0.21	0.21	0.21		0.19	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	287	514	769	205	787		342	718	336		678	
v/s Ratio Prot	0.12	c0.26		c0.10	0.12		0.19	c0.21			c0.17	
v/s Ratio Perm			0.06						0.06			
v/c Ratio	0.72	0.93	0.23	0.87	0.52		0.90	0.97	0.26		0.85	
Uniform Delay, d1	31.8	28.2	22.4	34.8	26.9		30.7	31.3	26.3		31.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.12	1.10	1.58		1.00	
Incremental Delay, d2	8.6	26.0	0.7	31.0	2.4		23.1	24.6	0.4		9.6	
Delay (s)	40.4	54.2	23.0	65.8	29.4		57.5	59.1	41.8		40.6	
Level of Service	D	D	C	E	C		E	E	D		D	
Approach Delay (s)		37.1			39.9			55.5			40.6	
Approach LOS		D			D			E			D	

Intersection Summary			
HCM 2000 Control Delay	44.1	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	77.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	6	34	29	239	1	442	8	619	175	661	519	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.94			1.00	0.85		0.97		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.98	
Satd. Flow (prot)		1749			1774	1583		3422		1610	3331	
Flt Permitted		0.97			0.75	1.00		0.95		0.95	0.53	
Satd. Flow (perm)		1711			1391	1583		3241		1610	1809	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	6	35	30	249	1	460	8	645	182	689	541	3
RTOR Reduction (vph)	0	22	0	0	0	244	0	28	0	0	0	0
Lane Group Flow (vph)	0	49	0	0	250	216	0	807	0	400	833	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		22.3			22.3	22.3		31.9		13.3	49.2	
Effective Green, g (s)		22.3			22.3	22.3		31.9		13.3	49.2	
Actuated g/C Ratio		0.28			0.28	0.28		0.40		0.17	0.62	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		476			387	441		1292		267	1365	
v/s Ratio Prot										c0.25	0.10	
v/s Ratio Perm		0.03			c0.18	0.14		0.25			c0.27	
v/c Ratio		0.10			0.65	0.49		0.62		1.50	0.61	
Uniform Delay, d1		21.4			25.4	24.1		19.3		33.4	9.5	
Progression Factor		1.00			1.00	1.00		1.00		0.82	0.81	
Incremental Delay, d2		0.1			3.7	0.9		2.3		235.7	0.5	
Delay (s)		21.5			29.1	25.0		21.5		263.0	8.2	
Level of Service		C			C	C		C		F	A	
Approach Delay (s)		21.5			26.4			21.5			90.9	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.81		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	75.7%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	217	117	84	81	46	14	272	542	396	16	521	216
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.99		1.00	0.94		1.00	0.96	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1766			1786		1770	1745		1770	1781	
Flt Permitted		0.76			0.67		0.10	1.00		0.12	1.00	
Satd. Flow (perm)		1371			1227		187	1745		227	1781	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	228	123	88	85	48	15	286	571	417	17	548	227
RTOR Reduction (vph)	0	8	0	0	4	0	0	28	0	0	15	0
Lane Group Flow (vph)	0	431	0	0	144	0	286	960	0	17	760	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		24.1			24.1		67.9	61.9		50.9	48.9	
Effective Green, g (s)		24.1			24.1		67.9	61.9		50.9	48.9	
Actuated g/C Ratio		0.24			0.24		0.68	0.62		0.51	0.49	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		330			296		364	1080		146	871	
v/s Ratio Prot							c0.12	c0.55		0.00	0.43	
v/s Ratio Perm		c0.31			0.12		0.42			0.06		
v/c Ratio		1.31			0.49		0.79	0.89		0.12	0.87	
Uniform Delay, d1		38.0			32.6		25.0	16.1		16.6	22.8	
Progression Factor		1.00			1.00		1.25	1.15		1.00	1.00	
Incremental Delay, d2		157.6			1.3		10.1	10.4		0.4	11.8	
Delay (s)		195.5			33.9		41.2	29.0		17.0	34.5	
Level of Service		F			C		D	C		B	C	
Approach Delay (s)		195.5			33.9			31.8			34.2	
Approach LOS		F			C			C			C	

Intersection Summary			
HCM Average Control Delay	59.7	HCM Level of Service	E
HCM Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	94.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	262	101	457	8	3	147	0	609	27	113	575	44
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.87			0.99		1.00	0.99	
Flt Protected		0.97	1.00		1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1798	1583		1624			3517		1770	1843	
Flt Permitted		0.65	1.00		0.98			1.00		0.32	1.00	
Satd. Flow (perm)		1205	1583		1597			3517		598	1843	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	270	104	471	8	3	152	0	628	28	116	593	45
RTOR Reduction (vph)	0	0	158	0	97	0	0	3	0	0	3	0
Lane Group Flow (vph)	0	374	313	0	66	0	0	653	0	116	635	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		35.9	35.9		35.9			43.0		56.1	56.1	
Effective Green, g (s)		35.9	35.9		35.9			43.0		56.1	56.1	
Actuated g/C Ratio		0.36	0.36		0.36			0.43		0.56	0.56	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		432	568		573			1512		442	1033	
v/s Ratio Prot								0.19		0.02	c0.34	
v/s Ratio Perm		c0.31	0.20		0.04					0.12		
v/c Ratio		0.87	0.55		0.11			0.43		0.26	0.62	
Uniform Delay, d1		29.8	25.6		21.4			19.9		16.9	14.7	
Progression Factor		1.00	1.00		1.00			1.00		0.90	0.88	
Incremental Delay, d2		16.4	1.2		0.1			0.9		0.2	1.3	
Delay (s)		46.2	26.8		21.5			20.8		15.3	14.3	
Level of Service		D	C		C			C		B	B	
Approach Delay (s)		35.4			21.5			20.8			14.4	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	24.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.74		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	80.9%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	435	124	592	276	85	968
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3370		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3370		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	453	129	617	288	89	1008
RTOR Reduction (vph)	0	84	85	0	0	0
Lane Group Flow (vph)	453	45	820	0	89	1008
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	18.3	18.3	20.3		4.4	28.7
Effective Green, g (s)	18.3	18.3	20.3		4.4	28.7
Actuated g/C Ratio	0.35	0.35	0.38		0.08	0.54
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	611	546	1290		146	1916
v/s Ratio Prot	c0.26		c0.24		0.05	c0.28
v/s Ratio Perm		0.03				
v/c Ratio	0.74	0.08	0.64		0.61	0.53
Uniform Delay, d1	15.3	11.7	13.3		23.5	7.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	4.8	0.1	1.0		7.0	0.3
Delay (s)	20.1	11.8	14.4		30.5	8.1
Level of Service	C	B	B		C	A
Approach Delay (s)	18.3		14.4			9.9
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	13.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	64.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	162	178	37	96	227	146	28	546	160	316	805	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1819	1583		1766		1770	3539	1583	1770	3394	
Flt Permitted		0.59	1.00		0.81		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		1102	1583		1443		1770	3539	1583	1770	3394	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	167	184	38	99	234	151	29	563	165	326	830	313
RTOR Reduction (vph)	0	0	24	0	27	0	0	0	62	0	54	0
Lane Group Flow (vph)	0	351	14	0	457	0	29	563	103	326	1089	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		20.8	20.8		20.8		1.3	17.5	17.5	7.4	23.6	
Effective Green, g (s)		20.8	20.8		20.8		1.3	17.5	17.5	7.4	23.6	
Actuated g/C Ratio		0.38	0.38		0.38		0.02	0.32	0.32	0.14	0.43	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		419	601		548		42	1132	506	239	1464	
v/s Ratio Prot							0.02	0.16		c0.18	c0.32	
v/s Ratio Perm		c0.32	0.01		0.32				0.07			
v/c Ratio		0.84	0.02		0.83		0.69	0.50	0.20	1.36	0.74	
Uniform Delay, d1		15.4	10.6		15.4		26.5	15.0	13.5	23.7	13.0	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		13.6	0.0		10.5		39.1	0.3	0.2	188.4	2.1	
Delay (s)		29.0	10.6		25.9		65.6	15.4	13.7	212.0	15.1	
Level of Service		C	B		C		E	B	B	F	B	
Approach Delay (s)		27.2			25.9			17.0			58.8	
Approach LOS		C			C			B			E	

Intersection Summary			
HCM 2000 Control Delay	39.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.93		
Actuated Cycle Length (s)	54.7	Sum of lost time (s)	9.0
Intersection Capacity Utilization	93.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	312	1311	129	170	1056	107	355	465	138	64	499	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.99		1.00	0.97		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3492		1770	3491		1770	3418		1770	3411	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3492		1770	3491		1770	3418		1770	3411	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	322	1352	133	175	1089	110	366	479	142	66	514	163
RTOR Reduction (vph)	0	5	0	0	5	0	0	19	0	0	21	0
Lane Group Flow (vph)	322	1480	0	175	1194	0	366	602	0	66	656	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	24.0	57.7		13.0	46.7		27.0	44.5		8.3	25.8	
Effective Green, g (s)	24.0	57.7		13.0	46.7		27.0	44.5		8.3	25.8	
Actuated g/C Ratio	0.17	0.41		0.09	0.33		0.19	0.32		0.06	0.18	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	303	1439		164	1164		341	1086		104	628	
v/s Ratio Prot	c0.18	c0.42		0.10	0.34		c0.21	0.18		0.04	c0.19	
v/s Ratio Perm												
v/c Ratio	1.06	1.03		1.07	1.03		1.07	0.55		0.63	1.04	
Uniform Delay, d1	58.0	41.1		63.5	46.6		56.5	39.5		64.4	57.1	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	69.2	31.3		89.2	33.1		69.6	0.6		12.0	48.0	
Delay (s)	127.2	72.4		152.7	79.7		126.1	40.2		76.4	105.1	
Level of Service	F	E		F	E		F	D		E	F	
Approach Delay (s)		82.2			89.0			72.0			102.5	
Approach LOS		F			F			E			F	

Intersection Summary			
HCM 2000 Control Delay	85.1	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	102.1%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	130	1156	66	150	1009	176	140	787	159	75	422	112
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3510		1770	3460			3439			3420	
Flt Permitted	0.16	1.00		0.16	1.00			0.70			0.61	
Satd. Flow (perm)	298	3510		298	3460			2428			2109	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	141	1257	72	163	1097	191	152	855	173	82	459	122
RTOR Reduction (vph)	0	8	0	0	26	0	0	16	0	0	26	0
Lane Group Flow (vph)	141	1321	0	163	1262	0	0	1164	0	0	637	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	25.0	25.0		25.0	25.0			21.5			21.5	
Effective Green, g (s)	25.0	25.0		25.0	25.0			21.5			21.5	
Actuated g/C Ratio	0.45	0.45		0.45	0.45			0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	135	1595		135	1572			949			824	
v/s Ratio Prot		0.38			0.36							
v/s Ratio Perm	0.47			c0.55				c0.48			0.30	
v/c Ratio	1.04	0.83		1.21	0.80			1.23			0.77	
Uniform Delay, d1	15.0	13.1		15.0	12.9			16.8			14.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	89.8	3.7		143.7	3.1			111.4			4.6	
Delay (s)	104.8	16.8		158.7	16.0			128.2			19.2	
Level of Service	F	B		F	B			F			B	
Approach Delay (s)		25.3			32.0			128.2			19.2	
Approach LOS		C			C			F			B	

Intersection Summary			
HCM 2000 Control Delay	52.0	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.21		
Actuated Cycle Length (s)	55.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	117.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	136	367	61	889	108	35	606	34	94	39
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.98			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4943		3482			3530	1770	1583	
Flt Permitted		0.99		1.00			0.83	0.95	1.00	
Satd. Flow (perm)		4943		3482			2921	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	148	399	66	966	117	38	659	37	102	42
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	78	0
Lane Group Flow (vph)	0	613	0	1067	0	0	697	37	66	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		13.5		25.0			25.0	8.5	8.5	
Effective Green, g (s)		13.5		25.0			25.0	8.5	8.5	
Actuated g/C Ratio		0.23		0.42			0.42	0.14	0.14	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		1131		1475			1237	255	228	
v/s Ratio Prot				c0.31				0.02		
v/s Ratio Perm		0.12					0.24		c0.04	
v/c Ratio		0.54		0.72			0.56	0.15	0.29	
Uniform Delay, d1		20.0		14.1			12.9	22.1	22.6	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.5		1.8			0.6	0.3	0.7	
Delay (s)		20.6		15.9			13.5	22.3	23.3	
Level of Service		C		B			B	C	C	
Approach Delay (s)		20.6		15.9			13.5	23.1		
Approach LOS		C		B			B	C		

Intersection Summary			
HCM 2000 Control Delay	16.9	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.59		
Actuated Cycle Length (s)	59.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	72.3%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	54	721	200	118	626	121	166	773	110	86	569	79
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.98			0.98			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3421			3442			3456			3462	
Flt Permitted		0.80			0.57			0.64			0.62	
Satd. Flow (perm)		2733			1962			2215			2161	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	57	759	211	124	659	127	175	814	116	91	599	83
RTOR Reduction (vph)	0	33	0	0	19	0	0	13	0	0	13	0
Lane Group Flow (vph)	0	994	0	0	891	0	0	1092	0	0	760	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		29.0			29.0			31.0			31.0	
Effective Green, g (s)		29.0			29.0			31.0			31.0	
Actuated g/C Ratio		0.41			0.41			0.44			0.44	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1132			812			980			957	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.45			c0.49			0.35	
v/c Ratio		0.88			1.10			1.11			0.79	
Uniform Delay, d1		18.9			20.5			19.5			16.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		7.9			61.7			65.6			4.6	
Delay (s)		26.8			82.2			85.1			21.3	
Level of Service		C			F			F			C	
Approach Delay (s)		26.8			82.2			85.1			21.3	
Approach LOS		C			F			F			C	

Intersection Summary			
HCM 2000 Control Delay	55.8	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	119.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	612	412	287	698	829	95	30	693	109
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		0.97	0.95	
Frt				1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1748		3433	3485		3433	3467	
Flt Permitted				0.95	1.00		0.18	1.00		0.30	1.00	
Satd. Flow (perm)				1770	1748		648	3485		1074	3467	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	638	429	299	727	864	99	31	722	114
RTOR Reduction (vph)	0	0	0	0	36	0	0	13	0	0	18	0
Lane Group Flow (vph)	0	0	0	638	692	0	727	950	0	31	818	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)				27.6	27.6		33.4	33.4		17.8	17.8	
Effective Green, g (s)				27.6	27.6		33.4	33.4		17.8	17.8	
Actuated g/C Ratio				0.39	0.39		0.48	0.48		0.25	0.25	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				697	689		750	1662		273	881	
v/s Ratio Prot					c0.40		c0.15	0.27			0.24	
v/s Ratio Perm				0.36			c0.31			0.03		
v/c Ratio				0.92	1.00		0.97	0.57		0.11	0.93	
Uniform Delay, d1				20.1	21.2		16.5	13.2		20.0	25.5	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				16.6	35.5		25.2	0.5		0.2	15.6	
Delay (s)				36.7	56.7		41.7	13.6		20.2	41.1	
Level of Service				D	E		D	B		C	D	
Approach Delay (s)		0.0			47.3			25.7			40.3	
Approach LOS		A			D			C			D	

Intersection Summary			
HCM 2000 Control Delay	36.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	93.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	88	482	77	24	0	143	13	1384	559	300	682	371
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91	1.00	1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00		0.85		0.96		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3387	1583	1770		1583		3386		3433	3352	
Flt Permitted	0.95	1.00	1.00	0.17		1.00		0.94		0.05	1.00	
Satd. Flow (perm)	1610	3387	1583	320		1583		3193		164	3352	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	93	507	81	25	0	151	14	1457	588	316	718	391
RTOR Reduction (vph)	0	0	40	0	0	118	0	9	0	0	54	0
Lane Group Flow (vph)	84	516	41	25	0	33	0	2050	0	316	1055	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	23.3	23.3	23.3	23.3		23.3		84.5		96.0	96.0	
Effective Green, g (s)	23.3	23.3	23.3	23.3		23.3		84.5		96.0	96.0	
Actuated g/C Ratio	0.18	0.18	0.18	0.18		0.18		0.66		0.75	0.75	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	292	615	287	58		287		2102		326	2508	
v/s Ratio Prot										c0.06	0.31	
v/s Ratio Perm	0.05	0.15	0.03	0.08		0.02		0.64		c0.66		
v/c Ratio	0.29	0.84	0.14	0.43		0.12		0.98		0.97	0.42	
Uniform Delay, d1	45.3	50.7	44.1	46.6		43.9		20.9		43.0	5.9	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.5	9.8	0.2	5.1		0.2		14.2		41.1	0.1	
Delay (s)	45.9	60.5	44.3	51.7		44.1		35.1		84.1	6.0	
Level of Service	D	E	D	D		D		D		F	A	
Approach Delay (s)		56.8			45.1			35.1			23.4	
Approach LOS		E			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.0	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	128.3	Sum of lost time (s)	12.5
Intersection Capacity Utilization	118.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	178	331	88	4	220	266	66	509	12	301	703	88
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.97			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1804			3536	1583		1847		1770	1766	1504
Flt Permitted	0.58	1.00			0.95	1.00		0.83		0.95	1.00	1.00
Satd. Flow (perm)	1085	1804			3361	1583		1538		1770	1766	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	185	345	92	4	229	277	69	530	12	314	732	92
RTOR Reduction (vph)	0	0	0	0	0	190	0	1	0	0	13	20
Lane Group Flow (vph)	185	437	0	0	233	87	0	610	0	314	728	63
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	28.9	28.9			28.9	28.9		42.0		11.2	56.2	56.2
Effective Green, g (s)	28.9	28.9			28.9	28.9		42.0		11.2	56.2	56.2
Actuated g/C Ratio	0.31	0.31			0.31	0.31		0.45		0.12	0.61	0.61
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	339	564			1051	495		699		214	1074	914
v/s Ratio Prot		c0.24								c0.18	0.41	
v/s Ratio Perm	0.17				0.07	0.05		c0.40				0.04
v/c Ratio	0.55	0.77			0.22	0.18		0.87		1.47	0.68	0.07
Uniform Delay, d1	26.3	28.8			23.4	23.1		22.8		40.6	12.1	7.4
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	1.8	6.6			0.1	0.2		11.7		234.0	1.7	0.0
Delay (s)	28.1	35.4			23.6	23.3		34.5		274.6	13.8	7.4
Level of Service	C	D			C	C		C		F	B	A
Approach Delay (s)		33.2			23.4			34.5			85.3	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	52.3	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	92.4	Sum of lost time (s)	14.4
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	124	0	0	28	0	108	916	169	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	143	0	0	32	0	124	1053	194	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1414	1495	0	1372	1301	1053	0			1247		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1414	1495	0	1372	1301	1053	0			1247		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	0	100	0	78	100	92			100		
cM capacity (veh/h)	91	113	1085	0	149	275	1623			558		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	143	32	686
Volume Left	0	0	62
Volume Right	0	0	97
cSH	113	149	1623
Volume to Capacity	1.26	0.22	0.08
Queue Length 95th (ft)	234	20	6
Control Delay (s)	240.4	35.8	1.5
Lane LOS	F	E	A
Approach Delay (s)	240.4	35.8	1.5
Approach LOS	F	E	

Intersection Summary			
Average Delay	42.3		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	946	161	0	0	167	57
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1006	171	0	0	178	61
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1178		1092	1092
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1178		1092	1092
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		25	77
cM capacity (veh/h)			593		237	261

Direction, Lane #	EB 1	NB 1
Volume Total	1178	238
Volume Left	0	178
Volume Right	171	61
cSH	1700	281
Volume to Capacity	0.69	0.85
Queue Length 95th (ft)	0	179
Control Delay (s)	0.0	61.6
Lane LOS		F
Approach Delay (s)	0.0	61.6
Approach LOS		F

Intersection Summary			
Average Delay	10.4		
Intersection Capacity Utilization	75.5%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	141	713	317	60	598	0	0	562	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	4.0
Lane Util. Factor					0.95	1.00		1.00			1.00	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3510	1583		1854			1863	1583
Flt Permitted					0.99	1.00		0.88			1.00	1.00
Satd. Flow (perm)					3510	1583		1632			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	152	767	341	65	643	0	0	604	267
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	919	341	0	708	0	0	604	267
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					26.0	80.0		46.0			46.0	80.0
Effective Green, g (s)					26.0	80.0		46.0			46.0	80.0
Actuated g/C Ratio					0.32	1.00		0.58			0.58	1.00
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					1140	1583		938			1071	1583
v/s Ratio Prot											0.32	
v/s Ratio Perm					0.26	0.22		c0.43				0.17
v/c Ratio					0.81	0.22		0.75			0.56	0.17
Uniform Delay, d1					24.7	0.0		12.8			10.7	0.0
Progression Factor					1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2					4.3	0.3		5.6			2.2	0.2
Delay (s)					29.0	0.3		18.4			12.8	0.2
Level of Service					C	A		B			B	A
Approach Delay (s)		0.0			21.2			18.4			9.0	
Approach LOS		A			C			B			A	

Intersection Summary			
HCM 2000 Control Delay	16.7	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	141	713	317	60	598	0	0	562	248
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	4.0
Lane Util. Factor					0.95	1.00		1.00			1.00	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3510	1583		1854			1863	1583
Flt Permitted					0.99	1.00		0.88			1.00	1.00
Satd. Flow (perm)					3510	1583		1632			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	152	767	341	65	643	0	0	604	267
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	919	341	0	708	0	0	604	267
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					26.0	80.0		46.0			46.0	80.0
Effective Green, g (s)					26.0	80.0		46.0			46.0	80.0
Actuated g/C Ratio					0.32	1.00		0.58			0.58	1.00
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					1141	1583		938			1071	1583
v/s Ratio Prot											0.32	
v/s Ratio Perm					0.26	0.22		c0.43				0.17
v/c Ratio					0.81	0.22		0.75			0.56	0.17
Uniform Delay, d1					24.7	0.0		12.8			10.7	0.0
Progression Factor					1.00	1.00		1.30			1.00	1.00
Incremental Delay, d2					4.2	0.3		5.5			2.2	0.2
Delay (s)					28.9	0.3		22.1			12.8	0.2
Level of Service					C	A		C			B	A
Approach Delay (s)		0.0			21.2			22.1			9.0	
Approach LOS		A			C			C			A	

Intersection Summary			
HCM Average Control Delay	17.7	HCM Level of Service	B
HCM Volume to Capacity ratio	0.77		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	98.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	660	556	925	250
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	710	598	995	269
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	710	598	995	269
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			14.3	55.7	33.4	55.7
Effective Green, g (s)			14.3	55.7	33.4	55.7
Actuated g/C Ratio			0.26	1.00	0.60	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			881	1863	1117	1583
v/s Ratio Prot			0.21	c0.32	c0.53	
v/s Ratio Perm						0.17
v/c Ratio			0.81	0.32	0.89	0.17
Uniform Delay, d1			19.4	0.0	9.6	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			5.4	0.1	9.1	0.2
Delay (s)			24.8	0.1	18.7	0.2
Level of Service			C	A	B	A
Approach Delay (s)	0.0			13.5	14.8	
Approach LOS	A			B	B	

Intersection Summary			
HCM 2000 Control Delay	14.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	55.7	Sum of lost time (s)	8.0
Intersection Capacity Utilization	74.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	498	668	329	0	0	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	535	718	354	0	0	365
RTOR Reduction (vph)	0	363	0	0	0	0
Lane Group Flow (vph)	535	355	354	0	0	365
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	16.2	16.2	15.8			15.8
Effective Green, g (s)	16.2	16.2	15.8			15.8
Actuated g/C Ratio	0.40	0.40	0.40			0.40
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	716	1128	735			735
v/s Ratio Prot	c0.30		0.19			c0.20
v/s Ratio Perm		0.13				
v/c Ratio	0.75	0.31	0.48			0.50
Uniform Delay, d1	10.2	8.1	9.0			9.1
Progression Factor	1.00	1.00	1.07			1.00
Incremental Delay, d2	4.3	0.2	1.5			2.4
Delay (s)	14.4	8.3	11.2			11.5
Level of Service	B	A	B			B
Approach Delay (s)	10.9		11.2			11.5
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	11.1	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.62		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	52.1%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.92					
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	677	240			479	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	94			97	
cM capacity (veh/h)	342	761			1079	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	429	1700	1700	1079	1700
Volume to Capacity	0.14	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	12	0	0	2	0
Control Delay (s)	14.8	0.0	0.0	0.9	0.0
Lane LOS	B			A	
Approach Delay (s)	14.8	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

2035 No Project AM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	200	103	222	100	100	376
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	213	110	236	106	106	400
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	849	236			343	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	849	236			343	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	30	86			91	
cM capacity (veh/h)	302	803			1216	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	322	236	106	106	400
Volume Left	213	0	0	106	0
Volume Right	110	0	106	0	0
cSH	408	1700	1700	1216	1700
Volume to Capacity	0.79	0.14	0.06	0.09	0.24
Queue Length 95th (ft)	171	0	0	7	0
Control Delay (s)	39.7	0.0	0.0	8.2	0.0
Lane LOS	E			A	
Approach Delay (s)	39.7	0.0		1.7	
Approach LOS	E				

Intersection Summary			
Average Delay	11.7		
Intersection Capacity Utilization	38.3%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	700	300	159	1200	32	192	204	37	22	368	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.96			1.00			0.99			0.99	
Flt Protected		1.00			0.99			0.98			1.00	
Satd. Flow (prot)		3380			3507			3418			3489	
Flt Permitted		0.90			0.64			0.59			0.91	
Satd. Flow (perm)		3040			2244			2075			3196	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	753	323	171	1290	34	206	219	40	24	396	35
RTOR Reduction (vph)	0	30	0	0	2	0	0	9	0	0	8	0
Lane Group Flow (vph)	0	1070	0	0	1493	0	0	456	0	0	447	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		51.0			51.0			16.0			16.0	
Effective Green, g (s)		51.0			51.0			16.0			16.0	
Actuated g/C Ratio		0.68			0.68			0.21			0.21	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2067			1525			442			681	
v/s Ratio Prot												
v/s Ratio Perm		0.35			c0.67			c0.22			0.14	
v/c Ratio		0.52			0.98			1.45dl			0.66	
Uniform Delay, d1		5.9			11.5			29.5			27.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.2			18.0			50.9			2.3	
Delay (s)		6.1			29.5			80.4			29.3	
Level of Service		A			C			F			C	
Approach Delay (s)		6.1			29.5			80.4			29.3	
Approach LOS		A			C			F			C	

