AMBITRANS INGENIEROS CONSULTORES LTDA.

ANEXO 14

ESTUDIO DE IMPACTO VIAL

PROYECTO HIDROELÉCTRICO
ALTO MAIPO
REGIÓN METROPOLITANA

MAYO DE 2008

PARTE A

MEDICIONES DE TRÁNSITO
LINEA BASE VIAL

CUADRO Nº 1.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 1: Tránsito directo de Sur a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	584	15	1	16	616
07:15-07:30	618	10	7	21	656
07:30-07:45	552	13	7	18	590
07:45-08:00	489	8	9	17	523
Total período	**2.243**	**46**	**24**	**72**	**2.385**
08:00-08:15	675	10	3	16	704
08:15-08:30	653	10	9	17	689
08:30-08:45	588	14	5	22	629
08:45-09:00	423	22	4	15	464
Total período	**2.339**	**56**	**21**	**70**	**2.486**
09:00-09:15	506	11	13	31	561
09:15-09:30	458	13	14	16	501
09:30-09:45	464	11	7	19	501
09:45-10:00	502	15	6	12	535
Total período	**1.930**	**50**	**40**	**78**	**2.098**
10:00-10:15	321	15	3	21	360
10:15-10:30	290	5	4	11	310
10:30-10:45	238	14	8	16	276
10:45-11:00	255	8	7	20	290
Total período	**1.104**	**42**	**22**	**68**	**1.236**
11:00-11:15	232	15	6	16	269
11:15-11:30	241	16	7	14	278
11:30-11:45	226	7	4	19	256
11:45-12:00	224	6	8	14	252
Total período	**923**	**44**	**25**	**63**	**1.055**
12:00-12:15	202	7	3	17	229
12:15-12:30	223	15	1	15	254
12:30-12:45	237	10	10	20	277
12:45-13:00	241	16	1	16	274
Total período	**903**	**48**	**15**	**68**	**1.034**
13:00-13:15	221	10	6	15	252
13:15-13:30	223	7	5	13	248
13:30-13:45	241	15	11	16	283
13:45-14:00	227	17	3	12	259
Total período	**912**	**49**	**25**	**56**	**1.042**
14:00-14:15	232	10	3	17	262
14:15-14:30	239	11	7	21	278
14:30-14:45	243	16	2	23	284
14:45-15:00	210	8	3	15	236
Total período	**924**	**45**	**15**	**76**	**1.060**
15:00-15:15	213	11	4	10	238
15:15-15:30	234	7	4	18	263
15:30-15:45	216	10	5	19	250
15:45-16:00	214	4	4	17	239
Total período	**877**	**32**	**17**	**64**	**990**
16:00-16:15	204	10	4	20	238
16:15-16:30	239	10	2	21	272
16:30-16:45	172	10	10	14	206
16:45-17:00	255	12	3	21	291
Total período	**870**	**42**	**19**	**76**	**1.007**
17:00-17:15	244	12	1	10	267
17:15-17:30	238	16	2	19	275
17:30-17:45	243	8	0	17	268
17:45-18:00	302	13	3	16	334
Total período	**1.027**	**49**	**6**	**62**	**1.144**
18:00-18:15	308	10	3	18	339
18:15-18:30	309	10	1	15	335
18:30-18:45	254	15	4	21	294
18:45-19:00	319	17	0	20	356
Total período	**1.190**	**52**	**8**	**74**	**1.324**
Total 12 horas	**15.242**	**555**	**237**	**827**	**16.861**

CUADRO Nº 1.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 2: Viraje derecha de Sur a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	2	0	0	0	2
07:15-07:30	3	0	0	0	3
07:30-07:45	4	0	0	0	4
07:45-08:00	0	0	0	1	1
Total período	**9**	**0**	**0**	**1**	**10**
08:00-08:15	4	1	1	0	6
08:15-08:30	6	0	0	0	6
08:30-08:45	7	0	0	0	7
08:45-09:00	5	0	0	0	5
Total período	**22**	**1**	**1**	**0**	**24**
09:00-09:15	7	3	1	0	11
09:15-09:30	12	2	2	0	16
09:30-09:45	10	0	2	0	12
09:45-10:00	6	1	0	0	7
Total período	**35**	**6**	**5**	**0**	**46**
10:00-10:15	9	1	3	1	14
10:15-10:30	13	2	0	0	15
10:30-10:45	6	0	0	0	6
10:45-11:00	12	3	0	1	16
Total período	**40**	**6**	**3**	**2**	**51**
11:00-11:15	21	3	0	1	25
11:15-11:30	10	1	1	0	12
11:30-11:45	12	2	0	0	14
11:45-12:00	7	4	1	0	12
Total período	**50**	**10**	**2**	**1**	**63**
12:00-12:15	10	2	1	1	14
12:15-12:30	14	2	0	0	16
12:30-12:45	12	1	0	1	14
12:45-13:00	15	2	0	1	18
Total período	**51**	**7**	**1**	**3**	**62**
13:00-13:15	16	0	1	0	17
13:15-13:30	10	0	0	0	10
13:30-13:45	10	0	2	0	12
13:45-14:00	14	3	1	0	18
Total período	**50**	**3**	**4**	**0**	**57**
14:00-14:15	10	0	2	0	12
14:15-14:30	14	4	4	2	24
14:30-14:45	14	1	1	1	17
14:45-15:00	4	0	0	0	4
Total período	**42**	**5**	**7**	**3**	**57**
15:00-15:15	10	2	2	1	15
15:15-15:30	16	0	0	0	16
15:30-15:45	5	0	0	0	5
15:45-16:00	15	2	0	0	17
Total período	**46**	**4**	**2**	**1**	**53**
16:00-16:15	10	2	0	1	13
16:15-16:30	14	0	0	0	14
16:30-16:45	10	1	0	0	11
16:45-17:00	8	1	0	0	9
Total período	**42**	**4**	**0**	**1**	**47**
17:00-17:15	12	2	0	0	14
17:15-17:30	7	0	0	0	7
17:30-17:45	13	1	0	0	14
17:45-18:00	12	1	0	0	13
Total período	**44**	**4**	**0**	**0**	**48**
18:00-18:15	12	1	0	1	14
18:15-18:30	9	4	1	0	14
18:30-18:45	14	0	0	0	14
18:45-19:00	20	4	0	0	24
Total período	**55**	**9**	**1**	**1**	**66**
Total 12 horas	**486**	**59**	**26**	**13**	**584**

CUADRO Nº 1.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 3: Viraje izquierda de Oriente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	100	10	5	20	135
07:15-07:30	85	10	15	25	135
07:30-07:45	110	4	5	20	139
07:45-08:00	252	0	0	5	257
Total período	**547**	**24**	**25**	**70**	**666**
08:00-08:15	80	12	10	12	114
08:15-08:30	73	2	0	6	81
08:30-08:45	70	4	15	5	94
08:45-09:00	24	1	0	2	27
Total período	**247**	**19**	**25**	**25**	**316**
09:00-09:15	30	0	0	6	36
09:15-09:30	18	3	2	4	27
09:30-09:45	17	5	0	2	24
09:45-10:00	25	4	0	5	34
Total período	**90**	**12**	**2**	**17**	**121**
10:00-10:15	37	5	2	4	48
10:15-10:30	35	3	0	4	42
10:30-10:45	25	2	5	5	37
10:45-11:00	19	3	5	3	30
Total período	**116**	**13**	**12**	**16**	**157**
11:00-11:15	30	2	0	4	36
11:15-11:30	30	4	0	6	40
11:30-11:45	19	2	1	2	24
11:45-12:00	19	7	5	3	34
Total período	**98**	**15**	**6**	**15**	**134**
12:00-12:15	30	4	1	3	38
12:15-12:30	33	9	1	4	47
12:30-12:45	25	1	3	3	32
12:45-13:00	23	2	2	3	30
Total período	**111**	**16**	**7**	**13**	**147**
13:00-13:15	32	3	2	3	40
13:15-13:30	31	5	5	2	43
13:30-13:45	38	2	4	2	46
13:45-14:00	33	2	0	3	38
Total período	**134**	**12**	**11**	**10**	**167**
14:00-14:15	31	0	1	7	39
14:15-14:30	27	0	2	4	33
14:30-14:45	23	2	5	5	35
14:45-15:00	34	0	0	4	38
Total período	**115**	**2**	**8**	**20**	**145**
15:00-15:15	30	3	9	8	50
15:15-15:30	38	1	1	7	47
15:30-15:45	30	0	10	3	43
15:45-16:00	31	0	8	3	42
Total período	**129**	**4**	**28**	**21**	**182**
16:00-16:15	40	2	3	6	51
16:15-16:30	30	1	3	5	39
16:30-16:45	43	2	3	3	51
16:45-17:00	28	5	1	4	38
Total período	**141**	**10**	**10**	**18**	**179**
17:00-17:15	50	2	3	3	58
17:15-17:30	23	0	0	2	25
17:30-17:45	45	1	0	3	49
17:45-18:00	36	1	0	1	38
Total período	**154**	**4**	**3**	**9**	**170**
18:00-18:15	50	3	2	5	60
18:15-18:30	50	2	5	2	59
18:30-18:45	44	0	5	4	53
18:45-19:00	52	0	2	4	58
Total período	**196**	**5**	**14**	**15**	**230**
Total 12 horas	**2.078**	**136**	**151**	**249**	**2.614**

CUADRO Nº 1.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 4: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	373	15	0	17	405
07:15-07:30	244	10	25	15	294
07:30-07:45	420	25	10	25	480
07:45-08:00	285	0	0	0	285
Total período	**1.322**	**50**	**35**	**57**	**1.464**
08:00-08:15	203	14	10	10	237
08:15-08:30	306	19	10	15	350
08:30-08:45	235	7	0	5	247
08:45-09:00	145	2	10	4	161
Total período	**889**	**42**	**30**	**34**	**995**
09:00-09:15	158	12	0	6	176
09:15-09:30	124	12	3	1	140
09:30-09:45	142	4	1	4	151
09:45-10:00	141	5	1	5	152
Total período	**565**	**33**	**5**	**16**	**619**
10:00-10:15	114	10	5	3	132
10:15-10:30	174	7	10	3	194
10:30-10:45	99	13	10	5	127
10:45-11:00	108	3	5	6	122
Total período	**495**	**33**	**30**	**17**	**575**
11:00-11:15	124	6	12	3	145
11:15-11:30	124	3	9	5	141
11:30-11:45	104	1	12	0	117
11:45-12:00	86	3	3	5	97
Total período	**438**	**13**	**36**	**13**	**500**
12:00-12:15	122	6	6	2	136
12:15-12:30	131	10	5	6	152
12:30-12:45	118	3	6	3	130
12:45-13:00	122	2	12	6	142
Total período	**493**	**21**	**29**	**17**	**560**
13:00-13:15	102	7	15	3	127
13:15-13:30	204	14	9	5	232
13:30-13:45	89	1	12	3	105
13:45-14:00	65	1	12	3	81
Total período	**460**	**23**	**48**	**14**	**545**
14:00-14:15	91	2	15	3	111
14:15-14:30	96	2	9	0	107
14:30-14:45	95	2	18	0	115
14:45-15:00	103	4	4	2	113
Total período	**385**	**10**	**46**	**5**	**446**
15:00-15:15	96	3	14	6	119
15:15-15:30	117	7	17	7	148
15:30-15:45	166	8	14	7	195
15:45-16:00	150	8	18	4	180
Total período	**529**	**26**	**63**	**24**	**642**
16:00-16:15	105	2	15	4	126
16:15-16:30	123	2	14	3	142
16:30-16:45	154	8	7	2	171
16:45-17:00	115	5	7	3	130
Total período	**497**	**17**	**43**	**12**	**569**
17:00-17:15	165	11	10	2	188
17:15-17:30	137	4	14	4	159
17:30-17:45	166	7	13	5	191
17:45-18:00	178	5	8	4	195
Total período	**646**	**27**	**45**	**15**	**733**
18:00-18:15	224	3	18	4	249
18:15-18:30	202	10	13	4	229
18:30-18:45	163	2	8	7	180
18:45-19:00	220	3	5	7	235
Total período	**809**	**18**	**44**	**22**	**893**
Total 12 horas	**7.528**	**313**	**454**	**246**	**8.541**

CUADRO Nº 1.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 5: Viraje derecha de Oriente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	35	20	25	10	90
07:15-07:30	45	10	35	25	115
07:30-07:45	95	22	25	35	177
07:45-08:00	35	0	0	20	55
Total período	**210**	**52**	**85**	**90**	**437**
08:00-08:15	85	5	5	15	110
08:15-08:30	67	2	2	9	80
08:30-08:45	80	1	1	7	89
08:45-09:00	47	2	2	5	56
Total período	**279**	**10**	**10**	**36**	**335**
09:00-09:15	25	1	0	3	29
09:15-09:30	20	2	0	2	24
09:30-09:45	16	5	0	2	23
09:45-10:00	24	3	1	3	31
Total período	**85**	**11**	**1**	**10**	**107**
10:00-10:15	48	8	10	5	71
10:15-10:30	20	3	3	2	28
10:30-10:45	30	4	0	3	37
10:45-11:00	33	0	2	2	37
Total período	**131**	**15**	**15**	**12**	**173**
11:00-11:15	27	2	3	4	36
11:15-11:30	17	1	5	4	27
11:30-11:45	13	0	5	5	23
11:45-12:00	20	0	0	3	23
Total período	**77**	**3**	**13**	**16**	**109**
12:00-12:15	20	3	2	5	30
12:15-12:30	32	1	1	5	39
12:30-12:45	25	0	3	3	31
12:45-13:00	27	1	3	6	37
Total período	**104**	**5**	**9**	**19**	**137**
13:00-13:15	17	2	1	3	23
13:15-13:30	36	0	2	4	42
13:30-13:45	38	2	1	8	49
13:45-14:00	30	3	2	5	40
Total período	**121**	**7**	**6**	**20**	**154**
14:00-14:15	21	0	0	4	25
14:15-14:30	32	0	2	3	37
14:30-14:45	44	4	7	3	58
14:45-15:00	20	0	2	5	27
Total período	**117**	**4**	**11**	**15**	**147**
15:00-15:15	24	2	4	4	34
15:15-15:30	16	1	2	5	24
15:30-15:45	22	0	1	2	25
15:45-16:00	27	2	5	5	39
Total período	**89**	**5**	**12**	**16**	**122**
16:00-16:15	33	0	3	4	40
16:15-16:30	25	3	3	2	33
16:30-16:45	26	1	2	4	33
16:45-17:00	23	1	1	3	28
Total período	**107**	**5**	**9**	**13**	**134**
17:00-17:15	27	0	4	4	35
17:15-17:30	21	2	1	2	26
17:30-17:45	40	0	3	3	46
17:45-18:00	23	4	4	3	34
Total período	**111**	**6**	**12**	**12**	**141**
18:00-18:15	42	3	4	8	57
18:15-18:30	19	0	0	4	23
18:30-18:45	20	0	2	4	26
18:45-19:00	24	0	0	7	31
Total período	**105**	**3**	**6**	**23**	**137**
Total 12 horas	**1.536**	**126**	**189**	**282**	**2.133**

CUADRO Nº 1.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 6: Viraje izquierda de Norte a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	7	0	0	1	8
07:15-07:30	3	0	0	0	3
07:30-07:45	11	0	0	0	11
07:45-08:00	12	0	0	2	14
Total período	**33**	**0**	**0**	**3**	**36**
08:00-08:15	20	0	0	2	22
08:15-08:30	12	1	0	0	13
08:30-08:45	10	1	0	0	11
08:45-09:00	15	0	0	2	17
Total período	**57**	**2**	**0**	**4**	**63**
09:00-09:15	17	1	0	2	20
09:15-09:30	14	1	0	2	17
09:30-09:45	9	2	0	0	11
09:45-10:00	10	1	0	2	13
Total período	**50**	**5**	**0**	**6**	**61**
10:00-10:15	16	0	0	1	17
10:15-10:30	10	1	0	2	13
10:30-10:45	16	1	0	1	18
10:45-11:00	25	1	0	0	26
Total período	**67**	**3**	**0**	**4**	**74**
11:00-11:15	15	4	3	0	22
11:15-11:30	10	0	0	0	10
11:30-11:45	16	0	0	1	17
11:45-12:00	19	0	0	1	20
Total período	**60**	**4**	**3**	**2**	**69**
12:00-12:15	15	3	3	2	23
12:15-12:30	9	0	0	2	11
12:30-12:45	17	0	0	0	17
12:45-13:00	16	0	0	1	17
Total período	**57**	**3**	**3**	**5**	**68**
13:00-13:15	15	1	0	0	16
13:15-13:30	17	0	0	0	17
13:30-13:45	6	1	0	1	8
13:45-14:00	10	0	0	0	10
Total período	**48**	**2**	**0**	**1**	**51**
14:00-14:15	22	0	0	1	23
14:15-14:30	22	0	0	1	23
14:30-14:45	11	1	1	0	13
14:45-15:00	6	0	1	1	8
Total período	**61**	**1**	**2**	**3**	**67**
15:00-15:15	11	2	0	0	13
15:15-15:30	13	1	0	0	14
15:30-15:45	11	1	2	0	14
15:45-16:00	18	2	1	0	21
Total período	**53**	**6**	**3**	**0**	**62**
16:00-16:15	20	4	1	1	26
16:15-16:30	12	2	0	0	14
16:30-16:45	10	3	1	1	15
16:45-17:00	16	1	1	0	18
Total período	**58**	**10**	**3**	**2**	**73**
17:00-17:15	14	1	1	1	17
17:15-17:30	16	1	2	1	20
17:30-17:45	25	1	0	3	29
17:45-18:00	21	2	1	1	25
Total período	**76**	**5**	**4**	**6**	**91**
18:00-18:15	26	2	2	2	32
18:15-18:30	19	0	1	1	21
18:30-18:45	27	0	0	0	27
18:45-19:00	24	0	0	0	24
Total período	**96**	**2**	**3**	**3**	**104**
Total 12 horas	**716**	**43**	**21**	**39**	**819**