Intersection Summary			
HCM 2000 Control Delay	28.9	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	106.0%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	800	405	217	1450	133	360	320	72	17	750	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	5021		1770	1863	1583		3497	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.94	
Satd. Flow (perm)		5085	1583	1770	5021		1770	1863	1583		3298	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	860	435	233	1559	143	387	344	77	18	806	65
RTOR Reduction (vph)	0	0	85	0	9	0	0	0	28	0	5	0
Lane Group Flow (vph)	0	860	350	233	1693	0	387	344	49	0	884	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		29.5	29.5	15.0	48.5		21.0	57.1	57.1		32.6	
Effective Green, g (s)		29.5	29.5	15.0	48.5		21.0	57.1	57.1		32.6	
Actuated g/C Ratio		0.25	0.25	0.13	0.42		0.18	0.49	0.49		0.28	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1286	400	227	2088		318	912	775		922	
v/s Ratio Prot		0.17		c0.13	c0.34		c0.22	0.18				
v/s Ratio Perm			0.22						0.03		c0.27	
v/c Ratio		0.67	0.87	1.03	0.81		1.22	0.38	0.06		0.96	
Uniform Delay, d1		39.2	41.8	50.8	30.0		47.8	18.6	15.7		41.3	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		1.0	18.2	66.8	2.4		122.9	0.1	0.0		19.9	
Delay (s)		40.2	60.0	117.6	32.4		170.7	18.7	15.7		61.3	
Level of Service		D	E	F	C		F	B	B		E	
Approach Delay (s)		46.8			42.6			91.2			61.3	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	55.1	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	116.6	Sum of lost time (s)	18.5
Intersection Capacity Utilization	87.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	18	1382	23	26	1478
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.88	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3531		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3531		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	13	19	1470	24	28	1572
RTOR Reduction (vph)	0	18	1	0	0	0
Lane Group Flow (vph)	13	1	1493	0	28	1572
Turn Type	NA	Prot	NA		Prot	NA
Protected Phases	8	8	2		1	2
Permitted Phases			2			2
Actuated Green, G (s)	2.1	2.1	31.3		1.1	31.3
Effective Green, g (s)	2.1	2.1	31.3		1.1	31.3
Actuated g/C Ratio	0.05	0.05	0.67		0.02	0.67
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	79	125	2376		41	2382
v/s Ratio Prot	c0.01	0.00	0.42		c0.02	c0.44
v/s Ratio Perm						
v/c Ratio	0.16	0.01	0.63		0.68	0.66
Uniform Delay, d1	21.4	21.2	4.3		22.5	4.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.0	0.5		37.9	0.7
Delay (s)	22.3	21.2	4.8		60.5	5.1
Level of Service	C	C	A		E	A
Approach Delay (s)	21.7		4.8			6.1
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	46.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	50.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	220	473	63	842
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	229	493	66	877
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1045	361			722	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1045	361			722	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			93	
cM capacity (veh/h)	207	636			876	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	153	569	358	585
Volume Left	0	0	66	0
Volume Right	0	493	0	0
cSH	1700	1700	876	1700
Volume to Capacity	0.09	0.33	0.07	0.34
Queue Length 95th (ft)	0	0	6	0
Control Delay (s)	0.0	0.0	2.4	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.9	
Approach LOS				

Intersection Summary			
Average Delay	0.5		
Intersection Capacity Utilization	53.1%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	800	133	301	1200	40	218	143	122	75	176	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.93			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3463		1770	3522		1770	1734			1791	
Flt Permitted	0.95	1.00		0.95	1.00		0.42	1.00			0.70	
Satd. Flow (perm)	1770	3463		1770	3522		781	1734			1274	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	81	889	148	334	1333	44	242	159	136	83	196	71
RTOR Reduction (vph)	0	18	0	0	3	0	0	41	0	0	12	0
Lane Group Flow (vph)	81	1019	0	334	1374	0	242	254	0	0	338	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	14.0	29.0		14.0	29.0		22.0	22.0			22.0	
Effective Green, g (s)	14.0	29.0		14.0	29.0		22.0	22.0			22.0	
Actuated g/C Ratio	0.19	0.39		0.19	0.39		0.29	0.29			0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	330	1339		330	1361		229	508			373	
v/s Ratio Prot	0.05	0.29		c0.19	c0.39			0.15				
v/s Ratio Perm							c0.31				0.27	
v/c Ratio	0.25	0.76		1.01	1.01		1.06	0.50			0.91	
Uniform Delay, d1	26.0	20.0		30.5	23.0		26.5	21.9			25.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	4.1		52.6	26.7		75.2	0.3			24.3	
Delay (s)	26.1	24.1		83.1	49.7		101.7	22.2			49.8	
Level of Service	C	C		F	D		F	C			D	
Approach Delay (s)		24.3			56.3			58.1			49.8	
Approach LOS		C			E			E			D	

Intersection Summary			
HCM 2000 Control Delay	46.3	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	88.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	700	202	150	900	65	250	257	174	47	320	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3503		1770	1750			3517	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.43	1.00			0.58	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3503		802	1750			2059	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	36	795	230	170	1023	74	284	292	198	53	364	199
RTOR Reduction (vph)	0	0	170	0	6	0	0	30	0	0	0	122
Lane Group Flow (vph)	36	795	60	170	1091	0	284	460	0	0	417	77
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	3.0	39.1	21.0	8.9	45.0		21.0	21.0			21.0	21.0
Effective Green, g (s)	3.0	39.1	21.0	8.9	45.0		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.04	0.49	0.26	0.11	0.56		0.26	0.26			0.26	0.26
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	66	1729	415	196	1970		210	459			540	415
v/s Ratio Prot	0.02	c0.22		c0.10	c0.31			0.26				
v/s Ratio Perm			0.04				c0.35				0.20	0.05
v/c Ratio	0.55	0.46	0.15	0.87	0.55		1.35	1.00			0.77	0.18
Uniform Delay, d1	37.8	13.5	22.6	35.0	11.1		29.5	29.5			27.3	22.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			0.95	0.69
Incremental Delay, d2	4.9	0.9	0.1	29.9	1.1		186.5	42.4			0.6	0.0
Delay (s)	42.7	14.4	22.7	64.9	12.2		216.0	71.9			26.5	15.7
Level of Service	D	B	C	E	B		F	E			C	B
Approach Delay (s)		17.1			19.3			124.8			23.0	
Approach LOS		B			B			F			C	

Intersection Summary			
HCM 2000 Control Delay	41.3	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	80.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	832	53	64	100
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	858	55	66	103
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	912				885	885
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	912				885	885
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				79	70
cM capacity (veh/h)	747				315	344

Direction, Lane #	WB 1	SB 1
Volume Total	885	85
Volume Left	0	33
Volume Right	27	52
cSH	1700	564
Volume to Capacity	0.52	0.15
Queue Length 95th (ft)	0	13
Control Delay (s)	0.0	17.5
Lane LOS		C
Approach Delay (s)	0.0	17.5
Approach LOS		C

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	59.9%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	20	50	769	200	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	53	809	211	0	0
Approach Volume (veh/h)		74	1020		0	
Crossing Volume (veh/h)		0	21		809	
High Capacity (veh/h)		1385	1362		727	
High v/c (veh/h)		0.05	0.75		0.00	
Low Capacity (veh/h)		1161	1141		573	
Low v/c (veh/h)		0.06	0.89		0.00	

Intersection Summary			
Maximum v/c High	0.75		
Maximum v/c Low	0.89		
Intersection Capacity Utilization	56.0%	ICU Level of Service	B

Intersection	
Intersection Delay (sec/veh)	32.3
Intersection LOS	D

Approach	EB	WB	SB
Entry Lanes	1	1	1
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	74	1020	0
Demand Flow Rate (pc/h)	75	1040	0
Vehicles Circulating (pc/h)	0	21	825
Vehicles Exiting (pc/h)	825	54	236
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	3.8	34.3	0.0
Approach LOS	A	D	-

Lane	Left	Left	Left
Designated moves	LT	TR	R
Assumed Moves	LT	TR	R
Right Turn Channelized			
Lane Utilization	1.000	1.000	1.000
Critical Headway (s)	5.193	5.193	5.193
Entry Flow Rate (pc/h)	75	1040	0
Capacity, Entry Lane (pc/h)	1130	1106	495
Entry HV Adjustment Factor	0.986	0.981	1.000
Flow Rate, Entry (vph)	74	1020	0
Capacity, Entry (vph)	1114	1085	495
Volume to Capacity Ratio	0.066	0.940	0.000
Control Delay (sec/veh)	3.8	34.3	7.3
Level of Service	A	D	A
95th-Percentile Queue (veh)	0	16	0

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	940	207	203	1428	0	0	0	0	600	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.98	1.00					1.00	1.00
Satd. Flow (prot)			2787		1817	2787					1863	1583
Flt Permitted			1.00		0.98	1.00					1.00	1.00
Satd. Flow (perm)			2787		1817	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	979	216	211	1488	0	0	0	0	625	12
RTOR Reduction (vph)	0	0	225	0	46	895	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	754	0	381	593	0	0	0	0	625	12
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			31.9		31.9	31.9					40.1	80.0
Effective Green, g (s)			31.9		31.9	31.9					40.1	80.0
Actuated g/C Ratio			0.40		0.40	0.40					0.50	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1111		724	1111					933	1583
v/s Ratio Prot											c0.34	
v/s Ratio Perm			c0.27		0.21	0.21						0.01
v/c Ratio			0.68		0.53	0.53					0.67	0.01
Uniform Delay, d1			19.8		18.3	18.4					15.0	0.0
Progression Factor			1.00		0.92	1.35					1.00	1.00
Incremental Delay, d2			1.7		0.3	0.2					3.8	0.0
Delay (s)			21.5		17.2	25.0					18.8	0.0
Level of Service			C		B	C					B	A
Approach Delay (s)		21.5			23.3			0.0			18.4	
Approach LOS		C			C			A			B	

Intersection Summary			
HCM 2000 Control Delay	21.9	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.67		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.6%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	100	61	1613	430	813	6	0	265
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.95		1.00	0.90			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1767		3433	1680			1615	
Flt Permitted	1.00		0.62	1.00			0.92	
Satd. Flow (perm)	1767		2223	1680			1492	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	63	1663	443	838	6	0	273
RTOR Reduction (vph)	0	0	0	0	0	0	70	0
Lane Group Flow (vph)	166	0	1663	1281	0	0	209	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	12.4		59.6	59.6			59.6	
Effective Green, g (s)	12.4		59.6	59.6			59.6	
Actuated g/C Ratio	0.16		0.75	0.75			0.75	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	273		1656	1251			1111	
v/s Ratio Prot	c0.09			c0.76				
v/s Ratio Perm			0.75				0.14	
v/c Ratio	0.61		1.00	1.02			0.19	
Uniform Delay, d1	31.5		10.2	10.2			3.0	
Progression Factor	1.00		1.00	1.00			1.88	
Incremental Delay, d2	3.8		23.1	31.7			0.1	
Delay (s)	35.3		33.3	41.9			5.7	
Level of Service	D		C	D			A	
Approach Delay (s)	35.3			37.1			5.7	
Approach LOS	D			D			A	

Intersection Summary			
HCM 2000 Control Delay	34.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	108.3%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	78	2833	58	81	0	1666
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	80	2891	59	0	0	1700
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	3770	1475			0	2950	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3770	1475			0	2950	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	31			0	100	
cM capacity (veh/h)	3	116			0	118	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	80	1927	993	0	850	850
Volume Left	0	0	0	0	0	0
Volume Right	80	0	30	0	0	0
cSH	116	1700	1700	1700	1700	1700
Volume to Capacity	0.69	1.13	0.58	0.00	0.50	0.50
Queue Length 95th (ft)	92	0	0	0	0	0
Control Delay (s)	86.8	0.0	0.0	0.0	0.0	0.0
Lane LOS	F					
Approach Delay (s)	86.8	0.0		0.0		
Approach LOS	F					

Intersection Summary			
Average Delay	1.5		
Intersection Capacity Utilization	91.7%	ICU Level of Service	F
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	285	450	148	64	150	650	13	45	921	120	26	987
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.97		0.85	1.00	1.00			0.98			0.99
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3250		1441	1770	3529			3473			3501
Flt Permitted		0.59		1.00	0.19	1.00			0.75			0.84
Satd. Flow (perm)		1949		1441	361	3529			2604			2960
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	300	474	156	67	158	684	14	47	969	126	27	1039
RTOR Reduction (vph)	0	1	0	14	0	2	0	0	0	0	0	6
Lane Group Flow (vph)	0	936	0	46	158	696	0	0	1142	0	0	1133
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		34.3		34.3	34.3	34.3			31.3			31.3
Effective Green, g (s)		34.3		34.3	34.3	34.3			31.3			31.3
Actuated g/C Ratio		0.46		0.46	0.46	0.46			0.42			0.42
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		891		659	165	1613			1086			1235
v/s Ratio Prot						0.20						
v/s Ratio Perm		c0.48		0.03	0.44				c0.44			0.38
v/c Ratio		1.15dl		0.07	0.96	0.43			1.05			0.92
Uniform Delay, d1		20.4		11.4	19.6	13.8			21.9			20.6
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		44.5		0.0	56.9	0.2			41.9			10.7
Delay (s)		64.8		11.5	76.6	13.9			63.8			31.3
Level of Service		E		B	E	B			E			C
Approach Delay (s)		61.6				25.5			63.8			31.3
Approach LOS		E				C			E			C

Intersection Summary			
HCM 2000 Control Delay	46.4	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	119.1%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	SBR
Lane Configurations	
Volume (vph)	69
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	73
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	65	763	60	185	1661	199	40	447	55	60	422	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3500		1770	3482			3472			3397	
Flt Permitted	0.95	1.00		0.95	1.00			0.72			0.70	
Satd. Flow (perm)	1770	3500		1770	3482			2506			2382	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	67	787	62	191	1712	205	41	461	57	62	435	155
RTOR Reduction (vph)	0	4	0	0	8	0	0	7	0	0	24	0
Lane Group Flow (vph)	67	845	0	191	1909	0	0	552	0	0	628	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.0	62.5		16.5	74.0			32.0			32.0	
Effective Green, g (s)	5.0	62.5		16.5	74.0			32.0			32.0	
Actuated g/C Ratio	0.04	0.51		0.13	0.60			0.26			0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	71	1778		237	2094			651			619	
v/s Ratio Prot	0.04	0.24		c0.11	c0.55							
v/s Ratio Perm								0.22			c0.26	
v/c Ratio	0.94	0.48		0.81	0.91			0.85			1.02	
Uniform Delay, d1	58.9	19.6		51.7	21.6			43.2			45.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	86.8	0.2		17.8	6.5			10.0			40.0	
Delay (s)	145.6	19.8		69.5	28.2			53.2			85.5	
Level of Service	F	B		E	C			D			F	
Approach Delay (s)		29.0			31.9			53.2			85.5	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	42.3	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	123.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	102.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	400	300	70	500	40	846	554	162	49	533	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	1863	2787	1770	3500		1610	3322	1583		3425	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	1863	2787	1770	3500		1610	3322	1583		3425	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	136	440	330	77	549	44	930	609	178	54	586	154
RTOR Reduction (vph)	0	0	249	0	6	0	0	0	109	0	23	0
Lane Group Flow (vph)	136	440	81	77	587	0	502	1037	69	0	771	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	8.0	22.0	22.0	4.0	18.0		28.0	28.0	28.0		20.0	
Effective Green, g (s)	8.0	22.0	22.0	4.0	18.0		28.0	28.0	28.0		20.0	
Actuated g/C Ratio	0.09	0.24	0.24	0.04	0.20		0.31	0.31	0.31		0.22	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	157	455	681	78	700		500	1033	492		761	
v/s Ratio Prot	0.08	c0.24		0.04	c0.17		0.31	c0.31			c0.23	
v/s Ratio Perm			0.03						0.04			
v/c Ratio	0.87	0.97	0.12	0.99	0.84		1.00	1.00	0.14		1.01	
Uniform Delay, d1	40.5	33.6	26.5	43.0	34.6		31.0	31.0	22.3		35.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	36.0	34.7	0.4	96.8	11.5		41.2	28.9	0.1		35.8	
Delay (s)	76.5	68.4	26.8	139.7	46.1		72.2	59.9	22.5		70.8	
Level of Service	E	E	C	F	D		E	E	C		E	
Approach Delay (s)		54.5			56.9			59.7			70.8	
Approach LOS		D			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	60.2	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	85.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	58	314	7	1382	70	562	218	400	461	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.86			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.99	
Satd. Flow (prot)		1611			1776	1583		3389		1610	3352	
Flt Permitted		1.00			0.69	1.00		0.81		0.95	0.58	
Satd. Flow (perm)		1611			1279	1583		2751		1610	1957	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	60	327	7	1440	73	585	227	417	480	4
RTOR Reduction (vph)	0	36	0	0	0	211	0	43	0	0	1	0
Lane Group Flow (vph)	0	24	0	0	334	1229	0	842	0	292	608	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		32.5			32.5	32.5		25.9		9.1	39.0	
Effective Green, g (s)		32.5			32.5	32.5		25.9		9.1	39.0	
Actuated g/C Ratio		0.41			0.41	0.41		0.32		0.11	0.49	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		654			519	643		890		183	1112	
v/s Ratio Prot		0.02								c0.18	0.06	
v/s Ratio Perm					0.26	c0.78		c0.31			0.20	
v/c Ratio		0.04			0.64	1.91		0.95		1.60	0.55	
Uniform Delay, d1		14.3			19.1	23.8		26.4		35.5	14.3	
Progression Factor		1.00			1.00	1.00		1.00		0.65	0.62	
Incremental Delay, d2		0.0			2.7	416.1		19.7		281.2	0.3	
Delay (s)		14.3			21.8	439.8		46.1		304.2	9.2	
Level of Service		B			C	F		D		F	A	
Approach Delay (s)		14.3			361.1			46.1			104.8	
Approach LOS		B			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	214.5	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.50		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	125.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	59	80	200	181	17	502	697	120	9	443	332
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.95			0.99		1.00	0.98		1.00	0.94	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1740			1807		1770	1822		1770	1743	
Flt Permitted		0.74			0.63		0.08	1.00		0.29	1.00	
Satd. Flow (perm)		1307			1167		144	1822		540	1743	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	62	84	211	191	18	528	734	126	9	466	349
RTOR Reduction (vph)	0	20	0	0	2	0	0	6	0	0	28	0
Lane Group Flow (vph)	0	213	0	0	418	0	528	854	0	9	787	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		20.3			20.3		71.7	66.7		48.7	47.7	
Effective Green, g (s)		20.3			20.3		71.7	66.7		48.7	47.7	
Actuated g/C Ratio		0.20			0.20		0.72	0.67		0.49	0.48	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		265			237		428	1215		275	831	
v/s Ratio Prot							c0.25	0.47		0.00	0.45	
v/s Ratio Perm		0.16			c0.36		c0.64			0.02		
v/c Ratio		0.80			1.77		1.23	0.70		0.03	0.95	
Uniform Delay, d1		38.0			39.9		32.6	10.4		13.5	25.0	
Progression Factor		1.00			1.00		1.31	0.47		1.00	1.00	
Incremental Delay, d2		16.0			361.1		119.1	2.5		0.0	20.8	
Delay (s)		54.0			401.0		161.7	7.4		13.6	45.7	
Level of Service		D			F		F	A		B	D	
Approach Delay (s)		54.0			401.0			66.1			45.4	
Approach LOS		D			F			E			D	

Intersection Summary			
HCM Average Control Delay	108.2	HCM Level of Service	F
HCM Volume to Capacity ratio	1.33		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	373	73	186	61	4	120	2	826	12	100	474	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.91			1.00		1.00	0.94	
Flt Protected		0.96	1.00		0.98			1.00		0.95	1.00	
Satd. Flow (prot)		1788	1583		1672			3531		1770	1755	
Flt Permitted		0.62	1.00		0.64			0.87		0.19	1.00	
Satd. Flow (perm)		1155	1583		1088			3074		354	1755	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	385	75	192	63	4	124	2	852	12	103	489	308
RTOR Reduction (vph)	0	0	112	0	65	0	0	1	0	0	23	0
Lane Group Flow (vph)	0	460	80	0	126	0	0	865	0	103	774	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		41.8	41.8		41.8			37.2		50.2	50.2	
Effective Green, g (s)		41.8	41.8		41.8			37.2		50.2	50.2	
Actuated g/C Ratio		0.42	0.42		0.42			0.37		0.50	0.50	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		483	662		455			1144		305	881	
v/s Ratio Prot										0.03	c0.44	
v/s Ratio Perm		c0.40	0.05		0.12			0.28		0.14		
v/c Ratio		0.95	0.12		0.28			0.76		0.34	0.88	
Uniform Delay, d1		28.1	17.8		19.2			27.4		27.1	22.2	
Progression Factor		1.00	1.00		1.00			1.00		0.99	0.96	
Incremental Delay, d2		29.1	0.1		0.3			4.7		0.2	4.0	
Delay (s)		57.2	17.9		19.5			32.1		27.0	25.3	
Level of Service		E	B		B			C		C	C	
Approach Delay (s)		45.7			19.5			32.1			25.5	
Approach LOS		D			B			C			C	

Intersection Summary			
HCM Average Control Delay	32.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	115.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	502	100	950	335	47	789
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3401		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3401		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	523	104	990	349	49	822
RTOR Reduction (vph)	0	68	50	0	0	0
Lane Group Flow (vph)	523	36	1289	0	49	822
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	20.5	20.5	25.6		3.2	32.8
Effective Green, g (s)	20.5	20.5	25.6		3.2	32.8
Actuated g/C Ratio	0.35	0.35	0.43		0.05	0.55
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	611	547	1468		95	1957
v/s Ratio Prot	c0.30		c0.38		0.03	c0.23
v/s Ratio Perm		0.02				
v/c Ratio	0.86	0.07	0.88		0.52	0.42
Uniform Delay, d1	18.0	13.0	15.4		27.3	7.7
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	11.3	0.1	6.3		4.7	0.1
Delay (s)	29.4	13.0	21.7		32.0	7.9
Level of Service	C	B	C		C	A
Approach Delay (s)	26.6		21.7			9.2
Approach LOS	C		C			A

Intersection Summary			
HCM 2000 Control Delay	19.0	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	59.3	Sum of lost time (s)	10.0
Intersection Capacity Utilization	73.5%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	120	7	100	362	410	64	883	150	249	634	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.94		1.00	1.00	0.85	1.00	0.94	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1821	1583		1734		1770	3539	1583	1770	3339	
Flt Permitted		0.50	1.00		0.93		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		928	1583		1631		1770	3539	1583	1770	3339	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	124	7	103	373	423	66	910	155	257	654	396
RTOR Reduction (vph)	0	0	4	0	49	0	0	0	36	0	137	0
Lane Group Flow (vph)	0	227	3	0	850	0	66	910	119	257	913	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		28.0	28.0		28.0		3.2	21.0	21.0	7.0	24.8	
Effective Green, g (s)		28.0	28.0		28.0		3.2	21.0	21.0	7.0	24.8	
Actuated g/C Ratio		0.43	0.43		0.43		0.05	0.32	0.32	0.11	0.38	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		399	681		702		87	1143	511	190	1273	
v/s Ratio Prot							0.04	0.26		c0.15	c0.27	
v/s Ratio Perm		0.24	0.00		c0.52				0.08			
v/c Ratio		0.57	0.00		1.21		0.76	0.80	0.23	1.35	0.72	
Uniform Delay, d1		13.9	10.6		18.5		30.5	20.0	16.1	29.0	17.1	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		1.9	0.0		107.9		30.9	3.9	0.2	189.2	2.0	
Delay (s)		15.8	10.6		126.4		61.4	24.0	16.3	218.2	19.1	
Level of Service		B	B		F		E	C	B	F	B	
Approach Delay (s)		15.7			126.4			25.1			58.2	
Approach LOS		B			F			C			E	

Intersection Summary			
HCM 2000 Control Delay	62.1	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.07		
Actuated Cycle Length (s)	65.0	Sum of lost time (s)	9.0
Intersection Capacity Utilization	104.5%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	690	146	262	1653	291	274	439	61	350	820	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.98		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3446		1770	3460		1770	3474		1770	3373	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3446		1770	3460		1770	3474		1770	3373	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	132	711	151	270	1704	300	282	453	63	361	845	386
RTOR Reduction (vph)	0	12	0	0	9	0	0	7	0	0	35	0
Lane Group Flow (vph)	132	850	0	270	1995	0	282	509	0	361	1196	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.3	57.5		11.3	62.5		9.0	58.7		6.0	55.7	
Effective Green, g (s)	6.3	57.5		11.3	62.5		9.0	58.7		6.0	55.7	
Actuated g/C Ratio	0.04	0.38		0.08	0.42		0.06	0.39		0.04	0.37	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	74	1320		133	1441		106	1359		70	1252	
v/s Ratio Prot	0.07	0.25		c0.15	c0.58		0.16	c0.15		c0.20	c0.35	
v/s Ratio Perm												
v/c Ratio	1.78	0.64		2.03	1.38		2.66	0.37		5.16	0.96	
Uniform Delay, d1	71.8	37.9		69.3	43.8		70.5	32.6		72.0	45.9	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	401.4	2.4		488.8	177.3		773.5	0.2		1902.1	15.8	
Delay (s)	473.2	40.3		558.2	221.0		844.0	32.7		1974.1	61.7	
Level of Service	F	D		F	F		F	C		F	E	
Approach Delay (s)		97.8			261.1			319.4			495.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	306.5	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	781	100	184	1630	136	100	405	60	100	499	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.99			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3479		1770	3498			3452			3400	
Flt Permitted	0.10	1.00		0.22	1.00			0.61			0.72	
Satd. Flow (perm)	184	3479		407	3498			2123			2470	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	849	109	200	1772	148	109	440	65	109	542	184
RTOR Reduction (vph)	0	12	0	0	8	0	0	12	0	0	6	0
Lane Group Flow (vph)	62	946	0	200	1912	0	0	602	0	0	829	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Effective Green, g (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	93	1761		206	1770			822			957	
v/s Ratio Prot		0.27			c0.55							
v/s Ratio Perm	0.34			0.49				0.28			c0.34	
v/c Ratio	0.67	0.54		0.97	1.08			0.73			0.87	
Uniform Delay, d1	14.7	13.4		19.2	19.8			21.0			22.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	16.6	0.3		54.1	46.7			5.7			10.4	
Delay (s)	31.3	13.7		73.3	66.5			26.7			33.0	
Level of Service	C	B		E	E			C			C	
Approach Delay (s)		14.8			67.1			26.7			33.0	
Approach LOS		B			E			C			C	

Intersection Summary			
HCM 2000 Control Delay	43.9	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	122.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	12	52	9	489	45	53	689	56	99	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.99			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4950		3494			3527	1770	1583	
Flt Permitted		0.99		1.00			0.88	0.95	1.00	
Satd. Flow (perm)		4950		3494			3122	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	57	10	532	49	58	749	61	108	92
RTOR Reduction (vph)	0	0	0	11	0	0	0	0	74	0
Lane Group Flow (vph)	0	80	0	570	0	0	807	61	126	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		5.5		23.2			23.2	9.3	9.3	
Effective Green, g (s)		5.5		23.2			23.2	9.3	9.3	
Actuated g/C Ratio		0.11		0.46			0.46	0.19	0.19	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		544		1621			1448	329	294	
v/s Ratio Prot				0.16				0.03		
v/s Ratio Perm		0.02					c0.26		c0.08	
v/c Ratio		0.15		0.35			0.56	0.19	0.43	
Uniform Delay, d1		20.1		8.6			9.7	17.2	18.0	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.1			0.5	0.3	1.0	
Delay (s)		20.3		8.7			10.2	17.4	19.0	
Level of Service		C		A			B	B	B	
Approach Delay (s)		20.3		8.7			10.2	18.6		
Approach LOS		C		A			B	B		

Intersection Summary			
HCM 2000 Control Delay	11.4	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.47		
Actuated Cycle Length (s)	50.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	64.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	500	142	185	1000	114	200	370	53	158	475	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.99			0.97	
Flt Protected		1.00			0.99			0.98			0.99	
Satd. Flow (prot)		3418			3468			3439			3403	
Flt Permitted		0.65			0.66			0.51			0.59	
Satd. Flow (perm)		2214			2294			1782			2031	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	526	149	195	1053	120	211	389	56	166	500	158
RTOR Reduction (vph)	0	15	0	0	5	0	0	4	0	0	13	0
Lane Group Flow (vph)	0	713	0	0	1363	0	0	652	0	0	811	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		86.0			86.0			54.0			54.0	
Effective Green, g (s)		86.0			86.0			54.0			54.0	
Actuated g/C Ratio		0.57			0.57			0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1269			1315			641			731	
v/s Ratio Prot												
v/s Ratio Perm		0.32			c0.59			0.37			c0.40	
v/c Ratio		0.56			1.04			1.69dl			1.11	
Uniform Delay, d1		20.1			32.0			48.0			48.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			34.9			39.7			67.2	
Delay (s)		20.7			66.9			87.7			115.2	
Level of Service		C			E			F			F	
Approach Delay (s)		20.7			66.9			87.7			115.2	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	72.4	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	113.4%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	449	355	246	440	558	130	50	627	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		0.97	0.95	
Frt				1.00	0.94		1.00	0.97		1.00	0.99	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1748		3433	3439		3433	3487	
Flt Permitted				0.95	1.00		0.19	1.00		0.38	1.00	
Satd. Flow (perm)				1770	1748		695	3439		1371	3487	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	468	370	256	458	581	135	52	653	71
RTOR Reduction (vph)	0	0	0	0	39	0	0	31	0	0	13	0
Lane Group Flow (vph)	0	0	0	468	587	0	458	685	0	52	711	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)				24.6	24.6		28.4	28.4		16.3	16.3	
Effective Green, g (s)				24.6	24.6		28.4	28.4		16.3	16.3	
Actuated g/C Ratio				0.40	0.40		0.46	0.46		0.26	0.26	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				702	693		653	1575		360	916	
v/s Ratio Prot					c0.34		c0.09	0.20			0.20	
v/s Ratio Perm				0.26			c0.23			0.04		
v/c Ratio				0.67	0.85		0.70	0.43		0.14	0.78	
Uniform Delay, d1				15.3	17.0		12.2	11.4		17.5	21.2	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				2.4	9.4		3.4	0.2		0.2	4.2	
Delay (s)				17.7	26.4		15.6	11.6		17.7	25.4	
Level of Service				B	C		B	B		B	C	
Approach Delay (s)		0.0			22.7			13.1			24.8	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	19.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	62.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	77.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	311	731	0	1	0	162	50	655	587	339	404	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91		1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00		1.00		0.85		0.93		1.00	0.92	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3383		1770		1583		3292		3433	3264	
Flt Permitted	0.95	1.00		0.17		1.00		0.87		0.08	1.00	
Satd. Flow (perm)	1610	3383		308		1583		2884		303	3264	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	327	769	0	1	0	171	53	689	618	357	425	459
RTOR Reduction (vph)	0	0	0	0	0	124	0	12	0	0	174	0
Lane Group Flow (vph)	294	802	0	1	0	47	0	1348	0	357	710	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	24.2	24.2		24.2		24.2		44.2		54.4	54.4	
Effective Green, g (s)	24.2	24.2		24.2		24.2		44.2		54.4	54.4	
Actuated g/C Ratio	0.28	0.28		0.28		0.28		0.50		0.62	0.62	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	444	934		85		437		1455		427	2026	
v/s Ratio Prot										c0.06	0.22	
v/s Ratio Perm	0.18	0.24		0.00		0.03		c0.47		0.45		
v/c Ratio	0.66	0.86		0.01		0.11		0.93		0.84	0.35	
Uniform Delay, d1	28.1	30.1		23.0		23.6		20.2		18.4	8.0	
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	3.7	7.9		0.1		0.1		10.3		13.3	0.1	
Delay (s)	31.8	38.0		23.1		23.8		30.5		31.7	8.1	
Level of Service	C	D		C		C		C		C	A	
Approach Delay (s)		36.3			23.8			30.5			14.9	
Approach LOS		D			C			C			B	

Intersection Summary			
HCM 2000 Control Delay	26.9	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.90		
Actuated Cycle Length (s)	87.6	Sum of lost time (s)	12.5
Intersection Capacity Utilization	98.7%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	150	200	50	1	491	257	160	735	6	260	435	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0			4.0	4.0		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.97			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1807			3539	1583		1845		1770	1766	1504
Flt Permitted	0.29	1.00			0.95	1.00		0.82		0.95	1.00	1.00
Satd. Flow (perm)	536	1807			3379	1583		1529		1770	1766	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	208	52	1	511	268	167	766	6	271	453	74
RTOR Reduction (vph)	0	0	0	0	0	146	0	0	0	0	15	22
Lane Group Flow (vph)	156	260	0	0	512	122	0	939	0	271	445	45
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	28.0	28.0			28.0	28.0		60.2		12.0	75.2	75.2
Effective Green, g (s)	28.0	28.0			28.0	28.0		60.2		12.0	75.2	75.2
Actuated g/C Ratio	0.25	0.25			0.25	0.25		0.54		0.11	0.68	0.68
Clearance Time (s)	4.0	4.0			4.0	4.0		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	135	455			852	399		829		191	1196	1018
v/s Ratio Prot		0.14								c0.15	0.25	
v/s Ratio Perm	c0.29				0.15	0.08		c0.61				0.03
v/c Ratio	1.16	0.57			0.60	0.31		1.13		1.42	0.37	0.04
Uniform Delay, d1	41.5	36.3			36.6	33.6		25.4		49.5	7.7	6.0
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	125.3	1.7			1.2	0.4		74.6		216.3	0.2	0.0
Delay (s)	166.8	38.0			37.8	34.1		100.0		265.8	7.9	6.0
Level of Service	F	D			D	C		F		F	A	A
Approach Delay (s)		86.3			36.5			100.0			95.3	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	79.9	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	14.9
Intersection Capacity Utilization	112.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	200	0	0	55	0	0	770	113	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	230	0	0	63	0	0	885	130	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	917	1015	0	1000	885	885	0			1015		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	917	1015	0	1000	885	885	0			1015		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	4	100	100	78	100	100			100		
cM capacity (veh/h)	209	238	1085	27	284	344	1623			683		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	230	63	918	65
Volume Left	0	0	0	0
Volume Right	0	0	32	65
cSH	238	284	1700	1700
Volume to Capacity	0.96	0.22	0.54	0.04
Queue Length 95th (ft)	219	21	0	0
Control Delay (s)	93.6	21.3	0.0	0.0
Lane LOS	F	C		
Approach Delay (s)	93.6	21.3	0.0	
Approach LOS	F	C		

Intersection Summary			
Average Delay	17.9		
Intersection Capacity Utilization	60.0%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1161	250	0	0	100	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1235	266	0	0	106	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1501		1368	1368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1501		1368	1368
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		34	70
cM capacity (veh/h)			446		162	180

Direction, Lane #	EB 1	NB 1
Volume Total	1501	160
Volume Left	0	106
Volume Right	266	53
cSH	1700	218
Volume to Capacity	0.88	0.73
Queue Length 95th (ft)	0	123
Control Delay (s)	0.0	56.8
Lane LOS		F
Approach Delay (s)	0.0	56.8
Approach LOS		F

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	205	504	194	4	614	0	0	1035	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	4.0
Lane Util. Factor					0.95	1.00		1.00			1.00	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					0.99	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3489	1583		1862			1863	1583
Flt Permitted					0.99	1.00		0.77			1.00	1.00
Satd. Flow (perm)					3489	1583		1436			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	220	542	209	4	660	0	0	1113	365
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	762	209	0	664	0	0	1113	365
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					23.6	80.0		48.4			48.4	80.0
Effective Green, g (s)					23.6	80.0		48.4			48.4	80.0
Actuated g/C Ratio					0.30	1.00		0.60			0.60	1.00
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					1029	1583		868			1127	1583
v/s Ratio Prot											c0.60	
v/s Ratio Perm					0.22	0.13		0.46				0.23
v/c Ratio					0.74	0.13		0.76			0.99	0.23
Uniform Delay, d1					25.4	0.0		11.6			15.5	0.0
Progression Factor					1.00	1.00		1.00			1.00	1.00
Incremental Delay, d2					2.9	0.2		6.4			24.0	0.3
Delay (s)					28.3	0.2		18.0			39.5	0.3
Level of Service					C	A		B			D	A
Approach Delay (s)		0.0			22.3			18.0			29.8	
Approach LOS		A			C			B			C	

Intersection Summary			
HCM 2000 Control Delay	24.9	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	81.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	251	543	0	0	498	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.95			1.00	
Frt		1.00			1.00	
Flt Protected		0.98			0.95	
Satd. Flow (prot)		3484			1770	
Flt Permitted		0.98			0.95	
Satd. Flow (perm)		3484			1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	270	584	0	0	535	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	854	0	0	535	0
Turn Type	Perm	NA			NA	
Protected Phases		4			6	
Permitted Phases	4					
Actuated Green, G (s)		28.4			43.6	
Effective Green, g (s)		28.4			43.6	
Actuated g/C Ratio		0.35			0.55	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1237			965	
v/s Ratio Prot					c0.30	
v/s Ratio Perm		0.25				
v/c Ratio		0.69			0.55	
Uniform Delay, d1		22.0			11.9	
Progression Factor		1.00			1.23	
Incremental Delay, d2		1.7			0.8	
Delay (s)		23.7			15.4	
Level of Service		C			B	
Approach Delay (s)		23.7	0.0		15.4	
Approach LOS		C	A		B	

Intersection Summary			
HCM Average Control Delay	20.5	HCM Level of Service	C
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	1625	520	1125	431
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	1747	559	1210	463
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1747	559	1210	463
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			57.0	140.0	75.0	140.0
Effective Green, g (s)			57.0	140.0	75.0	140.0
Actuated g/C Ratio			0.41	1.00	0.54	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			1397	1863	998	1583
v/s Ratio Prot			c0.51	0.30	c0.65	
v/s Ratio Perm						0.29
v/c Ratio			1.25	0.30	1.21	0.29
Uniform Delay, d1			41.5	0.0	32.5	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			118.8	0.1	105.0	0.5
Delay (s)			160.3	0.1	137.5	0.5
Level of Service			F	A	F	A
Approach Delay (s)	0.0			121.5	99.6	
Approach LOS	A			F	F	

Intersection Summary			
HCM 2000 Control Delay	112.3	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	112.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	517	333	491	0	0	302
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	556	358	528	0	0	325
RTOR Reduction (vph)	0	211	0	0	0	0
Lane Group Flow (vph)	556	147	528	0	0	325
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	15.2	15.2	16.8			16.8
Effective Green, g (s)	15.2	15.2	16.8			16.8
Actuated g/C Ratio	0.38	0.38	0.42			0.42
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	672	1059	782			782
v/s Ratio Prot	c0.31		c0.28			0.17
v/s Ratio Perm		0.05				
v/c Ratio	0.83	0.14	0.68			0.42
Uniform Delay, d1	11.2	8.1	9.4			8.2
Progression Factor	1.00	1.00	1.23			1.00
Incremental Delay, d2	8.3	0.1	1.8			1.6
Delay (s)	19.5	8.2	13.4			9.8
Level of Service	B	A	B			A
Approach Delay (s)	15.0		13.4			9.8
Approach LOS	B		B			A

Intersection Summary			
HCM 2000 Control Delay	13.6	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.75		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	61.2%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.95	0.95			0.95	
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	751	80			333	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	95			97	
cM capacity (veh/h)	318	912			1156	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	418	1700	1700	1156	1700
Volume to Capacity	0.14	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	12	0	0	2	0
Control Delay (s)	15.1	0.0	0.0	0.9	0.0
Lane LOS	C			A	
Approach Delay (s)	15.1	0.0		0.3	
Approach LOS	C				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

2035 No Project PM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	138	60	191	266	201	650
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	147	64	203	283	214	691
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1322	203			486	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1322	203			486	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	92			80	
cM capacity (veh/h)	138	838			1077	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	211	203	283	214	691
Volume Left	147	0	0	214	0
Volume Right	64	0	283	0	0
cSH	187	1700	1700	1077	1700
Volume to Capacity	1.13	0.12	0.17	0.20	0.41
Queue Length 95th (ft)	262	0	0	18	0
Control Delay (s)	155.7	0.0	0.0	9.2	0.0
Lane LOS	F			A	
Approach Delay (s)	155.7	0.0		2.2	
Approach LOS	F				

Intersection Summary			
Average Delay	21.7		
Intersection Capacity Utilization	48.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	1288	400	78	1100	49	133	364	70	45	240	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3413			3507			3434			3450	
Flt Permitted		0.90			0.61			0.73			0.74	
Satd. Flow (perm)		3067			2161			2535			2568	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	1385	430	84	1183	53	143	391	75	48	258	43
RTOR Reduction (vph)	0	38	0	0	4	0	0	15	0	0	15	0
Lane Group Flow (vph)	0	1814	0	0	1316	0	0	594	0	0	334	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		47.4			47.4			18.8			18.8	
Effective Green, g (s)		47.4			47.4			18.8			18.8	
Actuated g/C Ratio		0.64			0.64			0.25			0.25	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1959			1380			642			650	
v/s Ratio Prot												
v/s Ratio Perm		0.59			c0.61			c0.23			0.13	
v/c Ratio		0.93			0.95			0.93			0.51	
Uniform Delay, d1		11.8			12.4			27.0			23.8	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		8.1			14.5			19.3			0.7	
Delay (s)		19.9			26.9			46.3			24.5	
Level of Service		B			C			D			C	
Approach Delay (s)		19.9			26.9			46.3			24.5	
Approach LOS		B			C			D			C	

Intersection Summary			
HCM 2000 Control Delay	26.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	74.2	Sum of lost time (s)	8.0
Intersection Capacity Utilization	122.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	482	1200	544	185	800	69	632	536	125	152	560	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		1.00	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)		5013	1583	1770	5025		1770	1863	1583		3498	
Flt Permitted		0.66	1.00	0.95	1.00		0.95	1.00	1.00		0.72	
Satd. Flow (perm)		3369	1583	1770	5025		1770	1863	1583		2540	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	518	1290	585	199	860	74	680	576	134	163	602	6
RTOR Reduction (vph)	0	0	72	0	9	0	0	0	29	0	1	0
Lane Group Flow (vph)	0	1808	513	199	925	0	680	576	105	0	770	0
Turn Type	Perm	NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)		33.0	33.0	14.7	51.7		21.0	57.0	57.0		32.5	
Effective Green, g (s)		33.0	33.0	14.7	51.7		21.0	57.0	57.0		32.5	
Actuated g/C Ratio		0.28	0.28	0.12	0.43		0.18	0.48	0.48		0.27	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		928	436	217	2170		310	887	753		689	
v/s Ratio Prot				c0.11	0.18		c0.38	0.31				
v/s Ratio Perm		c0.54	0.32						0.07		c0.30	
v/c Ratio		3.45dl	1.18	0.92	0.43		2.19	0.65	0.14		1.12	
Uniform Delay, d1		43.4	43.4	51.9	23.7		49.4	23.8	17.6		43.6	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		430.7	100.7	38.1	0.0		547.6	1.2	0.0		71.5	
Delay (s)		474.0	144.1	90.0	23.7		596.9	25.0	17.6		115.1	
Level of Service		F	F	F	C		F	C	B		F	
Approach Delay (s)		393.4			35.4			304.1			115.1	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	262.5	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.58		
Actuated Cycle Length (s)	119.7	Sum of lost time (s)	18.5
Intersection Capacity Utilization	123.0%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	19	29	992	42	30	1329
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.88	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3517		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3517		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	31	1055	45	32	1414
RTOR Reduction (vph)	0	29	4	0	0	0
Lane Group Flow (vph)	20	2	1096	0	32	1414
Turn Type	NA	custom	NA		Prot	NA
Protected Phases			2 9		1	6 9
Permitted Phases	8	8	2 9			6 9
Actuated Green, G (s)	3.7	3.7	34.6		14.5	25.8
Effective Green, g (s)	3.7	3.7	34.6		14.5	25.8
Actuated g/C Ratio	0.06	0.06	0.53		0.22	0.40
Clearance Time (s)	4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	101	159	1877		396	1409
v/s Ratio Prot			c0.31		0.02	c0.40
v/s Ratio Perm	c0.01	0.00				
v/c Ratio	0.20	0.01	0.58		0.08	1.00
Uniform Delay, d1	29.1	28.8	10.2		19.9	19.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.0	0.5		0.1	24.8
Delay (s)	30.1	28.9	10.7		20.0	44.3
Level of Service	C	C	B		B	D
Approach Delay (s)	29.3		10.7			43.8
Approach LOS	C		B			D

Intersection Summary			
HCM 2000 Control Delay	29.5	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	64.8	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.7%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	124	563	196	1005
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	129	586	204	1047
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1354	358			716	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1354	358			716	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			77	
cM capacity (veh/h)	108	639			881	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	86	630	553	698
Volume Left	0	0	204	0
Volume Right	0	586	0	0
cSH	1700	1700	881	1700
Volume to Capacity	0.05	0.37	0.23	0.41
Queue Length 95th (ft)	0	0	22	0
Control Delay (s)	0.0	0.0	5.7	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.5	
Approach LOS				

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	61.8%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	1300	125	175	900	36	131	155	167	45	103	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3493		1770	3519		1770	1718			1771	
Flt Permitted	0.95	1.00		0.95	1.00		0.48	1.00			0.51	
Satd. Flow (perm)	1770	3493		1770	3519		898	1718			920	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	1444	139	194	1000	40	146	172	186	50	114	66
RTOR Reduction (vph)	0	9	0	0	4	0	0	52	0	0	19	0
Lane Group Flow (vph)	56	1574	0	194	1036	0	146	306	0	0	211	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	9.0	38.7		9.0	38.7		17.3	17.3			17.3	
Effective Green, g (s)	9.0	38.7		9.0	38.7		17.3	17.3			17.3	
Actuated g/C Ratio	0.12	0.52		0.12	0.52		0.23	0.23			0.23	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	212	1802		212	1815		207	396			212	
v/s Ratio Prot	0.03	c0.45		c0.11	0.29			0.18				
v/s Ratio Perm							0.16				c0.23	
v/c Ratio	0.26	0.87		0.92	0.57		0.71	0.77			0.99	
Uniform Delay, d1	30.0	16.0		32.6	12.5		26.5	27.0			28.8	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	6.2		38.3	1.3		8.6	8.3			59.8	
Delay (s)	30.2	22.2		70.9	13.8		35.1	35.3			88.6	
Level of Service	C	C		E	B		D	D			F	
Approach Delay (s)		22.5			22.7			35.2			88.6	
Approach LOS		C			C			D			F	

Intersection Summary			
HCM 2000 Control Delay	28.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.91		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	92.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	1100	219	200	700	93	400	292	359	108	244	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.98	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3477		1770	1709			3486	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.50	1.00			0.54	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3477		926	1709			1920	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	105	1250	249	227	795	106	455	332	408	123	277	62
RTOR Reduction (vph)	0	0	119	0	12	0	0	55	0	0	0	36
Lane Group Flow (vph)	105	1250	130	227	889	0	455	685	0	0	400	26
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	5.6	28.0	33.0	8.0	30.4		33.0	33.0			33.0	33.0
Effective Green, g (s)	5.6	28.0	33.0	8.0	30.4		33.0	33.0			33.0	33.0
Actuated g/C Ratio	0.07	0.35	0.41	0.10	0.38		0.41	0.41			0.41	0.41
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	123	1238	652	177	1321		381	704			792	652
v/s Ratio Prot	0.06	c0.35		c0.13	0.26			0.40				
v/s Ratio Perm			0.08				c0.49				0.21	0.02
v/c Ratio	0.85	1.01	0.20	1.28	0.67		1.19	0.97			1.34dl	0.04
Uniform Delay, d1	36.8	26.0	15.0	36.0	20.7		23.5	23.1			17.4	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	39.1	28.0	0.1	163.1	2.7		110.4	27.0			0.2	0.0
Delay (s)	75.9	54.0	15.1	199.1	23.4		133.9	50.0			17.6	14.0
Level of Service	E	D	B	F	C		F	D			B	B
Approach Delay (s)		49.4			58.8			82.0			17.1	
Approach LOS		D			E			F			B	

Intersection Summary			
HCM 2000 Control Delay	57.3	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	103.7%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	526	65	60	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	542	67	62	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				576	576
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				576	576
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				87	94
cM capacity (veh/h)	969				479	517

Direction, Lane #	WB 1	SB 1
Volume Total	576	45
Volume Left	0	31
Volume Right	34	14
cSH	1700	703
Volume to Capacity	0.34	0.06
Queue Length 95th (ft)	0	5
Control Delay (s)	0.0	12.8
Lane LOS		B
Approach Delay (s)	0.0	12.8
Approach LOS		B

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	41.6%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	0	120	463	126	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	126	487	133	0	0
Approach Volume (veh/h)		126	620		0	
Crossing Volume (veh/h)		0	0		487	
High Capacity (veh/h)		1385	1385		943	
High v/c (veh/h)		0.09	0.45		0.00	
Low Capacity (veh/h)		1161	1161		763	
Low v/c (veh/h)		0.11	0.53		0.00	

Intersection Summary			
Maximum v/c High	0.45		
Maximum v/c Low	0.53		
Intersection Capacity Utilization	35.4%	ICU Level of Service	A

Intersection	
Intersection Delay (sec/veh)	9.1
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	126	620	0
Demand Flow Rate (pc/h)	129	633	0
Vehicles Circulating (pc/h)	0	0	497
Vehicles Exiting (pc/h)	497	129	136
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	4.2	10.1	0.0
Approach LOS	A	B	-

Lane	Left	Left
Designated moves	LT	TR
Assumed Moves	LT	TR
Right Turn Channelized		
Lane Utilization	1.000	1.000
Critical Headway (s)	5.193	5.193
Entry Flow Rate (pc/h)	129	633
Capacity, Entry Lane (pc/h)	1130	1130
Entry HV Adjustment Factor	0.980	0.980
Flow Rate, Entry (vph)	126	620
Capacity, Entry (vph)	1108	1107
Volume to Capacity Ratio	0.114	0.560
Control Delay (sec/veh)	4.2	10.1
Level of Service	A	B
95th-Percentile Queue (veh)	0	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1459	310	82	1300	0	0	0	0	900	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.96	1.00					1.00	1.00
Satd. Flow (prot)			2787		1792	2787					1863	1583
Flt Permitted			1.00		0.96	1.00					1.00	1.00
Satd. Flow (perm)			2787		1792	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	1520	323	85	1354	0	0	0	0	938	6
RTOR Reduction (vph)	0	0	95	0	54	812	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1425	0	354	542	0	0	0	0	938	6
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			32.0		32.0	32.0					40.0	80.0
Effective Green, g (s)			32.0		32.0	32.0					40.0	80.0
Actuated g/C Ratio			0.40		0.40	0.40					0.50	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1115		717	1115					932	1583
v/s Ratio Prot											c0.50	
v/s Ratio Perm			c0.51		0.20	0.19						0.00
v/c Ratio			1.28		0.49	0.49					1.01	0.00
Uniform Delay, d1			24.0		17.9	17.9					20.0	0.0
Progression Factor			1.00		0.85	0.91					1.00	1.00
Incremental Delay, d2			132.0		0.0	0.0					31.1	0.0
Delay (s)			156.0		15.4	16.3					51.1	0.0
Level of Service			F		B	B					D	A
Approach Delay (s)		156.0			16.1			0.0			50.7	
Approach LOS		F			B			A			D	

Intersection Summary			
HCM Average Control Delay	74.1	HCM Level of Service	E
HCM Volume to Capacity ratio	1.13		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	200	58	1679	378	862	20	0	304
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.97		1.00	0.90			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1806		3433	1669			1622	
Flt Permitted	1.00		0.57	1.00			0.59	
Satd. Flow (perm)	1806		2077	1669			961	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	206	60	1731	390	889	21	0	313
RTOR Reduction (vph)	0	0	0	0	0	0	82	0
Lane Group Flow (vph)	266	0	1731	1279	0	0	252	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	14.8		57.2	57.2			57.2	
Effective Green, g (s)	14.8		57.2	57.2			57.2	
Actuated g/C Ratio	0.19		0.72	0.72			0.72	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	334		1485	1193			687	
v/s Ratio Prot	c0.15			0.77				
v/s Ratio Perm			c0.83				0.26	
v/c Ratio	0.80		1.17	1.07			0.37	
Uniform Delay, d1	31.2		11.4	11.4			4.4	
Progression Factor	1.00		1.00	1.00			1.54	
Incremental Delay, d2	12.4		82.3	47.7			0.2	
Delay (s)	43.5		93.7	59.1			7.0	
Level of Service	D		F	E			A	
Approach Delay (s)	43.5			79.0			7.0	
Approach LOS	D			E			A	

Intersection Summary			
HCM 2000 Control Delay	69.7	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	116.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	40	2440	50	350	0	2319
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	41	2490	51	0	0	2366
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	3698	1270			0	2541	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3698	1270			0	2541	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	74			0	100	
cM capacity (veh/h)	3	159			0	173	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	41	1660	855	0	1183	1183
Volume Left	0	0	0	0	0	0
Volume Right	41	0	26	0	0	0
cSH	159	1700	1700	1700	1700	1700
Volume to Capacity	0.26	0.98	0.50	0.00	0.70	0.70
Queue Length 95th (ft)	24	0	0	0	0	0
Control Delay (s)	35.3	0.0	0.0	0.0	0.0	0.0
Lane LOS	E					
Approach Delay (s)	35.3	0.0		0.0		
Approach LOS	E					

Intersection Summary			
Average Delay	0.3		
Intersection Capacity Utilization	101.8%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	250	450	100	84	200	450	27	63	1016	150	89	1128
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.98			0.98
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3272		1441	1770	3510			3465			3467
Flt Permitted		0.63		1.00	0.14	1.00			0.69			0.66
Satd. Flow (perm)		2085		1441	263	3510			2410			2292
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	263	474	105	88	211	474	28	66	1069	158	94	1187
RTOR Reduction (vph)	0	1	0	14	0	5	0	0	0	0	0	11
Lane Group Flow (vph)	0	850	0	65	211	497	0	0	1293	0	0	1435
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		28.3		28.3	28.3	28.3			52.3			52.3
Effective Green, g (s)		28.3		28.3	28.3	28.3			52.3			52.3
Actuated g/C Ratio		0.31		0.31	0.31	0.31			0.58			0.58
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		655		453	82	1103			1400			1331
v/s Ratio Prot						0.14						
v/s Ratio Perm		0.41		0.04	c0.80				0.54			c0.63
v/c Ratio		1.30		0.14	2.57	0.45			0.92			1.08
Uniform Delay, d1		30.9		22.1	30.9	24.6			17.0			18.9
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		145.2		0.1	742.2	0.3			10.4			48.7
Delay (s)		176.1		22.3	773.0	24.9			27.4			67.5
Level of Service		F		C	F	C			C			E
Approach Delay (s)		163.0				246.3			27.4			67.5
Approach LOS		F				F			C			E