CUADRO Nº 1.7

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 7: Tránsito directo de Norte a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	105	3	2	15	125
07:15-07:30	98	4	3	13	118
07:30-07:45	185	3	3	14	205
07:45-08:00	250	3	2	12	267
Total período	**638**	**13**	**10**	**54**	**715**
08:00-08:15	274	1	0	20	295
08:15-08:30	219	7	0	11	237
08:30-08:45	177	6	1	11	195
08:45-09:00	179	3	1	18	201
Total período	**849**	**17**	**2**	**60**	**928**
09:00-09:15	174	6	0	11	191
09:15-09:30	136	2	1	20	159
09:30-09:45	140	4	4	20	168
09:45-10:00	131	5	1	17	154
Total período	**581**	**17**	**6**	**68**	**672**
10:00-10:15	165	9	3	22	199
10:15-10:30	118	7	3	14	142
10:30-10:45	145	9	0	22	176
10:45-11:00	115	3	0	11	129
Total período	**543**	**28**	**6**	**69**	**646**
11:00-11:15	152	3	1	23	179
11:15-11:30	143	4	2	20	169
11:30-11:45	139	2	7	13	161
11:45-12:00	161	7	3	16	187
Total período	**595**	**16**	**13**	**72**	**696**
12:00-12:15	116	6	1	11	134
12:15-12:30	175	10	1	7	193
12:30-12:45	171	12	2	22	207
12:45-13:00	198	5	4	17	224
Total período	**660**	**33**	**8**	**57**	**758**
13:00-13:15	200	5	3	18	226
13:15-13:30	154	6	2	17	179
13:30-13:45	122	1	2	12	137
13:45-14:00	147	3	1	15	166
Total período	**623**	**15**	**8**	**62**	**708**
14:00-14:15	164	3	0	9	176
14:15-14:30	150	8	2	19	179
14:30-14:45	176	1	2	17	196
14:45-15:00	154	5	3	15	177
Total período	**644**	**17**	**7**	**60**	**728**
15:00-15:15	136	8	0	7	151
15:15-15:30	193	5	3	14	215
15:30-15:45	174	5	1	21	201
15:45-16:00	213	4	5	12	234
Total período	**716**	**22**	**9**	**54**	**801**
16:00-16:15	161	4	0	18	183
16:15-16:30	212	3	0	15	230
16:30-16:45	210	7	1	12	230
16:45-17:00	226	7	2	14	249
Total período	**809**	**21**	**3**	**59**	**892**
17:00-17:15	223	8	1	16	248
17:15-17:30	235	4	0	17	256
17:30-17:45	253	5	5	10	273
17:45-18:00	261	7	1	21	290
Total período	**972**	**24**	**7**	**64**	**1.067**
18:00-18:15	304	8	1	10	323
18:15-18:30	359	10	1	13	383
18:30-18:45	386	3	0	19	408
18:45-19:00	413	5	0	11	429
Total período	**1.462**	**26**	**2**	**53**	**1.543**
Total 12 horas	**9.092**	**249**	**81**	**732**	**10.154**

CUADRO Nº 1.8

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 8: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	3	0	0	0	3
07:15-07:30	4	0	0	0	4
07:30-07:45	4	0	0	0	4
07:45-08:00	5	0	0	0	5
Total período	**16**	**0**	**0**	**0**	**16**
08:00-08:15	6	0	0	1	7
08:15-08:30	2	0	0	0	2
08:30-08:45	4	0	0	1	5
08:45-09:00	0	0	0	0	0
Total período	**12**	**0**	**0**	**2**	**14**
09:00-09:15	1	0	0	0	1
09:15-09:30	2	0	0	2	4
09:30-09:45	0	0	0	0	0
09:45-10:00	3	0	0	0	3
Total período	**6**	**0**	**0**	**2**	**8**
10:00-10:15	2	1	0	1	4
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	1	2
10:45-11:00	2	0	0	1	3
Total período	**5**	**1**	**0**	**3**	**9**
11:00-11:15	3	0	0	2	5
11:15-11:30	1	0	0	0	1
11:30-11:45	0	1	0	0	1
11:45-12:00	0	0	0	0	0
Total período	**4**	**1**	**0**	**2**	**7**
12:00-12:15	1	0	0	1	2
12:15-12:30	0	0	0	1	1
12:30-12:45	2	0	0	0	2
12:45-13:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**2**	**5**
13:00-13:15	0	0	0	0	0
13:15-13:30	1	0	0	0	1
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	2	0	0	0	2
14:45-15:00	0	0	0	1	1
Total período	**2**	**0**	**0**	**1**	**3**
15:00-15:15	0	0	0	0	0
15:15-15:30	3	0	0	0	3
15:30-15:45	1	2	0	0	3
15:45-16:00	2	1	0	0	3
Total período	**6**	**3**	**0**	**0**	**9**
16:00-16:15	2	0	0	0	2
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
17:00-17:15	3	0	0	1	4
17:15-17:30	2	0	0	1	3
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**5**	**0**	**0**	**2**	**7**
18:00-18:15	2	0	0	0	2
18:15-18:30	2	0	0	0	2
18:30-18:45	2	0	0	0	2
18:45-19:00	1	0	0	0	1
Total período	**7**	**0**	**0**	**0**	**7**
Total 12 horas	**69**	**5**	**0**	**14**	**88**

CUADRO Nº 1.9

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 9: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	2	0	3
07:15-07:30	0	0	0	1	1
07:30-07:45	0	1	0	0	1
07:45-08:00	0	0	0	0	0
Total período	**1**	**1**	**2**	**1**	**5**
08:00-08:15	0	0	0	0	0
08:15-08:30	1	0	0	0	1
08:30-08:45	0	2	0	0	2
08:45-09:00	0	2	0	0	2
Total período	**1**	**4**	**0**	**0**	**5**
09:00-09:15	0	0	0	0	0
09:15-09:30	1	1	0	0	2
09:30-09:45	4	4	0	0	8
09:45-10:00	9	0	0	0	9
Total período	**14**	**5**	**0**	**0**	**19**
10:00-10:15	5	0	0	0	5
10:15-10:30	11	0	0	0	11
10:30-10:45	18	2	0	0	20
10:45-11:00	12	0	0	0	12
Total período	**46**	**2**	**0**	**0**	**48**
11:00-11:15	14	0	0	0	14
11:15-11:30	11	0	0	0	11
11:30-11:45	11	0	0	0	11
11:45-12:00	22	0	1	0	23
Total período	**58**	**0**	**1**	**0**	**59**
12:00-12:15	14	1	0	0	15
12:15-12:30	5	0	0	0	5
12:30-12:45	10	0	0	0	10
12:45-13:00	8	1	0	0	9
Total período	**37**	**2**	**0**	**0**	**39**
13:00-13:15	9	1	0	0	10
13:15-13:30	9	0	0	0	9
13:30-13:45	7	0	0	0	7
13:45-14:00	10	0	0	0	10
Total período	**35**	**1**	**0**	**0**	**36**
14:00-14:15	3	0	0	0	3
14:15-14:30	9	0	0	0	9
14:30-14:45	6	0	0	0	6
14:45-15:00	4	0	0	0	4
Total período	**22**	**0**	**0**	**0**	**22**
15:00-15:15	9	0	0	0	9
15:15-15:30	9	2	0	0	11
15:30-15:45	2	0	1	0	3
15:45-16:00	7	1	0	0	8
Total período	**27**	**3**	**1**	**0**	**31**
16:00-16:15	7	1	0	0	8
16:15-16:30	12	2	0	0	14
16:30-16:45	13	1	0	0	14
16:45-17:00	9	1	0	0	10
Total período	**41**	**5**	**0**	**0**	**46**
17:00-17:15	20	0	0	0	20
17:15-17:30	10	0	0	0	10
17:30-17:45	17	3	1	0	21
17:45-18:00	13	1	0	0	14
Total período	**60**	**4**	**1**	**0**	**65**
18:00-18:15	3	0	2	0	5
18:15-18:30	12	0	0	0	12
18:30-18:45	7	0	0	0	7
18:45-19:00	12	0	0	0	12
Total período	**34**	**0**	**2**	**0**	**36**
Total 12 horas	**376**	**27**	**7**	**1**	**411**

CUADRO Nº 1.10

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 10: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	52	5	23	4	84
07:15-07:30	78	0	0	0	78
07:30-07:45	84	0	5	3	92
07:45-08:00	154	1	7	5	167
Total período	**368**	**6**	**35**	**12**	**421**
08:00-08:15	153	0	4	3	160
08:15-08:30	117	4	3	2	126
08:30-08:45	111	6	3	4	124
08:45-09:00	121	3	6	4	134
Total período	**502**	**13**	**16**	**13**	**544**
09:00-09:15	113	4	7	10	134
09:15-09:30	92	3	2	4	101
09:30-09:45	111	6	5	6	128
09:45-10:00	107	3	5	6	121
Total período	**423**	**16**	**19**	**26**	**484**
10:00-10:15	93	12	0	4	109
10:15-10:30	100	8	3	6	117
10:30-10:45	91	4	1	3	99
10:45-11:00	101	6	1	3	111
Total período	**385**	**30**	**5**	**16**	**436**
11:00-11:15	85	6	3	5	99
11:15-11:30	99	6	7	7	119
11:30-11:45	81	0	9	4	94
11:45-12:00	94	3	6	5	108
Total período	**359**	**15**	**25**	**21**	**420**
12:00-12:15	105	5	9	7	126
12:15-12:30	125	4	3	7	139
12:30-12:45	122	0	6	4	132
12:45-13:00	110	4	7	5	126
Total período	**462**	**13**	**25**	**23**	**523**
13:00-13:15	113	4	5	6	128
13:15-13:30	117	3	6	2	128
13:30-13:45	143	4	1	3	151
13:45-14:00	111	3	5	4	123
Total período	**484**	**14**	**17**	**15**	**530**
14:00-14:15	127	6	6	8	147
14:15-14:30	108	5	3	3	119
14:30-14:45	105	2	9	6	122
14:45-15:00	87	0	1	4	92
Total período	**427**	**13**	**19**	**21**	**480**
15:00-15:15	88	3	7	2	100
15:15-15:30	75	2	4	4	85
15:30-15:45	104	12	5	4	125
15:45-16:00	92	9	10	3	114
Total período	**359**	**26**	**26**	**13**	**424**
16:00-16:15	98	4	6	4	112
16:15-16:30	202	12	5	2	221
16:30-16:45	85	12	5	5	107
16:45-17:00	128	7	6	3	144
Total período	**513**	**35**	**22**	**14**	**584**
17:00-17:15	109	11	5	8	133
17:15-17:30	105	10	2	7	124
17:30-17:45	127	13	5	5	150
17:45-18:00	126	3	4	6	139
Total período	**467**	**37**	**16**	**26**	**546**
18:00-18:15	137	11	1	5	154
18:15-18:30	146	7	2	4	159
18:30-18:45	177	4	4	5	190
18:45-19:00	209	14	5	6	234
Total período	**669**	**36**	**12**	**20**	**737**
Total 12 horas	**5.418**	**254**	**237**	**220**	**6.129**

CUADRO Nº 1.11

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	1
Intersección	:	Av. La Florida / Av. Departamental
Duración	:	12 horas

Movimiento 11: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	36	8	6	0	50
07:15-07:30	25	3	5	6	39
07:30-07:45	62	5	2	3	72
07:45-08:00	65	6	18	7	96
Total período	**188**	**22**	**31**	**16**	**257**
08:00-08:15	69	11	5	7	92
08:15-08:30	60	6	6	2	74
08:30-08:45	52	7	3	2	64
08:45-09:00	48	9	7	7	71
Total período	**229**	**33**	**21**	**18**	**301**
09:00-09:15	49	4	3	7	63
09:15-09:30	55	6	12	11	84
09:30-09:45	38	2	8	2	50
09:45-10:00	60	2	8	6	76
Total período	**202**	**14**	**31**	**26**	**273**
10:00-10:15	45	7	1	3	56
10:15-10:30	47	1	8	4	60
10:30-10:45	25	3	5	2	35
10:45-11:00	35	5	5	1	46
Total período	**152**	**16**	**19**	**10**	**197**
11:00-11:15	45	2	7	5	59
11:15-11:30	48	1	7	0	56
11:30-11:45	50	0	5	2	57
11:45-12:00	55	1	5	3	64
Total período	**198**	**4**	**24**	**10**	**236**
12:00-12:15	52	3	4	0	59
12:15-12:30	44	4	2	1	51
12:30-12:45	57	0	8	1	66
12:45-13:00	49	4	4	0	57
Total período	**202**	**11**	**18**	**2**	**233**
13:00-13:15	56	4	0	2	62
13:15-13:30	60	6	2	1	69
13:30-13:45	66	2	4	2	74
13:45-14:00	77	4	3	3	87
Total período	**259**	**16**	**9**	**8**	**292**
14:00-14:15	73	3	2	0	78
14:15-14:30	52	4	7	6	69
14:30-14:45	56	6	4	0	66
14:45-15:00	41	7	4	1	53
Total período	**222**	**20**	**17**	**7**	**266**
15:00-15:15	50	1	4	2	57
15:15-15:30	46	11	5	2	64
15:30-15:45	44	11	3	1	59
15:45-16:00	40	6	1	2	49
Total período	**180**	**29**	**13**	**7**	**229**
16:00-16:15	62	8	0	2	72
16:15-16:30	71	6	1	0	78
16:30-16:45	57	4	3	2	66
16:45-17:00	64	2	1	2	69
Total período	**254**	**20**	**5**	**6**	**285**
17:00-17:15	69	6	1	0	76
17:15-17:30	67	4	0	1	72
17:30-17:45	70	4	1	2	77
17:45-18:00	88	6	3	1	98
Total período	**294**	**20**	**5**	**4**	**323**
18:00-18:15	75	5	3	2	85
18:15-18:30	124	0	2	2	128
18:30-18:45	112	2	0	2	116
18:45-19:00	104	3	0	0	107
Total período	**415**	**10**	**5**	**6**	**436**
Total 12 horas	**2.795**	**215**	**198**	**120**	**3.328**

CUADRO Nº 2.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Sur a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	26	1	1	2	30
07:15-07:30	25	0	0	2	27
07:30-07:45	49	0	0	1	50
07:45-08:00	78	0	0	0	78
Total período	**178**	**1**	**1**	**5**	**185**
08:00-08:15	61	0	0	1	62
08:15-08:30	43	1	0	1	45
08:30-08:45	48	0	0	1	49
08:45-09:00	33	3	0	1	37
Total período	**185**	**4**	**0**	**4**	**193**
09:00-09:15	25	1	0	2	28
09:15-09:30	31	1	1	1	34
09:30-09:45	28	0	1	2	31
09:45-10:00	26	1	1	2	30
Total período	**110**	**3**	**3**	**7**	**123**
10:00-10:15	22	1	0	1	24
10:15-10:30	25	0	0	2	27
10:30-10:45	26	0	0	1	27
10:45-11:00	15	0	0	1	16
Total período	**88**	**1**	**0**	**5**	**94**
11:00-11:15	23	1	0	1	25
11:15-11:30	29	2	0	1	32
11:30-11:45	25	1	0	1	27
11:45-12:00	24	0	0	0	24
Total período	**101**	**4**	**0**	**3**	**108**
12:00-12:15	30	1	0	1	32
12:15-12:30	22	0	0	1	23
12:30-12:45	21	0	0	0	21
12:45-13:00	23	3	0	1	27
Total período	**96**	**4**	**0**	**3**	**103**
13:00-13:15	38	0	0	1	39
13:15-13:30	25	0	1	1	27
13:30-13:45	25	0	0	0	25
13:45-14:00	16	0	0	2	18
Total período	**104**	**0**	**1**	**4**	**109**
14:00-14:15	18	0	0	0	18
14:15-14:30	14	0	0	1	15
14:30-14:45	16	0	0	1	17
14:45-15:00	13	0	0	1	14
Total período	**61**	**0**	**0**	**3**	**64**
15:00-15:15	18	0	0	2	20
15:15-15:30	13	1	0	1	15
15:30-15:45	8	0	0	2	10
15:45-16:00	16	2	0	1	19
Total período	**55**	**3**	**0**	**6**	**64**
16:00-16:15	22	0	0	0	22
16:15-16:30	31	0	0	0	31
16:30-16:45	17	0	0	0	17
16:45-17:00	19	0	0	0	19
Total período	**89**	**0**	**0**	**0**	**89**
17:00-17:15	18	1	2	1	22
17:15-17:30	25	0	0	1	26
17:30-17:45	13	0	0	1	14
17:45-18:00	17	0	0	1	18
Total período	**73**	**1**	**2**	**4**	**80**
18:00-18:15	30	0	0	1	31
18:15-18:30	20	0	0	0	20
18:30-18:45	29	0	0	1	30
18:45-19:00	26	0	0	2	28
Total período	**105**	**0**	**0**	**4**	**109**
Total 12 horas	**1.245**	**21**	**7**	**48**	**1.321**

CUADRO Nº 2.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 2: Tránsito directo de Sur a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	601	7	9	34	651
07:15-07:30	499	10	14	34	557
07:30-07:45	495	3	8	33	539
07:45-08:00	507	6	10	32	555
Total período	**2.102**	**26**	**41**	**133**	**2.302**
08:00-08:15	530	7	8	35	580
08:15-08:30	529	13	10	27	579
08:30-08:45	453	7	6	28	494
08:45-09:00	455	16	7	31	509
Total período	**1.967**	**43**	**31**	**121**	**2.162**
09:00-09:15	321	12	15	35	383
09:15-09:30	401	9	20	33	463
09:30-09:45	293	12	9	27	341
09:45-10:00	302	15	12	33	362
Total período	**1.317**	**48**	**56**	**128**	**1.549**
10:00-10:15	264	19	6	27	316
10:15-10:30	274	9	10	22	315
10:30-10:45	235	12	10	30	287
10:45-11:00	224	11	9	25	269
Total período	**997**	**51**	**35**	**104**	**1.187**
11:00-11:15	273	6	10	18	307
11:15-11:30	227	20	8	28	283
11:30-11:45	237	9	11	25	282
11:45-12:00	207	10	10	28	255
Total período	**944**	**45**	**39**	**99**	**1.127**
12:00-12:15	223	10	5	25	263
12:15-12:30	220	7	9	25	261
12:30-12:45	209	11	4	25	249
12:45-13:00	224	13	3	18	258
Total período	**876**	**41**	**21**	**93**	**1.031**
13:00-13:15	239	9	4	22	274
13:15-13:30	174	11	10	19	214
13:30-13:45	197	15	8	22	242
13:45-14:00	211	16	1	18	246
Total período	**821**	**51**	**23**	**81**	**976**
14:00-14:15	219	18	13	28	278
14:15-14:30	197	12	9	27	245
14:30-14:45	172	9	0	26	207
14:45-15:00	188	7	9	19	223
Total período	**776**	**46**	**31**	**100**	**953**
15:00-15:15	190	10	4	22	226
15:15-15:30	195	2	8	18	223
15:30-15:45	182	10	11	23	226
15:45-16:00	229	7	2	23	261
Total período	**796**	**29**	**25**	**86**	**936**
16:00-16:15	210	7	8	25	250
16:15-16:30	239	10	6	19	274
16:30-16:45	217	5	10	17	249
16:45-17:00	244	8	11	28	291
Total período	**910**	**30**	**35**	**89**	**1.064**
17:00-17:15	252	2	7	27	288
17:15-17:30	235	9	3	15	262
17:30-17:45	274	4	2	25	305
17:45-18:00	275	7	6	27	315
Total período	**1.036**	**22**	**18**	**94**	**1.170**
18:00-18:15	234	7	8	22	271
18:15-18:30	328	11	3	32	374
18:30-18:45	282	9	5	21	317
18:45-19:00	302	6	4	20	332
Total período	**1.146**	**33**	**20**	**95**	**1.294**
Total 12 horas	**13.688**	**465**	**375**	**1.223**	**15.751**

CUADRO Nº 2.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 3: Viraje derecha de Sur a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	21	0	1	1	23
07:15-07:30	18	1	0	2	21
07:30-07:45	27	2	0	2	31
07:45-08:00	18	1	1	2	22
Total período	**84**	**4**	**2**	**7**	**97**
08:00-08:15	13	3	0	3	19
08:15-08:30	14	0	0	3	17
08:30-08:45	19	1	2	2	24
08:45-09:00	17	1	0	2	20
Total período	**63**	**5**	**2**	**10**	**80**
09:00-09:15	13	0	1	1	15
09:15-09:30	15	0	1	2	18
09:30-09:45	13	2	2	1	18
09:45-10:00	10	1	3	1	15
Total período	**51**	**3**	**7**	**5**	**66**
10:00-10:15	10	4	4	1	19
10:15-10:30	10	3	1	2	16
10:30-10:45	12	2	3	2	19
10:45-11:00	7	1	1	2	11
Total período	**39**	**10**	**9**	**7**	**65**
11:00-11:15	8	0	2	1	11
11:15-11:30	14	3	1	1	19
11:30-11:45	14	0	2	3	19
11:45-12:00	12	0	2	3	17
Total período	**48**	**3**	**7**	**8**	**66**
12:00-12:15	17	5	0	1	23
12:15-12:30	18	4	0	2	24
12:30-12:45	12	0	0	3	15
12:45-13:00	9	1	0	1	11
Total período	**56**	**10**	**0**	**7**	**73**
13:00-13:15	16	0	1	2	19
13:15-13:30	16	0	0	1	17
13:30-13:45	22	0	1	1	24
13:45-14:00	19	0	0	0	19
Total período	**73**	**0**	**2**	**4**	**79**
14:00-14:15	22	2	1	2	27
14:15-14:30	13	1	3	1	18
14:30-14:45	12	0	0	2	14
14:45-15:00	17	2	1	2	22
Total período	**64**	**5**	**5**	**7**	**81**
15:00-15:15	11	1	1	2	15
15:15-15:30	11	1	1	1	14
15:30-15:45	14	0	0	2	16
15:45-16:00	15	1	2	2	20
Total período	**51**	**3**	**4**	**7**	**65**
16:00-16:15	15	0	1	1	17
16:15-16:30	26	0	0	1	27
16:30-16:45	20	0	0	2	22
16:45-17:00	18	0	3	2	23
Total período	**79**	**0**	**4**	**6**	**89**
17:00-17:15	16	1	2	1	20
17:15-17:30	14	0	1	2	17
17:30-17:45	16	2	0	3	21
17:45-18:00	18	0	0	0	18
Total período	**64**	**3**	**3**	**6**	**76**
18:00-18:15	30	2	0	2	34
18:15-18:30	28	0	0	1	29
18:30-18:45	11	0	0	2	13
18:45-19:00	29	0	0	3	32
Total período	**98**	**2**	**0**	**8**	**108**
Total 12 horas	**770**	**48**	**45**	**82**	**945**

CUADRO Nº 2.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 4: Viraje izquierda de Oriente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	14	0	0	1	15
07:15-07:30	27	1	0	5	33
07:30-07:45	35	0	0	2	37
07:45-08:00	28	0	1	2	31
Total período	**104**	**1**	**1**	**10**	**116**
08:00-08:15	29	1	0	4	34
08:15-08:30	23	1	0	3	27
08:30-08:45	26	0	1	1	28
08:45-09:00	17	2	3	2	24
Total período	**95**	**4**	**4**	**10**	**113**
09:00-09:15	20	0	2	2	24
09:15-09:30	22	1	0	2	25
09:30-09:45	25	1	0	1	27
09:45-10:00	31	2	0	1	34
Total período	**98**	**4**	**2**	**6**	**110**
10:00-10:15	22	2	1	1	26
10:15-10:30	23	4	0	1	28
10:30-10:45	35	0	2	2	39
10:45-11:00	14	4	0	1	19
Total período	**94**	**10**	**3**	**5**	**112**
11:00-11:15	30	7	0	2	39
11:15-11:30	23	4	1	1	29
11:30-11:45	26	8	0	2	36
11:45-12:00	27	3	1	2	33
Total período	**106**	**22**	**2**	**7**	**137**
12:00-12:15	24	2	1	2	29
12:15-12:30	27	2	0	2	31
12:30-12:45	25	7	0	3	35
12:45-13:00	30	5	0	0	35
Total período	**106**	**16**	**1**	**7**	**130**
13:00-13:15	27	1	0	2	30
13:15-13:30	30	0	0	1	31
13:30-13:45	17	4	0	1	22
13:45-14:00	22	0	0	1	23
Total período	**96**	**5**	**0**	**5**	**106**
14:00-14:15	18	1	0	2	21
14:15-14:30	18	2	1	2	23
14:30-14:45	21	0	0	1	22
14:45-15:00	29	1	1	2	33
Total período	**86**	**4**	**2**	**7**	**99**
15:00-15:15	18	4	4	2	28
15:15-15:30	18	3	0	2	23
15:30-15:45	24	1	1	2	28
15:45-16:00	31	4	0	2	37
Total período	**91**	**12**	**5**	**8**	**116**
16:00-16:15	24	4	2	3	33
16:15-16:30	24	1	1	1	27
16:30-16:45	20	3	2	1	26
16:45-17:00	34	2	1	3	40
Total período	**102**	**10**	**6**	**8**	**126**
17:00-17:15	35	1	1	2	39
17:15-17:30	25	1	0	2	28
17:30-17:45	34	1	1	1	37
17:45-18:00	25	2	1	2	30
Total período	**119**	**5**	**3**	**7**	**134**
18:00-18:15	36	1	0	1	38
18:15-18:30	49	0	0	1	50
18:30-18:45	33	3	0	2	38
18:45-19:00	53	3	0	3	59
Total período	**171**	**7**	**0**	**7**	**185**
Total 12 horas	**1.268**	**100**	**29**	**87**	**1.484**

CUADRO Nº 2.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 5: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	81	0	0	1	82
07:15-07:30	112	1	0	3	116
07:30-07:45	123	0	0	1	124
07:45-08:00	108	0	0	1	109
Total período	**424**	**1**	**0**	**6**	**431**
08:00-08:15	91	1	0	1	93
08:15-08:30	105	3	0	0	108
08:30-08:45	93	0	0	2	95
08:45-09:00	81	0	1	1	83
Total período	**370**	**4**	**1**	**4**	**379**
09:00-09:15	66	0	0	1	67
09:15-09:30	50	1	1	0	52
09:30-09:45	47	0	0	2	49
09:45-10:00	47	0	0	1	48
Total período	**210**	**1**	**1**	**4**	**216**
10:00-10:15	49	1	0	1	51
10:15-10:30	37	2	0	1	40
10:30-10:45	46	2	1	1	50
10:45-11:00	40	2	1	1	44
Total período	**172**	**7**	**2**	**4**	**185**
11:00-11:15	43	1	0	1	45
11:15-11:30	34	3	0	1	38
11:30-11:45	48	0	0	1	49
11:45-12:00	30	1	0	1	32
Total período	**155**	**5**	**0**	**4**	**164**
12:00-12:15	33	0	0	0	33
12:15-12:30	40	1	2	1	44
12:30-12:45	43	1	0	0	44
12:45-13:00	55	1	0	1	57
Total período	**171**	**3**	**2**	**2**	**178**
13:00-13:15	52	0	0	1	53
13:15-13:30	47	1	1	1	50
13:30-13:45	45	0	0	0	45
13:45-14:00	54	0	1	1	56
Total período	**198**	**1**	**2**	**3**	**204**
14:00-14:15	48	0	0	1	49
14:15-14:30	36	1	0	0	37
14:30-14:45	37	0	0	1	38
14:45-15:00	36	0	0	1	37
Total período	**157**	**1**	**0**	**3**	**161**
15:00-15:15	42	0	1	2	45
15:15-15:30	39	3	2	0	44
15:30-15:45	52	2	0	0	54
15:45-16:00	45	0	0	1	46
Total período	**178**	**5**	**3**	**3**	**189**
16:00-16:15	54	2	0	1	57
16:15-16:30	58	4	1	2	65
16:30-16:45	51	0	0	2	53
16:45-17:00	57	2	1	0	60
Total período	**220**	**8**	**2**	**5**	**235**
17:00-17:15	47	1	0	2	50
17:15-17:30	62	3	1	1	67
17:30-17:45	47	2	0	2	51
17:45-18:00	54	1	1	2	58
Total período	**210**	**7**	**2**	**7**	**226**
18:00-18:15	83	0	0	2	85
18:15-18:30	61	1	0	0	62
18:30-18:45	66	5	0	1	72
18:45-19:00	54	0	0	2	56
Total período	**264**	**6**	**0**	**5**	**275**
Total 12 horas	**2.729**	**49**	**15**	**50**	**2.843**

CUADRO Nº 2.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 6: Viraje derecha de Oriente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	21	2	0	0	23
07:15-07:30	21	0	0	0	21
07:30-07:45	25	1	0	0	26
07:45-08:00	23	1	0	0	24
Total período	**90**	**4**	**0**	**0**	**94**
08:00-08:15	27	0	0	0	27
08:15-08:30	22	0	0	0	22
08:30-08:45	22	0	0	0	22
08:45-09:00	17	1	0	0	18
Total período	**88**	**1**	**0**	**0**	**89**
09:00-09:15	28	0	0	0	28
09:15-09:30	18	2	0	0	20
09:30-09:45	23	0	0	1	24
09:45-10:00	20	1	0	0	21
Total período	**89**	**3**	**0**	**1**	**93**
10:00-10:15	21	0	0	0	21
10:15-10:30	26	0	0	0	26
10:30-10:45	16	0	1	0	17
10:45-11:00	9	3	0	1	13
Total período	**72**	**3**	**1**	**1**	**77**
11:00-11:15	13	1	0	0	14
11:15-11:30	18	1	0	0	19
11:30-11:45	12	1	0	0	13
11:45-12:00	8	2	1	0	11
Total período	**51**	**5**	**1**	**0**	**57**
12:00-12:15	19	0	0	0	19
12:15-12:30	16	1	0	0	17
12:30-12:45	9	0	0	0	9
12:45-13:00	20	1	0	0	21
Total período	**64**	**2**	**0**	**0**	**66**
13:00-13:15	25	1	0	0	26
13:15-13:30	15	1	0	0	16
13:30-13:45	17	1	0	0	18
13:45-14:00	16	1	0	0	17
Total período	**73**	**4**	**0**	**0**	**77**
14:00-14:15	20	1	0	0	21
14:15-14:30	11	1	0	0	12
14:30-14:45	16	0	1	0	17
14:45-15:00	21	0	1	0	22
Total período	**68**	**2**	**2**	**0**	**72**
15:00-15:15	14	1	1	0	16
15:15-15:30	14	1	2	0	17
15:30-15:45	14	0	0	0	14
15:45-16:00	13	0	0	0	13
Total período	**55**	**2**	**3**	**0**	**60**
16:00-16:15	23	0	0	0	23
16:15-16:30	13	0	0	0	13
16:30-16:45	16	0	0	0	16
16:45-17:00	23	1	0	0	24
Total período	**75**	**1**	**0**	**0**	**76**
17:00-17:15	11	0	0	0	11
17:15-17:30	16	0	0	0	16
17:30-17:45	13	0	0	0	13
17:45-18:00	16	0	0	0	16
Total período	**56**	**0**	**0**	**0**	**56**
18:00-18:15	17	2	0	0	19
18:15-18:30	20	1	0	1	22
18:30-18:45	17	1	0	0	18
18:45-19:00	8	0	0	0	8
Total período	**62**	**4**	**0**	**1**	**67**
Total 12 horas	**843**	**31**	**7**	**3**	**884**

CUADRO Nº 2.7

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 7: Viraje izquierda de Norte a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	7	0	0	0	7
07:15-07:30	20	0	0	0	20
07:30-07:45	11	0	0	0	11
07:45-08:00	16	0	0	0	16
Total período	**54**	**0**	**0**	**0**	**54**
08:00-08:15	26	0	0	1	27
08:15-08:30	19	3	1	0	23
08:30-08:45	22	1	0	0	23
08:45-09:00	11	1	0	0	12
Total período	**78**	**5**	**1**	**1**	**85**
09:00-09:15	26	2	2	0	30
09:15-09:30	24	0	2	0	26
09:30-09:45	14	0	0	0	14
09:45-10:00	14	3	0	0	17
Total período	**78**	**5**	**4**	**0**	**87**
10:00-10:15	12	1	1	0	14
10:15-10:30	17	3	0	0	20
10:30-10:45	18	0	0	0	18
10:45-11:00	16	3	0	0	19
Total período	**63**	**7**	**1**	**0**	**71**
11:00-11:15	16	3	1	0	20
11:15-11:30	19	1	0	0	20
11:30-11:45	46	0	0	0	46
11:45-12:00	29	0	0	0	29
Total período	**110**	**4**	**1**	**0**	**115**
12:00-12:15	22	1	0	0	23
12:15-12:30	11	1	0	0	12
12:30-12:45	17	1	0	0	18
12:45-13:00	19	1	3	0	23
Total período	**69**	**4**	**3**	**0**	**76**
13:00-13:15	24	1	0	0	25
13:15-13:30	28	0	0	0	28
13:30-13:45	30	0	0	0	30
13:45-14:00	25	2	0	0	27
Total período	**107**	**3**	**0**	**0**	**110**
14:00-14:15	29	0	0	0	29
14:15-14:30	26	0	0	0	26
14:30-14:45	23	2	0	0	25
14:45-15:00	19	0	1	0	20
Total período	**97**	**2**	**1**	**0**	**100**
15:00-15:15	24	0	0	0	24
15:15-15:30	15	1	0	0	16
15:30-15:45	25	1	0	0	26
15:45-16:00	21	1	2	0	24
Total período	**85**	**3**	**2**	**0**	**90**
16:00-16:15	26	1	1	0	28
16:15-16:30	27	1	0	0	28
16:30-16:45	25	0	0	0	25
16:45-17:00	28	0	3	0	31
Total período	**106**	**2**	**4**	**0**	**112**
17:00-17:15	34	0	0	0	34
17:15-17:30	41	1	1	1	44
17:30-17:45	27	0	1	0	28
17:45-18:00	38	1	0	0	39
Total período	**140**	**2**	**2**	**1**	**145**
18:00-18:15	37	0	2	0	39
18:15-18:30	43	3	0	0	46
18:30-18:45	38	0	0	0	38
18:45-19:00	33	1	0	0	34
Total período	**151**	**4**	**2**	**0**	**157**
Total 12 horas	**1.138**	**41**	**21**	**2**	**1.202**