Intersection Summary			
HCM 2000 Control Delay	105.1	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.60		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	126.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	157
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	165
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	99	1200	120	80	800	160	50	688	112	50	374	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.97			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3491		1770	3451			3459			3422	
Flt Permitted	0.95	1.00		0.95	1.00			0.84			0.66	
Satd. Flow (perm)	1770	3491		1770	3451			2928			2267	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	102	1237	124	82	825	165	52	709	115	52	386	103
RTOR Reduction (vph)	0	6	0	0	13	0	0	9	0	0	15	0
Lane Group Flow (vph)	102	1355	0	82	977	0	0	867	0	0	526	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.2	49.3		8.6	52.7			33.1			33.1	
Effective Green, g (s)	5.2	49.3		8.6	52.7			33.1			33.1	
Actuated g/C Ratio	0.05	0.48		0.08	0.51			0.32			0.32	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	89	1670		147	1765			940			728	
v/s Ratio Prot	c0.06	c0.39		0.05	c0.28							
v/s Ratio Perm								c0.30			0.23	
v/c Ratio	1.15	0.81		0.56	0.55			0.92			0.72	
Uniform Delay, d1	48.9	22.9		45.4	17.1			33.7			30.9	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	140.2	3.1		4.5	0.4			14.1			3.6	
Delay (s)	189.1	26.0		49.9	17.5			47.9			34.4	
Level of Service	F	C		D	B			D			C	
Approach Delay (s)		37.4			20.0			47.9			34.4	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	34.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.85		
Actuated Cycle Length (s)	103.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	93.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	600	800	159	500	108	400	695	250	58	505	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	0.88	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	1863	2787	1770	3445		1610	3379	1583		3484	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	1863	2787	1770	3445		1610	3379	1583		3484	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	221	659	879	175	549	119	440	764	275	64	555	49
RTOR Reduction (vph)	0	0	567	0	17	0	0	0	100	0	5	0
Lane Group Flow (vph)	221	659	312	175	651	0	387	817	175	0	663	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	18.0	39.0	39.0	10.0	31.0		25.0	25.0	25.0		20.0	
Effective Green, g (s)	18.0	39.0	39.0	10.0	31.0		25.0	25.0	25.0		20.0	
Actuated g/C Ratio	0.16	0.35	0.35	0.09	0.28		0.23	0.23	0.23		0.18	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	289	660	988	160	970		365	767	359		633	
v/s Ratio Prot	0.12	c0.35		c0.10	0.19		0.24	c0.24			c0.19	
v/s Ratio Perm			0.11						0.11			
v/c Ratio	0.76	1.00	0.32	1.09	0.67		1.06	1.07	0.49		1.05	
Uniform Delay, d1	44.0	35.5	25.8	50.0	35.0		42.5	42.5	36.9		45.0	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	11.4	34.7	0.8	98.4	3.7		63.9	51.3	1.0		48.8	
Delay (s)	55.4	70.1	26.6	148.4	38.7		106.4	93.8	38.0		93.8	
Level of Service	E	E	C	F	D		F	F	D		F	
Approach Delay (s)		46.5			61.5			86.7			93.8	
Approach LOS		D			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	68.4	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.04		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	91.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	67	40	248	2	537	15	795	176	939	522	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.95			1.00	0.85		0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00		1.00		0.95	0.98	
Satd. Flow (prot)		1769			1775	1583		3442		1610	3311	
Flt Permitted		0.95			0.60	1.00		0.93		0.95	0.56	
Satd. Flow (perm)		1695			1125	1583		3200		1610	1908	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	70	42	258	2	559	16	828	183	978	544	3
RTOR Reduction (vph)	0	20	0	0	0	414	0	21	0	0	0	0
Lane Group Flow (vph)	0	106	0	0	260	145	0	1006	0	499	1026	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		20.7			20.7	20.7		29.8		27.0	60.8	
Effective Green, g (s)		20.7			20.7	20.7		29.8		27.0	60.8	
Actuated g/C Ratio		0.23			0.23	0.23		0.33		0.30	0.68	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		389			258	364		1059		483	1709	
v/s Ratio Prot										c0.31	0.18	
v/s Ratio Perm		0.06			c0.23	0.09		c0.31			0.23	
v/c Ratio		0.27			1.01	0.40		0.95		1.03	0.60	
Uniform Delay, d1		28.5			34.6	29.4		29.4		31.5	8.0	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.4			58.0	0.7		18.0		49.7	0.6	
Delay (s)		28.8			92.7	30.1		47.4		81.2	8.6	
Level of Service		C			F	C		D		F	A	
Approach Delay (s)		28.8			50.0			47.4			32.3	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	40.8	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	86.8%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	302	142	80	120	70	14	262	647	494	17	510	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.98			0.99		1.00	0.94		1.00	0.95	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1773			1793		1770	1742		1770	1774	
Flt Permitted		0.71			0.65		0.05	1.00		0.06	1.00	
Satd. Flow (perm)		1290			1192		102	1742		108	1774	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	318	149	84	126	74	15	276	681	520	18	537	251
RTOR Reduction (vph)	0	4	0	0	2	0	0	18	0	0	11	0
Lane Group Flow (vph)	0	547	0	0	213	0	276	1183	0	18	777	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		49.0			49.0		93.0	86.0		72.0	69.0	
Effective Green, g (s)		49.0			49.0		93.0	86.0		72.0	69.0	
Actuated g/C Ratio		0.33			0.33		0.62	0.57		0.48	0.46	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		421			389		285	998		85	816	
v/s Ratio Prot							c0.13	c0.68		0.00	0.44	
v/s Ratio Perm		c0.42			0.18		0.47			0.10		
v/c Ratio		1.30			0.55		0.97	1.19		0.21	0.95	
Uniform Delay, d1		50.5			41.4		51.7	32.0		34.7	38.9	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		151.2			1.6		44.1	93.7		1.2	21.7	
Delay (s)		201.7			43.0		95.9	125.7		36.0	60.7	
Level of Service		F			D		F	F		D	E	
Approach Delay (s)		201.7			43.0			120.1			60.1	
Approach LOS		F			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	113.6	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.23		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	113.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	380	138	451	10	5	200	0	625	40	153	571	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.87			0.99		1.00	0.97	
Flt Protected		0.96	1.00		1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1797	1583		1625			3507		1770	1815	
Flt Permitted		0.62	1.00		0.98			1.00		0.21	1.00	
Satd. Flow (perm)		1151	1583		1590			3507		386	1815	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	392	142	465	10	5	206	0	644	41	158	589	121
RTOR Reduction (vph)	0	0	133	0	110	0	0	6	0	0	8	0
Lane Group Flow (vph)	0	534	332	0	111	0	0	679	0	158	702	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		46.4	46.4		46.4			26.6		45.6	45.6	
Effective Green, g (s)		46.4	46.4		46.4			26.6		45.6	45.6	
Actuated g/C Ratio		0.46	0.46		0.46			0.27		0.46	0.46	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		534	734		737			932		383	827	
v/s Ratio Prot								0.19		0.06	c0.39	
v/s Ratio Perm		c0.46	0.21		0.07					0.13		
v/c Ratio		1.00	0.45		0.15			0.73		0.41	0.85	
Uniform Delay, d1		26.8	18.2		15.4			33.4		29.4	24.1	
Progression Factor		1.00	1.00		1.00			1.00		0.94	0.97	
Incremental Delay, d2		38.9	0.4		0.1			5.0		0.3	5.2	
Delay (s)		65.7	18.6		15.5			38.4		27.8	28.7	
Level of Service		E	B		B			D		C	C	
Approach Delay (s)		43.8			15.5			38.4			28.6	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM 2000 Control Delay	35.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	88.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	502	126	754	359	65	1135
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3368		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3368		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	523	131	785	374	68	1182
RTOR Reduction (vph)	0	84	85	0	0	0
Lane Group Flow (vph)	523	47	1074	0	68	1182
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	20.4	20.4	23.1		3.1	30.2
Effective Green, g (s)	20.4	20.4	23.1		3.1	30.2
Actuated g/C Ratio	0.36	0.36	0.41		0.05	0.53
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	637	570	1374		96	1888
v/s Ratio Prot	c0.30		c0.32		0.04	c0.33
v/s Ratio Perm		0.03				
v/c Ratio	0.82	0.08	0.78		0.71	0.63
Uniform Delay, d1	16.4	11.9	14.6		26.3	9.2
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	8.4	0.1	3.0		21.2	0.7
Delay (s)	24.8	12.0	17.5		47.5	9.9
Level of Service	C	B	B		D	A
Approach Delay (s)	22.2		17.5			11.9
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	16.3	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.82		
Actuated Cycle Length (s)	56.6	Sum of lost time (s)	10.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	200	68	150	290	168	28	780	200	350	1006	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.97	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1815	1583		1771		1770	3539	1583	1770	3389	
Flt Permitted		0.49	1.00		0.62		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		919	1583		1107		1770	3539	1583	1770	3389	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	206	70	155	299	173	29	804	206	361	1037	409
RTOR Reduction (vph)	0	0	37	0	15	0	0	0	55	0	45	0
Lane Group Flow (vph)	0	433	33	0	612	0	29	804	151	361	1401	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		43.0	43.0		43.0		2.4	22.2	22.2	17.0	36.8	
Effective Green, g (s)		43.0	43.0		43.0		2.4	22.2	22.2	17.0	36.8	
Actuated g/C Ratio		0.47	0.47		0.47		0.03	0.24	0.24	0.19	0.40	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		433	746		521		46	861	385	329	1367	
v/s Ratio Prot							0.02	0.23		c0.20	c0.41	
v/s Ratio Perm		0.47	0.02		c0.55				0.10			
v/c Ratio		1.00	0.04		1.17		0.63	0.93	0.39	1.10	1.03	
Uniform Delay, d1		24.1	13.0		24.1		44.0	33.8	28.9	37.1	27.2	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		43.3	0.0		97.1		24.9	16.8	0.7	78.3	30.9	
Delay (s)		67.4	13.0		121.2		68.8	50.5	29.5	115.4	58.1	
Level of Service		E	B		F		E	D	C	F	E	
Approach Delay (s)		59.8			121.2			46.9			69.6	
Approach LOS		E			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	70.5	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	91.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	113.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	1395	105	192	1407	204	450	456	200	100	591	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.95		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3502		1770	3472		1770	3377		1770	3405	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3502		1770	3472		1770	3377		1770	3405	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	515	1438	108	198	1451	210	464	470	206	103	609	206
RTOR Reduction (vph)	0	4	0	0	8	0	0	33	0	0	22	0
Lane Group Flow (vph)	515	1542	0	198	1653	0	464	643	0	103	793	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	28.0	65.5		16.0	53.5		25.0	40.6		11.4	27.0	
Effective Green, g (s)	28.0	65.5		16.0	53.5		25.0	40.6		11.4	27.0	
Actuated g/C Ratio	0.19	0.44		0.11	0.36		0.17	0.27		0.08	0.18	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	330	1529		188	1238		295	914		134	612	
v/s Ratio Prot	c0.29	0.44		0.11	c0.48		c0.26	0.19		0.06	c0.23	
v/s Ratio Perm												
v/c Ratio	1.56	1.01		1.05	1.34		1.57	0.70		0.77	1.30	
Uniform Delay, d1	61.0	42.2		67.0	48.2		62.5	49.3		68.0	61.5	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	266.6	25.1		80.4	156.5		273.6	2.5		22.8	144.8	
Delay (s)	327.6	67.4		147.4	204.8		336.1	51.8		90.8	206.3	
Level of Service	F	E		F	F		F	D		F	F	
Approach Delay (s)		132.4			198.7			167.5			193.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	169.1	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.42		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	134.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	1459	80	141	1376	250	100	851	111	77	400	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			0.99	
Satd. Flow (prot)	1770	3512		1770	3458			3467			3413	
Flt Permitted	0.14	1.00		0.14	1.00			0.76			0.58	
Satd. Flow (perm)	253	3512		253	3458			2649			2007	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1586	87	153	1496	272	109	925	121	84	435	126
RTOR Reduction (vph)	0	7	0	0	18	0	0	8	0	0	11	0
Lane Group Flow (vph)	217	1666	0	153	1750	0	0	1147	0	0	634	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	29.5	29.5		29.5	29.5			22.0			22.0	
Effective Green, g (s)	29.5	29.5		29.5	29.5			22.0			22.0	
Actuated g/C Ratio	0.49	0.49		0.49	0.49			0.37			0.37	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	124	1726		124	1700			971			735	
v/s Ratio Prot		0.47			0.51							
v/s Ratio Perm	c0.86			0.61				c0.43			0.32	
v/c Ratio	1.75	0.97		1.23	1.03			1.18			0.86	
Uniform Delay, d1	15.2	14.8		15.2	15.2			19.0			17.6	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	368.5	14.2		156.7	29.7			92.1			12.8	
Delay (s)	383.8	29.0		171.9	44.9			111.1			30.4	
Level of Service	F	C		F	D			F			C	
Approach Delay (s)		69.7			55.0			111.1			30.4	
Approach LOS		E			E			F			C	

Intersection Summary			
HCM 2000 Control Delay	68.7	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.50		
Actuated Cycle Length (s)	60.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	128.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	150	405	67	636	74	57	542	56	116	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.98			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4943		3484			3522	1770	1583	
Flt Permitted		0.99		1.00			0.82	0.95	1.00	
Satd. Flow (perm)		4943		3484			2894	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	440	73	691	80	62	589	61	126	66
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	78	0
Lane Group Flow (vph)	0	676	0	755	0	0	651	61	114	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		11.6		17.8			17.8	6.9	6.9	
Effective Green, g (s)		11.6		17.8			17.8	6.9	6.9	
Actuated g/C Ratio		0.24		0.37			0.37	0.14	0.14	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		1187		1283			1066	252	226	
v/s Ratio Prot				0.22				0.03		
v/s Ratio Perm		0.14					c0.22		c0.07	
v/c Ratio		0.57		0.59			0.61	0.24	0.50	
Uniform Delay, d1		16.2		12.3			12.4	18.4	19.1	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.6		0.7			1.0	0.5	1.8	
Delay (s)		16.8		13.0			13.5	18.9	20.9	
Level of Service		B		B			B	B	C	
Approach Delay (s)		16.8		13.0			13.5	20.4		
Approach LOS		B		B			B	C		

Intersection Summary			
HCM 2000 Control Delay	15.0	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.58		
Actuated Cycle Length (s)	48.3	Sum of lost time (s)	12.0
Intersection Capacity Utilization	73.2%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	900	211	144	800	164	200	581	150	120	525	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.98			0.98			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3434			3438			3417			3440	
Flt Permitted		0.67			0.52			0.57			0.53	
Satd. Flow (perm)		2317			1789			1974			1848	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	947	222	152	842	173	211	612	158	126	553	105
RTOR Reduction (vph)	0	19	0	0	14	0	0	16	0	0	12	0
Lane Group Flow (vph)	0	1226	0	0	1153	0	0	965	0	0	772	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		50.0			50.0			40.0			40.0	
Effective Green, g (s)		50.0			50.0			40.0			40.0	
Actuated g/C Ratio		0.50			0.50			0.40			0.40	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1158			894			789			739	
v/s Ratio Prot												
v/s Ratio Perm		0.53			c0.64			c0.49			0.42	
v/c Ratio		1.06			1.29			1.22			1.04	
Uniform Delay, d1		25.0			25.0			30.0			30.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		43.3			138.8			111.8			45.3	
Delay (s)		68.3			163.8			141.8			75.3	
Level of Service		E			F			F			E	
Approach Delay (s)		68.3			163.8			141.8			75.3	
Approach LOS		E			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	113.6	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.26		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	129.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	519	486	325	488	838	150	50	594	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		0.97	0.95	
Frt				1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1751		3433	3459		3433	3452	
Flt Permitted				0.95	1.00		0.18	1.00		0.25	1.00	
Satd. Flow (perm)				1770	1751		660	3459		917	3452	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	541	506	339	508	873	156	52	619	122
RTOR Reduction (vph)	0	0	0	0	32	0	0	20	0	0	22	0
Lane Group Flow (vph)	0	0	0	541	813	0	508	1009	0	52	719	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)				35.5	35.5		30.5	30.5		17.4	17.4	
Effective Green, g (s)				35.5	35.5		30.5	30.5		17.4	17.4	
Actuated g/C Ratio				0.47	0.47		0.41	0.41		0.23	0.23	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				837	828		586	1406		212	800	
v/s Ratio Prot					c0.46		c0.10	0.29			0.21	
v/s Ratio Perm				0.31			c0.25			0.06		
v/c Ratio				0.65	0.98		0.87	0.72		0.25	0.90	
Uniform Delay, d1				15.0	19.4		17.6	18.6		23.5	28.0	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				1.7	26.7		12.8	1.8		0.6	12.9	
Delay (s)				16.7	46.1		30.4	20.4		24.1	40.8	
Level of Service				B	D		C	C		C	D	
Approach Delay (s)		0.0			34.6			23.7			39.7	
Approach LOS		A			C			C			D	

Intersection Summary			
HCM 2000 Control Delay	31.2	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	494	0	58	0	190	50	858	409	307	489	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91		1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00		1.00		0.85		0.95		1.00	0.93	
Flt Protected	0.95	1.00		0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3385		1770		1583		3368		3433	3303	
Flt Permitted	0.95	1.00		0.27		1.00		0.87		0.09	1.00	
Satd. Flow (perm)	1610	3385		509		1583		2951		330	3303	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	520	0	61	0	200	53	903	431	323	515	414
RTOR Reduction (vph)	0	0	0	0	0	152	0	37	0	0	146	0
Lane Group Flow (vph)	132	535	0	61	0	48	0	1350	0	323	783	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	19.2	19.2		19.2		19.2		42.6		51.7	51.7	
Effective Green, g (s)	19.2	19.2		19.2		19.2		42.6		51.7	51.7	
Actuated g/C Ratio	0.24	0.24		0.24		0.24		0.53		0.65	0.65	
Clearance Time (s)	4.5	4.5		4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0		3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	386	813		122		380		1573		431	2137	
v/s Ratio Prot										c0.05	0.24	
v/s Ratio Perm	0.08	0.16		0.12		0.03		c0.46		0.43		
v/c Ratio	0.34	0.66		0.50		0.13		0.86		0.75	0.37	
Uniform Delay, d1	25.1	27.4		26.2		23.8		16.1		12.4	6.5	
Progression Factor	1.00	1.00		1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	0.5	1.9		3.2		0.2		4.9		7.0	0.1	
Delay (s)	25.7	29.3		29.4		23.9		20.9		19.4	6.6	
Level of Service	C	C		C		C		C		B	A	
Approach Delay (s)		28.6			25.2			20.9			9.9	
Approach LOS		C			C			C			A	

Intersection Summary			
HCM 2000 Control Delay	18.8	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.79		
Actuated Cycle Length (s)	79.9	Sum of lost time (s)	12.5
Intersection Capacity Utilization	96.0%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	250	353	110	4	242	280	72	596	12	305	631	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.96			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1796			3536	1583		1849		1770	1764	1504
Flt Permitted	0.52	1.00			0.87	1.00		0.86		0.95	1.00	1.00
Satd. Flow (perm)	977	1796			3084	1583		1600		1770	1764	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	260	368	115	4	252	292	75	621	12	318	657	125
RTOR Reduction (vph)	0	0	0	0	0	211	0	1	0	0	12	22
Lane Group Flow (vph)	260	483	0	0	256	81	0	707	0	318	658	90
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	36.4	36.4			36.4	36.4		62.2		23.0	88.2	88.2
Effective Green, g (s)	36.4	36.4			36.4	36.4		62.2		23.0	88.2	88.2
Actuated g/C Ratio	0.28	0.28			0.28	0.28		0.47		0.17	0.67	0.67
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	269	495			851	436		754		308	1179	1005
v/s Ratio Prot		c0.27								c0.18	0.37	
v/s Ratio Perm	0.27				0.08	0.05		c0.44				0.06
v/c Ratio	0.97	0.98			0.30	0.18		0.94		1.03	0.56	0.09
Uniform Delay, d1	47.1	47.3			37.7	36.4		33.0		54.5	11.6	7.7
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	45.2	33.9			0.2	0.2		19.1		59.9	0.6	0.0
Delay (s)	92.4	81.2			37.9	36.6		52.1		114.4	12.1	7.7
Level of Service	F	F			D	D		D		F	B	A
Approach Delay (s)		85.1			37.2			52.1			41.2	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	131.9	Sum of lost time (s)	14.4
Intersection Capacity Utilization	117.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	200	0	0	50	0	0	1034	191	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	230	0	0	57	0	0	1189	220	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1327	1408	0	1303	1189	1189	0			1408		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1327	1408	0	1303	1189	1189	0			1408		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	0	100	0	69	100	100			100		
cM capacity (veh/h)	101	139	1085	0	188	229	1623			485		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	230	57	704
Volume Left	0	0	0
Volume Right	0	0	110
cSH	139	188	1700
Volume to Capacity	1.66	0.31	0.41
Queue Length 95th (ft)	415	31	0
Control Delay (s)	381.7	32.4	0.0
Lane LOS	F	D	
Approach Delay (s)	381.7	32.4	0.0
Approach LOS	F	D	

Intersection Summary			
Average Delay	90.4		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	968	205	0	0	200	100
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1030	218	0	0	213	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1248		1139	1139
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1248		1139	1139
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		4	57
cM capacity (veh/h)			558		223	245

Direction, Lane #	EB 1	NB 1
Volume Total	1248	319
Volume Left	0	213
Volume Right	218	106
cSH	1700	259
Volume to Capacity	0.73	1.23
Queue Length 95th (ft)	0	382
Control Delay (s)	0.0	172.6
Lane LOS		F
Approach Delay (s)	0.0	172.6
Approach LOS		F

Intersection Summary			
Average Delay	35.2		
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	333	510	346	27	835	0	0	683	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0		4.0			4.0	4.0
Lane Util. Factor					0.95	1.00		1.00			1.00	1.00
Frt					1.00	0.85		1.00			1.00	0.85
Flt Protected					0.98	1.00		1.00			1.00	1.00
Satd. Flow (prot)					3471	1583		1860			1863	1583
Flt Permitted					0.98	1.00		0.97			1.00	1.00
Satd. Flow (perm)					3471	1583		1804			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	358	548	372	29	898	0	0	734	298
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	906	372	0	927	0	0	734	298
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					25.7	80.0		46.3			46.3	80.0
Effective Green, g (s)					25.7	80.0		46.3			46.3	80.0
Actuated g/C Ratio					0.32	1.00		0.58			0.58	1.00
Clearance Time (s)					4.0			4.0			4.0	
Vehicle Extension (s)					3.0			3.0			3.0	
Lane Grp Cap (vph)					1115	1583		1044			1078	1583
v/s Ratio Prot											0.39	
v/s Ratio Perm					0.26	0.23		c0.51				0.19
v/c Ratio					0.81	0.23		0.89			0.68	0.19
Uniform Delay, d1					24.9	0.0		14.6			11.7	0.0
Progression Factor					1.00	1.00		1.03			1.00	1.00
Incremental Delay, d2					4.6	0.3		11.0			3.5	0.3
Delay (s)					29.6	0.3		26.1			15.2	0.3
Level of Service					C	A		C			B	A
Approach Delay (s)		0.0			21.1			26.1			10.9	
Approach LOS		A			C			C			B	

Intersection Summary			
HCM Average Control Delay	19.3	HCM Level of Service	B
HCM Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	96.2%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	379	532	0	0	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.95			1.00	
Frt		1.00			1.00	
Flt Protected		0.98			0.95	
Satd. Flow (prot)		3467			1770	
Flt Permitted		0.98			0.95	
Satd. Flow (perm)		3467			1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	408	572	0	0	465	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	980	0	0	465	0
Turn Type	Perm	NA			NA	
Protected Phases		4			6	
Permitted Phases	4					
Actuated Green, G (s)		32.3			39.7	
Effective Green, g (s)		32.3			39.7	
Actuated g/C Ratio		0.40			0.50	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1400			878	
v/s Ratio Prot					c0.26	
v/s Ratio Perm		0.28				
v/c Ratio		0.70			0.53	
Uniform Delay, d1		19.8			13.8	
Progression Factor		1.00			1.01	
Incremental Delay, d2		1.6			1.6	
Delay (s)		21.4			15.5	
Level of Service		C			B	
Approach Delay (s)		21.4	0.0		15.5	
Approach LOS		C	A		B	

Intersection Summary			
HCM Average Control Delay	19.5	HCM Level of Service	B
HCM Volume to Capacity ratio	0.61		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	56.3%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	897	557	1089	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	965	599	1171	308
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	965	599	1171	308
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			29.0	100.0	63.0	100.0
Effective Green, g (s)			29.0	100.0	63.0	100.0
Actuated g/C Ratio			0.29	1.00	0.63	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			995	1863	1173	1583
v/s Ratio Prot			0.28	c0.32	c0.63	
v/s Ratio Perm						0.19
v/c Ratio			0.97	0.32	1.00	0.19
Uniform Delay, d1			35.1	0.0	18.4	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			21.2	0.1	25.7	0.3
Delay (s)			56.3	0.1	44.1	0.3
Level of Service			E	A	D	A
Approach Delay (s)	0.0			34.8	35.0	
Approach LOS	A			C	C	

Intersection Summary			
HCM 2000 Control Delay	34.9	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	89.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	693	697	436	0	0	409
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	745	749	469	0	0	440
RTOR Reduction (vph)	0	229	0	0	0	0
Lane Group Flow (vph)	745	520	469	0	0	440
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	18.0	18.0	14.0			14.0
Effective Green, g (s)	18.0	18.0	14.0			14.0
Actuated g/C Ratio	0.45	0.45	0.35			0.35
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	796	1254	652			652
v/s Ratio Prot	c0.42		c0.25			0.24
v/s Ratio Perm		0.19				
v/c Ratio	0.94	0.41	0.72			0.67
Uniform Delay, d1	10.5	7.4	11.3			11.1
Progression Factor	1.00	1.00	1.16			1.00
Incremental Delay, d2	18.0	0.2	1.8			5.5
Delay (s)	28.5	7.7	14.8			16.6
Level of Service	C	A	B			B
Approach Delay (s)	18.1		14.8			16.6
Approach LOS	B		B			B

Intersection Summary			
HCM 2000 Control Delay	17.2	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.84		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	68.0%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.92					
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	701	240			479	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	89	94			97	
cM capacity (veh/h)	334	761			1079	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	421	1700	1700	1079	1700
Volume to Capacity	0.14	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	12	0	0	2	0
Control Delay (s)	15.0	0.0	0.0	0.9	0.0
Lane LOS	B			A	
Approach Delay (s)	15.0	0.0		0.3	
Approach LOS	B				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

2035 With Project AM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	200	103	226	100	100	381
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	213	110	240	106	106	405
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	859	240			347	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	859	240			347	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	29	86			91	
cM capacity (veh/h)	298	798			1212	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	322	240	106	106	405
Volume Left	213	0	0	106	0
Volume Right	110	0	106	0	0
cSH	403	1700	1700	1212	1700
Volume to Capacity	0.80	0.14	0.06	0.09	0.24
Queue Length 95th (ft)	176	0	0	7	0
Control Delay (s)	41.2	0.0	0.0	8.3	0.0
Lane LOS	E			A	
Approach Delay (s)	41.2	0.0		1.7	
Approach LOS	E				

Intersection Summary			
Average Delay	12.0		
Intersection Capacity Utilization	38.5%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	22	731	301	161	1270	32	196	214	43	22	371	33
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.96			1.00			0.99			0.99	
Flt Protected		1.00			0.99			0.98			1.00	
Satd. Flow (prot)		3384			3508			3415			3490	
Flt Permitted		0.90			0.63			0.59			0.90	
Satd. Flow (perm)		3034			2222			2067			3148	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	24	786	324	173	1366	34	211	230	46	24	399	35
RTOR Reduction (vph)	0	29	0	0	2	0	0	10	0	0	8	0
Lane Group Flow (vph)	0	1105	0	0	1571	0	0	477	0	0	450	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		51.0			51.0			16.0			16.0	
Effective Green, g (s)		51.0			51.0			16.0			16.0	
Actuated g/C Ratio		0.68			0.68			0.21			0.21	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		2063			1510			440			671	
v/s Ratio Prot												
v/s Ratio Perm		0.36			c0.71			c0.23			0.14	
v/c Ratio		0.54			1.04			1.49dl			0.67	
Uniform Delay, d1		6.0			12.0			29.5			27.1	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.3			34.4			67.3			2.6	
Delay (s)		6.3			46.4			96.8			29.7	
Level of Service		A			D			F			C	
Approach Delay (s)		6.3			46.4			96.8			29.7	
Approach LOS		A			D			F			C	

Intersection Summary			
HCM 2000 Control Delay	38.6	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	109.5%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	800	406	218	1450	133	364	341	75	17	755	60
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.99	
Flt Protected		1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)		5085	1583	1770	5021		1770	1863	1583		3497	
Flt Permitted		1.00	1.00	0.95	1.00		0.95	1.00	1.00		0.94	
Satd. Flow (perm)		5085	1583	1770	5021		1770	1863	1583		3296	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	860	437	234	1559	143	391	367	81	18	812	65
RTOR Reduction (vph)	0	0	86	0	9	0	0	0	28	0	5	0
Lane Group Flow (vph)	0	860	351	234	1693	0	391	367	53	0	890	0
Turn Type		NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases			4						2	6		
Actuated Green, G (s)		29.6	29.6	15.0	48.6		21.0	57.1	57.1		32.6	
Effective Green, g (s)		29.6	29.6	15.0	48.6		21.0	57.1	57.1		32.6	
Actuated g/C Ratio		0.25	0.25	0.13	0.42		0.18	0.49	0.49		0.28	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		1289	401	227	2091		318	911	774		920	
v/s Ratio Prot		0.17		c0.13	c0.34		c0.22	0.20				
v/s Ratio Perm			0.22						0.03		c0.27	
v/c Ratio		0.67	0.88	1.03	0.81		1.23	0.40	0.07		0.97	
Uniform Delay, d1		39.1	41.8	50.9	30.0		47.9	19.0	15.7		41.5	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		1.0	18.3	68.0	2.3		127.8	0.1	0.0		21.7	
Delay (s)		40.1	60.1	118.8	32.3		175.7	19.1	15.8		63.2	
Level of Service		D	E	F	C		F	B	B		E	
Approach Delay (s)		46.9			42.7			91.7			63.2	
Approach LOS		D			D			F			E	

Intersection Summary			
HCM 2000 Control Delay	55.8	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	116.7	Sum of lost time (s)	18.5
Intersection Capacity Utilization	88.2%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	12	18	1410	23	26	1485
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	1.00		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3531		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3531		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	13	19	1500	24	28	1580
RTOR Reduction (vph)	0	18	1	0	0	0
Lane Group Flow (vph)	13	1	1523	0	28	1580
Turn Type	NA	Prot	NA		Prot	NA
Protected Phases	8	8	2		1	2
Permitted Phases			2			2
Actuated Green, G (s)	2.1	2.1	31.3		1.1	31.3
Effective Green, g (s)	2.1	2.1	31.3		1.1	31.3
Actuated g/C Ratio	0.05	0.05	0.67		0.02	0.67
Clearance Time (s)	4.0	4.0	4.0		4.0	4.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	79	71	2376		41	2382
v/s Ratio Prot	c0.01	0.00	0.43		c0.02	c0.45
v/s Ratio Perm						
v/c Ratio	0.16	0.01	0.64		0.68	0.66
Uniform Delay, d1	21.4	21.2	4.4		22.5	4.5
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.1	0.6		37.9	0.7
Delay (s)	22.3	21.3	5.0		60.5	5.2
Level of Service	C	C	A		E	A
Approach Delay (s)	21.7		5.0			6.2
Approach LOS	C		A			A

Intersection Summary			
HCM 2000 Control Delay	5.7	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	46.5	Sum of lost time (s)	12.0
Intersection Capacity Utilization	51.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	220	487	63	850
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	229	507	66	885
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1057	368			736	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1057	368			736	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			92	
cM capacity (veh/h)	204	629			865	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	153	330	328	590
Volume Left	0	0	33	0
Volume Right	0	254	0	0
cSH	1700	1700	865	1700
Volume to Capacity	0.09	0.19	0.08	0.35
Queue Length 95th (ft)	0	0	6	0
Control Delay (s)	0.0	0.0	1.7	0.0
Lane LOS			A	
Approach Delay (s)	0.0		0.6	
Approach LOS				

Intersection Summary			
Average Delay	0.4		
Intersection Capacity Utilization	53.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	73	837	133	317	1272	40	218	143	131	75	176	64
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.98		1.00	1.00		1.00	0.93			0.97	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3466		1770	3523		1770	1729			1791	
Flt Permitted	0.95	1.00		0.95	1.00		0.41	1.00			0.66	
Satd. Flow (perm)	1770	3466		1770	3523		764	1729			1196	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	81	930	148	352	1413	44	242	159	146	83	196	71
RTOR Reduction (vph)	0	16	0	0	3	0	0	41	0	0	11	0
Lane Group Flow (vph)	81	1062	0	352	1454	0	242	264	0	0	339	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	15.0	32.0		15.0	32.0		23.0	23.0			23.0	
Effective Green, g (s)	15.0	32.0		15.0	32.0		23.0	23.0			23.0	
Actuated g/C Ratio	0.19	0.40		0.19	0.40		0.29	0.29			0.29	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	331	1386		331	1409		219	497			343	
v/s Ratio Prot	0.05	0.31		c0.20	c0.41			0.15				
v/s Ratio Perm							c0.32				0.28	
v/c Ratio	0.24	0.77		1.06	1.03		1.11	0.53			0.99	
Uniform Delay, d1	27.7	20.8		32.5	24.0		28.5	24.0			28.4	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.1	2.3		67.2	32.6		91.8	0.5			44.6	
Delay (s)	27.8	23.1		99.7	56.6		120.3	24.5			73.0	
Level of Service	C	C		F	E		F	C			E	
Approach Delay (s)		23.4			65.0			66.9			73.0	
Approach LOS		C			E			E			E	

Intersection Summary			
HCM 2000 Control Delay	53.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.06		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	91.1%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	32	703	202	150	901	65	250	266	174	47	336	175
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.99		1.00	0.94			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3503		1770	1752			3518	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.41	1.00			0.57	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3503		771	1752			2025	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	36	799	230	170	1024	74	284	302	198	53	382	199
RTOR Reduction (vph)	0	0	170	0	6	0	0	30	0	0	0	117
Lane Group Flow (vph)	36	799	60	170	1092	0	284	471	0	0	435	82
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	3.0	39.1	21.0	8.9	45.0		21.0	21.0			21.0	21.0
Effective Green, g (s)	3.0	39.1	21.0	8.9	45.0		21.0	21.0			21.0	21.0
Actuated g/C Ratio	0.04	0.49	0.26	0.11	0.56		0.26	0.26			0.26	0.26
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	66	1729	415	196	1970		202	459			531	415
v/s Ratio Prot	0.02	c0.23		c0.10	c0.31			0.27				
v/s Ratio Perm			0.04				c0.37				0.21	0.05
v/c Ratio	0.55	0.46	0.15	0.87	0.55		1.41	1.03			0.82	0.20
Uniform Delay, d1	37.8	13.5	22.6	35.0	11.1		29.5	29.5			27.7	22.9
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			0.99	0.70
Incremental Delay, d2	4.9	0.9	0.1	29.9	1.1		209.6	48.5			0.9	0.0
Delay (s)	42.7	14.4	22.7	64.9	12.3		239.1	78.0			28.3	16.0
Level of Service	D	B	C	E	B		F	E			C	B
Approach Delay (s)		17.1			19.3			136.4			24.4	
Approach LOS		B			B			F			C	

Intersection Summary			
HCM 2000 Control Delay	44.0	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	81.4%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	832	53	64	350
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	858	55	66	361
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	912				885	885
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	912				885	885
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				79	0
cM capacity (veh/h)	747				315	344

Direction, Lane #	WB 1	SB 1
Volume Total	885	213
Volume Left	0	33
Volume Right	27	180
cSH	1700	407
Volume to Capacity	0.52	0.52
Queue Length 95th (ft)	0	74
Control Delay (s)	0.0	25.1
Lane LOS		D
Approach Delay (s)	0.0	25.1
Approach LOS		D

Intersection Summary			
Average Delay	4.9		
Intersection Capacity Utilization	75.3%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	20	50	773	201	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	21	53	814	212	0	0
Approach Volume (veh/h)		74	1025		0	
Crossing Volume (veh/h)		0	21		814	
High Capacity (veh/h)		1385	1362		725	
High v/c (veh/h)		0.05	0.75		0.00	
Low Capacity (veh/h)		1161	1141		571	
Low v/c (veh/h)		0.06	0.90		0.00	

Intersection Summary			
Maximum v/c High	0.75		
Maximum v/c Low	0.90		
Intersection Capacity Utilization	56.2%	ICU Level of Service	B

Intersection	
Intersection Delay (sec/veh)	33.2
Intersection LOS	D

Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	74	1026	0
Demand Flow Rate (pc/h)	75	1046	0
Vehicles Circulating (pc/h)	0	21	830
Vehicles Exiting (pc/h)	830	54	237
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	3.8	35.3	0.0
Approach LOS	A	E	-

Lane	Left	Left
Designated moves	LT	TR
Assumed Moves	LT	TR
Right Turn Channelized		
Lane Utilization	1.000	1.000
Critical Headway (s)	5.193	5.193
Entry Flow Rate (pc/h)	75	1046
Capacity, Entry Lane (pc/h)	1130	1106
Entry HV Adjustment Factor	0.986	0.981
Flow Rate, Entry (vph)	74	1026
Capacity, Entry (vph)	1114	1085
Volume to Capacity Ratio	0.066	0.945
Control Delay (sec/veh)	3.8	35.3
Level of Service	A	E
95th-Percentile Queue (veh)	0	16

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	940	261	203	1452	0	0	0	0	626	12
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.97	1.00					1.00	1.00
Satd. Flow (prot)			2787		1812	2787					1863	1583
Flt Permitted			1.00		0.97	1.00					1.00	1.00
Satd. Flow (perm)			2787		1812	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	979	272	211	1512	0	0	0	0	652	12
RTOR Reduction (vph)	0	0	209	0	58	903	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	770	0	425	609	0	0	0	0	652	12
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			32.2		32.2	32.2					39.8	80.0
Effective Green, g (s)			32.2		32.2	32.2					39.8	80.0
Actuated g/C Ratio			0.40		0.40	0.40					0.50	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1122		729	1122					927	1583
v/s Ratio Prot											c0.35	
v/s Ratio Perm			c0.28		0.23	0.22						0.01
v/c Ratio			0.69		0.58	0.54					0.70	0.01
Uniform Delay, d1			19.7		18.7	18.3					15.5	0.0
Progression Factor			1.00		0.92	1.12					1.00	1.00
Incremental Delay, d2			1.8		0.4	0.2					4.5	0.0
Delay (s)			21.5		17.6	20.7					20.0	0.0
Level of Service			C		B	C					B	A
Approach Delay (s)		21.5			19.9			0.0			19.6	
Approach LOS		C			B			A			B	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.70		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	101.0%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	123	70	1616	430	840	6	0	317
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.95		1.00	0.90			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1772		3433	1678			1614	
Flt Permitted	1.00		0.58	1.00			0.80	
Satd. Flow (perm)	1772		2091	1678			1301	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	127	72	1666	443	866	6	0	327
RTOR Reduction (vph)	0	0	0	0	0	0	87	0
Lane Group Flow (vph)	199	0	1666	1309	0	0	246	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	13.4		58.6	58.6			58.6	
Effective Green, g (s)	13.4		58.6	58.6			58.6	
Actuated g/C Ratio	0.17		0.73	0.73			0.73	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	296		1531	1229			952	
v/s Ratio Prot	c0.11			0.78				
v/s Ratio Perm			c0.80				0.19	
v/c Ratio	0.67		1.09	1.07			0.26	
Uniform Delay, d1	31.2		10.7	10.7			3.5	
Progression Factor	1.00		1.00	1.00			1.88	
Incremental Delay, d2	5.9		51.0	44.9			0.1	
Delay (s)	37.1		61.7	55.6			6.7	
Level of Service	D		E	E			A	
Approach Delay (s)	37.1			59.0			6.7	
Approach LOS	D			E			A	

Intersection Summary			
HCM 2000 Control Delay	52.8	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	114.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	78	2848	58	96	48	1683
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	80	2906	59	0	49	1717
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	3892	1483			0	2965	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3892	1483			0	2965	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	30			0	58	
cM capacity (veh/h)	1	114			0	117	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	80	1937	998	49	859	859
Volume Left	0	0	0	49	0	0
Volume Right	80	0	30	0	0	0
cSH	114	1700	1700	117	1700	1700
Volume to Capacity	0.70	1.14	0.59	0.42	0.51	0.51
Queue Length 95th (ft)	93	0	0	45	0	0
Control Delay (s)	89.0	0.0	0.0	56.5	0.0	0.0
Lane LOS	F			F		
Approach Delay (s)	89.0	0.0		1.6		
Approach LOS	F					

Intersection Summary			
Average Delay	2.1		
Intersection Capacity Utilization	103.4%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	292	450	148	64	150	650	13	45	928	120	26	995
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.97		0.85	1.00	1.00			0.98			0.99
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3250		1441	1770	3529			3474			3498
Flt Permitted		0.55		1.00	0.14	1.00			0.85			0.90
Satd. Flow (perm)		1819		1441	262	3529			2942			3168
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	307	474	156	67	158	684	14	47	977	126	27	1047
RTOR Reduction (vph)	0	1	0	9	0	1	0	0	0	0	0	6
Lane Group Flow (vph)	0	943	0	51	158	697	0	0	1150	0	0	1149
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		28.4		28.4	28.4	28.4			49.8			49.8
Effective Green, g (s)		28.4		28.4	28.4	28.4			49.8			49.8
Actuated g/C Ratio		0.32		0.32	0.32	0.32			0.57			0.57
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		590		467	85	1144			1673			1801
v/s Ratio Prot						0.20						
v/s Ratio Perm		0.52		0.04	c0.60				c0.39			0.36
v/c Ratio		2.18dl		0.11	1.86	0.61			0.69			0.64
Uniform Delay, d1		29.6		20.7	29.6	24.9			13.4			12.8
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		277.4		0.1	427.9	0.9			1.2			0.7
Delay (s)		307.0		20.8	457.5	25.9			14.6			13.5
Level of Service		F		C	F	C			B			B
Approach Delay (s)		289.9				105.5			14.6			13.5
Approach LOS		F				F			B			B

Intersection Summary			
HCM Average Control Delay	99.3	HCM Level of Service	F
HCM Volume to Capacity ratio	1.11		
Actuated Cycle Length (s)	87.6	Sum of lost time (s)	9.4
Intersection Capacity Utilization	119.5%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	SBR
Lane Configurations	
Volume (vph)	77
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	81
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	69	804	60	185	1741	222	40	453	55	64	434	158
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.96	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3502		1770	3479			3473			3395	
Flt Permitted	0.95	1.00		0.95	1.00			0.70			0.68	
Satd. Flow (perm)	1770	3502		1770	3479			2432			2310	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	71	829	62	191	1795	229	41	467	57	66	447	163
RTOR Reduction (vph)	0	4	0	0	8	0	0	7	0	0	25	0
Lane Group Flow (vph)	71	887	0	191	2016	0	0	558	0	0	651	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.0	64.4		16.6	76.0			32.0			32.0	
Effective Green, g (s)	5.0	64.4		16.6	76.0			32.0			32.0	
Actuated g/C Ratio	0.04	0.52		0.13	0.61			0.26			0.26	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	70	1804		235	2115			622			591	
v/s Ratio Prot	0.04	0.25		c0.11	c0.58							
v/s Ratio Perm								0.23			c0.28	
v/c Ratio	1.01	0.49		0.81	0.95			0.90			1.10	
Uniform Delay, d1	60.0	19.7		52.7	22.8			44.9			46.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	111.6	0.2		18.9	10.6			15.6			68.2	
Delay (s)	171.6	19.9		71.6	33.5			60.5			114.7	
Level of Service	F	B		E	C			E			F	
Approach Delay (s)		31.1			36.7			60.5			114.7	
Approach LOS		C			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	50.5	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	125.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	106.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	124	403	300	96	501	40	846	560	186	49	545	140
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		0.91	0.91	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.99		1.00	1.00	0.85		0.97	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3500		1610	3322	1583		3426	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	0.98	1.00		1.00	
Satd. Flow (perm)	1770	1863	1583	1770	3500		1610	3322	1583		3426	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	136	443	330	105	551	44	930	615	204	54	599	154
RTOR Reduction (vph)	0	0	249	0	6	0	0	0	111	0	23	0
Lane Group Flow (vph)	136	443	81	105	589	0	502	1043	93	0	784	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	9.0	22.0	22.0	6.0	19.0		27.0	27.0	27.0		19.0	
Effective Green, g (s)	9.0	22.0	22.0	6.0	19.0		27.0	27.0	27.0		19.0	
Actuated g/C Ratio	0.10	0.24	0.24	0.07	0.21		0.30	0.30	0.30		0.21	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	177	455	386	118	738		483	996	474		723	
v/s Ratio Prot	0.08	c0.24		0.06	c0.17		0.31	c0.31			c0.23	
v/s Ratio Perm			0.05						0.06			
v/c Ratio	0.77	0.97	0.21	0.89	0.80		1.04	1.05	0.20		1.08	
Uniform Delay, d1	39.5	33.7	27.1	41.7	33.7		31.5	31.5	23.4		35.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	18.0	36.1	1.2	49.7	8.8		51.5	41.7	0.2		58.7	
Delay (s)	57.4	69.8	28.3	91.4	42.4		83.0	73.2	23.6		94.2	
Level of Service	E	E	C	F	D		F	E	C		F	
Approach Delay (s)		52.9			49.8			70.2			94.2	
Approach LOS		D			D			E			F	

Intersection Summary			
HCM 2000 Control Delay	67.7	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.03		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	87.5%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	58	314	7	1402	70	572	218	420	480	4
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.86			1.00	0.85		0.96		1.00	1.00	
Flt Protected		1.00			0.95	1.00		1.00		0.95	0.99	
Satd. Flow (prot)		1611			1776	1583		3391		1610	3352	
Flt Permitted		1.00			0.69	1.00		0.80		0.95	0.57	
Satd. Flow (perm)		1611			1279	1583		2718		1610	1920	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	60	327	7	1460	73	596	227	438	500	4
RTOR Reduction (vph)	0	36	0	0	0	209	0	42	0	0	1	0
Lane Group Flow (vph)	0	24	0	0	334	1251	0	854	0	307	634	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		32.5			32.5	32.5		26.0		9.0	39.0	
Effective Green, g (s)		32.5			32.5	32.5		26.0		9.0	39.0	
Actuated g/C Ratio		0.41			0.41	0.41		0.32		0.11	0.49	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		654			519	643		883		181	1097	
v/s Ratio Prot		0.02								c0.19	0.07	
v/s Ratio Perm					0.26	c0.79		c0.31			0.22	
v/c Ratio		0.04			0.64	1.95		0.97		1.70	0.58	
Uniform Delay, d1		14.3			19.1	23.8		26.6		35.5	14.6	
Progression Factor		1.00			1.00	1.00		1.00		0.65	0.62	
Incremental Delay, d2		0.0			2.7	431.2		23.3		323.8	0.3	
Delay (s)		14.3			21.8	454.9		49.9		346.7	9.4	
Level of Service		B			C	F		D		F	A	
Approach Delay (s)		14.3			374.3			49.9			119.4	
Approach LOS		B			F			D			F	

Intersection Summary			
HCM 2000 Control Delay	224.7	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.54		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	126.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	83	59	106	200	181	17	534	707	120	9	462	332
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.94			0.99		1.00	0.98		1.00	0.94	
Flt Protected		0.98			0.98		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1726			1807		1770	1822		1770	1746	
Flt Permitted		0.76			0.58		0.08	1.00		0.29	1.00	
Satd. Flow (perm)		1329			1076		143	1822		533	1746	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	87	62	112	211	191	18	562	744	126	9	486	349
RTOR Reduction (vph)	0	26	0	0	2	0	0	6	0	0	26	0
Lane Group Flow (vph)	0	235	0	0	418	0	562	864	0	9	809	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		19.8			19.8		72.2	67.2		49.2	48.2	
Effective Green, g (s)		19.8			19.8		72.2	67.2		49.2	48.2	
Actuated g/C Ratio		0.20			0.20		0.72	0.67		0.49	0.48	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		263			213		428	1224		274	841	
v/s Ratio Prot							c0.26	0.47		0.00	0.46	
v/s Ratio Perm		0.18			c0.39		c0.69			0.02		
v/c Ratio		0.89			1.96		1.31	0.71		0.03	0.96	
Uniform Delay, d1		39.1			40.1		32.8	10.2		13.3	25.0	
Progression Factor		1.00			1.00		1.16	0.95		1.00	1.00	
Incremental Delay, d2		29.1			450.5		151.9	2.3		0.0	23.0	
Delay (s)		68.1			490.6		189.8	12.1		13.3	48.0	
Level of Service		E			F		F	B		B	D	
Approach Delay (s)		68.1			490.6			81.9			47.6	
Approach LOS		E			F			F			D	

Intersection Summary			
HCM 2000 Control Delay	128.9	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.50		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	377	73	214	61	4	120	2	863	12	100	519	299
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.91			1.00		1.00	0.95	
Flt Protected		0.96	1.00		0.98			1.00		0.95	1.00	
Satd. Flow (prot)		1788	1583		1672			3532		1770	1761	
Flt Permitted		0.62	1.00		0.63			0.85		0.18	1.00	
Satd. Flow (perm)		1153	1583		1072			3006		341	1761	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	389	75	221	63	4	124	2	890	12	103	535	308
RTOR Reduction (vph)	0	0	129	0	65	0	0	1	0	0	21	0
Lane Group Flow (vph)	0	464	92	0	126	0	0	903	0	103	822	0
Turn Type	Perm	NA	Perm	Perm	NA		Perm	NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8			2			6		
Actuated Green, G (s)		41.5	41.5		41.5			38.9		50.5	50.5	
Effective Green, g (s)		41.5	41.5		41.5			38.9		50.5	50.5	
Actuated g/C Ratio		0.42	0.42		0.42			0.39		0.50	0.50	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		478	656		444			1169		280	889	
v/s Ratio Prot										0.03	c0.47	
v/s Ratio Perm		c0.40	0.06		0.12			0.30		0.16		
v/c Ratio		0.97	0.14		0.28			0.77		0.37	0.92	
Uniform Delay, d1		28.7	18.2		19.4			26.7		27.6	23.0	
Progression Factor		1.00	1.00		1.00			1.00		1.10	1.14	
Incremental Delay, d2		33.5	0.1		0.4			5.0		0.1	2.1	
Delay (s)		62.2	18.3		19.8			31.7		30.4	28.2	
Level of Service		E	B		B			C		C	C	
Approach Delay (s)		48.0			19.8			31.7			28.4	
Approach LOS		D			B			C			C	

Intersection Summary			
HCM 2000 Control Delay	33.8	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	118.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	533	120	958	364	67	793
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.96		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3393		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3393		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	555	125	998	379	70	826
RTOR Reduction (vph)	0	81	57	0	0	0
Lane Group Flow (vph)	555	44	1320	0	70	826
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	21.3	21.3	25.5		3.3	32.8
Effective Green, g (s)	21.3	21.3	25.5		3.3	32.8
Actuated g/C Ratio	0.35	0.35	0.42		0.05	0.55
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	627	561	1439		97	1931
v/s Ratio Prot	c0.31		c0.39		0.04	c0.23
v/s Ratio Perm		0.03				
v/c Ratio	0.89	0.08	0.92		0.72	0.43
Uniform Delay, d1	18.2	12.9	16.3		27.9	8.1
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	14.1	0.1	9.5		23.1	0.2
Delay (s)	32.3	12.9	25.8		51.0	8.2
Level of Service	C	B	C		D	A
Approach Delay (s)	28.7		25.8			11.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	22.2	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.89		
Actuated Cycle Length (s)	60.1	Sum of lost time (s)	10.0
Intersection Capacity Utilization	82.6%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	100	120	7	100	362	410	64	920	150	249	669	384
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.94		1.00	1.00	0.85	1.00	0.95	
Flt Protected		0.98	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1821	1583		1734		1770	3539	1583	1770	3346	
Flt Permitted		0.50	1.00		0.93		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		926	1583		1631		1770	3539	1583	1770	3346	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	103	124	7	103	373	423	66	948	155	257	690	396
RTOR Reduction (vph)	0	0	4	0	49	0	0	0	34	0	122	0
Lane Group Flow (vph)	0	227	3	0	850	0	66	948	121	257	964	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		28.0	28.0		28.0		3.2	21.1	21.1	7.0	24.9	
Effective Green, g (s)		28.0	28.0		28.0		3.2	21.1	21.1	7.0	24.9	
Actuated g/C Ratio		0.43	0.43		0.43		0.05	0.32	0.32	0.11	0.38	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		398	680		701		87	1147	513	190	1279	
v/s Ratio Prot							0.04	0.27		c0.15	c0.29	
v/s Ratio Perm		0.25	0.00		c0.52				0.08			
v/c Ratio		0.57	0.00		1.21		0.76	0.83	0.23	1.35	0.75	
Uniform Delay, d1		14.0	10.6		18.5		30.6	20.3	16.1	29.0	17.4	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		2.0	0.0		108.5		30.9	5.0	0.2	189.2	2.6	
Delay (s)		16.0	10.6		127.1		61.5	25.3	16.3	218.2	20.0	
Level of Service		B	B		F		E	C	B	F	C	
Approach Delay (s)		15.8			127.1			26.2			57.9	
Approach LOS		B			F			C			E	

Intersection Summary			
HCM 2000 Control Delay	62.1	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	65.1	Sum of lost time (s)	9.0
Intersection Capacity Utilization	105.6%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	128	712	170	262	1731	291	298	470	61	350	849	374
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.97		1.00	0.98		1.00	0.98		1.00	0.95	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3437		1770	3463		1770	3478		1770	3377	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3437		1770	3463		1770	3478		1770	3377	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	132	734	175	270	1785	300	307	485	63	361	875	386
RTOR Reduction (vph)	0	14	0	0	9	0	0	7	0	0	33	0
Lane Group Flow (vph)	132	895	0	270	2076	0	307	541	0	361	1228	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	6.0	57.5		11.0	62.5		9.0	59.0		6.0	56.0	
Effective Green, g (s)	6.0	57.5		11.0	62.5		9.0	59.0		6.0	56.0	
Actuated g/C Ratio	0.04	0.38		0.07	0.42		0.06	0.39		0.04	0.37	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	70	1317		129	1442		106	1368		70	1260	
v/s Ratio Prot	0.07	0.26		c0.15	c0.60		0.17	c0.16		c0.20	c0.36	
v/s Ratio Perm												
v/c Ratio	1.89	0.68		2.09	1.44		2.90	0.40		5.16	0.97	
Uniform Delay, d1	72.0	38.6		69.5	43.8		70.5	32.7		72.0	46.3	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	447.3	2.8		517.3	201.9		878.5	0.2		1902.1	19.3	
Delay (s)	519.3	41.4		586.8	245.7		949.0	32.9		1974.1	65.6	
Level of Service	F	D		F	F		F	C		F	E	
Approach Delay (s)		102.0			284.8			361.8			490.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	320.4	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.46		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	129.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	57	791	111	215	1640	136	169	527	130	100	543	169
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.98		1.00	0.99			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3474		1770	3499			3421			3408	
Flt Permitted	0.10	1.00		0.21	1.00			0.55			0.61	
Satd. Flow (perm)	184	3474		391	3499			1886			2106	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	62	860	121	234	1783	148	184	573	141	109	590	184
RTOR Reduction (vph)	0	14	0	0	8	0	0	19	0	0	5	0
Lane Group Flow (vph)	62	967	0	234	1923	0	0	879	0	0	878	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Effective Green, g (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	93	1758		197	1771			730			816	
v/s Ratio Prot		0.28			0.55							
v/s Ratio Perm	0.34			c0.60				c0.47			0.42	
v/c Ratio	0.67	0.55		1.19	1.09			1.20			1.08	
Uniform Delay, d1	14.7	13.5		19.8	19.8			24.5			24.5	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	16.6	0.4		123.9	48.8			104.6			54.0	
Delay (s)	31.3	13.9		143.7	68.6			129.1			78.5	
Level of Service	C	B		F	E			F			E	
Approach Delay (s)		14.9			76.7			129.1			78.5	
Approach LOS		B			E			F			E	

Intersection Summary			
HCM 2000 Control Delay	73.5	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.19		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	131.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	12	52	9	750	80	53	775	56	99	85
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.99			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4950		3488			3528	1770	1583	
Flt Permitted		0.99		1.00			0.85	0.95	1.00	
Satd. Flow (perm)		4950		3488			3017	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	13	57	10	815	87	58	842	61	108	92
RTOR Reduction (vph)	0	0	0	12	0	0	0	0	51	0
Lane Group Flow (vph)	0	80	0	890	0	0	900	61	149	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		5.6		25.7			25.7	9.7	9.7	
Effective Green, g (s)		5.6		25.7			25.7	9.7	9.7	
Actuated g/C Ratio		0.11		0.48			0.48	0.18	0.18	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		523		1691			1463	324	290	
v/s Ratio Prot				0.26				0.03		
v/s Ratio Perm		0.02					c0.30		c0.09	
v/c Ratio		0.15		0.53			0.62	0.19	0.51	
Uniform Delay, d1		21.5		9.4			10.0	18.3	19.5	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		0.1		0.3			0.8	0.3	1.5	
Delay (s)		21.7		9.7			10.8	18.6	21.0	
Level of Service		C		A			B	B	C	
Approach Delay (s)		21.7		9.7			10.8	20.5		
Approach LOS		C		A			B	C		