CUADRO Nº 2.8

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 8: Tránsito directo de Norte a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	99	5	6	19	129
07:15-07:30	196	7	9	17	229
07:30-07:45	289	5	15	22	331
07:45-08:00	312	1	10	23	346
Total período	**896**	**18**	**40**	**81**	**1.035**
08:00-08:15	357	7	21	27	412
08:15-08:30	279	8	12	17	316
08:30-08:45	256	7	16	26	305
08:45-09:00	256	7	16	27	306
Total período	**1.148**	**29**	**65**	**97**	**1.339**
09:00-09:15	266	9	15	28	318
09:15-09:30	163	11	10	36	220
09:30-09:45	212	7	17	29	265
09:45-10:00	205	15	16	33	269
Total período	**846**	**42**	**58**	**126**	**1.072**
10:00-10:15	177	13	15	37	242
10:15-10:30	224	13	16	24	277
10:30-10:45	213	8	18	32	271
10:45-11:00	176	17	17	24	234
Total período	**790**	**51**	**66**	**117**	**1.024**
11:00-11:15	176	18	8	25	227
11:15-11:30	205	6	5	23	239
11:30-11:45	171	5	16	22	214
11:45-12:00	216	9	13	23	261
Total período	**768**	**38**	**42**	**93**	**941**
12:00-12:15	159	14	7	25	205
12:15-12:30	214	12	13	17	256
12:30-12:45	204	10	15	30	259
12:45-13:00	221	16	19	29	285
Total período	**798**	**52**	**54**	**101**	**1.005**
13:00-13:15	228	16	9	22	275
13:15-13:30	267	14	3	29	313
13:30-13:45	185	11	6	23	225
13:45-14:00	238	11	7	20	276
Total período	**918**	**52**	**25**	**94**	**1.089**
14:00-14:15	250	5	14	28	297
14:15-14:30	230	13	10	26	279
14:30-14:45	225	6	10	23	264
14:45-15:00	203	12	8	23	246
Total período	**908**	**36**	**42**	**100**	**1.086**
15:00-15:15	201	14	6	21	242
15:15-15:30	239	3	13	26	281
15:30-15:45	242	12	12	22	288
15:45-16:00	241	8	17	26	292
Total período	**923**	**37**	**48**	**95**	**1.103**
16:00-16:15	210	9	10	16	245
16:15-16:30	270	13	6	26	315
16:30-16:45	237	10	9	19	275
16:45-17:00	270	9	19	15	313
Total período	**987**	**41**	**44**	**76**	**1.148**
17:00-17:15	279	12	4	25	320
17:15-17:30	314	12	16	23	365
17:30-17:45	336	8	12	31	387
17:45-18:00	279	6	6	31	322
Total período	**1.208**	**38**	**38**	**110**	**1.394**
18:00-18:15	395	10	9	27	441
18:15-18:30	326	9	6	23	364
18:30-18:45	492	16	3	22	533
18:45-19:00	432	7	4	26	469
Total período	**1.645**	**42**	**22**	**98**	**1.807**
Total 12 horas	**11.835**	**476**	**544**	**1.188**	**14.043**

CUADRO Nº 2.9

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 9: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	3	2	5	3	13
07:15-07:30	4	0	0	0	4
07:30-07:45	10	0	1	0	11
07:45-08:00	7	0	0	0	7
Total período	**24**	**2**	**6**	**3**	**35**
08:00-08:15	13	0	1	0	14
08:15-08:30	9	0	2	0	11
08:30-08:45	19	0	1	0	20
08:45-09:00	6	0	0	0	6
Total período	**47**	**0**	**4**	**0**	**51**
09:00-09:15	9	0	0	0	9
09:15-09:30	2	0	0	0	2
09:30-09:45	4	0	1	0	5
09:45-10:00	1	1	0	0	2
Total período	**16**	**1**	**1**	**0**	**18**
10:00-10:15	2	0	0	7	9
10:15-10:30	6	1	1	1	9
10:30-10:45	10	0	0	0	10
10:45-11:00	8	2	0	0	10
Total período	**26**	**3**	**1**	**8**	**38**
11:00-11:15	6	0	0	0	6
11:15-11:30	7	1	0	0	8
11:30-11:45	15	0	0	0	15
11:45-12:00	9	0	0	0	9
Total período	**37**	**1**	**0**	**0**	**38**
12:00-12:15	12	0	0	0	12
12:15-12:30	8	2	1	0	11
12:30-12:45	8	0	0	0	8
12:45-13:00	5	0	0	0	5
Total período	**33**	**2**	**1**	**0**	**36**
13:00-13:15	11	1	0	0	12
13:15-13:30	6	1	0	0	7
13:30-13:45	8	1	0	0	9
13:45-14:00	8	0	0	0	8
Total período	**33**	**3**	**0**	**0**	**36**
14:00-14:15	15	1	0	0	16
14:15-14:30	6	1	0	0	7
14:30-14:45	3	0	2	0	5
14:45-15:00	0	0	0	0	0
Total período	**24**	**2**	**2**	**0**	**28**
15:00-15:15	10	0	0	0	10
15:15-15:30	6	2	0	0	8
15:30-15:45	8	0	0	0	8
15:45-16:00	7	2	0	0	9
Total período	**31**	**4**	**0**	**0**	**35**
16:00-16:15	5	1	0	0	6
16:15-16:30	8	0	0	0	8
16:30-16:45	4	0	0	0	4
16:45-17:00	9	0	0	0	9
Total período	**26**	**1**	**0**	**0**	**27**
17:00-17:15	17	2	2	0	21
17:15-17:30	0	0	0	0	0
17:30-17:45	2	0	0	0	2
17:45-18:00	10	1	0	0	11
Total período	**29**	**3**	**2**	**0**	**34**
18:00-18:15	8	0	0	0	8
18:15-18:30	13	0	0	0	13
18:30-18:45	10	0	1	0	11
18:45-19:00	7	0	0	0	7
Total período	**38**	**0**	**1**	**0**	**39**
Total 12 horas	**364**	**22**	**18**	**11**	**415**

CUADRO Nº 2.10

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 10: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	9	0	0	0	9
07:15-07:30	8	0	0	0	8
07:30-07:45	12	1	0	0	13
07:45-08:00	17	0	0	0	17
Total período	**46**	**1**	**0**	**0**	**47**
08:00-08:15	16	0	0	0	16
08:15-08:30	10	0	0	0	10
08:30-08:45	15	1	0	0	16
08:45-09:00	11	0	1	0	12
Total período	**52**	**1**	**1**	**0**	**54**
09:00-09:15	6	0	0	0	6
09:15-09:30	7	0	0	0	7
09:30-09:45	14	0	1	0	15
09:45-10:00	12	1	0	0	13
Total período	**39**	**1**	**1**	**0**	**41**
10:00-10:15	10	0	0	0	10
10:15-10:30	13	0	0	0	13
10:30-10:45	10	0	0	0	10
10:45-11:00	12	1	0	0	13
Total período	**45**	**1**	**0**	**0**	**46**
11:00-11:15	14	1	0	0	15
11:15-11:30	14	0	1	0	15
11:30-11:45	9	0	1	0	10
11:45-12:00	4	1	0	0	5
Total período	**41**	**2**	**2**	**0**	**45**
12:00-12:15	13	0	0	0	13
12:15-12:30	14	0	0	0	14
12:30-12:45	9	0	0	0	9
12:45-13:00	11	0	0	0	11
Total período	**47**	**0**	**0**	**0**	**47**
13:00-13:15	12	0	1	0	13
13:15-13:30	16	0	0	0	16
13:30-13:45	11	0	0	0	11
13:45-14:00	14	0	0	0	14
Total período	**53**	**0**	**1**	**0**	**54**
14:00-14:15	9	0	0	0	9
14:15-14:30	9	0	0	0	9
14:30-14:45	15	0	0	0	15
14:45-15:00	13	0	0	0	13
Total período	**46**	**0**	**0**	**0**	**46**
15:00-15:15	14	0	0	0	14
15:15-15:30	8	0	0	0	8
15:30-15:45	13	0	0	0	13
15:45-16:00	12	0	0	0	12
Total período	**47**	**0**	**0**	**0**	**47**
16:00-16:15	15	3	0	0	18
16:15-16:30	18	0	0	0	18
16:30-16:45	12	1	0	0	13
16:45-17:00	14	1	0	0	15
Total período	**59**	**5**	**0**	**0**	**64**
17:00-17:15	9	0	0	0	9
17:15-17:30	7	0	0	1	8
17:30-17:45	10	0	0	0	10
17:45-18:00	10	0	0	0	10
Total período	**36**	**0**	**0**	**1**	**37**
18:00-18:15	12	0	0	0	12
18:15-18:30	11	0	0	0	11
18:30-18:45	13	0	1	0	14
18:45-19:00	10	2	0	0	12
Total período	**46**	**2**	**1**	**0**	**49**
Total 12 horas	**557**	**13**	**6**	**1**	**577**

CUADRO Nº 2.11

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 11: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	49	0	0	1	50
07:15-07:30	54	2	0	1	57
07:30-07:45	72	0	0	1	73
07:45-08:00	86	2	0	1	89
Total período	**261**	**4**	**0**	**4**	**269**
08:00-08:15	79	0	0	1	80
08:15-08:30	74	0	0	1	75
08:30-08:45	58	0	0	0	58
08:45-09:00	50	0	0	0	50
Total período	**261**	**0**	**0**	**2**	**263**
09:00-09:15	25	1	1	1	28
09:15-09:30	29	1	0	1	31
09:30-09:45	27	1	2	1	31
09:45-10:00	27	1	2	1	31
Total período	**108**	**4**	**5**	**4**	**121**
10:00-10:15	36	3	3	1	43
10:15-10:30	33	3	2	1	39
10:30-10:45	30	1	0	1	32
10:45-11:00	31	3	2	0	36
Total período	**130**	**10**	**7**	**3**	**150**
11:00-11:15	27	6	0	2	35
11:15-11:30	39	2	1	1	43
11:30-11:45	42	0	1	1	44
11:45-12:00	38	0	1	0	39
Total período	**146**	**8**	**3**	**4**	**161**
12:00-12:15	47	0	0	1	48
12:15-12:30	39	0	0	1	40
12:30-12:45	56	1	0	1	58
12:45-13:00	44	1	0	0	45
Total período	**186**	**2**	**0**	**3**	**191**
13:00-13:15	49	1	0	1	51
13:15-13:30	58	0	0	2	60
13:30-13:45	53	2	1	1	57
13:45-14:00	55	2	0	1	58
Total período	**215**	**5**	**1**	**5**	**226**
14:00-14:15	62	1	0	0	63
14:15-14:30	49	1	0	2	52
14:30-14:45	50	0	0	0	50
14:45-15:00	52	0	0	1	53
Total período	**213**	**2**	**0**	**3**	**218**
15:00-15:15	51	1	0	1	53
15:15-15:30	40	2	0	0	42
15:30-15:45	55	1	0	2	58
15:45-16:00	67	2	0	1	70
Total período	**213**	**6**	**0**	**4**	**223**
16:00-16:15	73	3	1	0	77
16:15-16:30	48	0	0	2	50
16:30-16:45	53	2	1	1	57
16:45-17:00	63	1	0	1	65
Total período	**237**	**6**	**2**	**4**	**249**
17:00-17:15	47	2	1	1	51
17:15-17:30	52	2	1	1	56
17:30-17:45	50	1	0	1	52
17:45-18:00	68	1	2	1	72
Total período	**217**	**6**	**4**	**4**	**231**
18:00-18:15	58	0	1	0	59
18:15-18:30	54	0	2	1	57
18:30-18:45	75	3	0	1	79
18:45-19:00	91	1	1	0	93
Total período	**278**	**4**	**4**	**2**	**288**
Total 12 horas	**2.465**	**57**	**26**	**42**	**2.590**

CUADRO Nº 2.12

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	2
Intersección	:	Av. La Florida / Rojas Magallanes
Duración	:	12 horas

Movimiento 12: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	4	0	0	0	4
07:15-07:30	6	0	1	0	7
07:30-07:45	10	0	0	0	10
07:45-08:00	12	0	0	0	12
Total período	**32**	**0**	**1**	**0**	**33**
08:00-08:15	13	0	0	0	13
08:15-08:30	7	0	0	0	7
08:30-08:45	8	0	0	0	8
08:45-09:00	17	1	1	0	19
Total período	**45**	**1**	**1**	**0**	**47**
09:00-09:15	6	0	0	0	6
09:15-09:30	7	2	0	0	9
09:30-09:45	8	0	0	0	8
09:45-10:00	5	0	0	0	5
Total período	**26**	**2**	**0**	**0**	**28**
10:00-10:15	9	0	0	0	9
10:15-10:30	6	1	1	0	8
10:30-10:45	13	1	0	0	14
10:45-11:00	12	1	1	0	14
Total período	**40**	**3**	**2**	**0**	**45**
11:00-11:15	16	0	2	0	18
11:15-11:30	18	0	0	0	18
11:30-11:45	10	0	0	0	10
11:45-12:00	7	0	0	0	7
Total período	**51**	**0**	**2**	**0**	**53**
12:00-12:15	11	1	0	0	12
12:15-12:30	18	0	0	0	18
12:30-12:45	17	0	0	0	17
12:45-13:00	14	1	0	0	15
Total período	**60**	**2**	**0**	**0**	**62**
13:00-13:15	11	0	0	0	11
13:15-13:30	15	0	0	0	15
13:30-13:45	10	1	0	0	11
13:45-14:00	17	0	0	0	17
Total período	**53**	**1**	**0**	**0**	**54**
14:00-14:15	8	1	0	0	9
14:15-14:30	14	0	0	0	14
14:30-14:45	12	1	0	0	13
14:45-15:00	8	0	0	0	8
Total período	**42**	**2**	**0**	**0**	**44**
15:00-15:15	13	1	1	0	15
15:15-15:30	6	0	1	0	7
15:30-15:45	4	0	0	0	4
15:45-16:00	14	0	0	0	14
Total período	**37**	**1**	**2**	**0**	**40**
16:00-16:15	21	2	1	0	24
16:15-16:30	9	1	0	0	10
16:30-16:45	8	1	2	0	11
16:45-17:00	9	0	1	0	10
Total período	**47**	**4**	**4**	**0**	**55**
17:00-17:15	12	0	0	0	12
17:15-17:30	7	0	0	0	7
17:30-17:45	17	0	0	0	17
17:45-18:00	15	0	0	0	15
Total período	**51**	**0**	**0**	**0**	**51**
18:00-18:15	12	2	0	0	14
18:15-18:30	11	0	1	1	13
18:30-18:45	21	0	0	1	22
18:45-19:00	9	0	0	0	9
Total período	**53**	**2**	**1**	**2**	**58**
Total 12 horas	**537**	**18**	**13**	**2**	**570**

CUADRO Nº 3.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Sur a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	31	1	1	0	33
07:15-07:30	75	1	3	1	80
07:30-07:45	85	2	0	0	87
07:45-08:00	81	3	0	0	84
Total período	**272**	**7**	**4**	**1**	**284**
08:00-08:15	52	2	1	0	55
08:15-08:30	53	5	2	1	61
08:30-08:45	55	5	1	0	61
08:45-09:00	40	2	0	0	42
Total período	**200**	**14**	**4**	**1**	**219**
09:00-09:15	22	5	2	0	29
09:15-09:30	25	3	2	0	30
09:30-09:45	35	4	2	0	41
09:45-10:00	40	5	0	0	45
Total período	**122**	**17**	**6**	**0**	**145**
10:00-10:15	39	4	1	0	44
10:15-10:30	33	2	0	0	35
10:30-10:45	33	2	3	0	38
10:45-11:00	26	1	1	0	28
Total período	**131**	**9**	**5**	**0**	**145**
11:00-11:15	32	3	4	0	39
11:15-11:30	43	2	3	0	48
11:30-11:45	19	3	5	0	27
11:45-12:00	21	0	1	0	22
Total período	**115**	**8**	**13**	**0**	**136**
12:00-12:15	15	0	0	0	15
12:15-12:30	29	0	3	0	32
12:30-12:45	29	2	2	1	34
12:45-13:00	25	1	1	0	27
Total período	**98**	**3**	**6**	**1**	**108**
13:00-13:15	29	1	0	0	30
13:15-13:30	23	2	1	0	26
13:30-13:45	24	2	0	0	26
13:45-14:00	24	1	0	0	25
Total período	**100**	**6**	**1**	**0**	**107**
14:00-14:15	29	5	1	2	37
14:15-14:30	21	2	1	1	25
14:30-14:45	34	3	0	0	37
14:45-15:00	16	1	0	0	17
Total período	**100**	**11**	**2**	**3**	**116**
15:00-15:15	28	2	1	0	31
15:15-15:30	18	0	1	0	19
15:30-15:45	36	1	1	0	38
15:45-16:00	27	4	1	0	32
Total período	**109**	**7**	**4**	**0**	**120**
16:00-16:15	32	1	1	0	34
16:15-16:30	22	3	2	0	27
16:30-16:45	25	0	1	1	27
16:45-17:00	20	3	1	0	24
Total período	**99**	**7**	**5**	**1**	**112**
17:00-17:15	21	2	1	0	24
17:15-17:30	35	3	3	1	42
17:30-17:45	39	0	1	0	40
17:45-18:00	27	0	1	0	28
Total período	**122**	**5**	**6**	**1**	**134**
18:00-18:15	38	2	4	0	44
18:15-18:30	38	1	3	0	42
18:30-18:45	36	3	1	0	40
18:45-19:00	48	3	4	0	55
Total período	**160**	**9**	**12**	**0**	**181**
Total 12 horas	**1.628**	**103**	**68**	**8**	**1.807**

CUADRO Nº 3.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 2: Tránsito directo de Sur a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	333	0	5	20	358
07:15-07:30	536	7	6	32	581
07:30-07:45	625	5	4	29	663
07:45-08:00	672	9	4	26	711
Total período	**2.166**	**21**	**19**	**107**	**2.313**
08:00-08:15	477	6	2	30	515
08:15-08:30	459	10	1	23	493
08:30-08:45	553	5	1	25	584
08:45-09:00	460	13	4	32	509
Total período	**1.949**	**34**	**8**	**110**	**2.101**
09:00-09:15	285	14	7	31	337
09:15-09:30	319	12	9	18	358
09:30-09:45	235	12	6	24	277
09:45-10:00	289	7	6	24	326
Total período	**1.128**	**45**	**28**	**97**	**1.298**
10:00-10:15	286	17	8	30	341
10:15-10:30	270	9	7	22	308
10:30-10:45	222	14	3	25	264
10:45-11:00	198	13	3	25	239
Total período	**976**	**53**	**21**	**102**	**1.152**
11:00-11:15	271	12	9	19	311
11:15-11:30	195	14	9	27	245
11:30-11:45	206	18	5	27	256
11:45-12:00	192	15	10	23	240
Total período	**864**	**59**	**33**	**96**	**1.052**
12:00-12:15	184	11	5	20	220
12:15-12:30	171	13	2	21	207
12:30-12:45	196	13	9	28	246
12:45-13:00	218	18	2	28	266
Total período	**769**	**55**	**18**	**97**	**939**
13:00-13:15	240	13	3	27	283
13:15-13:30	220	6	7	18	251
13:30-13:45	203	20	4	19	246
13:45-14:00	227	11	5	22	265
Total período	**890**	**50**	**19**	**86**	**1.045**
14:00-14:15	213	15	9	26	263
14:15-14:30	202	16	8	23	249
14:30-14:45	174	16	5	29	224
14:45-15:00	156	17	7	19	199
Total período	**745**	**64**	**29**	**97**	**935**
15:00-15:15	165	16	4	26	211
15:15-15:30	189	15	2	25	231
15:30-15:45	166	14	5	21	206
15:45-16:00	213	11	2	27	253
Total período	**733**	**56**	**13**	**99**	**901**
16:00-16:15	208	15	5	18	246
16:15-16:30	262	15	6	19	302
16:30-16:45	244	13	4	24	285
16:45-17:00	220	12	8	28	268
Total período	**934**	**55**	**23**	**89**	**1.101**
17:00-17:15	245	12	8	24	289
17:15-17:30	262	13	7	26	308
17:30-17:45	239	6	2	24	271
17:45-18:00	294	7	7	34	342
Total período	**1.040**	**38**	**24**	**108**	**1.210**
18:00-18:15	307	19	3	31	360
18:15-18:30	292	7	1	31	331
18:30-18:45	353	8	3	33	397
18:45-19:00	371	6	2	32	411
Total período	**1.323**	**40**	**9**	**127**	**1.499**
Total 12 horas	**13.517**	**570**	**244**	**1.215**	**15.546**

CUADRO Nº 3.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 3: Viraje derecha de Sur a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	2	0	0	0	2
Total período	**2**	**0**	**0**	**0**	**2**
08:00-08:15	4	0	0	0	4
08:15-08:30	2	0	0	0	2
08:30-08:45	1	0	0	0	1
08:45-09:00	3	0	0	0	3
Total período	**10**	**0**	**0**	**0**	**10**
09:00-09:15	2	0	0	0	2
09:15-09:30	0	0	0	0	0
09:30-09:45	1	0	0	0	1
09:45-10:00	2	0	0	0	2
Total período	**5**	**0**	**0**	**0**	**5**
10:00-10:15	5	0	0	0	5
10:15-10:30	2	0	0	0	2
10:30-10:45	0	1	0	0	1
10:45-11:00	1	0	0	0	1
Total período	**8**	**1**	**0**	**0**	**9**
11:00-11:15	2	0	0	0	2
11:15-11:30	5	0	0	0	5
11:30-11:45	3	0	0	0	3
11:45-12:00	0	0	0	0	0
Total período	**10**	**0**	**0**	**0**	**10**
12:00-12:15	1	0	0	0	1
12:15-12:30	3	0	0	0	3
12:30-12:45	2	0	0	0	2
12:45-13:00	1	0	0	0	1
Total período	**7**	**0**	**0**	**0**	**7**
13:00-13:15	5	0	0	0	5
13:15-13:30	5	0	0	0	5
13:30-13:45	3	0	0	0	3
13:45-14:00	2	0	0	0	2
Total período	**15**	**0**	**0**	**0**	**15**
14:00-14:15	1	0	0	0	1
14:15-14:30	2	0	0	0	2
14:30-14:45	3	0	0	0	3
14:45-15:00	5	0	0	0	5
Total período	**11**	**0**	**0**	**0**	**11**
15:00-15:15	0	0	0	0	0
15:15-15:30	5	1	0	0	6
15:30-15:45	4	1	0	0	5
15:45-16:00	2	0	0	0	2
Total período	**11**	**2**	**0**	**0**	**13**
16:00-16:15	1	0	0	0	1
16:15-16:30	2	0	0	0	2
16:30-16:45	3	0	0	0	3
16:45-17:00	7	0	0	0	7
Total período	**13**	**0**	**0**	**0**	**13**
17:00-17:15	5	0	0	0	5
17:15-17:30	3	0	0	0	3
17:30-17:45	1	0	0	0	1
17:45-18:00	7	0	0	0	7
Total período	**16**	**0**	**0**	**0**	**16**
18:00-18:15	3	0	0	0	3
18:15-18:30	2	0	0	0	2
18:30-18:45	1	0	0	0	1
18:45-19:00	0	0	0	0	0
Total período	**6**	**0**	**0**	**0**	**6**
Total 12 horas	**114**	**3**	**0**	**0**	**117**

CUADRO Nº 3.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 4: Viraje izquierda de Oriente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	1	0	2
07:15-07:30	5	0	0	0	5
07:30-07:45	1	0	0	0	1
07:45-08:00	1	0	0	0	1
Total período	**8**	**0**	**1**	**0**	**9**
08:00-08:15	4	0	0	0	4
08:15-08:30	10	0	0	0	10
08:30-08:45	7	0	0	0	7
08:45-09:00	1	0	0	0	1
Total período	**22**	**0**	**0**	**0**	**22**
09:00-09:15	1	0	0	0	1
09:15-09:30	1	0	0	0	1
09:30-09:45	0	0	0	0	0
09:45-10:00	2	0	0	0	2
Total período	**4**	**0**	**0**	**0**	**4**
10:00-10:15	1	0	0	0	1
10:15-10:30	3	0	0	0	3
10:30-10:45	0	0	0	0	0
10:45-11:00	1	0	0	0	1
Total período	**5**	**0**	**0**	**0**	**5**
11:00-11:15	9	0	0	0	9
11:15-11:30	0	1	0	0	1
11:30-11:45	2	0	0	0	2
11:45-12:00	1	0	0	0	1
Total período	**12**	**1**	**0**	**0**	**13**
12:00-12:15	1	0	0	0	1
12:15-12:30	2	0	0	0	2
12:30-12:45	3	1	0	0	4
12:45-13:00	3	0	0	0	3
Total período	**9**	**1**	**0**	**0**	**10**
13:00-13:15	2	0	1	0	3
13:15-13:30	1	0	0	0	1
13:30-13:45	5	0	0	0	5
13:45-14:00	1	0	0	0	1
Total período	**9**	**0**	**1**	**0**	**10**
14:00-14:15	3	0	0	0	3
14:15-14:30	1	1	1	0	3
14:30-14:45	2	0	0	0	2
14:45-15:00	4	0	0	0	4
Total período	**10**	**1**	**1**	**0**	**12**
15:00-15:15	0	0	0	0	0
15:15-15:30	2	0	0	0	2
15:30-15:45	3	2	0	0	5
15:45-16:00	2	0	0	0	2
Total período	**7**	**2**	**0**	**0**	**9**
16:00-16:15	2	0	0	0	2
16:15-16:30	3	0	0	0	3
16:30-16:45	0	0	0	0	0
16:45-17:00	2	0	0	0	2
Total período	**7**	**0**	**0**	**0**	**7**
17:00-17:15	11	0	0	0	11
17:15-17:30	5	0	0	0	5
17:30-17:45	6	0	1	0	7
17:45-18:00	3	0	0	0	3
Total período	**25**	**0**	**1**	**0**	**26**
18:00-18:15	4	0	0	1	5
18:15-18:30	4	0	0	0	4
18:30-18:45	5	0	0	0	5
18:45-19:00	3	0	0	0	3
Total período	**16**	**0**	**0**	**1**	**17**
Total 12 horas	**134**	**5**	**4**	**1**	**144**

CUADRO Nº 3.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 5: Tránsito directo Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	46	0	0	0	46
07:15-07:30	44	0	0	0	44
07:30-07:45	53	0	0	0	53
07:45-08:00	66	0	0	0	66
Total período	**209**	**0**	**0**	**0**	**209**
08:00-08:15	36	0	0	0	36
08:15-08:30	50	1	0	0	51
08:30-08:45	18	0	0	0	18
08:45-09:00	20	2	0	0	22
Total período	**124**	**3**	**0**	**0**	**127**
09:00-09:15	14	0	0	0	14
09:15-09:30	5	0	0	0	5
09:30-09:45	6	0	0	0	6
09:45-10:00	6	0	0	0	6
Total período	**31**	**0**	**0**	**0**	**31**
10:00-10:15	4	0	0	0	4
10:15-10:30	6	1	0	0	7
10:30-10:45	4	0	0	0	4
10:45-11:00	4	2	0	0	6
Total período	**18**	**3**	**0**	**0**	**21**
11:00-11:15	5	0	0	0	5
11:15-11:30	6	0	0	0	6
11:30-11:45	4	0	0	0	4
11:45-12:00	7	0	0	0	7
Total período	**22**	**0**	**0**	**0**	**22**
12:00-12:15	3	0	0	0	3
12:15-12:30	2	0	0	0	2
12:30-12:45	13	0	0	0	13
12:45-13:00	8	0	0	0	8
Total período	**26**	**0**	**0**	**0**	**26**
13:00-13:15	7	0	0	0	7
13:15-13:30	10	0	0	0	10
13:30-13:45	6	0	0	0	6
13:45-14:00	9	0	0	0	9
Total período	**32**	**0**	**0**	**0**	**32**
14:00-14:15	16	0	0	0	16
14:15-14:30	5	0	0	0	5
14:30-14:45	8	1	0	0	9
14:45-15:00	5	0	0	0	5
Total período	**34**	**1**	**0**	**0**	**35**
15:00-15:15	4	0	0	0	4
15:15-15:30	9	0	0	0	9
15:30-15:45	5	0	0	0	5
15:45-16:00	8	1	0	0	9
Total período	**26**	**1**	**0**	**0**	**27**
16:00-16:15	6	0	0	0	6
16:15-16:30	9	0	0	0	9
16:30-16:45	4	0	0	0	4
16:45-17:00	6	0	0	0	6
Total período	**25**	**0**	**0**	**0**	**25**
17:00-17:15	12	0	0	0	12
17:15-17:30	3	0	0	0	3
17:30-17:45	13	0	0	0	13
17:45-18:00	12	1	0	0	13
Total período	**40**	**1**	**0**	**0**	**41**
18:00-18:15	6	0	0	0	6
18:15-18:30	10	0	0	0	10
18:30-18:45	9	0	0	0	9
18:45-19:00	16	0	0	0	16
Total período	**41**	**0**	**0**	**0**	**41**
Total 12 horas	**628**	**9**	**0**	**0**	**637**

CUADRO Nº 3.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 6: Viraje derecha de Oriente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	17	0	0	0	17
07:15-07:30	24	0	0	0	24
07:30-07:45	41	0	0	0	41
07:45-08:00	40	0	0	0	40
Total período	**122**	**0**	**0**	**0**	**122**
08:00-08:15	27	0	0	0	27
08:15-08:30	27	0	0	0	27
08:30-08:45	24	2	0	0	26
08:45-09:00	13	0	0	0	13
Total período	**91**	**2**	**0**	**0**	**93**
09:00-09:15	7	0	0	0	7
09:15-09:30	5	0	0	0	5
09:30-09:45	9	0	0	0	9
09:45-10:00	8	0	0	0	8
Total período	**29**	**0**	**0**	**0**	**29**
10:00-10:15	4	1	0	0	5
10:15-10:30	6	0	0	0	6
10:30-10:45	8	1	0	0	9
10:45-11:00	8	0	0	0	8
Total período	**26**	**2**	**0**	**0**	**28**
11:00-11:15	9	0	0	0	9
11:15-11:30	6	0	0	0	6
11:30-11:45	5	0	0	0	5
11:45-12:00	7	0	0	0	7
Total período	**27**	**0**	**0**	**0**	**27**
12:00-12:15	8	0	0	0	8
12:15-12:30	6	0	0	0	6
12:30-12:45	3	0	0	0	3
12:45-13:00	6	0	0	0	6
Total período	**23**	**0**	**0**	**0**	**23**
13:00-13:15	7	0	0	0	7
13:15-13:30	8	0	0	0	8
13:30-13:45	10	0	0	0	10
13:45-14:00	12	0	0	0	12
Total período	**37**	**0**	**0**	**0**	**37**
14:00-14:15	2	0	0	0	2
14:15-14:30	4	0	0	0	4
14:30-14:45	2	0	0	0	2
14:45-15:00	3	0	0	0	3
Total período	**11**	**0**	**0**	**0**	**11**
15:00-15:15	8	0	0	0	8
15:15-15:30	5	1	0	0	6
15:30-15:45	7	0	0	0	7
15:45-16:00	12	0	0	0	12
Total período	**32**	**1**	**0**	**0**	**33**
16:00-16:15	1	1	0	0	2
16:15-16:30	11	0	0	0	11
16:30-16:45	2	1	0	0	3
16:45-17:00	6	0	0	0	6
Total período	**20**	**2**	**0**	**0**	**22**
17:00-17:15	20	0	0	0	20
17:15-17:30	12	0	0	0	12
17:30-17:45	12	0	0	0	12
17:45-18:00	6	0	0	0	6
Total período	**50**	**0**	**0**	**0**	**50**
18:00-18:15	7	0	0	0	7
18:15-18:30	8	0	0	0	8
18:30-18:45	7	0	0	0	7
18:45-19:00	11	0	0	0	11
Total período	**33**	**0**	**0**	**0**	**33**
Total 12 horas	**501**	**7**	**0**	**0**	**508**

CUADRO Nº 3.7

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 7: Viraje izquierda de Norte a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	14	0	0	2	16
07:15-07:30	36	0	0	2	38
07:30-07:45	60	2	1	2	65
07:45-08:00	74	2	2	12	90
Total período	**184**	**4**	**3**	**18**	**209**
08:00-08:15	53	1	1	1	56
08:15-08:30	20	1	1	2	24
08:30-08:45	25	1	2	1	29
08:45-09:00	21	1	0	0	22
Total período	**119**	**4**	**4**	**4**	**131**
09:00-09:15	14	0	0	0	14
09:15-09:30	25	0	0	0	25
09:30-09:45	12	0	0	0	12
09:45-10:00	12	2	0	1	15
Total período	**63**	**2**	**0**	**1**	**66**
10:00-10:15	10	1	0	0	11
10:15-10:30	15	0	0	0	15
10:30-10:45	11	1	0	0	12
10:45-11:00	13	0	0	0	13
Total período	**49**	**2**	**0**	**0**	**51**
11:00-11:15	6	2	0	1	9
11:15-11:30	12	0	0	0	12
11:30-11:45	22	0	0	0	22
11:45-12:00	12	1	0	0	13
Total período	**52**	**3**	**0**	**1**	**56**
12:00-12:15	17	0	0	0	17
12:15-12:30	25	0	0	0	25
12:30-12:45	32	0	0	0	32
12:45-13:00	39	1	0	0	40
Total período	**113**	**1**	**0**	**0**	**114**
13:00-13:15	22	2	0	0	24
13:15-13:30	40	1	0	0	41
13:30-13:45	30	0	0	0	30
13:45-14:00	29	1	0	0	30
Total período	**121**	**4**	**0**	**0**	**125**
14:00-14:15	22	0	0	0	22
14:15-14:30	34	0	0	0	34
14:30-14:45	22	0	0	0	22
14:45-15:00	17	0	0	0	17
Total período	**95**	**0**	**0**	**0**	**95**
15:00-15:15	19	1	0	0	20
15:15-15:30	20	0	0	1	21
15:30-15:45	28	0	0	0	28
15:45-16:00	42	0	0	0	42
Total período	**109**	**1**	**0**	**1**	**111**
16:00-16:15	33	1	0	0	34
16:15-16:30	39	0	0	0	39
16:30-16:45	29	0	0	0	29
16:45-17:00	52	0	0	0	52
Total período	**153**	**1**	**0**	**0**	**154**
17:00-17:15	39	0	0	0	39
17:15-17:30	27	0	0	0	27
17:30-17:45	30	0	0	0	30
17:45-18:00	34	1	0	0	35
Total período	**130**	**1**	**0**	**0**	**131**
18:00-18:15	47	1	0	0	48
18:15-18:30	29	0	0	0	29
18:30-18:45	38	0	0	0	38
18:45-19:00	39	0	0	0	39
Total período	**153**	**1**	**0**	**0**	**154**
Total 12 horas	**1.341**	**24**	**7**	**25**	**1.397**