Intersection Summary			
HCM Average Control Delay	11.9	HCM Level of Service	B
HCM Volume to Capacity ratio	0.53		
Actuated Cycle Length (s)	53.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	75.1%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	500	162	185	1000	114	220	666	53	158	577	150
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.99			0.97	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3406			3468			3468			3419	
Flt Permitted		0.65			0.65			0.50			0.50	
Satd. Flow (perm)		2213			2268			1755			1712	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	53	526	171	195	1053	120	232	701	56	166	607	158
RTOR Reduction (vph)	0	18	0	0	5	0	0	3	0	0	12	0
Lane Group Flow (vph)	0	732	0	0	1363	0	0	986	0	0	919	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		86.0			86.0			54.0			54.0	
Effective Green, g (s)		86.0			86.0			54.0			54.0	
Actuated g/C Ratio		0.57			0.57			0.36			0.36	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1268			1300			631			616	
v/s Ratio Prot												
v/s Ratio Perm		0.33			c0.60			c0.56			0.54	
v/c Ratio		0.58			1.05			2.55dl			2.00dl	
Uniform Delay, d1		20.4			32.0			48.0			48.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		0.6			38.8			260.7			230.2	
Delay (s)		21.0			70.8			308.7			278.2	
Level of Service		C			E			F			F	
Approach Delay (s)		21.0			70.8			308.7			278.2	
Approach LOS		C			E			F			F	

Intersection Summary			
HCM 2000 Control Delay	167.6	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	125.6%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	557	355	246	672	874	130	50	748	68
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		0.97	0.95	
Frt				1.00	0.94		1.00	0.98		1.00	0.99	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1748		3433	3471		3433	3495	
Flt Permitted				0.95	1.00		0.17	1.00		0.27	1.00	
Satd. Flow (perm)				1770	1748		628	3471		990	3495	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	580	370	256	700	910	135	52	779	71
RTOR Reduction (vph)	0	0	0	0	36	0	0	17	0	0	10	0
Lane Group Flow (vph)	0	0	0	580	590	0	700	1028	0	52	840	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)				25.6	25.6		34.3	34.3		18.5	18.5	
Effective Green, g (s)				25.6	25.6		34.3	34.3		18.5	18.5	
Actuated g/C Ratio				0.37	0.37		0.50	0.50		0.27	0.27	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				657	649		772	1727		265	938	
v/s Ratio Prot					c0.34		c0.15	0.30			0.24	
v/s Ratio Perm				0.33			c0.30			0.05		
v/c Ratio				0.88	0.91		0.91	0.60		0.20	0.90	
Uniform Delay, d1				20.2	20.5		15.3	12.3		19.5	24.3	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				13.3	16.6		14.2	0.6		0.4	11.0	
Delay (s)				33.6	37.2		29.5	12.9		19.8	35.3	
Level of Service				C	D		C	B		B	D	
Approach Delay (s)		0.0			35.4			19.6			34.4	
Approach LOS		A			D			B			C	

Intersection Summary			
HCM 2000 Control Delay	28.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.95		
Actuated Cycle Length (s)	68.9	Sum of lost time (s)	13.5
Intersection Capacity Utilization	87.0%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	311	731	77	1	0	162	50	1203	741	354	619	436
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91	1.00	1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00		0.85		0.94		1.00	0.94	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3383	1583	1770		1583		3338		3433	3320	
Flt Permitted	0.95	1.00	1.00	0.16		1.00		0.87		0.06	1.00	
Satd. Flow (perm)	1610	3383	1583	298		1583		2914		205	3320	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	327	769	81	1	0	171	53	1266	780	373	652	459
RTOR Reduction (vph)	0	0	39	0	0	113	0	4	0	0	116	0
Lane Group Flow (vph)	294	802	42	1	0	58	0	2095	0	373	995	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	25.0	25.0	25.0	25.0		25.0		67.0		76.0	76.0	
Effective Green, g (s)	25.0	25.0	25.0	25.0		25.0		67.0		76.0	76.0	
Actuated g/C Ratio	0.23	0.23	0.23	0.23		0.23		0.61		0.69	0.69	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	365	768	359	67		359		1774		303	2293	
v/s Ratio Prot										c0.06	0.30	
v/s Ratio Perm	0.18	0.24	0.03	0.00		0.04		0.72		c0.79		
v/c Ratio	0.81	1.04	0.12	0.01		0.16		1.18		1.23	0.43	
Uniform Delay, d1	40.2	42.5	33.7	33.0		34.1		21.5		35.4	7.5	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	12.2	44.6	0.1	0.1		0.2		87.7		129.4	0.1	
Delay (s)	52.4	87.1	33.9	33.0		34.3		109.2		164.8	7.6	
Level of Service	D	F	C	C		C		F		F	A	
Approach Delay (s)		74.8			34.3			109.2			47.1	
Approach LOS		E			C			F			D	

Intersection Summary			
HCM 2000 Control Delay	79.7	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.22		
Actuated Cycle Length (s)	110.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	124.7%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	150	200	50	1	491	265	160	775	6	278	562	71
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.97			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		0.99		0.95	1.00	1.00
Satd. Flow (prot)	1770	1807			3539	1583		1845		1770	1766	1504
Flt Permitted	0.28	1.00			0.95	1.00		0.79		0.95	1.00	1.00
Satd. Flow (perm)	529	1807			3379	1583		1474		1770	1766	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	156	208	52	1	511	276	167	807	6	290	585	74
RTOR Reduction (vph)	0	0	0	0	0	150	0	0	0	0	14	17
Lane Group Flow (vph)	156	260	0	0	512	126	0	980	0	290	578	50
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	28.5	28.5			28.5	28.5		60.2		12.0	75.2	75.2
Effective Green, g (s)	28.5	28.5			28.5	28.5		60.2		12.0	75.2	75.2
Actuated g/C Ratio	0.26	0.26			0.26	0.26		0.54		0.11	0.68	0.68
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	135	463			867	406		799		191	1196	1018
v/s Ratio Prot		0.14								c0.16	0.33	
v/s Ratio Perm	c0.29				0.15	0.08		c0.66				0.03
v/c Ratio	1.16	0.56			0.59	0.31		1.23		1.52	0.48	0.05
Uniform Delay, d1	41.2	35.8			36.1	33.3		25.4		49.5	8.6	6.0
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	125.3	1.6			1.1	0.4		112.9		258.2	0.3	0.0
Delay (s)	166.6	37.4			37.2	33.7		138.3		307.7	8.9	6.0
Level of Service	F	D			D	C		F		F	A	A
Approach Delay (s)		85.8			36.0			138.3			100.0	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	94.0	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.29		
Actuated Cycle Length (s)	111.0	Sum of lost time (s)	14.4
Intersection Capacity Utilization	121.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	200	0	0	55	0	108	770	113	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	230	0	0	63	0	124	885	130	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1230	1263	0	1248	1133	885	0			1015		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1230	1263	0	1248	1133	885	0			1015		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	0	100	0	66	100	92			100		
cM capacity (veh/h)	108	157	1085	0	187	344	1623			683		

Direction, Lane #	EB 1	WB 1	NB 1
Volume Total	230	63	570
Volume Left	0	0	62
Volume Right	0	0	65
cSH	157	187	1623
Volume to Capacity	1.47	0.34	0.08
Queue Length 95th (ft)	373	35	6
Control Delay (s)	295.2	33.7	1.5
Lane LOS	F	D	A
Approach Delay (s)	295.2	33.7	1.5
Approach LOS	F	D	

Intersection Summary			
Average Delay	82.1		
Intersection Capacity Utilization	Err%	ICU Level of Service	H
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	1161	250	0	0	100	50
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1235	266	0	0	106	53
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1501		1368	1368
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1501		1368	1368
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		34	70
cM capacity (veh/h)			446		162	180

Direction, Lane #	EB 1	NB 1
Volume Total	1501	160
Volume Left	0	106
Volume Right	266	53
cSH	1700	218
Volume to Capacity	0.88	0.73
Queue Length 95th (ft)	0	123
Control Delay (s)	0.0	56.8
Lane LOS		F
Approach Delay (s)	0.0	56.8
Approach LOS		F

Intersection Summary			
Average Delay	5.5		
Intersection Capacity Utilization	88.5%	ICU Level of Service	E
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	205	736	194	53	669	0	0	1088	339
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor					0.95	1.00	1.00	1.00			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.99	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					3501	1583	1770	1863			1863	1583
Flt Permitted					0.99	1.00	0.05	1.00			1.00	1.00
Satd. Flow (perm)					3501	1583	97	1863			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	220	791	209	57	719	0	0	1170	365
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1011	209	57	719	0	0	1170	365
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					29.6	114.4	76.8	76.8			76.8	114.4
Effective Green, g (s)					29.6	114.4	76.8	76.8			76.8	114.4
Actuated g/C Ratio					0.26	1.00	0.67	0.67			0.67	1.00
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					905	1583	65	1250			1250	1583
v/s Ratio Prot								0.39			c0.63	
v/s Ratio Perm					0.29	0.13	0.59					0.23
v/c Ratio					1.12	0.13	0.88	0.58			0.94	0.23
Uniform Delay, d1					42.4	0.0	15.0	10.1			16.6	0.0
Progression Factor					1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2					67.5	0.2	69.4	0.6			12.9	0.3
Delay (s)					109.9	0.2	84.4	10.7			29.5	0.3
Level of Service					F	A	F	B			C	A
Approach Delay (s)		0.0			91.1			16.1			22.6	
Approach LOS		A			F			B			C	

Intersection Summary			
HCM 2000 Control Delay	44.8	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.99		
Actuated Cycle Length (s)	114.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	128.4%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	251	620	0	0	498	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.95			1.00	
Frt		1.00			1.00	
Flt Protected		0.99			0.95	
Satd. Flow (prot)		3489			1770	
Flt Permitted		0.99			0.95	
Satd. Flow (perm)		3489			1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	270	667	0	0	535	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	937	0	0	535	0
Turn Type	Perm	NA			NA	
Protected Phases		4			6	
Permitted Phases	4					
Actuated Green, G (s)		31.0			41.0	
Effective Green, g (s)		31.0			41.0	
Actuated g/C Ratio		0.39			0.51	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1352			907	
v/s Ratio Prot					c0.30	
v/s Ratio Perm		0.27				
v/c Ratio		0.69			0.59	
Uniform Delay, d1		20.5			13.6	
Progression Factor		1.00			1.24	
Incremental Delay, d2		1.6			0.3	
Delay (s)		22.1			17.2	
Level of Service		C			B	
Approach Delay (s)		22.1	0.0		17.2	
Approach LOS		C	A		B	

Intersection Summary			
HCM Average Control Delay	20.3	HCM Level of Service	C
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.7%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	1650	548	1132	431
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	1774	589	1217	463
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1774	589	1217	463
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			53.0	130.0	69.0	130.0
Effective Green, g (s)			53.0	130.0	69.0	130.0
Actuated g/C Ratio			0.41	1.00	0.53	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			1399	1863	988	1583
v/s Ratio Prot			c0.52	0.32	c0.65	
v/s Ratio Perm						0.29
v/c Ratio			1.27	0.32	1.23	0.29
Uniform Delay, d1			38.5	0.0	30.5	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			126.4	0.1	113.2	0.5
Delay (s)			164.9	0.1	143.7	0.5
Level of Service			F	A	F	A
Approach Delay (s)	0.0			123.8	104.2	
Approach LOS	A			F	F	

Intersection Summary			
HCM 2000 Control Delay	115.7	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	130.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	113.3%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	552	333	500	0	0	319
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	594	358	538	0	0	343
RTOR Reduction (vph)	0	200	0	0	0	0
Lane Group Flow (vph)	594	158	538	0	0	343
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	15.7	15.7	16.3			16.3
Effective Green, g (s)	15.7	15.7	16.3			16.3
Actuated g/C Ratio	0.39	0.39	0.41			0.41
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	695	1094	759			759
v/s Ratio Prot	c0.34		c0.29			0.18
v/s Ratio Perm		0.06				
v/c Ratio	0.85	0.14	0.71			0.45
Uniform Delay, d1	11.1	7.8	9.9			8.6
Progression Factor	1.00	1.00	1.13			1.00
Incremental Delay, d2	10.0	0.1	1.8			1.9
Delay (s)	21.1	7.9	13.0			10.5
Level of Service	C	A	B			B
Approach Delay (s)	16.2		13.0			10.5
Approach LOS	B		B			B

Intersection Summary			
HCM Average Control Delay	14.2	HCM Level of Service	B
HCM Volume to Capacity ratio	0.78		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	63.6%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked						
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	874	240			479	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	86	94			97	
cM capacity (veh/h)	280	761			1079	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	365	1700	1700	1079	1700
Volume to Capacity	0.17	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	15	0	0	2	0
Control Delay (s)	16.8	0.0	0.0	0.9	0.0
Lane LOS	C			A	
Approach Delay (s)	16.8	0.0		0.3	
Approach LOS	C				

Intersection Summary			
Average Delay	1.0		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		

2035 With Project PM

HCM Unsignalized Intersection Capacity Analysis
1: Embarcadero & 16th Ave

3/27/2012

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	138	60	195	266	201	655
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	147	64	207	283	214	697
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)		1				
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1332	207			490	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1332	207			490	
tC, single (s)	6.4	6.2			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	0	92			80	
cM capacity (veh/h)	136	833			1073	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	211	207	283	214	697
Volume Left	147	0	0	214	0
Volume Right	64	0	283	0	0
cSH	184	1700	1700	1073	1700
Volume to Capacity	1.14	0.12	0.17	0.20	0.41
Queue Length 95th (ft)	267	0	0	19	0
Control Delay (s)	162.4	0.0	0.0	9.2	0.0
Lane LOS	F			A	
Approach Delay (s)	162.4	0.0		2.2	
Approach LOS	F				

Intersection Summary			
Average Delay	22.4		
Intersection Capacity Utilization	48.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	34	1319	401	80	1170	49	137	374	76	45	243	40
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0			4.0			4.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.99			0.98			0.98	
Flt Protected		1.00			1.00			0.99			0.99	
Satd. Flow (prot)		3415			3508			3430			3451	
Flt Permitted		0.90			0.62			0.73			0.72	
Satd. Flow (perm)		3061			2165			2539			2500	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	37	1418	431	86	1258	53	147	402	82	48	261	43
RTOR Reduction (vph)	0	39	0	0	4	0	0	17	0	0	16	0
Lane Group Flow (vph)	0	1847	0	0	1393	0	0	614	0	0	336	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		4			8			2			6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		45.0			45.0			17.0			17.0	
Effective Green, g (s)		45.0			45.0			17.0			17.0	
Actuated g/C Ratio		0.64			0.64			0.24			0.24	
Clearance Time (s)		4.0			4.0			4.0			4.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		1967			1391			616			607	
v/s Ratio Prot												
v/s Ratio Perm		0.60			c0.64			c0.24			0.13	
v/c Ratio		0.94			1.00			1.00			0.55	
Uniform Delay, d1		11.3			12.5			26.5			23.2	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		9.3			24.5			35.3			1.1	
Delay (s)		20.6			37.0			61.8			24.3	
Level of Service		C			D			E			C	
Approach Delay (s)		20.6			37.0			61.8			24.3	
Approach LOS		C			D			E			C	

Intersection Summary			
HCM 2000 Control Delay	32.4	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	1.00		
Actuated Cycle Length (s)	70.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	125.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	482	1200	545	186	800	69	636	557	128	152	565	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Lane Util. Factor		0.91	1.00	1.00	0.91		1.00	1.00	1.00		0.95	
Frt		1.00	0.85	1.00	0.99		1.00	1.00	0.85		1.00	
Flt Protected		0.99	1.00	0.95	1.00		0.95	1.00	1.00		0.99	
Satd. Flow (prot)		5013	1583	1770	5025		1770	1863	1583		3498	
Flt Permitted		0.66	1.00	0.95	1.00		0.95	1.00	1.00		0.71	
Satd. Flow (perm)		3369	1583	1770	5025		1770	1863	1583		2512	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	518	1290	586	200	860	74	684	599	138	163	608	6
RTOR Reduction (vph)	0	0	72	0	9	0	0	0	29	0	1	0
Lane Group Flow (vph)	0	1808	514	200	925	0	684	599	109	0	776	0
Turn Type	Perm	NA	Perm	Prot	NA		Prot	NA	Perm	Perm	NA	
Protected Phases		4		3	8		5	2			6	
Permitted Phases	4		4						2	6		
Actuated Green, G (s)		33.0	33.0	14.7	51.7		21.0	57.0	57.0		32.5	
Effective Green, g (s)		33.0	33.0	14.7	51.7		21.0	57.0	57.0		32.5	
Actuated g/C Ratio		0.28	0.28	0.12	0.43		0.18	0.48	0.48		0.27	
Clearance Time (s)		5.0	5.0	4.0	5.0		4.0	6.0	6.0		5.5	
Vehicle Extension (s)		2.0	2.0	2.0	2.0		2.0	2.0	2.0		2.0	
Lane Grp Cap (vph)		928	436	217	2170		310	887	753		682	
v/s Ratio Prot				c0.11	0.18		c0.39	0.32				
v/s Ratio Perm		c0.54	0.32						0.07		c0.31	
v/c Ratio		3.45dl	1.18	0.92	0.43		2.21	0.68	0.15		1.14	
Uniform Delay, d1		43.4	43.4	51.9	23.7		49.4	24.2	17.6		43.6	
Progression Factor		1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2		430.7	101.6	39.4	0.0		553.3	1.6	0.0		79.3	
Delay (s)		474.0	144.9	91.4	23.7		602.7	25.8	17.7		122.9	
Level of Service		F	F	F	C		F	C	B		F	
Approach Delay (s)		393.5			35.7			302.7			122.9	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	263.4	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.59		
Actuated Cycle Length (s)	119.7	Sum of lost time (s)	18.5
Intersection Capacity Utilization	123.3%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	19	29	1020	42	30	1336
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0		4.0	4.0
Lane Util. Factor	1.00	0.88	0.95		1.00	0.95
Frt	1.00	0.85	0.99		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	2787	3518		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	2787	3518		1770	3539
Peak-hour factor, PHF	0.94	0.94	0.94	0.94	0.94	0.94
Adj. Flow (vph)	20	31	1085	45	32	1421
RTOR Reduction (vph)	0	29	4	0	0	0
Lane Group Flow (vph)	20	2	1126	0	32	1421
Turn Type	NA	custom	NA		Prot	NA
Protected Phases			2 9		1	6 9
Permitted Phases	8	8	2 9			6 9
Actuated Green, G (s)	3.7	3.7	35.1		14.5	25.7
Effective Green, g (s)	3.7	3.7	35.1		14.5	25.7
Actuated g/C Ratio	0.06	0.06	0.54		0.22	0.39
Clearance Time (s)	4.0	4.0			4.0	
Vehicle Extension (s)	3.0	3.0			3.0	
Lane Grp Cap (vph)	100	157	1890		393	1392
v/s Ratio Prot			c0.32		0.02	c0.40
v/s Ratio Perm	c0.01	0.00				
v/c Ratio	0.20	0.01	0.60		0.08	1.02
Uniform Delay, d1	29.4	29.1	10.3		20.1	19.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	1.0	0.0	0.5		0.1	29.5
Delay (s)	30.4	29.1	10.8		20.2	49.3
Level of Service	C	C	B		C	D
Approach Delay (s)	29.6		10.8			48.7
Approach LOS	C		B			D

Intersection Summary			
HCM 2000 Control Delay	32.0	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.97		
Actuated Cycle Length (s)	65.3	Sum of lost time (s)	16.0
Intersection Capacity Utilization	46.9%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Intersection Sign configuration not allowed in HCM analysis.

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	0	0	124	577	196	1013
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96
Hourly flow rate (vph)	0	0	129	601	204	1055
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	1366	365			730	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	1366	365			730	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	100	100			77	
cM capacity (veh/h)	106	632			870	

Direction, Lane #	NB 1	NB 2	SB 1	SB 2
Volume Total	86	644	556	703
Volume Left	0	0	204	0
Volume Right	0	601	0	0
cSH	1700	1700	870	1700
Volume to Capacity	0.05	0.38	0.23	0.41
Queue Length 95th (ft)	0	0	23	0
Control Delay (s)	0.0	0.0	5.8	0.0
Lane LOS			A	
Approach Delay (s)	0.0		2.5	
Approach LOS				

Intersection Summary			
Average Delay	1.6		
Intersection Capacity Utilization	62.5%	ICU Level of Service	B
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	50	1337	125	191	972	36	131	155	176	45	103	59
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	1.00			1.00	
Frt	1.00	0.99		1.00	0.99		1.00	0.92			0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00			0.99	
Satd. Flow (prot)	1770	3494		1770	3520		1770	1714			1771	
Flt Permitted	0.95	1.00		0.95	1.00		0.49	1.00			0.51	
Satd. Flow (perm)	1770	3494		1770	3520		905	1714			905	
Peak-hour factor, PHF	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90	0.90
Adj. Flow (vph)	56	1486	139	212	1080	40	146	172	196	50	114	66
RTOR Reduction (vph)	0	9	0	0	4	0	0	55	0	0	19	0
Lane Group Flow (vph)	56	1616	0	212	1116	0	146	313	0	0	211	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	1	2		1	2			3			3	
Permitted Phases							3			3		
Actuated Green, G (s)	10.0	37.4		10.0	37.4		17.6	17.6			17.6	
Effective Green, g (s)	10.0	37.4		10.0	37.4		17.6	17.6			17.6	
Actuated g/C Ratio	0.13	0.50		0.13	0.50		0.23	0.23			0.23	
Clearance Time (s)	3.0	3.0		3.0	3.0		4.0	4.0			4.0	
Vehicle Extension (s)	2.0	2.0		2.0	2.0		2.0	2.0			2.0	
Lane Grp Cap (vph)	236	1742		236	1755		212	402			212	
v/s Ratio Prot	0.03	c0.46		c0.12	0.32			0.18				
v/s Ratio Perm							0.16				c0.23	
v/c Ratio	0.24	0.93		0.90	0.64		0.69	0.78			0.99	
Uniform Delay, d1	29.1	17.5		32.0	13.8		26.2	26.9			28.7	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00			1.00	
Incremental Delay, d2	0.2	10.1		31.9	1.8		7.2	8.4			59.9	
Delay (s)	29.3	27.6		63.9	15.6		33.4	35.3			88.6	
Level of Service	C	C		E	B		C	D			F	
Approach Delay (s)		27.7			23.3			34.8			88.6	
Approach LOS		C			C			C			F	

Intersection Summary			
HCM 2000 Control Delay	30.8	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	75.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	95.3%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	92	1103	219	200	701	93	400	301	359	108	260	55
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Lane Util. Factor	1.00	0.95	1.00	1.00	0.95		1.00	1.00			0.95	1.00
Frt	1.00	1.00	0.85	1.00	0.98		1.00	0.92			1.00	0.85
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00			0.99	1.00
Satd. Flow (prot)	1770	3539	1583	1770	3477		1770	1711			3488	1583
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.48	1.00			0.54	1.00
Satd. Flow (perm)	1770	3539	1583	1770	3477		901	1711			1919	1583
Peak-hour factor, PHF	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88	0.88
Adj. Flow (vph)	105	1253	249	227	797	106	455	342	408	123	295	62
RTOR Reduction (vph)	0	0	119	0	12	0	0	53	0	0	0	36
Lane Group Flow (vph)	105	1253	130	227	891	0	455	697	0	0	418	26
Turn Type	Prot	NA	custom	Prot	NA		Perm	NA		Perm	NA	Perm
Protected Phases	1	6		5	2			4			8	
Permitted Phases			4				4			8		8
Actuated Green, G (s)	5.6	28.0	33.0	8.0	30.4		33.0	33.0			33.0	33.0
Effective Green, g (s)	5.6	28.0	33.0	8.0	30.4		33.0	33.0			33.0	33.0
Actuated g/C Ratio	0.07	0.35	0.41	0.10	0.38		0.41	0.41			0.41	0.41
Clearance Time (s)	3.0	3.0	5.0	3.0	3.0		5.0	5.0			5.0	5.0
Vehicle Extension (s)	2.0	4.0	2.0	2.0	4.0		2.0	2.0			2.0	2.0
Lane Grp Cap (vph)	123	1238	652	177	1321		371	705			791	652
v/s Ratio Prot	0.06	c0.35		c0.13	0.26			0.41				
v/s Ratio Perm			0.08				c0.50				0.22	0.02
v/c Ratio	0.85	1.01	0.20	1.28	0.67		1.23	0.99			1.34dl	0.04
Uniform Delay, d1	36.8	26.0	15.0	36.0	20.7		23.5	23.3			17.7	14.0
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00			1.00	1.00
Incremental Delay, d2	39.1	28.6	0.1	163.1	2.8		123.6	30.5			0.3	0.0
Delay (s)	75.9	54.6	15.1	199.1	23.4		147.1	53.8			18.0	14.0
Level of Service	E	D	B	F	C		F	D			B	B
Approach Delay (s)		49.9			58.7			89.0			17.4	
Approach LOS		D			E			F			B	

Intersection Summary			
HCM 2000 Control Delay	59.3	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.14		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	11.0
Intersection Capacity Utilization	104.7%	ICU Level of Service	G
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.

c Critical Lane Group

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (veh/h)	0	0	526	65	153	28
Sign Control		Free	Free		Stop	
Grade		0%	0%		0%	
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97
Hourly flow rate (vph)	0	0	542	67	158	29
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type		None	None			
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume	609				576	576
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	609				576	576
tC, single (s)	4.1				6.4	6.2
tC, 2 stage (s)						
tF (s)	2.2				3.5	3.3
p0 queue free %	100				67	94
cM capacity (veh/h)	969				479	517

Direction, Lane #	WB 1	SB 1
Volume Total	576	93
Volume Left	0	79
Volume Right	34	14
cSH	1700	567
Volume to Capacity	0.34	0.16
Queue Length 95th (ft)	0	15
Control Delay (s)	0.0	13.7
Lane LOS		B
Approach Delay (s)	0.0	13.7
Approach LOS		B

Intersection Summary			
Average Delay	1.9		
Intersection Capacity Utilization	46.8%	ICU Level of Service	A
Analysis Period (min)	15		

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Right Turn Channelized						
Volume (veh/h)	0	120	467	127	0	0
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95
Hourly flow rate (vph)	0	126	492	134	0	0
Approach Volume (veh/h)		126	625		0	
Crossing Volume (veh/h)		0	0		492	
High Capacity (veh/h)		1385	1385		940	
High v/c (veh/h)		0.09	0.45		0.00	
Low Capacity (veh/h)		1161	1161		760	
Low v/c (veh/h)		0.11	0.54		0.00	

Intersection Summary			
Maximum v/c High	0.45		
Maximum v/c Low	0.54		
Intersection Capacity Utilization	35.6%	ICU Level of Service	A

Intersection	
Intersection Delay (sec/veh)	9.2
Intersection LOS	A

Approach	EB	WB	SB
Entry Lanes	1	1	0
Conflicting Circle Lanes	1	1	1
Adjusted Approach Flow (vph)	126	626	0
Demand Flow Rate (pc/h)	129	639	0
Vehicles Circulating (pc/h)	0	0	502
Vehicles Exiting (pc/h)	502	129	137
Follow-Up Headway (s)	3.186	3.186	3.186
Ped Vol. Crossing Leg (#/hr)	0	0	0
Ped Capacity Adjustment	1.000	1.000	1.000
Approach Delay (sec/veh)	4.2	10.2	0.0
Approach LOS	A	B	-