CUADRO Nº 3.8

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 8: Tránsito directo de Norte a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	99	5	6	3	113
07:15-07:30	157	10	6	17	190
07:30-07:45	253	5	3	37	298
07:45-08:00	307	13	3	34	357
Total período	**816**	**33**	**18**	**91**	**958**
08:00-08:15	343	4	8	24	379
08:15-08:30	281	7	4	20	312
08:30-08:45	275	9	2	22	308
08:45-09:00	204	12	4	25	245
Total período	**1.103**	**32**	**18**	**91**	**1.244**
09:00-09:15	186	9	3	0	198
09:15-09:30	187	11	1	0	199
09:30-09:45	189	16	4	0	209
09:45-10:00	162	16	5	0	183
Total período	**724**	**52**	**13**	**0**	**789**
10:00-10:15	152	14	3	29	198
10:15-10:30	203	17	4	28	252
10:30-10:45	193	17	1	34	245
10:45-11:00	188	21	0	29	238
Total período	**736**	**69**	**8**	**120**	**933**
11:00-11:15	184	16	2	22	224
11:15-11:30	208	11	3	26	248
11:30-11:45	187	15	3	24	229
11:45-12:00	186	19	0	24	229
Total período	**765**	**61**	**8**	**96**	**930**
12:00-12:15	190	9	1	25	225
12:15-12:30	188	17	1	24	230
12:30-12:45	196	21	0	21	238
12:45-13:00	218	23	0	32	273
Total período	**792**	**70**	**2**	**102**	**966**
13:00-13:15	188	18	0	26	232
13:15-13:30	236	13	0	23	272
13:30-13:45	204	16	0	23	243
13:45-14:00	241	10	0	19	270
Total período	**869**	**57**	**0**	**91**	**1.017**
14:00-14:15	215	12	0	32	259
14:15-14:30	260	16	0	36	312
14:30-14:45	158	11	0	22	191
14:45-15:00	204	15	0	26	245
Total período	**837**	**54**	**0**	**116**	**1.007**
15:00-15:15	186	12	3	20	221
15:15-15:30	215	13	0	20	248
15:30-15:45	213	10	2	25	250
15:45-16:00	264	14	0	30	308
Total período	**878**	**49**	**5**	**95**	**1.027**
16:00-16:15	271	14	0	22	307
16:15-16:30	274	8	0	28	310
16:30-16:45	234	14	1	23	272
16:45-17:00	290	13	2	20	325
Total período	**1.069**	**49**	**3**	**93**	**1.214**
17:00-17:15	227	7	0	25	259
17:15-17:30	244	11	1	24	280
17:30-17:45	275	11	3	29	318
17:45-18:00	268	10	2	26	306
Total período	**1.014**	**39**	**6**	**104**	**1.163**
18:00-18:15	347	5	1	38	391
18:15-18:30	421	10	0	22	453
18:30-18:45	437	7	0	23	467
18:45-19:00	446	5	0	26	477
Total período	**1.651**	**27**	**1**	**109**	**1.788**
Total 12 horas	**11.254**	**592**	**82**	**1.108**	**13.036**

CUADRO Nº 3.9

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 9: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	7	0	0	0	7
07:15-07:30	33	1	0	0	34
07:30-07:45	34	0	0	0	34
07:45-08:00	64	0	0	0	64
Total período	**138**	**1**	**0**	**0**	**139**
08:00-08:15	33	0	0	0	33
08:15-08:30	43	0	0	0	43
08:30-08:45	16	0	0	0	16
08:45-09:00	14	2	0	0	16
Total período	**106**	**2**	**0**	**0**	**108**
09:00-09:15	22	3	0	1	26
09:15-09:30	13	1	0	1	15
09:30-09:45	22	2	2	0	26
09:45-10:00	12	3	0	1	16
Total período	**69**	**9**	**2**	**3**	**83**
10:00-10:15	11	7	0	1	19
10:15-10:30	10	2	1	0	13
10:30-10:45	11	5	0	1	17
10:45-11:00	14	2	1	0	17
Total período	**46**	**16**	**2**	**2**	**66**
11:00-11:15	15	5	0	0	20
11:15-11:30	7	2	1	1	11
11:30-11:45	13	4	0	1	18
11:45-12:00	15	3	1	1	20
Total período	**50**	**14**	**2**	**3**	**69**
12:00-12:15	18	3	0	1	22
12:15-12:30	14	3	1	1	19
12:30-12:45	19	2	0	1	22
12:45-13:00	12	4	1	1	18
Total período	**63**	**12**	**2**	**4**	**81**
13:00-13:15	18	1	0	0	19
13:15-13:30	24	2	0	1	27
13:30-13:45	19	1	0	1	21
13:45-14:00	20	1	0	0	21
Total período	**81**	**5**	**0**	**2**	**88**
14:00-14:15	12	4	0	1	17
14:15-14:30	13	1	0	0	14
14:30-14:45	11	3	0	1	15
14:45-15:00	15	3	0	1	19
Total período	**51**	**11**	**0**	**3**	**65**
15:00-15:15	12	6	0	0	18
15:15-15:30	17	4	0	3	24
15:30-15:45	15	2	0	0	17
15:45-16:00	17	2	0	1	20
Total período	**61**	**14**	**0**	**4**	**79**
16:00-16:15	9	2	1	1	13
16:15-16:30	21	2	0	1	24
16:30-16:45	18	2	0	1	21
16:45-17:00	30	1	3	1	35
Total período	**78**	**7**	**4**	**4**	**93**
17:00-17:15	25	1	0	1	27
17:15-17:30	26	1	0	1	28
17:30-17:45	21	1	0	0	22
17:45-18:00	15	1	0	2	18
Total período	**87**	**4**	**0**	**4**	**95**
18:00-18:15	13	0	0	3	16
18:15-18:30	20	0	1	2	23
18:30-18:45	27	0	0	0	27
18:45-19:00	15	1	1	1	18
Total período	**75**	**1**	**2**	**6**	**84**
Total 12 horas	**905**	**96**	**14**	**35**	**1.050**

CUADRO Nº 3.10

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 10: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	23	1	0	1	25
07:15-07:30	27	0	1	0	28
07:30-07:45	55	0	0	1	56
07:45-08:00	32	0	0	1	33
Total período	**137**	**1**	**1**	**3**	**142**
08:00-08:15	25	0	0	1	26
08:15-08:30	34	1	0	1	36
08:30-08:45	45	7	0	1	53
08:45-09:00	39	0	0	1	40
Total período	**143**	**8**	**0**	**4**	**155**
09:00-09:15	36	1	0	0	37
09:15-09:30	33	3	0	1	37
09:30-09:45	20	3	2	0	25
09:45-10:00	22	10	1	3	36
Total período	**111**	**17**	**3**	**4**	**135**
10:00-10:15	29	2	0	1	32
10:15-10:30	29	0	0	0	29
10:30-10:45	34	2	1	1	38
10:45-11:00	16	4	1	1	22
Total período	**108**	**8**	**2**	**3**	**121**
11:00-11:15	22	2	0	1	25
11:15-11:30	26	3	2	0	31
11:30-11:45	15	4	1	0	20
11:45-12:00	25	1	1	1	28
Total período	**88**	**10**	**4**	**2**	**104**
12:00-12:15	22	2	0	0	24
12:15-12:30	29	4	1	0	34
12:30-12:45	26	2	0	1	29
12:45-13:00	26	5	0	1	32
Total período	**103**	**13**	**1**	**2**	**119**
13:00-13:15	32	0	0	0	32
13:15-13:30	34	1	0	1	36
13:30-13:45	35	1	1	1	38
13:45-14:00	31	5	0	0	36
Total período	**132**	**7**	**1**	**2**	**142**
14:00-14:15	30	4	0	0	34
14:15-14:30	29	3	1	0	33
14:30-14:45	29	2	0	2	33
14:45-15:00	19	5	0	0	24
Total período	**107**	**14**	**1**	**2**	**124**
15:00-15:15	24	4	1	1	30
15:15-15:30	28	5	0	2	35
15:30-15:45	35	6	0	1	42
15:45-16:00	41	2	0	1	44
Total período	**128**	**17**	**1**	**5**	**151**
16:00-16:15	53	1	1	1	56
16:15-16:30	38	2	0	1	41
16:30-16:45	30	2	0	1	33
16:45-17:00	30	0	1	0	31
Total período	**151**	**5**	**2**	**3**	**161**
17:00-17:15	27	3	0	1	31
17:15-17:30	27	5	0	1	33
17:30-17:45	29	2	0	2	33
17:45-18:00	33	4	1	1	39
Total período	**116**	**14**	**1**	**5**	**136**
18:00-18:15	59	3	2	1	65
18:15-18:30	32	1	1	2	36
18:30-18:45	34	1	0	0	35
18:45-19:00	45	4	0	1	50
Total período	**170**	**9**	**3**	**4**	**186**
Total 12 horas	**1.494**	**123**	**20**	**39**	**1.676**

CUADRO Nº 3.11

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 11: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	15	0	0	0	15
07:15-07:30	26	0	0	0	26
07:30-07:45	17	1	0	0	18
07:45-08:00	27	1	0	0	28
Total período	**85**	**2**	**0**	**0**	**87**
08:00-08:15	27	0	0	0	27
08:15-08:30	16	0	0	0	16
08:30-08:45	23	1	1	0	25
08:45-09:00	6	1	0	0	7
Total período	**72**	**2**	**1**	**0**	**75**
09:00-09:15	8	2	0	0	10
09:15-09:30	2	1	0	0	3
09:30-09:45	6	0	0	0	6
09:45-10:00	8	1	0	0	9
Total período	**24**	**4**	**0**	**0**	**28**
10:00-10:15	16	0	0	0	16
10:15-10:30	8	1	0	0	9
10:30-10:45	5	0	0	0	5
10:45-11:00	8	0	0	0	8
Total período	**37**	**1**	**0**	**0**	**38**
11:00-11:15	10	1	0	0	11
11:15-11:30	3	0	1	0	4
11:30-11:45	5	0	0	1	6
11:45-12:00	7	2	0	0	9
Total período	**25**	**3**	**1**	**1**	**30**
12:00-12:15	7	3	0	0	10
12:15-12:30	8	0	0	0	8
12:30-12:45	15	0	0	0	15
12:45-13:00	13	1	0	0	14
Total período	**43**	**4**	**0**	**0**	**47**
13:00-13:15	14	1	0	0	15
13:15-13:30	15	0	0	0	15
13:30-13:45	10	0	0	0	10
13:45-14:00	15	1	0	0	16
Total período	**54**	**2**	**0**	**0**	**56**
14:00-14:15	11	2	0	0	13
14:15-14:30	15	0	0	0	15
14:30-14:45	14	0	0	0	14
14:45-15:00	11	0	0	0	11
Total período	**51**	**2**	**0**	**0**	**53**
15:00-15:15	20	0	0	0	20
15:15-15:30	9	0	0	0	9
15:30-15:45	16	0	0	0	16
15:45-16:00	9	0	0	0	9
Total período	**54**	**0**	**0**	**0**	**54**
16:00-16:15	7	0	0	0	7
16:15-16:30	10	0	0	0	10
16:30-16:45	13	1	0	0	14
16:45-17:00	21	1	0	0	22
Total período	**51**	**2**	**0**	**0**	**53**
17:00-17:15	21	0	0	0	21
17:15-17:30	17	1	0	0	18
17:30-17:45	19	1	0	0	20
17:45-18:00	15	0	0	0	15
Total período	**72**	**2**	**0**	**0**	**74**
18:00-18:15	5	0	0	0	5
18:15-18:30	27	1	0	0	28
18:30-18:45	21	0	0	0	21
18:45-19:00	32	0	0	0	32
Total período	**85**	**1**	**0**	**0**	**86**
Total 12 horas	**653**	**25**	**2**	**1**	**681**

CUADRO Nº 3.12

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	3
Intersección	:	Av. La Florida / Trinidad Oriente
Duración	:	12 horas

Movimiento 12: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	4	1	1	0	6
07:15-07:30	16	1	2	0	19
07:30-07:45	20	0	2	0	22
07:45-08:00	9	3	0	0	12
Total período	**49**	**5**	**5**	**0**	**59**
08:00-08:15	21	3	2	1	27
08:15-08:30	26	2	2	0	30
08:30-08:45	27	0	1	2	30
08:45-09:00	15	1	4	0	20
Total período	**89**	**6**	**9**	**3**	**107**
09:00-09:15	15	4	1	0	20
09:15-09:30	12	3	2	0	17
09:30-09:45	12	3	0	0	15
09:45-10:00	15	2	1	2	20
Total período	**54**	**12**	**4**	**2**	**72**
10:00-10:15	19	5	2	1	27
10:15-10:30	28	2	1	1	32
10:30-10:45	20	1	0	0	21
10:45-11:00	12	3	3	0	18
Total período	**79**	**11**	**6**	**2**	**98**
11:00-11:15	19	3	0	1	23
11:15-11:30	16	3	1	0	20
11:30-11:45	22	2	2	1	27
11:45-12:00	12	4	3	0	19
Total período	**69**	**12**	**6**	**2**	**89**
12:00-12:15	23	1	3	0	27
12:15-12:30	14	2	1	0	17
12:30-12:45	12	3	1	0	16
12:45-13:00	13	2	1	0	16
Total período	**62**	**8**	**6**	**0**	**76**
13:00-13:15	22	3	4	1	30
13:15-13:30	20	3	1	0	24
13:30-13:45	20	0	2	0	22
13:45-14:00	21	3	0	0	24
Total período	**83**	**9**	**7**	**1**	**100**
14:00-14:15	32	3	2	0	37
14:15-14:30	15	2	1	0	18
14:30-14:45	18	3	1	0	22
14:45-15:00	17	4	1	0	22
Total período	**82**	**12**	**5**	**0**	**99**
15:00-15:15	22	3	0	0	25
15:15-15:30	22	3	1	0	26
15:30-15:45	26	1	1	2	30
15:45-16:00	27	3	1	0	31
Total período	**97**	**10**	**3**	**2**	**112**
16:00-16:15	27	4	1	0	32
16:15-16:30	24	3	2	0	29
16:30-16:45	46	2	0	0	48
16:45-17:00	17	3	0	0	20
Total período	**114**	**12**	**3**	**0**	**129**
17:00-17:15	18	1	0	0	19
17:15-17:30	23	6	2	0	31
17:30-17:45	30	6	0	0	36
17:45-18:00	26	3	2	1	32
Total período	**97**	**16**	**4**	**1**	**118**
18:00-18:15	27	0	0	3	30
18:15-18:30	41	0	1	2	44
18:30-18:45	48	0	0	0	48
18:45-19:00	38	1	1	1	41
Total período	**154**	**1**	**2**	**6**	**163**
Total 12 horas	**1.029**	**114**	**60**	**19**	**1.222**

CUADRO Nº 4.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	4
Intersección	:	Av. La Florida / San José de la Estrella
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Sur a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	27	1	1	1	30
07:15-07:30	25	0	1	0	26
07:30-07:45	35	0	0	1	36
07:45-08:00	46	1	0	1	48
Total período	**133**	**2**	**2**	**3**	**140**
08:00-08:15	35	0	0	2	37
08:15-08:30	37	0	0	1	38
08:30-08:45	22	2	1	1	26
08:45-09:00	10	1	1	1	13
Total período	**104**	**3**	**2**	**5**	**114**
09:00-09:15	20	0	1	1	22
09:15-09:30	18	2	1	0	21
09:30-09:45	17	2	0	1	20
09:45-10:00	16	0	0	1	17
Total período	**71**	**4**	**2**	**3**	**80**
10:00-10:15	29	2	1	1	33
10:15-10:30	21	1	1	1	24
10:30-10:45	12	0	2	0	14
10:45-11:00	18	1	0	2	21
Total período	**80**	**4**	**4**	**4**	**92**
11:00-11:15	27	2	0	1	30
11:15-11:30	25	4	0	0	29
11:30-11:45	13	3	1	1	18
11:45-12:00	20	2	0	1	23
Total período	**85**	**11**	**1**	**3**	**100**
12:00-12:15	25	0	1	1	27
12:15-12:30	25	0	0	2	27
12:30-12:45	14	1	0	0	15
12:45-13:00	20	1	0	1	22
Total período	**84**	**2**	**1**	**4**	**91**
13:00-13:15	42	0	1	0	43
13:15-13:30	25	2	2	1	30
13:30-13:45	11	1	1	0	13
13:45-14:00	30	1	1	1	33
Total período	**108**	**4**	**5**	**2**	**119**
14:00-14:15	21	0	0	0	21
14:15-14:30	11	3	1	0	15
14:30-14:45	13	0	0	1	14
14:45-15:00	20	0	2	1	23
Total período	**65**	**3**	**3**	**2**	**73**
15:00-15:15	21	1	0	3	25
15:15-15:30	14	0	1	0	15
15:30-15:45	13	2	1	1	17
15:45-16:00	12	0	0	1	13
Total período	**60**	**3**	**2**	**5**	**70**
16:00-16:15	29	2	1	0	32
16:15-16:30	29	1	2	3	35
16:30-16:45	25	1	1	1	28
16:45-17:00	31	7	2	1	41
Total período	**114**	**11**	**6**	**5**	**136**
17:00-17:15	12	4	0	1	17
17:15-17:30	10	2	0	1	13
17:30-17:45	20	1	0	1	22
17:45-18:00	34	0	0	1	35
Total período	**76**	**7**	**0**	**4**	**87**
18:00-18:15	40	4	3	1	48
18:15-18:30	25	2	2	1	30
18:30-18:45	30	1	1	1	33
18:45-19:00	25	1	1	1	28
Total período	**120**	**8**	**7**	**4**	**139**
Total 12 horas	**1.100**	**62**	**35**	**44**	**1.241**

CUADRO Nº 4.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	4
Intersección	:	Av. La Florida / San José de la Estrella
Duración	:	12 horas