Lane	Left	Left
Designated moves	LT	TR
Assumed Moves	LT	TR
Right Turn Channelized		
Lane Utilization	1.000	1.000
Critical Headway (s)	5.193	5.193
Entry Flow Rate (pc/h)	129	639
Capacity, Entry Lane (pc/h)	1130	1130
Entry HV Adjustment Factor	0.980	0.980
Flow Rate, Entry (vph)	126	626
Capacity, Entry (vph)	1108	1107
Volume to Capacity Ratio	0.114	0.566
Control Delay (sec/veh)	4.2	10.2
Level of Service	A	B
95th-Percentile Queue (veh)	0	4

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	1459	364	82	1324	0	0	0	0	926	6
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0		4.0	4.0					4.0	4.0
Lane Util. Factor			0.88		1.00	0.88					1.00	1.00
Frt			0.85		1.00	0.85					1.00	0.85
Flt Protected			1.00		0.96	1.00					1.00	1.00
Satd. Flow (prot)			2787		1790	2787					1863	1583
Flt Permitted			1.00		0.96	1.00					1.00	1.00
Satd. Flow (perm)			2787		1790	2787					1863	1583
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	1520	379	85	1379	0	0	0	0	965	6
RTOR Reduction (vph)	0	0	89	0	50	827	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	1431	0	414	552	0	0	0	0	965	6
Turn Type			custom	Perm	NA	Perm					NA	Free
Protected Phases					8						6	
Permitted Phases			4	8		8						Free
Actuated Green, G (s)			32.0		32.0	32.0					40.0	80.0
Effective Green, g (s)			32.0		32.0	32.0					40.0	80.0
Actuated g/C Ratio			0.40		0.40	0.40					0.50	1.00
Clearance Time (s)			4.0		4.0	4.0					4.0	
Vehicle Extension (s)			3.0		3.0	3.0					3.0	
Lane Grp Cap (vph)			1115		716	1115					932	1583
v/s Ratio Prot											c0.52	
v/s Ratio Perm			c0.51		0.23	0.20						0.00
v/c Ratio			1.28		0.58	0.49					1.04	0.00
Uniform Delay, d1			24.0		18.7	18.0					20.0	0.0
Progression Factor			1.00		0.86	0.85					1.00	1.00
Incremental Delay, d2			134.5		0.1	0.0					39.0	0.0
Delay (s)			158.5		16.3	15.3					59.0	0.0
Level of Service			F		B	B					E	A
Approach Delay (s)		158.5			15.6			0.0			58.6	
Approach LOS		F			B			A			E	

Intersection Summary			
HCM Average Control Delay	75.4	HCM Level of Service	E
HCM Volume to Capacity ratio	1.15		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	134.2%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations								
Volume (vph)	223	67	1682	378	889	20	0	356
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0		4.0	4.0			4.0	
Lane Util. Factor	1.00		0.97	1.00			1.00	
Frt	0.97		1.00	0.89			0.87	
Flt Protected	1.00		0.95	1.00			1.00	
Satd. Flow (prot)	1805		3433	1667			1620	
Flt Permitted	1.00		0.54	1.00			0.75	
Satd. Flow (perm)	1805		1933	1667			1217	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	230	69	1734	390	916	21	0	367
RTOR Reduction (vph)	0	0	0	0	0	0	24	0
Lane Group Flow (vph)	299	0	1734	1306	0	0	364	0
Turn Type	NA		Perm	NA		Perm	NA	
Protected Phases	8			2			6	
Permitted Phases			2			6		
Actuated Green, G (s)	21.0		121.0	121.0			121.0	
Effective Green, g (s)	21.0		121.0	121.0			121.0	
Actuated g/C Ratio	0.14		0.81	0.81			0.81	
Clearance Time (s)	4.0		4.0	4.0			4.0	
Vehicle Extension (s)	3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)	252		1559	1344			981	
v/s Ratio Prot	c0.17			0.78				
v/s Ratio Perm			c0.90				0.30	
v/c Ratio	1.19		1.11	0.97			0.37	
Uniform Delay, d1	64.5		14.5	13.0			4.0	
Progression Factor	1.00		1.00	1.00			1.00	
Incremental Delay, d2	116.6		60.1	18.7			0.2	
Delay (s)	181.1		74.6	31.6			4.2	
Level of Service	F		E	C			A	
Approach Delay (s)	181.1			56.2			4.2	
Approach LOS	F			E			A	

Intersection Summary			
HCM 2000 Control Delay	60.8	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.12		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	123.5%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBU	SBL	SBT
Lane Configurations							
Volume (veh/h)	0	40	2455	50	365	48	2336
Sign Control	Stop		Free				Free
Grade	0%		0%				0%
Peak Hour Factor	0.98	0.98	0.98	0.98	0.92	0.98	0.98
Hourly flow rate (vph)	0	41	2505	51	0	49	2384
Pedestrians							
Lane Width (ft)							
Walking Speed (ft/s)							
Percent Blockage							
Right turn flare (veh)							
Median type			None				None
Median storage veh)							
Upstream signal (ft)							
pX, platoon unblocked					0.00		
vC, conflicting volume	3820	1278			0	2556	
vC1, stage 1 conf vol							
vC2, stage 2 conf vol							
vCu, unblocked vol	3820	1278			0	2556	
tC, single (s)	6.8	6.9			0.0	4.1	
tC, 2 stage (s)							
tF (s)	3.5	3.3			0.0	2.2	
p0 queue free %	100	74			0	71	
cM capacity (veh/h)	2	157			0	170	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2	SB 3
Volume Total	41	1670	861	49	1192	1192
Volume Left	0	0	0	49	0	0
Volume Right	41	0	26	0	0	0
cSH	157	1700	1700	170	1700	1700
Volume to Capacity	0.26	0.98	0.51	0.29	0.70	0.70
Queue Length 95th (ft)	25	0	0	28	0	0
Control Delay (s)	35.8	0.0	0.0	34.4	0.0	0.0
Lane LOS	E			D		
Approach Delay (s)	35.8	0.0		0.7		
Approach LOS	E					

Intersection Summary			
Average Delay	0.6		
Intersection Capacity Utilization	105.7%	ICU Level of Service	G
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	EBR2	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT
Lane Configurations												
Volume (vph)	257	450	100	84	200	450	27	63	1023	150	89	1136
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Lane Util. Factor		0.91		0.91	1.00	0.95			0.95			0.95
Frt		0.98		0.85	1.00	0.99			0.98			0.98
Flt Protected		0.98		1.00	0.95	1.00			1.00			1.00
Satd. Flow (prot)		3271		1441	1770	3510			3466			3465
Flt Permitted		0.63		1.00	0.14	1.00			0.69			0.66
Satd. Flow (perm)		2078		1441	263	3510			2395			2286
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	271	474	105	88	211	474	28	66	1077	158	94	1196
RTOR Reduction (vph)	0	1	0	14	0	5	0	0	0	0	0	12
Lane Group Flow (vph)	0	858	0	65	211	497	0	0	1301	0	0	1452
Turn Type	Perm	NA		Perm	Perm	NA		Perm	NA		Perm	NA
Protected Phases		2				2			4			4
Permitted Phases	2			2	2			4			4	
Actuated Green, G (s)		28.3		28.3	28.3	28.3			52.3			52.3
Effective Green, g (s)		28.3		28.3	28.3	28.3			52.3			52.3
Actuated g/C Ratio		0.31		0.31	0.31	0.31			0.58			0.58
Clearance Time (s)		4.7		4.7	4.7	4.7			4.7			4.7
Vehicle Extension (s)		3.0		3.0	3.0	3.0			3.0			3.0
Lane Grp Cap (vph)		653		453	82	1103			1391			1328
v/s Ratio Prot						0.14						
v/s Ratio Perm		0.41		0.04	c0.80				0.54			c0.64
v/c Ratio		1.31		0.14	2.57	0.45			0.94			1.09
Uniform Delay, d1		30.9		22.1	30.9	24.6			17.3			18.9
Progression Factor		1.00		1.00	1.00	1.00			1.00			1.00
Incremental Delay, d2		152.2		0.1	742.2	0.3			11.8			54.4
Delay (s)		183.1		22.3	773.0	24.9			29.1			73.2
Level of Service		F		C	F	C			C			E
Approach Delay (s)		169.5				246.3			29.1			73.2
Approach LOS		F				F			C			E

Intersection Summary			
HCM 2000 Control Delay	108.6	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.61		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	9.4
Intersection Capacity Utilization	127.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	SBR
Lane Configurations	
Volume (vph)	165
Ideal Flow (vphpl)	1900
Total Lost time (s)	
Lane Util. Factor	
Frt	
Flt Protected	
Satd. Flow (prot)	
Flt Permitted	
Satd. Flow (perm)	
Peak-hour factor, PHF	0.95
Adj. Flow (vph)	174
RTOR Reduction (vph)	0
Lane Group Flow (vph)	0
Turn Type	
Protected Phases	
Permitted Phases	
Actuated Green, G (s)	
Effective Green, g (s)	
Actuated g/C Ratio	
Clearance Time (s)	
Vehicle Extension (s)	
Lane Grp Cap (vph)	
v/s Ratio Prot	
v/s Ratio Perm	
v/c Ratio	
Uniform Delay, d1	
Progression Factor	
Incremental Delay, d2	
Delay (s)	
Level of Service	
Approach Delay (s)	
Approach LOS	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	103	1241	120	80	880	183	50	694	112	54	386	108
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.97			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			1.00			1.00	
Satd. Flow (prot)	1770	3492		1770	3448			3460			3418	
Flt Permitted	0.95	1.00		0.95	1.00			0.82			0.63	
Satd. Flow (perm)	1770	3492		1770	3448			2859			2179	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	106	1279	124	82	907	189	52	715	115	56	398	111
RTOR Reduction (vph)	0	6	0	0	12	0	0	9	0	0	16	0
Lane Group Flow (vph)	106	1397	0	82	1084	0	0	873	0	0	549	0
Turn Type	Prot	NA		Prot	NA		Perm	NA		Perm	NA	
Protected Phases	5	2		1	6			8			4	
Permitted Phases							8			4		
Actuated Green, G (s)	5.2	51.4		8.6	54.8			33.0			33.0	
Effective Green, g (s)	5.2	51.4		8.6	54.8			33.0			33.0	
Actuated g/C Ratio	0.05	0.49		0.08	0.52			0.31			0.31	
Clearance Time (s)	4.0	4.0		4.0	4.0			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	87	1709		144	1799			898			684	
v/s Ratio Prot	c0.06	c0.40		0.05	c0.31							
v/s Ratio Perm								c0.31			0.25	
v/c Ratio	1.22	0.82		0.57	0.60			0.97			0.80	
Uniform Delay, d1	49.9	22.8		46.4	17.5			35.5			33.0	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	166.4	3.2		5.1	0.6			23.3			6.8	
Delay (s)	216.3	26.0		51.5	18.1			58.9			39.8	
Level of Service	F	C		D	B			E			D	
Approach Delay (s)		39.3			20.4			58.9			39.8	
Approach LOS		D			C			E			D	

Intersection Summary			
HCM 2000 Control Delay	38.2	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	105.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	95.8%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	201	603	800	185	501	108	400	701	274	58	517	45
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Lane Util. Factor	1.00	1.00	1.00	1.00	0.95		1.00	0.95	1.00		0.95	
Frt	1.00	1.00	0.85	1.00	0.97		1.00	1.00	0.85		0.99	
Flt Protected	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (prot)	1770	1863	1583	1770	3445		1770	3539	1583		3485	
Flt Permitted	0.95	1.00	1.00	0.95	1.00		0.95	1.00	1.00		1.00	
Satd. Flow (perm)	1770	1863	1583	1770	3445		1770	3539	1583		3485	
Peak-hour factor, PHF	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91	0.91
Adj. Flow (vph)	221	663	879	203	551	119	440	770	301	64	568	49
RTOR Reduction (vph)	0	0	346	0	18	0	0	0	109	0	6	0
Lane Group Flow (vph)	221	663	533	203	652	0	440	770	192	0	675	0
Turn Type	Prot	NA	Perm	Prot	NA		Split	NA	Perm	Split	NA	
Protected Phases	7	4		3	8		2	2		6	6	
Permitted Phases			4						2			
Actuated Green, G (s)	16.0	33.0	33.0	11.0	28.0		23.0	23.0	23.0		17.0	
Effective Green, g (s)	16.0	33.0	33.0	11.0	28.0		23.0	23.0	23.0		17.0	
Actuated g/C Ratio	0.16	0.33	0.33	0.11	0.28		0.23	0.23	0.23		0.17	
Clearance Time (s)	4.0	4.0	4.0	4.0	4.0		4.0	4.0	4.0		4.0	
Vehicle Extension (s)	3.0	3.0	3.0	3.0	3.0		3.0	3.0	3.0		3.0	
Lane Grp Cap (vph)	283	614	522	194	964		407	813	364		592	
v/s Ratio Prot	0.12	c0.36		c0.11	0.19		c0.25	0.22			c0.19	
v/s Ratio Perm			0.34						0.12			
v/c Ratio	0.78	1.08	1.02	1.05	0.68		1.08	0.95	0.53		1.14	
Uniform Delay, d1	40.3	33.5	33.5	44.5	32.0		38.5	37.9	33.7		41.5	
Progression Factor	1.00	1.00	1.00	1.00	1.00		1.00	1.00	1.00		1.00	
Incremental Delay, d2	13.1	59.8	45.0	77.4	3.8		68.1	19.6	1.4		82.2	
Delay (s)	53.4	93.3	78.5	121.9	35.8		106.6	57.5	35.1		123.7	
Level of Service	D	F	E	F	D		F	E	D		F	
Approach Delay (s)		80.9			55.8			67.4			123.7	
Approach LOS		F			E			E			F	

Intersection Summary			
HCM 2000 Control Delay	78.2	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.09		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	16.0
Intersection Capacity Utilization	94.9%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	13	67	40	248	2	557	15	805	176	959	541	3
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00	1.00		0.95		0.91	0.91	
Frt		0.95			1.00	0.85		0.97		1.00	1.00	
Flt Protected		0.99			0.95	1.00		1.00		0.95	0.98	
Satd. Flow (prot)		1769			1775	1583		3443		1610	3312	
Flt Permitted		0.95			0.60	1.00		0.93		0.95	0.56	
Satd. Flow (perm)		1694			1123	1583		3198		1610	1908	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	14	70	42	258	2	580	16	839	183	999	564	3
RTOR Reduction (vph)	0	20	0	0	0	414	0	20	0	0	0	0
Lane Group Flow (vph)	0	106	0	0	260	166	0	1018	0	509	1057	0
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	
Protected Phases		4			4			6		5	2	
Permitted Phases	4			4		4	6					
Actuated Green, G (s)		20.5			20.5	20.5		30.0		27.0	61.0	
Effective Green, g (s)		20.5			20.5	20.5		30.0		27.0	61.0	
Actuated g/C Ratio		0.23			0.23	0.23		0.33		0.30	0.68	
Clearance Time (s)		4.5			4.5	4.5		4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0	3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)		385			255	360		1066		483	1714	
v/s Ratio Prot										c0.32	0.18	
v/s Ratio Perm		0.06			c0.23	0.10		c0.32			0.23	
v/c Ratio		0.28			1.02	0.46		0.95		1.05	0.62	
Uniform Delay, d1		28.6			34.8	30.0		29.3		31.5	8.0	
Progression Factor		1.00			1.00	1.00		1.00		1.00	1.00	
Incremental Delay, d2		0.4			61.5	0.9		18.6		55.9	0.7	
Delay (s)		29.0			96.2	30.9		48.0		87.4	8.7	
Level of Service		C			F	C		D		F	A	
Approach Delay (s)		29.0			51.1			48.0			34.3	
Approach LOS		C			D			D			C	

Intersection Summary			
HCM 2000 Control Delay	42.0	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.01		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	87.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	302	142	106	120	70	14	294	657	494	17	529	238
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Lane Util. Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Frt		0.97			0.99		1.00	0.94		1.00	0.95	
Flt Protected		0.97			0.97		0.95	1.00		0.95	1.00	
Satd. Flow (prot)		1766			1793		1770	1743		1770	1776	
Flt Permitted		0.72			0.63		0.06	1.00		0.06	1.00	
Satd. Flow (perm)		1301			1163		108	1743		115	1776	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	318	149	112	126	74	15	309	692	520	18	557	251
RTOR Reduction (vph)	0	6	0	0	2	0	0	17	0	0	11	0
Lane Group Flow (vph)	0	573	0	0	213	0	309	1195	0	18	797	0
Turn Type	Perm	NA		Perm	NA		pm+pt	NA		pm+pt	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4			8			2			6		
Actuated Green, G (s)		49.0			49.0		93.0	86.0		68.0	65.0	
Effective Green, g (s)		49.0			49.0		93.0	86.0		68.0	65.0	
Actuated g/C Ratio		0.33			0.33		0.62	0.57		0.45	0.43	
Clearance Time (s)		4.0			4.0		4.0	4.0		4.0	4.0	
Vehicle Extension (s)		3.0			3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)		424			379		332	999		85	769	
v/s Ratio Prot							c0.15	c0.69		0.00	0.45	
v/s Ratio Perm		c0.44			0.18		0.43			0.09		
v/c Ratio		1.35			0.56		0.93	1.20		0.21	1.04	
Uniform Delay, d1		50.5			41.6		50.8	32.0		35.2	42.5	
Progression Factor		1.00			1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2		173.0			1.9		31.9	98.0		1.2	42.3	
Delay (s)		223.5			43.6		82.7	130.0		36.4	84.8	
Level of Service		F			D		F	F		D	F	
Approach Delay (s)		223.5			43.6			120.4			83.8	
Approach LOS		F			D			F			F	

Intersection Summary			
HCM 2000 Control Delay	124.5	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.25		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	12.0
Intersection Capacity Utilization	115.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	384	138	479	10	5	200	0	662	40	153	616	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Lane Util. Factor		1.00	1.00		1.00			0.95		1.00	1.00	
Frt		1.00	0.85		0.87			0.99		1.00	0.98	
Flt Protected		0.96	1.00		1.00			1.00		0.95	1.00	
Satd. Flow (prot)		1797	1583		1625			3509		1770	1818	
Flt Permitted		0.61	1.00		0.98			1.00		0.20	1.00	
Satd. Flow (perm)		1139	1583		1589			3509		368	1818	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	396	142	494	10	5	206	0	682	41	158	635	121
RTOR Reduction (vph)	0	0	122	0	114	0	0	6	0	0	7	0
Lane Group Flow (vph)	0	538	372	0	107	0	0	717	0	158	749	0
Turn Type	Perm	NA	Perm	Perm	NA			NA		pm+pt	NA	
Protected Phases		4			8			2		1	6	
Permitted Phases	4		4	8						6		
Actuated Green, G (s)		44.7	44.7		44.7			28.1		47.3	47.3	
Effective Green, g (s)		44.7	44.7		44.7			28.1		47.3	47.3	
Actuated g/C Ratio		0.45	0.45		0.45			0.28		0.47	0.47	
Clearance Time (s)		4.0	4.0		4.0			4.0		4.0	4.0	
Vehicle Extension (s)		3.0	3.0		3.0			3.0		3.0	3.0	
Lane Grp Cap (vph)		509	708		710			986		387	860	
v/s Ratio Prot								0.20		0.06	c0.41	
v/s Ratio Perm		c0.47	0.23		0.07					0.13		
v/c Ratio		1.06	0.53		0.15			0.73		0.41	0.87	
Uniform Delay, d1		27.6	20.0		16.4			32.5		29.0	23.6	
Progression Factor		1.00	1.00		1.00			1.00		0.82	0.83	
Incremental Delay, d2		55.8	0.7		0.1			4.7		0.3	4.9	
Delay (s)		83.4	20.7		16.5			37.2		24.0	24.4	
Level of Service		F	C		B			D		C	C	
Approach Delay (s)		53.4			16.5			37.2			24.4	
Approach LOS		D			B			D			C	

Intersection Summary			
HCM Average Control Delay	37.3	HCM Level of Service	D
HCM Volume to Capacity ratio	0.96		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	92.4%	ICU Level of Service	F
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	533	146	762	388	85	1139
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.0	3.0	4.0		3.0	3.0
Lane Util. Factor	1.00	1.00	0.95		1.00	0.95
Frt	1.00	0.85	0.95		1.00	1.00
Flt Protected	0.95	1.00	1.00		0.95	1.00
Satd. Flow (prot)	1770	1583	3360		1770	3539
Flt Permitted	0.95	1.00	1.00		0.95	1.00
Satd. Flow (perm)	1770	1583	3360		1770	3539
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	555	152	794	404	89	1186
RTOR Reduction (vph)	0	96	97	0	0	0
Lane Group Flow (vph)	555	56	1101	0	89	1186
Turn Type	NA	Perm	NA		Prot	NA
Protected Phases	3		2		1	6
Permitted Phases		3				
Actuated Green, G (s)	21.9	21.9	23.6		4.4	32.0
Effective Green, g (s)	21.9	21.9	23.6		4.4	32.0
Actuated g/C Ratio	0.37	0.37	0.39		0.07	0.53
Clearance Time (s)	3.0	3.0	4.0		3.0	3.0
Vehicle Extension (s)	3.0	3.0	3.0		3.0	3.0
Lane Grp Cap (vph)	647	578	1323		130	1890
v/s Ratio Prot	c0.31		c0.33		0.05	c0.34
v/s Ratio Perm		0.04				
v/c Ratio	0.86	0.10	0.83		0.68	0.63
Uniform Delay, d1	17.6	12.5	16.4		27.1	9.8
Progression Factor	1.00	1.00	1.00		1.00	1.00
Incremental Delay, d2	10.9	0.1	4.6		13.9	0.7
Delay (s)	28.5	12.6	21.0		41.0	10.4
Level of Service	C	B	C		D	B
Approach Delay (s)	25.0		21.0			12.6
Approach LOS	C		C			B

Intersection Summary			
HCM 2000 Control Delay	18.5	HCM 2010 Level of Service	B
HCM 2000 Volume to Capacity ratio	0.86		
Actuated Cycle Length (s)	59.9	Sum of lost time (s)	10.0
Intersection Capacity Utilization	78.0%	ICU Level of Service	D
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	220	200	68	150	290	168	28	817	200	350	1041	397
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Util. Factor		1.00	1.00		1.00		1.00	0.95	1.00	1.00	0.95	
Frt		1.00	0.85		0.96		1.00	1.00	0.85	1.00	0.96	
Flt Protected		0.97	1.00		0.99		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (prot)		1815	1583		1771		1770	3539	1583	1770	3393	
Flt Permitted		0.49	1.00		0.60		0.95	1.00	1.00	0.95	1.00	
Satd. Flow (perm)		910	1583		1084		1770	3539	1583	1770	3393	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	227	206	70	155	299	173	29	842	206	361	1073	409
RTOR Reduction (vph)	0	0	38	0	16	0	0	0	54	0	42	0
Lane Group Flow (vph)	0	433	32	0	611	0	29	842	152	361	1440	0
Turn Type	Perm	NA	Perm	Perm	NA		Prot	NA	Perm	Prot	NA	
Protected Phases		4			8		5	2		1	6	
Permitted Phases	4		4	8					2			
Actuated Green, G (s)		42.0	42.0		42.0		2.4	24.2	24.2	16.0	37.8	
Effective Green, g (s)		42.0	42.0		42.0		2.4	24.2	24.2	16.0	37.8	
Actuated g/C Ratio		0.46	0.46		0.46		0.03	0.27	0.27	0.18	0.41	
Clearance Time (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Vehicle Extension (s)		3.0	3.0		3.0		3.0	3.0	3.0	3.0	3.0	
Lane Grp Cap (vph)		419	729		499		46	939	420	310	1406	
v/s Ratio Prot							0.02	0.24		c0.20	c0.42	
v/s Ratio Perm		0.48	0.02		c0.56				0.10			
v/c Ratio		1.03	0.04		1.23		0.63	0.90	0.36	1.16	1.02	
Uniform Delay, d1		24.6	13.5		24.6		44.0	32.3	27.2	37.6	26.7	
Progression Factor		1.00	1.00		1.00		1.00	1.00	1.00	1.00	1.00	
Incremental Delay, d2		52.8	0.0		118.2		24.9	11.1	0.5	103.4	30.3	
Delay (s)		77.4	13.6		142.8		68.8	43.4	27.8	141.0	57.0	
Level of Service		E	B		F		E	D	C	F	E	
Approach Delay (s)		68.6			142.8			41.1			73.5	
Approach LOS		E			F			D			E	

Intersection Summary			
HCM 2000 Control Delay	75.0	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.18		
Actuated Cycle Length (s)	91.2	Sum of lost time (s)	9.0
Intersection Capacity Utilization	114.6%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	500	1417	129	192	1485	204	474	487	200	100	620	200
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95		1.00	0.95		1.00	0.95	
Frt	1.00	0.99		1.00	0.98		1.00	0.96		1.00	0.96	
Flt Protected	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)	1770	3495		1770	3475		1770	3385		1770	3410	
Flt Permitted	0.95	1.00		0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (perm)	1770	3495		1770	3475		1770	3385		1770	3410	
Peak-hour factor, PHF	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Adj. Flow (vph)	515	1461	133	198	1531	210	489	502	206	103	639	206
RTOR Reduction (vph)	0	4	0	0	7	0	0	30	0	0	20	0
Lane Group Flow (vph)	515	1590	0	198	1734	0	489	678	0	103	825	0
Turn Type	Prot	NA		Prot	NA		Prot	NA		Prot	NA	
Protected Phases	5	2		1	6		3	8		7	4	
Permitted Phases												
Actuated Green, G (s)	26.0	69.5		11.0	54.5		25.0	41.6		11.4	28.0	
Effective Green, g (s)	26.0	69.5		11.0	54.5		25.0	41.6		11.4	28.0	
Actuated g/C Ratio	0.17	0.46		0.07	0.36		0.17	0.28		0.08	0.19	
Clearance Time (s)	4.0	4.5		4.0	4.5		4.0	4.0		4.0	4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)	306	1619		129	1262		295	938		134	636	
v/s Ratio Prot	c0.29	0.45		0.11	c0.50		c0.28	0.20		0.06	c0.24	
v/s Ratio Perm												
v/c Ratio	1.68	0.98		1.53	1.37		1.66	0.72		0.77	1.30	
Uniform Delay, d1	62.0	39.6		69.5	47.8		62.5	49.0		68.0	61.0	
Progression Factor	1.00	1.00		1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2	321.2	18.5		275.7	173.4		310.6	2.8		22.8	144.9	
Delay (s)	383.2	58.1		345.2	221.1		373.1	51.8		90.8	205.9	
Level of Service	F	E		F	F		F	D		F	F	
Approach Delay (s)		137.5			233.8			183.0			193.4	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	185.0	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.47		
Actuated Cycle Length (s)	150.0	Sum of lost time (s)	16.5
Intersection Capacity Utilization	138.8%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	200	1469	91	172	1386	250	169	973	181	77	444	116
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Lane Util. Factor	1.00	0.95		1.00	0.95			0.95			0.95	
Frt	1.00	0.99		1.00	0.98			0.98			0.97	
Flt Protected	0.95	1.00		0.95	1.00			0.99			0.99	
Satd. Flow (prot)	1770	3508		1770	3458			3445			3422	
Flt Permitted	0.10	1.00		0.10	1.00			0.65			0.52	
Satd. Flow (perm)	184	3508		184	3458			2256			1777	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	217	1597	99	187	1507	272	184	1058	197	84	483	126
RTOR Reduction (vph)	0	5	0	0	13	0	0	9	0	0	12	0
Lane Group Flow (vph)	217	1691	0	187	1766	0	0	1430	0	0	681	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Effective Green, g (s)	40.5	40.5		40.5	40.5			31.0			31.0	
Actuated g/C Ratio	0.51	0.51		0.51	0.51			0.39			0.39	
Clearance Time (s)	4.5	4.5		4.5	4.5			4.0			4.0	
Vehicle Extension (s)	3.0	3.0		3.0	3.0			3.0			3.0	
Lane Grp Cap (vph)	93	1775		93	1750			874			688	
v/s Ratio Prot		0.48			0.51							
v/s Ratio Perm	c1.18			1.02				c0.63			0.38	
v/c Ratio	2.33	0.95		2.01	1.01			1.64			0.99	
Uniform Delay, d1	19.8	18.8		19.8	19.8			24.5			24.4	
Progression Factor	1.00	1.00		1.00	1.00			1.00			1.00	
Incremental Delay, d2	632.1	12.0		490.5	23.7			291.4			32.0	
Delay (s)	651.9	30.8		510.3	43.5			315.9			56.4	
Level of Service	F	C		F	D			F			E	
Approach Delay (s)		101.3			87.9			315.9			56.4	
Approach LOS		F			F			F			E	