Movimiento 2: Tránsito directo de Sur a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	370	19	5	39	433
07:15-07:30	450	10	7	25	492
07:30-07:45	492	15	6	33	546
07:45-08:00	435	1	3	18	457
Total período	**1.747**	**45**	**21**	**115**	**1.928**
08:00-08:15	363	23	2	30	418
08:15-08:30	265	13	1	30	309
08:30-08:45	260	15	2	28	305
08:45-09:00	180	18	7	28	233
Total período	**1.068**	**69**	**12**	**116**	**1.265**
09:00-09:15	170	14	10	39	233
09:15-09:30	190	16	15	27	248
09:30-09:45	140	7	6	25	178
09:45-10:00	140	14	9	27	190
Total período	**640**	**51**	**40**	**118**	**849**
10:00-10:15	136	13	7	32	188
10:15-10:30	190	14	9	23	236
10:30-10:45	135	18	6	25	184
10:45-11:00	154	5	11	28	198
Total período	**615**	**50**	**33**	**108**	**806**
11:00-11:15	115	12	10	23	160
11:15-11:30	110	15	9	22	156
11:30-11:45	120	12	12	31	175
11:45-12:00	110	14	10	26	160
Total período	**455**	**53**	**41**	**102**	**651**
12:00-12:15	110	9	2	28	149
12:15-12:30	85	10	11	41	147
12:30-12:45	105	4	4	30	143
12:45-13:00	90	10	2	30	132
Total período	**390**	**33**	**19**	**129**	**571**
13:00-13:15	120	8	4	40	172
13:15-13:30	135	12	9	26	182
13:30-13:45	115	17	5	25	162
13:45-14:00	108	17	7	30	162
Total período	**478**	**54**	**25**	**121**	**678**
14:00-14:15	125	15	7	23	170
14:15-14:30	95	25	6	28	154
14:30-14:45	105	12	9	32	158
14:45-15:00	70	12	6	21	109
Total período	**395**	**64**	**28**	**104**	**591**
15:00-15:15	120	10	4	24	158
15:15-15:30	135	11	5	28	179
15:30-15:45	105	11	6	25	147
15:45-16:00	75	20	2	35	132
Total período	**435**	**52**	**17**	**112**	**616**
16:00-16:15	75	10	0	11	96
16:15-16:30	104	7	13	40	164
16:30-16:45	130	14	7	21	172
16:45-17:00	130	16	10	27	183
Total período	**439**	**47**	**30**	**99**	**615**
17:00-17:15	95	8	5	17	125
17:15-17:30	115	5	3	36	159
17:30-17:45	130	4	5	28	167
17:45-18:00	170	0	0	17	187
Total período	**510**	**17**	**13**	**98**	**638**
18:00-18:15	140	14	9	29	192
18:15-18:30	100	3	5	25	133
18:30-18:45	115	4	4	25	148
18:45-19:00	134	0	0	30	164
Total período	**489**	**21**	**18**	**109**	**637**
Total 12 horas	**7.661**	**556**	**297**	**1.331**	**9.845**

CUADRO Nº4.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	4
Intersección	:	Av. La Florida / San José de la Estrella
Duración	:	12 horas

Movimiento 3: Tránsito directo de Norte a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	115	5	14	20	154
07:15-07:30	150	4	13	17	184
07:30-07:45	205	2	22	30	259
07:45-08:00	235	4	14	26	279
Total período	**705**	**15**	**63**	**93**	**876**
08:00-08:15	225	8	20	26	279
08:15-08:30	233	7	11	17	268
08:30-08:45	210	3	13	19	245
08:45-09:00	163	4	18	26	211
Total período	**831**	**22**	**62**	**88**	**1.003**
09:00-09:15	180	11	16	30	237
09:15-09:30	195	7	26	43	271
09:30-09:45	205	1	27	25	258
09:45-10:00	182	6	29	32	249
Total período	**762**	**25**	**98**	**130**	**1.015**
10:00-10:15	172	4	32	34	242
10:15-10:30	200	0	35	23	258
10:30-10:45	170	2	23	28	223
10:45-11:00	103	4	24	30	161
Total período	**645**	**10**	**114**	**115**	**884**
11:00-11:15	175	1	20	33	229
11:15-11:30	165	3	16	13	197
11:30-11:45	164	1	23	27	215
11:45-12:00	160	2	24	27	213
Total período	**664**	**7**	**83**	**100**	**854**
12:00-12:15	142	3	15	25	185
12:15-12:30	119	3	14	15	151
12:30-12:45	148	1	17	20	186
12:45-13:00	141	3	21	25	190
Total período	**550**	**10**	**67**	**85**	**712**
13:00-13:15	140	8	12	32	192
13:15-13:30	195	8	24	37	264
13:30-13:45	145	8	9	17	179
13:45-14:00	196	10	6	23	235
Total período	**676**	**34**	**51**	**109**	**870**
14:00-14:15	135	9	5	23	172
14:15-14:30	173	19	7	32	231
14:30-14:45	191	15	11	33	250
14:45-15:00	134	16	9	23	182
Total período	**633**	**59**	**32**	**111**	**835**
15:00-15:15	143	7	2	15	167
15:15-15:30	159	14	9	17	199
15:30-15:45	145	12	6	19	182
15:45-16:00	125	10	4	34	173
Total período	**572**	**43**	**21**	**85**	**721**
16:00-16:15	149	10	4	26	189
16:15-16:30	110	8	5	19	142
16:30-16:45	190	13	6	25	234
16:45-17:00	206	11	2	17	236
Total período	**655**	**42**	**17**	**87**	**801**
17:00-17:15	174	8	2	19	203
17:15-17:30	150	18	4	16	188
17:30-17:45	145	7	7	24	183
17:45-18:00	160	7	4	23	194
Total período	**629**	**40**	**17**	**82**	**768**
18:00-18:15	201	7	4	28	240
18:15-18:30	167	3	2	29	201
18:30-18:45	168	2	4	32	206
18:45-19:00	208	4	2	37	251
Total período	**744**	**16**	**12**	**126**	**898**
Total 12 horas	**8.066**	**323**	**637**	**1.211**	**10.237**

CUADRO Nº 4.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	4
Intersección	:	Av. La Florida / San José de la Estrella
Duración	:	12 horas

Movimiento 4: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	15	1	0	1	17
07:15-07:30	21	0	1	1	23
07:30-07:45	31	0	0	0	31
07:45-08:00	25	0	0	0	25
Total período	**92**	**1**	**1**	**2**	**96**
08:00-08:15	27	2	0	2	31
08:15-08:30	37	2	0	0	39
08:30-08:45	19	0	1	0	20
08:45-09:00	8	0	1	0	9
Total período	**91**	**4**	**2**	**2**	**99**
09:00-09:15	23	0	0	0	23
09:15-09:30	13	1	0	0	14
09:30-09:45	7	0	1	0	8
09:45-10:00	12	0	2	1	15
Total período	**55**	**1**	**3**	**1**	**60**
10:00-10:15	14	0	2	2	18
10:15-10:30	24	0	2	1	27
10:30-10:45	11	0	1	0	12
10:45-11:00	14	0	1	0	15
Total período	**63**	**0**	**6**	**3**	**72**
11:00-11:15	13	0	1	1	15
11:15-11:30	9	0	0	1	10
11:30-11:45	13	0	1	0	14
11:45-12:00	13	0	2	0	15
Total período	**48**	**0**	**4**	**2**	**54**
12:00-12:15	16	0	0	0	16
12:15-12:30	12	0	0	0	12
12:30-12:45	15	0	2	0	17
12:45-13:00	19	0	0	0	19
Total período	**62**	**0**	**2**	**0**	**64**
13:00-13:15	14	1	1	1	17
13:15-13:30	12	0	0	1	13
13:30-13:45	11	0	0	0	11
13:45-14:00	15	2	2	0	19
Total período	**52**	**3**	**3**	**2**	**60**
14:00-14:15	16	2	2	0	20
14:15-14:30	19	0	0	0	19
14:30-14:45	11	0	0	0	11
14:45-15:00	18	0	0	0	18
Total período	**64**	**2**	**2**	**0**	**68**
15:00-15:15	7	1	1	0	9
15:15-15:30	5	0	0	0	5
15:30-15:45	11	0	0	0	11
15:45-16:00	13	0	0	0	13
Total período	**36**	**1**	**1**	**0**	**38**
16:00-16:15	6	0	0	0	6
16:15-16:30	19	3	0	0	22
16:30-16:45	23	4	1	0	28
16:45-17:00	14	0	0	0	14
Total período	**62**	**7**	**1**	**0**	**70**
17:00-17:15	16	1	1	4	22
17:15-17:30	11	0	0	0	11
17:30-17:45	18	2	0	1	21
17:45-18:00	14	2	1	0	17
Total período	**59**	**5**	**2**	**5**	**71**
18:00-18:15	23	1	1	0	25
18:15-18:30	26	2	0	0	28
18:30-18:45	32	4	0	0	36
18:45-19:00	36	6	1	0	43
Total período	**117**	**13**	**2**	**0**	**132**
Total 12 horas	**801**	**37**	**29**	**17**	**884**

CUADRO Nº 4.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	4
Intersección	:	Av. La Florida / San José de la Estrella
Duración	:	12 horas

Movimiento 5: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	77	0	0	0	77
07:15-07:30	67	2	0	0	69
07:30-07:45	77	0	0	0	77
07:45-08:00	36	0	0	0	36
Total período	**257**	**2**	**0**	**0**	**259**
08:00-08:15	52	1	1	0	54
08:15-08:30	71	2	0	0	73
08:30-08:45	56	1	0	0	57
08:45-09:00	28	2	0	0	30
Total período	**207**	**6**	**1**	**0**	**214**
09:00-09:15	15	0	0	0	15
09:15-09:30	20	1	0	0	21
09:30-09:45	25	0	0	0	25
09:45-10:00	40	2	0	0	42
Total período	**100**	**3**	**0**	**0**	**103**
10:00-10:15	11	1	1	0	13
10:15-10:30	28	3	0	0	31
10:30-10:45	14	1	0	0	15
10:45-11:00	21	1	0	0	22
Total período	**74**	**6**	**1**	**0**	**81**
11:00-11:15	24	3	0	0	27
11:15-11:30	20	2	0	0	22
11:30-11:45	30	6	0	0	36
11:45-12:00	24	0	0	0	24
Total período	**98**	**11**	**0**	**0**	**109**
12:00-12:15	32	2	1	0	35
12:15-12:30	34	2	0	0	36
12:30-12:45	30	0	0	0	30
12:45-13:00	30	3	0	0	33
Total período	**126**	**7**	**1**	**0**	**134**
13:00-13:15	41	1	1	0	43
13:15-13:30	30	1	0	0	31
13:30-13:45	29	2	0	1	32
13:45-14:00	45	0	0	0	45
Total período	**145**	**4**	**1**	**1**	**151**
14:00-14:15	35	2	1	0	38
14:15-14:30	35	1	0	0	36
14:30-14:45	22	0	0	0	22
14:45-15:00	15	0	0	0	15
Total período	**107**	**3**	**1**	**0**	**111**
15:00-15:15	33	1	0	0	34
15:15-15:30	25	0	0	0	25
15:30-15:45	23	0	1	0	24
15:45-16:00	15	4	0	0	19
Total período	**96**	**5**	**1**	**0**	**102**
16:00-16:15	15	0	0	0	15
16:15-16:30	16	0	0	0	16
16:30-16:45	19	0	0	0	19
16:45-17:00	20	0	0	0	20
Total período	**70**	**0**	**0**	**0**	**70**
17:00-17:15	16	1	0	1	18
17:15-17:30	40	1	0	1	42
17:30-17:45	35	2	0	0	37
17:45-18:00	35	0	0	0	35
Total período	**126**	**4**	**0**	**2**	**132**
18:00-18:15	30	2	0	0	32
18:15-18:30	15	0	0	0	15
18:30-18:45	15	0	0	0	15
18:45-19:00	25	0	0	0	25
Total período	**85**	**2**	**0**	**0**	**87**
Total 12 horas	**1.491**	**53**	**6**	**3**	**1.553**

CUADRO Nº 4.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	4
Intersección	:	Av. La Florida / San José de la Estrella
Duración	:	12 horas

Movimiento 6: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	7	1	0	0	8
07:15-07:30	8	1	1	0	10
07:30-07:45	15	0	1	2	18
07:45-08:00	11	0	1	2	14
Total período	**41**	**2**	**3**	**4**	**50**
08:00-08:15	12	0	2	1	15
08:15-08:30	12	0	0	0	12
08:30-08:45	5	0	0	0	5
08:45-09:00	4	0	1	2	7
Total período	**33**	**0**	**3**	**3**	**39**
09:00-09:15	5	1	1	0	7
09:15-09:30	8	0	0	2	10
09:30-09:45	5	0	0	1	6
09:45-10:00	4	0	2	3	9
Total período	**22**	**1**	**3**	**6**	**32**
10:00-10:15	4	0	0	0	4
10:15-10:30	9	0	0	0	9
10:30-10:45	4	0	1	1	6
10:45-11:00	0	0	2	1	3
Total período	**17**	**0**	**3**	**2**	**22**
11:00-11:15	8	0	1	1	10
11:15-11:30	5	0	2	0	7
11:30-11:45	1	0	2	1	4
11:45-12:00	3	0	1	1	5
Total período	**17**	**0**	**6**	**3**	**26**
12:00-12:15	7	0	2	2	11
12:15-12:30	3	0	0	0	3
12:30-12:45	1	0	0	0	1
12:45-13:00	12	2	1	1	16
Total período	**23**	**2**	**3**	**3**	**31**
13:00-13:15	8	0	1	1	10
13:15-13:30	10	2	1	0	13
13:30-13:45	11	1	2	1	15
13:45-14:00	6	1	0	1	8
Total período	**35**	**4**	**4**	**3**	**46**
14:00-14:15	4	0	0	2	6
14:15-14:30	2	2	0	1	5
14:30-14:45	15	0	0	0	15
14:45-15:00	5	0	0	0	5
Total período	**26**	**2**	**0**	**3**	**31**
15:00-15:15	1	0	0	1	2
15:15-15:30	10	0	0	0	10
15:30-15:45	7	0	0	0	7
15:45-16:00	2	1	0	0	3
Total período	**20**	**1**	**0**	**1**	**22**
16:00-16:15	2	0	1	2	5
16:15-16:30	2	2	0	5	9
16:30-16:45	7	0	1	5	13
16:45-17:00	9	0	1	5	15
Total período	**20**	**2**	**3**	**17**	**42**
17:00-17:15	2	1	1	0	4
17:15-17:30	5	1	0	2	8
17:30-17:45	5	1	0	0	6
17:45-18:00	5	0	1	0	6
Total período	**17**	**3**	**2**	**2**	**24**
18:00-18:15	5	0	0	1	6
18:15-18:30	3	1	2	1	7
18:30-18:45	5	0	0	0	5
18:45-19:00	8	1	0	1	10
Total período	**21**	**2**	**2**	**3**	**28**
Total 12 horas	**292**	**19**	**32**	**50**	**393**

CUADRO Nº 5.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Sur a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	15	2	0	7	24
07:15-07:30	30	4	0	4	38
07:30-07:45	34	0	0	4	38
07:45-08:00	42	0	0	5	47
Total período	**121**	**6**	**0**	**20**	**147**
08:00-08:15	22	3	0	4	29
08:15-08:30	21	3	0	6	30
08:30-08:45	19	2	0	9	30
08:45-09:00	15	2	0	8	25
Total período	**77**	**10**	**0**	**27**	**114**
09:00-09:15	16	1	0	5	22
09:15-09:30	10	0	0	2	12
09:30-09:45	10	2	0	4	16
09:45-10:00	10	0	0	2	12
Total período	**46**	**3**	**0**	**13**	**62**
10:00-10:15	7	2	0	4	13
10:15-10:30	10	1	0	3	14
10:30-10:45	7	2	0	2	11
10:45-11:00	7	0	1	1	9
Total período	**31**	**5**	**1**	**10**	**47**
11:00-11:15	5	0	0	1	6
11:15-11:30	5	0	1	3	9
11:30-11:45	7	0	0	2	9
11:45-12:00	7	0	0	1	8
Total período	**24**	**0**	**1**	**7**	**32**
12:00-12:15	4	0	0	1	5
12:15-12:30	3	0	0	2	5
12:30-12:45	5	0	0	3	8
12:45-13:00	7	1	0	1	9
Total período	**19**	**1**	**0**	**7**	**27**
13:00-13:15	4	0	0	2	6
13:15-13:30	4	0	0	3	7
13:30-13:45	4	0	0	1	5
13:45-14:00	2	0	0	2	4
Total período	**14**	**0**	**0**	**8**	**22**
14:00-14:15	6	2	3	5	16
14:15-14:30	0	2	1	2	5
14:30-14:45	3	0	0	2	5
14:45-15:00	1	0	0	4	5
Total período	**10**	**4**	**4**	**13**	**31**
15:00-15:15	2	1	0	3	6
15:15-15:30	2	0	0	2	4
15:30-15:45	1	1	0	2	4
15:45-16:00	3	0	0	2	5
Total período	**8**	**2**	**0**	**9**	**19**
16:00-16:15	6	0	0	4	10
16:15-16:30	2	0	0	1	3
16:30-16:45	6	0	0	4	10
16:45-17:00	4	0	0	3	7
Total período	**18**	**0**	**0**	**12**	**30**
17:00-17:15	5	0	0	5	10
17:15-17:30	3	0	0	2	5
17:30-17:45	4	2	1	2	9
17:45-18:00	7	1	0	3	11
Total período	**19**	**3**	**1**	**12**	**35**
18:00-18:15	3	0	0	5	8
18:15-18:30	4	2	0	0	6
18:30-18:45	6	0	0	0	6
18:45-19:00	7	2	0	8	17
Total período	**20**	**4**	**0**	**13**	**37**
Total 12 horas	**407**	**38**	**7**	**151**	**603**