Intersection Summary			
HCM 2000 Control Delay	143.1	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	2.03		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.5
Intersection Capacity Utilization	137.1%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	NBT	NBR	SBL	SBT	NEL	NER	NER2
Lane Configurations										
Volume (vph)	150	405	67	897	109	57	628	56	116	61
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0		4.0			4.0	4.0	4.0	
Lane Util. Factor		0.91		0.95			0.95	1.00	1.00	
Frt		0.98		0.98			1.00	1.00	0.85	
Flt Protected		0.99		1.00			1.00	0.95	1.00	
Satd. Flow (prot)		4943		3482			3525	1770	1583	
Flt Permitted		0.99		1.00			0.72	0.95	1.00	
Satd. Flow (perm)		4943		3482			2535	1770	1583	
Peak-hour factor, PHF	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92	0.92
Adj. Flow (vph)	163	440	73	975	118	62	683	61	126	66
RTOR Reduction (vph)	0	0	0	16	0	0	0	0	32	0
Lane Group Flow (vph)	0	676	0	1077	0	0	745	61	160	0
Turn Type	Perm	NA		NA		Perm	NA	NA	Perm	
Protected Phases		4		2			6	10		
Permitted Phases	4					6			10	
Actuated Green, G (s)		13.8		26.4			26.4	10.5	10.5	
Effective Green, g (s)		13.8		26.4			26.4	10.5	10.5	
Actuated g/C Ratio		0.22		0.42			0.42	0.17	0.17	
Clearance Time (s)		4.0		4.0			4.0	4.0	4.0	
Vehicle Extension (s)		3.0		3.0			3.0	3.0	3.0	
Lane Grp Cap (vph)		1088		1466			1067	296	265	
v/s Ratio Prot				c0.31				0.03		
v/s Ratio Perm		0.14					0.29		c0.10	
v/c Ratio		0.62		0.73			0.70	0.21	0.61	
Uniform Delay, d1		22.1		15.2			14.9	22.5	24.2	
Progression Factor		1.00		1.00			1.00	1.00	1.00	
Incremental Delay, d2		1.1		1.9			2.0	0.3	3.9	
Delay (s)		23.2		17.2			16.9	22.9	28.1	
Level of Service		C		B			B	C	C	
Approach Delay (s)		23.2		17.2			16.9	26.8		
Approach LOS		C		B			B	C		

Intersection Summary			
HCM Average Control Delay	19.4	HCM Level of Service	B
HCM Volume to Capacity ratio	0.68		
Actuated Cycle Length (s)	62.7	Sum of lost time (s)	12.0
Intersection Capacity Utilization	83.9%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	71	900	231	144	800	164	220	877	150	120	627	100
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)		5.0			5.0			5.0			5.0	
Lane Util. Factor		0.95			0.95			0.95			0.95	
Frt		0.97			0.98			0.98			0.98	
Flt Protected		1.00			0.99			0.99			0.99	
Satd. Flow (prot)		3427			3438			3445			3452	
Flt Permitted		0.65			0.50			0.57			0.50	
Satd. Flow (perm)		2221			1734			1988			1749	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	75	947	243	152	842	173	232	923	158	126	660	105
RTOR Reduction (vph)	0	23	0	0	16	0	0	12	0	0	12	0
Lane Group Flow (vph)	0	1242	0	0	1151	0	0	1301	0	0	879	0
Turn Type	Perm	NA		Perm	NA		Perm	NA		Perm	NA	
Protected Phases		2			6			8			4	
Permitted Phases	2			6			8			4		
Actuated Green, G (s)		40.0			40.0			40.0			40.0	
Effective Green, g (s)		40.0			40.0			40.0			40.0	
Actuated g/C Ratio		0.44			0.44			0.44			0.44	
Clearance Time (s)		5.0			5.0			5.0			5.0	
Vehicle Extension (s)		3.0			3.0			3.0			3.0	
Lane Grp Cap (vph)		987			770			883			777	
v/s Ratio Prot												
v/s Ratio Perm		0.56			c0.66			c0.65			0.50	
v/c Ratio		1.26			1.55dl			1.47			1.34dl	
Uniform Delay, d1		25.0			25.0			25.0			25.0	
Progression Factor		1.00			1.00			1.00			1.00	
Incremental Delay, d2		124.6			229.8			219.4			75.0	
Delay (s)		149.6			254.8			244.4			100.0	
Level of Service		F			F			F			F	
Approach Delay (s)		149.6			254.8			244.4			100.0	
Approach LOS		F			F			F			F	

Intersection Summary			
HCM 2000 Control Delay	193.4	HCM 2010 Level of Service	F
HCM 2000 Volume to Capacity ratio	1.48		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	10.0
Intersection Capacity Utilization	141.9%	ICU Level of Service	H
Analysis Period (min)	15		

dl Defacto Left Lane. Recode with 1 though lane as a left lane.
c Critical Lane Group

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	627	486	325	720	1154	150	50	715	117
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Lane Util. Factor				1.00	1.00		0.97	0.95		0.97	0.95	
Frt				1.00	0.94		1.00	0.98		1.00	0.98	
Flt Protected				0.95	1.00		0.95	1.00		0.95	1.00	
Satd. Flow (prot)				1770	1751		3433	3478		3433	3465	
Flt Permitted				0.95	1.00		0.15	1.00		0.18	1.00	
Satd. Flow (perm)				1770	1751		539	3478		648	3465	
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	0	0	0	653	506	339	750	1202	156	52	745	122
RTOR Reduction (vph)	0	0	0	0	18	0	0	11	0	0	14	0
Lane Group Flow (vph)	0	0	0	653	827	0	750	1347	0	52	853	0
Turn Type				Perm	NA		pm+pt	NA		Perm	NA	
Protected Phases					8		5	2			6	
Permitted Phases				8			2			6		
Actuated Green, G (s)				39.5	39.5		41.5	41.5		22.3	22.3	
Effective Green, g (s)				39.5	39.5		41.5	41.5		22.3	22.3	
Actuated g/C Ratio				0.44	0.44		0.46	0.46		0.25	0.25	
Clearance Time (s)				4.5	4.5		4.5	4.5		4.5	4.5	
Vehicle Extension (s)				3.0	3.0		3.0	3.0		3.0	3.0	
Lane Grp Cap (vph)				776	768		721	1603		160	858	
v/s Ratio Prot					c0.47		c0.17	0.39			0.25	
v/s Ratio Perm				0.37			c0.31			0.08		
v/c Ratio				0.84	1.08		1.04	0.84		0.33	0.99	
Uniform Delay, d1				22.5	25.2		24.8	21.3		27.7	33.8	
Progression Factor				1.00	1.00		1.00	1.00		1.00	1.00	
Incremental Delay, d2				8.2	55.2		44.4	4.1		1.2	29.0	
Delay (s)				30.7	80.4		69.2	25.5		28.9	62.8	
Level of Service				C	F		E	C		C	E	
Approach Delay (s)		0.0			58.7			41.0			60.9	
Approach LOS		A			E			D			E	

Intersection Summary			
HCM 2000 Control Delay	50.9	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.10		
Actuated Cycle Length (s)	90.0	Sum of lost time (s)	13.5
Intersection Capacity Utilization	100.7%	ICU Level of Service	G
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	140	494	77	58	0	190	50	1406	563	322	704	393
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Lane Util. Factor	0.91	0.91	1.00	1.00		1.00		0.95		0.97	0.95	
Frt	1.00	1.00	0.85	1.00		0.85		0.96		1.00	0.95	
Flt Protected	0.95	1.00	1.00	0.95		1.00		1.00		0.95	1.00	
Satd. Flow (prot)	1610	3385	1583	1770		1583		3387		3433	3349	
Flt Permitted	0.95	1.00	1.00	0.15		1.00		0.86		0.04	1.00	
Satd. Flow (perm)	1610	3385	1583	281		1583		2909		149	3349	
Peak-hour factor, PHF	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Adj. Flow (vph)	147	520	81	61	0	200	53	1480	593	339	741	414
RTOR Reduction (vph)	0	0	36	0	0	108	0	7	0	0	55	0
Lane Group Flow (vph)	132	535	45	61	0	92	0	2119	0	339	1100	0
Turn Type	Perm	NA	Perm	custom		custom	Perm	NA		pm+pt	NA	
Protected Phases		4						2		1	6	
Permitted Phases	4		4	8		8	2			6		
Actuated Green, G (s)	26.5	26.5	26.5	26.5		26.5		93.5		104.5	104.5	
Effective Green, g (s)	26.5	26.5	26.5	26.5		26.5		93.5		104.5	104.5	
Actuated g/C Ratio	0.19	0.19	0.19	0.19		0.19		0.67		0.75	0.75	
Clearance Time (s)	4.5	4.5	4.5	4.5		4.5		4.5		3.5	4.5	
Vehicle Extension (s)	3.0	3.0	3.0	3.0		3.0		3.0		3.0	3.0	
Lane Grp Cap (vph)	304	640	299	53		299		1942		287	2499	
v/s Ratio Prot										c0.06	0.33	
v/s Ratio Perm	0.08	0.16	0.03	c0.22		0.06		0.73		c0.82		
v/c Ratio	0.43	0.84	0.15	1.15		0.31		1.09		1.18	0.44	
Uniform Delay, d1	50.1	54.7	47.4	56.8		48.9		23.2		48.2	6.7	
Progression Factor	1.00	1.00	1.00	1.00		1.00		1.00		1.00	1.00	
Incremental Delay, d2	1.0	9.3	0.2	170.9		0.6		50.1		111.4	0.1	
Delay (s)	51.1	63.9	47.6	227.6		49.4		73.4		159.7	6.8	
Level of Service	D	E	D	F		D		E		F	A	
Approach Delay (s)		59.9			91.1			73.4			41.5	
Approach LOS		E			F			E			D	

Intersection Summary			
HCM 2000 Control Delay	61.9	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.20		
Actuated Cycle Length (s)	140.0	Sum of lost time (s)	12.5
Intersection Capacity Utilization	121.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR2
Lane Configurations												
Volume (vph)	250	353	110	4	242	288	72	636	12	323	758	120
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Lane Util. Factor	1.00	1.00			0.95	1.00		1.00		1.00	0.95	0.95
Frt	1.00	0.96			1.00	0.85		1.00		1.00	1.00	0.85
Flt Protected	0.95	1.00			1.00	1.00		1.00		0.95	1.00	1.00
Satd. Flow (prot)	1770	1796			3536	1583		1849		1770	1765	1504
Flt Permitted	0.51	1.00			0.82	1.00		0.84		0.95	1.00	1.00
Satd. Flow (perm)	958	1796			2888	1583		1568		1770	1765	1504
Peak-hour factor, PHF	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Adj. Flow (vph)	260	368	115	4	252	300	75	662	12	336	790	125
RTOR Reduction (vph)	0	0	0	0	0	224	0	0	0	0	11	18
Lane Group Flow (vph)	260	483	0	0	256	76	0	749	0	336	792	94
Turn Type	Perm	NA		Perm	NA	Perm	Perm	NA		Prot	NA	Perm
Protected Phases		3			3			6		5	2	
Permitted Phases	3			3		3	6					2
Actuated Green, G (s)	33.5	33.5			33.5	33.5		66.1		22.0	91.1	91.1
Effective Green, g (s)	33.5	33.5			33.5	33.5		66.1		22.0	91.1	91.1
Actuated g/C Ratio	0.25	0.25			0.25	0.25		0.50		0.17	0.69	0.69
Clearance Time (s)	3.5	3.5			3.5	3.5		3.8		3.0	3.8	3.8
Vehicle Extension (s)	3.0	3.0			3.0	3.0		3.0		3.0	3.0	3.0
Lane Grp Cap (vph)	243	456			733	402		785		295	1219	1038
v/s Ratio Prot		0.27								c0.19	0.45	
v/s Ratio Perm	c0.27				0.09	0.05		c0.48				0.06
v/c Ratio	1.07	1.06			0.35	0.19		0.95		1.14	0.65	0.09
Uniform Delay, d1	49.2	49.2			40.3	38.6		31.4		55.0	11.4	6.7
Progression Factor	1.00	1.00			1.00	1.00		1.00		1.00	1.00	1.00
Incremental Delay, d2	77.5	58.7			0.3	0.2		21.4		95.3	1.2	0.0
Delay (s)	126.7	107.9			40.6	38.8		52.8		150.3	12.7	6.8
Level of Service	F	F			D	D		D		F	B	A
Approach Delay (s)		114.5			39.6			52.8			49.1	
Approach LOS		F			D			D			D	

Intersection Summary			
HCM 2000 Control Delay	63.1	HCM 2010 Level of Service	E
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	131.9	Sum of lost time (s)	14.4
Intersection Capacity Utilization	125.9%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	NEL	NER2
Lane Configurations		
Volume (vph)	0	0
Ideal Flow (vphpl)	1900	1900
Total Lost time (s)		
Lane Util. Factor		
Frt		
Flt Protected		
Satd. Flow (prot)		
Flt Permitted		
Satd. Flow (perm)		
Peak-hour factor, PHF	0.96	0.96
Adj. Flow (vph)	0	0
RTOR Reduction (vph)	0	0
Lane Group Flow (vph)	0	0
Turn Type		custom
Protected Phases	4	
Permitted Phases		2
Actuated Green, G (s)		
Effective Green, g (s)		
Actuated g/C Ratio		
Clearance Time (s)		
Vehicle Extension (s)		
Lane Grp Cap (vph)		
v/s Ratio Prot		
v/s Ratio Perm		
v/c Ratio		
Uniform Delay, d1		
Progression Factor		
Incremental Delay, d2		
Delay (s)		
Level of Service		
Approach Delay (s)	0.0	
Approach LOS	A	

Intersection Summary

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (veh/h)	0	200	0	0	50	0	108	1034	191	0	0	0
Sign Control		Stop			Stop			Free			Free	
Grade		0%			0%			0%			0%	
Peak Hour Factor	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87	0.87
Hourly flow rate (vph)	0	230	0	0	57	0	124	1189	220	0	0	0
Pedestrians												
Lane Width (ft)												
Walking Speed (ft/s)												
Percent Blockage												
Right turn flare (veh)												
Median type								None			None	
Median storage veh)												
Upstream signal (ft)												
pX, platoon unblocked												
vC, conflicting volume	1466	1656	0	1552	1437	1189	0			1408		
vC1, stage 1 conf vol												
vC2, stage 2 conf vol												
vCu, unblocked vol	1466	1656	0	1552	1437	1189	0			1408		
tC, single (s)	7.1	6.5	6.2	7.1	6.5	6.2	4.1			4.1		
tC, 2 stage (s)												
tF (s)	3.5	4.0	3.3	3.5	4.0	3.3	2.2			2.2		
p0 queue free %	100	0	100	0	53	100	92			100		
cM capacity (veh/h)	64	90	1085	0	123	229	1623			485		

Direction, Lane #	EB 1	WB 1	NB 1	NB 2
Volume Total	230	57	1251	220
Volume Left	0	0	62	0
Volume Right	0	0	0	220
cSH	90	123	1623	1700
Volume to Capacity	2.54	0.47	0.08	0.13
Queue Length 95th (ft)	536	52	6	0
Control Delay (s)	799.4	57.6	2.2	0.0
Lane LOS	F	F	A	
Approach Delay (s)	799.4	57.6	1.8	
Approach LOS	F	F		

Intersection Summary			
Average Delay	108.0		
Intersection Capacity Utilization	77.6%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBT	EBR	WBL	WBT	NBL	NBR
Lane Configurations						
Volume (veh/h)	968	205	0	0	200	100
Sign Control	Free			Free	Stop	
Grade	0%			0%	0%	
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94
Hourly flow rate (vph)	1030	218	0	0	213	106
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						2
Median type	None			None		
Median storage veh)						
Upstream signal (ft)						
pX, platoon unblocked						
vC, conflicting volume			1248		1139	1139
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol			1248		1139	1139
tC, single (s)			4.1		6.4	6.2
tC, 2 stage (s)						
tF (s)			2.2		3.5	3.3
p0 queue free %			100		4	57
cM capacity (veh/h)			558		223	245

Direction, Lane #	EB 1	NB 1
Volume Total	1248	319
Volume Left	0	213
Volume Right	218	106
cSH	1700	259
Volume to Capacity	0.73	1.23
Queue Length 95th (ft)	0	382
Control Delay (s)	0.0	172.6
Lane LOS		F
Approach Delay (s)	0.0	172.6
Approach LOS		F

Intersection Summary			
Average Delay	35.2		
Intersection Capacity Utilization	81.1%	ICU Level of Service	D
Analysis Period (min)	15		

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Volume (vph)	0	0	0	333	742	346	76	890	0	0	736	277
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900	1900
Total Lost time (s)					4.0	4.0	4.0	4.0			4.0	4.0
Lane Util. Factor					0.95	1.00	1.00	1.00			1.00	1.00
Frt					1.00	0.85	1.00	1.00			1.00	0.85
Flt Protected					0.98	1.00	0.95	1.00			1.00	1.00
Satd. Flow (prot)					3485	1583	1770	1863			1863	1583
Flt Permitted					0.98	1.00	0.19	1.00			1.00	1.00
Satd. Flow (perm)					3485	1583	352	1863			1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	0	358	798	372	82	957	0	0	791	298
RTOR Reduction (vph)	0	0	0	0	0	0	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	0	0	1156	372	82	957	0	0	791	298
Turn Type				Perm	NA	Free	Perm	NA			NA	Free
Protected Phases					8			2			6	
Permitted Phases				8		Free	2					Free
Actuated Green, G (s)					25.5	79.4	45.9	45.9			45.9	79.4
Effective Green, g (s)					25.5	79.4	45.9	45.9			45.9	79.4
Actuated g/C Ratio					0.32	1.00	0.58	0.58			0.58	1.00
Clearance Time (s)					4.0		4.0	4.0			4.0	
Vehicle Extension (s)					3.0		3.0	3.0			3.0	
Lane Grp Cap (vph)					1119	1583	203	1076			1076	1583
v/s Ratio Prot								c0.51			0.42	
v/s Ratio Perm					0.33	0.23	0.23					0.19
v/c Ratio					1.03	0.23	0.40	0.89			0.74	0.19
Uniform Delay, d1					27.0	0.0	9.2	14.5			12.3	0.0
Progression Factor					1.00	1.00	1.00	1.00			1.00	1.00
Incremental Delay, d2					35.8	0.3	1.3	9.2			2.6	0.3
Delay (s)					62.7	0.3	10.5	23.7			14.9	0.3
Level of Service					E	A	B	C			B	A
Approach Delay (s)		0.0			47.5			22.7			10.9	
Approach LOS		A			D			C			B	

Intersection Summary			
HCM 2000 Control Delay	29.6	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.94		
Actuated Cycle Length (s)	79.4	Sum of lost time (s)	8.0
Intersection Capacity Utilization	126.0%	ICU Level of Service	H
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBT	WBT	WBR	SBL	SBR
Lane Configurations						
Volume (vph)	379	609	0	0	432	0
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)		4.0			4.0	
Lane Util. Factor		0.95			1.00	
Frt		1.00			1.00	
Flt Protected		0.98			0.95	
Satd. Flow (prot)		3473			1770	
Flt Permitted		0.98			0.95	
Satd. Flow (perm)		3473			1770	
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	408	655	0	0	465	0
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	1063	0	0	465	0
Turn Type	Perm	NA			NA	
Protected Phases		4			6	
Permitted Phases	4					
Actuated Green, G (s)		34.7			37.3	
Effective Green, g (s)		34.7			37.3	
Actuated g/C Ratio		0.43			0.47	
Clearance Time (s)		4.0			4.0	
Vehicle Extension (s)		3.0			3.0	
Lane Grp Cap (vph)		1506			825	
v/s Ratio Prot					c0.26	
v/s Ratio Perm		0.31				
v/c Ratio		0.71			0.56	
Uniform Delay, d1		18.5			15.5	
Progression Factor		1.00			1.11	
Incremental Delay, d2		1.5			1.5	
Delay (s)		20.0			18.7	
Level of Service		C			B	
Approach Delay (s)		20.0	0.0		18.7	
Approach LOS		C	A		B	

Intersection Summary			
HCM Average Control Delay	19.6	HCM Level of Service	B
HCM Volume to Capacity ratio	0.63		
Actuated Cycle Length (s)	80.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	58.4%	ICU Level of Service	B
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBL	EBR	NBL	NBT	SBT	SBR
Lane Configurations						
Volume (vph)	0	0	922	585	1096	286
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)			4.0	4.0	4.0	4.0
Lane Util. Factor			0.97	1.00	1.00	1.00
Frt			1.00	1.00	1.00	0.85
Flt Protected			0.95	1.00	1.00	1.00
Satd. Flow (prot)			3433	1863	1863	1583
Flt Permitted			0.95	1.00	1.00	1.00
Satd. Flow (perm)			3433	1863	1863	1583
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	0	0	991	629	1178	308
RTOR Reduction (vph)	0	0	0	0	0	0
Lane Group Flow (vph)	0	0	991	629	1178	308
Turn Type			Prot	NA	NA	Free
Protected Phases			5	2	6	
Permitted Phases						Free
Actuated Green, G (s)			28.0	100.0	64.0	100.0
Effective Green, g (s)			28.0	100.0	64.0	100.0
Actuated g/C Ratio			0.28	1.00	0.64	1.00
Clearance Time (s)			4.0	4.0	4.0	
Vehicle Extension (s)			3.0	3.0	3.0	
Lane Grp Cap (vph)			961	1863	1192	1583
v/s Ratio Prot			0.29	c0.34	c0.63	
v/s Ratio Perm						0.19
v/c Ratio			1.03	0.34	0.99	0.19
Uniform Delay, d1			36.0	0.0	17.6	0.0
Progression Factor			1.00	1.00	1.00	1.00
Incremental Delay, d2			37.3	0.1	23.0	0.3
Delay (s)			73.3	0.1	40.6	0.3
Level of Service			E	A	D	A
Approach Delay (s)	0.0			44.9	32.3	
Approach LOS	A			D	C	

Intersection Summary			
HCM 2000 Control Delay	38.9	HCM 2010 Level of Service	D
HCM 2000 Volume to Capacity ratio	1.05		
Actuated Cycle Length (s)	100.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	90.7%	ICU Level of Service	E
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (vph)	728	697	445	0	0	426
Ideal Flow (vphpl)	1900	1900	1900	1900	1900	1900
Total Lost time (s)	4.0	4.0	4.0			4.0
Lane Util. Factor	1.00	0.88	1.00			1.00
Frt	1.00	0.85	1.00			1.00
Flt Protected	0.95	1.00	1.00			1.00
Satd. Flow (prot)	1770	2787	1863			1863
Flt Permitted	0.95	1.00	1.00			1.00
Satd. Flow (perm)	1770	2787	1863			1863
Peak-hour factor, PHF	0.93	0.93	0.93	0.93	0.93	0.93
Adj. Flow (vph)	783	749	478	0	0	458
RTOR Reduction (vph)	0	223	0	0	0	0
Lane Group Flow (vph)	783	526	478	0	0	458
Turn Type	NA	Perm	NA			NA
Protected Phases	8		2			6
Permitted Phases		8				
Actuated Green, G (s)	17.9	17.9	14.1			14.1
Effective Green, g (s)	17.9	17.9	14.1			14.1
Actuated g/C Ratio	0.45	0.45	0.35			0.35
Clearance Time (s)	4.0	4.0	4.0			4.0
Vehicle Extension (s)	3.0	3.0	3.0			3.0
Lane Grp Cap (vph)	792	1247	656			656
v/s Ratio Prot	c0.44		c0.26			0.25
v/s Ratio Perm		0.19				
v/c Ratio	0.99	0.42	0.73			0.70
Uniform Delay, d1	10.9	7.5	11.3			11.1
Progression Factor	1.00	1.00	1.16			1.00
Incremental Delay, d2	28.8	0.2	0.7			6.1
Delay (s)	39.8	7.8	13.8			17.2
Level of Service	D	A	B			B
Approach Delay (s)	24.1		13.8			17.2
Approach LOS	C		B			B

Intersection Summary			
HCM 2000 Control Delay	20.8	HCM 2010 Level of Service	C
HCM 2000 Volume to Capacity ratio	0.87		
Actuated Cycle Length (s)	40.0	Sum of lost time (s)	8.0
Intersection Capacity Utilization	70.4%	ICU Level of Service	C
Analysis Period (min)	15		
c Critical Lane Group			

Movement	EBT	NEL2	NEL	NER
Lane Configurations				
Volume (vph)	0	0	0	0
Ideal Flow (vphpl)	1900	1900	1900	1900
Total Lost time (s)				
Lane Util. Factor				
Frt				
Flt Protected				
Satd. Flow (prot)				
Flt Permitted				
Satd. Flow (perm)				
Peak-hour factor, PHF	0.92	0.92	0.92	0.92
Adj. Flow (vph)	0	0	0	0
RTOR Reduction (vph)	0	0	0	0
Lane Group Flow (vph)	0	0	0	0
Turn Type		Perm		Perm
Protected Phases	4		2	
Permitted Phases		2		2
Actuated Green, G (s)				
Effective Green, g (s)				
Actuated g/C Ratio				
Clearance Time (s)				
Vehicle Extension (s)				
Lane Grp Cap (vph)				
v/s Ratio Prot				
v/s Ratio Perm				
v/c Ratio				
Uniform Delay, d1				
Progression Factor				
Incremental Delay, d2				
Delay (s)				
Level of Service				
Approach Delay (s)	0.0		0.0	
Approach LOS	A		A	

Intersection Summary			
HCM 2000 Control Delay	0.0	HCM 2010 Level of Service	A
HCM 2000 Volume to Capacity ratio	0.00		
Actuated Cycle Length (s)	24.5	Sum of lost time (s)	8.0
Intersection Capacity Utilization	0.0%	ICU Level of Service	A
Analysis Period (min)	15		
c Critical Lane Group			

Movement	WBL	WBR	NBT	NBR	SBL	SBT
Lane Configurations						
Volume (veh/h)	35	41	440	1	32	600
Sign Control	Stop		Free			Free
Grade	0%		0%			0%
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92
Hourly flow rate (vph)	38	45	478	1	35	652
Pedestrians						
Lane Width (ft)						
Walking Speed (ft/s)						
Percent Blockage						
Right turn flare (veh)						
Median type			None			None
Median storage veh)						
Upstream signal (ft)			194			316
pX, platoon unblocked	0.94					
vC, conflicting volume	874	240			479	
vC1, stage 1 conf vol						
vC2, stage 2 conf vol						
vCu, unblocked vol	744	240			479	
tC, single (s)	6.8	6.9			4.1	
tC, 2 stage (s)						
tF (s)	3.5	3.3			2.2	
p0 queue free %	88	94			97	
cM capacity (veh/h)	319	761			1079	

Direction, Lane #	WB 1	NB 1	NB 2	SB 1	SB 2
Volume Total	60	319	160	235	435
Volume Left	38	0	0	17	0
Volume Right	22	0	1	0	0
cSH	406	1700	1700	1079	1700
Volume to Capacity	0.15	0.19	0.09	0.03	0.26
Queue Length 95th (ft)	13	0	0	2	0
Control Delay (s)	15.4	0.0	0.0	0.9	0.0
Lane LOS	C			A	
Approach Delay (s)	15.4	0.0		0.3	
Approach LOS	C				

Intersection Summary			
Average Delay	0.9		
Intersection Capacity Utilization	44.2%	ICU Level of Service	A
Analysis Period (min)	15		