CUADRO Nº 5.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 2: Tránsito directo de Sur a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	360	16	6	27	409
07:15-07:30	574	19	7	24	624
07:30-07:45	488	15	9	21	533
07:45-08:00	547	4	4	27	582
Total período	**1.969**	**54**	**26**	**99**	**2.148**
08:00-08:15	444	16	2	21	483
08:15-08:30	489	14	4	22	529
08:30-08:45	413	10	3	27	453
08:45-09:00	229	12	7	24	272
Total período	**1.575**	**52**	**16**	**94**	**1.737**
09:00-09:15	282	11	13	25	331
09:15-09:30	194	14	11	19	238
09:30-09:45	156	11	10	13	190
09:45-10:00	188	7	5	10	210
Total período	**820**	**43**	**39**	**67**	**969**
10:00-10:15	152	7	8	22	189
10:15-10:30	184	5	2	12	203
10:30-10:45	160	3	1	7	171
10:45-11:00	137	8	10	17	172
Total período	**633**	**23**	**21**	**58**	**735**
11:00-11:15	174	11	7	13	205
11:15-11:30	140	4	7	15	166
11:30-11:45	157	9	9	14	189
11:45-12:00	137	11	7	14	169
Total período	**608**	**35**	**30**	**56**	**729**
12:00-12:15	156	8	6	19	189
12:15-12:30	143	7	7	27	184
12:30-12:45	154	10	5	20	189
12:45-13:00	180	18	3	20	221
Total período	**633**	**43**	**21**	**86**	**783**
13:00-13:15	194	7	4	19	224
13:15-13:30	173	11	4	16	204
13:30-13:45	149	11	5	12	177
13:45-14:00	144	15	7	12	178
Total período	**660**	**44**	**20**	**59**	**783**
14:00-14:15	179	12	11	17	219
14:15-14:30	150	6	12	10	178
14:30-14:45	133	9	7	10	159
14:45-15:00	146	14	5	19	184
Total período	**608**	**41**	**35**	**56**	**740**
15:00-15:15	151	6	5	15	177
15:15-15:30	142	15	6	18	181
15:30-15:45	183	16	5	21	225
15:45-16:00	152	15	2	15	184
Total período	**628**	**52**	**18**	**69**	**767**
16:00-16:15	198	10	6	23	237
16:15-16:30	181	15	5	23	224
16:30-16:45	181	18	6	22	227
16:45-17:00	184	9	7	20	220
Total período	**744**	**52**	**24**	**88**	**908**
17:00-17:15	204	9	6	20	239
17:15-17:30	179	7	6	23	215
17:30-17:45	174	6	10	22	212
17:45-18:00	259	9	4	23	295
Total período	**816**	**31**	**26**	**88**	**961**
18:00-18:15	251	9	3	24	287
18:15-18:30	241	12	5	24	282
18:30-18:45	285	13	5	21	324
18:45-19:00	243	13	10	27	293
Total período	**1.020**	**47**	**23**	**96**	**1.186**
Total 12 horas	**10.714**	**517**	**299**	**916**	**12.446**

CUADRO Nº 5.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 3: Viraje derecha de Sur a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	3	0	0	0	3
07:15-07:30	4	0	0	0	4
07:30-07:45	6	0	0	0	6
07:45-08:00	8	0	0	0	8
Total período	**21**	**0**	**0**	**0**	**21**
08:00-08:15	9	2	0	0	11
08:15-08:30	7	0	0	0	7
08:30-08:45	5	0	0	0	5
08:45-09:00	6	0	0	0	6
Total período	**27**	**2**	**0**	**0**	**29**
09:00-09:15	4	1	0	0	5
09:15-09:30	3	0	0	0	3
09:30-09:45	4	0	0	0	4
09:45-10:00	1	0	0	0	1
Total período	**12**	**1**	**0**	**0**	**13**
10:00-10:15	5	1	0	0	6
10:15-10:30	3	0	0	0	3
10:30-10:45	2	1	0	0	3
10:45-11:00	5	0	0	0	5
Total período	**15**	**2**	**0**	**0**	**17**
11:00-11:15	6	0	0	0	6
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	2	0	2	0	4
Total período	**8**	**0**	**2**	**0**	**10**
12:00-12:15	0	0	0	0	0
12:15-12:30	3	1	0	0	4
12:30-12:45	5	0	0	0	5
12:45-13:00	4	0	0	0	4
Total período	**12**	**1**	**0**	**0**	**13**
13:00-13:15	4	0	0	0	4
13:15-13:30	5	0	0	0	5
13:30-13:45	4	0	0	0	4
13:45-14:00	2	0	0	0	2
Total período	**15**	**0**	**0**	**0**	**15**
14:00-14:15	1	0	0	0	1
14:15-14:30	2	0	0	0	2
14:30-14:45	1	0	0	0	1
14:45-15:00	3	0	0	0	3
Total período	**7**	**0**	**0**	**0**	**7**
15:00-15:15	4	0	0	0	4
15:15-15:30	2	0	0	0	2
15:30-15:45	2	0	0	0	2
15:45-16:00	6	3	0	0	9
Total período	**14**	**3**	**0**	**0**	**17**
16:00-16:15	5	0	0	0	5
16:15-16:30	3	0	0	0	3
16:30-16:45	13	0	0	2	15
16:45-17:00	7	0	0	0	7
Total período	**28**	**0**	**0**	**2**	**30**
17:00-17:15	7	0	0	0	7
17:15-17:30	5	0	0	0	5
17:30-17:45	5	0	0	0	5
17:45-18:00	4	2	0	0	6
Total período	**21**	**2**	**0**	**0**	**23**
18:00-18:15	5	0	0	0	5
18:15-18:30	6	0	0	0	6
18:30-18:45	4	0	0	0	4
18:45-19:00	7	0	0	0	7
Total período	**22**	**0**	**0**	**0**	**22**
Total 12 horas	**202**	**11**	**2**	**2**	**217**

CUADRO Nº 5.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 4: Viraje izquierda de Oriente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	9	0	0	2	11
07:15-07:30	13	0	0	0	13
07:30-07:45	25	0	0	2	27
07:45-08:00	17	0	0	0	17
Total período	**64**	**0**	**0**	**4**	**68**
08:00-08:15	10	0	0	1	11
08:15-08:30	7	0	0	0	7
08:30-08:45	11	2	1	3	17
08:45-09:00	13	0	0	2	15
Total período	**41**	**2**	**1**	**6**	**50**
09:00-09:15	15	1	0	0	16
09:15-09:30	15	1	0	2	18
09:30-09:45	15	0	0	2	17
09:45-10:00	7	0	0	0	7
Total período	**52**	**2**	**0**	**4**	**58**
10:00-10:15	14	0	0	2	16
10:15-10:30	10	1	0	2	13
10:30-10:45	13	3	0	2	18
10:45-11:00	8	1	0	2	11
Total período	**45**	**5**	**0**	**8**	**58**
11:00-11:15	15	1	0	2	18
11:15-11:30	18	3	0	1	22
11:30-11:45	13	1	0	2	16
11:45-12:00	9	0	0	1	10
Total período	**55**	**5**	**0**	**6**	**66**
12:00-12:15	11	0	0	0	11
12:15-12:30	14	0	0	2	16
12:30-12:45	10	1	0	2	13
12:45-13:00	20	2	0	1	23
Total período	**55**	**3**	**0**	**5**	**63**
13:00-13:15	16	0	0	1	17
13:15-13:30	15	1	0	2	18
13:30-13:45	21	2	0	1	24
13:45-14:00	16	0	0	2	18
Total período	**68**	**3**	**0**	**6**	**77**
14:00-14:15	12	0	0	2	14
14:15-14:30	9	1	0	3	13
14:30-14:45	15	2	0	1	18
14:45-15:00	17	0	0	2	19
Total período	**53**	**3**	**0**	**8**	**64**
15:00-15:15	14	1	0	3	18
15:15-15:30	9	2	0	1	12
15:30-15:45	14	2	0	2	18
15:45-16:00	10	0	0	2	12
Total período	**47**	**5**	**0**	**8**	**60**
16:00-16:15	12	2	0	1	15
16:15-16:30	15	1	0	2	18
16:30-16:45	10	2	0	2	14
16:45-17:00	0	0	0	1	1
Total período	**37**	**5**	**0**	**6**	**48**
17:00-17:15	12	0	0	0	12
17:15-17:30	21	1	0	1	23
17:30-17:45	15	0	0	1	16
17:45-18:00	10	0	1	0	11
Total período	**58**	**1**	**1**	**2**	**62**
18:00-18:15	14	0	0	2	16
18:15-18:30	17	0	1	2	20
18:30-18:45	26	0	0	3	29
18:45-19:00	16	0	0	1	17
Total período	**73**	**0**	**1**	**8**	**82**
Total 12 horas	**648**	**34**	**3**	**71**	**756**

CUADRO Nº 5.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 5: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	59	0	0	0	59
07:15-07:30	36	0	0	0	36
07:30-07:45	30	0	0	0	30
07:45-08:00	23	1	0	0	24
Total período	**148**	**1**	**0**	**0**	**149**
08:00-08:15	45	0	0	0	45
08:15-08:30	29	2	0	0	31
08:30-08:45	23	0	1	0	24
08:45-09:00	15	0	0	0	15
Total período	**112**	**2**	**1**	**0**	**115**
09:00-09:15	15	0	0	0	15
09:15-09:30	25	0	1	0	26
09:30-09:45	10	0	1	0	11
09:45-10:00	8	0	0	0	8
Total período	**58**	**0**	**2**	**0**	**60**
10:00-10:15	11	2	1	0	14
10:15-10:30	12	1	2	0	15
10:30-10:45	11	0	0	0	11
10:45-11:00	8	0	0	0	8
Total período	**42**	**3**	**3**	**0**	**48**
11:00-11:15	9	1	0	2	12
11:15-11:30	13	3	0	1	17
11:30-11:45	8	1	0	2	11
11:45-12:00	7	0	0	1	8
Total período	**37**	**5**	**0**	**6**	**48**
12:00-12:15	13	1	0	0	14
12:15-12:30	9	3	0	0	12
12:30-12:45	20	1	0	0	21
12:45-13:00	19	6	1	0	26
Total período	**61**	**11**	**1**	**0**	**73**
13:00-13:15	18	1	0	0	19
13:15-13:30	16	0	0	0	16
13:30-13:45	19	0	0	0	19
13:45-14:00	17	0	0	0	17
Total período	**70**	**1**	**0**	**0**	**71**
14:00-14:15	12	0	0	0	12
14:15-14:30	15	0	0	1	16
14:30-14:45	10	0	0	0	10
14:45-15:00	8	0	0	0	8
Total período	**45**	**0**	**0**	**1**	**46**
15:00-15:15	9	4	0	0	13
15:15-15:30	12	0	0	0	12
15:30-15:45	18	1	0	0	19
15:45-16:00	6	2	0	0	8
Total período	**45**	**7**	**0**	**0**	**52**
16:00-16:15	13	2	1	0	16
16:15-16:30	15	1	0	0	16
16:30-16:45	12	3	0	0	15
16:45-17:00	16	1	0	0	17
Total período	**56**	**7**	**1**	**0**	**64**
17:00-17:15	19	0	0	0	19
17:15-17:30	22	3	0	0	25
17:30-17:45	25	0	0	0	25
17:45-18:00	28	0	0	0	28
Total período	**94**	**3**	**0**	**0**	**97**
18:00-18:15	18	0	0	0	18
18:15-18:30	16	2	0	0	18
18:30-18:45	21	1	0	0	22
18:45-19:00	19	1	0	0	20
Total período	**74**	**4**	**0**	**0**	**78**
Total 12 horas	**842**	**44**	**8**	**7**	**901**

CUADRO Nº 5.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 6: Viraje derecha de Oriente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	92	0	0	0	92
07:15-07:30	66	1	0	0	67
07:30-07:45	80	0	0	0	80
07:45-08:00	58	0	0	0	58
Total período	**296**	**1**	**0**	**0**	**297**
08:00-08:15	73	0	0	0	73
08:15-08:30	70	0	0	0	70
08:30-08:45	56	3	0	0	59
08:45-09:00	49	1	1	0	51
Total período	**248**	**4**	**1**	**0**	**253**
09:00-09:15	55	4	1	0	60
09:15-09:30	76	0	1	0	77
09:30-09:45	42	1	0	0	43
09:45-10:00	34	2	0	0	36
Total período	**207**	**7**	**2**	**0**	**216**
10:00-10:15	40	2	2	0	44
10:15-10:30	32	0	0	0	32
10:30-10:45	42	1	2	0	45
10:45-11:00	34	2	0	0	36
Total período	**148**	**5**	**4**	**0**	**157**
11:00-11:15	33	0	1	0	34
11:15-11:30	31	0	1	0	32
11:30-11:45	35	0	0	0	35
11:45-12:00	45	2	0	0	47
Total período	**144**	**2**	**2**	**0**	**148**
12:00-12:15	26	2	2	0	30
12:15-12:30	40	0	3	0	43
12:30-12:45	49	1	0	0	50
12:45-13:00	48	0	1	0	49
Total período	**163**	**3**	**6**	**0**	**172**
13:00-13:15	51	1	0	0	52
13:15-13:30	49	1	0	0	50
13:30-13:45	53	2	0	0	55
13:45-14:00	52	2	1	0	55
Total período	**205**	**6**	**1**	**0**	**212**
14:00-14:15	41	0	0	0	41
14:15-14:30	36	1	1	0	38
14:30-14:45	27	1	2	0	30
14:45-15:00	27	2	0	0	29
Total período	**131**	**4**	**3**	**0**	**138**
15:00-15:15	34	0	0	0	34
15:15-15:30	36	1	1	0	38
15:30-15:45	41	1	3	0	45
15:45-16:00	38	3	0	0	41
Total período	**149**	**5**	**4**	**0**	**158**
16:00-16:15	35	1	2	0	38
16:15-16:30	39	1	2	0	42
16:30-16:45	36	0	0	0	36
16:45-17:00	41	3	0	0	44
Total período	**151**	**5**	**4**	**0**	**160**
17:00-17:15	37	0	0	0	37
17:15-17:30	45	0	1	2	48
17:30-17:45	44	0	0	0	44
17:45-18:00	47	1	1	0	49
Total período	**173**	**1**	**2**	**2**	**178**
18:00-18:15	58	1	0	0	59
18:15-18:30	39	2	0	0	41
18:30-18:45	45	1	0	0	46
18:45-19:00	43	0	0	0	43
Total período	**185**	**4**	**0**	**0**	**189**
Total 12 horas	**2.200**	**47**	**29**	**2**	**2.278**

CUADRO Nº 5.7

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 7: Viraje izquierda de Norte a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	20	1	1	0	22
07:15-07:30	23	0	0	0	23
07:30-07:45	27	0	0	0	27
07:45-08:00	22	1	1	0	24
Total período	**92**	**2**	**2**	**0**	**96**
08:00-08:15	48	0	0	0	48
08:15-08:30	36	0	1	0	37
08:30-08:45	40	1	0	0	41
08:45-09:00	20	0	0	0	20
Total período	**144**	**1**	**1**	**0**	**146**
09:00-09:15	22	0	0	0	22
09:15-09:30	23	0	0	0	23
09:30-09:45	19	0	0	0	19
09:45-10:00	41	2	0	0	43
Total período	**105**	**2**	**0**	**0**	**107**
10:00-10:15	18	0	0	0	18
10:15-10:30	21	2	0	0	23
10:30-10:45	24	1	0	0	25
10:45-11:00	12	0	0	0	12
Total período	**75**	**3**	**0**	**0**	**78**
11:00-11:15	15	0	0	0	15
11:15-11:30	30	0	1	0	31
11:30-11:45	20	1	1	0	22
11:45-12:00	16	0	0	0	16
Total período	**81**	**1**	**2**	**0**	**84**
12:00-12:15	30	1	0	0	31
12:15-12:30	30	0	0	0	30
12:30-12:45	26	0	0	0	26
12:45-13:00	21	0	0	0	21
Total período	**107**	**1**	**0**	**0**	**108**
13:00-13:15	30	1	2	0	33
13:15-13:30	23	0	0	0	23
13:30-13:45	25	0	0	0	25
13:45-14:00	21	0	0	0	21
Total período	**99**	**1**	**2**	**0**	**102**
14:00-14:15	55	2	0	0	57
14:15-14:30	24	2	2	0	28
14:30-14:45	21	2	0	1	24
14:45-15:00	25	0	0	0	25
Total período	**125**	**6**	**2**	**1**	**134**
15:00-15:15	25	0	0	0	25
15:15-15:30	30	2	0	0	32
15:30-15:45	26	0	0	0	26
15:45-16:00	27	0	0	0	27
Total período	**108**	**2**	**0**	**0**	**110**
16:00-16:15	32	0	0	0	32
16:15-16:30	28	1	0	0	29
16:30-16:45	24	2	0	0	26
16:45-17:00	33	0	0	0	33
Total período	**117**	**3**	**0**	**0**	**120**
17:00-17:15	31	0	0	0	31
17:15-17:30	20	0	0	0	20
17:30-17:45	35	0	0	0	35
17:45-18:00	25	0	0	0	25
Total período	**111**	**0**	**0**	**0**	**111**
18:00-18:15	8	0	0	0	8
18:15-18:30	45	1	1	0	47
18:30-18:45	35	0	5	0	40
18:45-19:00	48	1	0	0	49
Total período	**136**	**2**	**6**	**0**	**144**
Total 12 horas	**1.300**	**24**	**15**	**1**	**1.340**

CUADRO Nº 5.8

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 8: Tránsito directo de Norte a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	95	11	4	20	130
07:15-07:30	95	5	7	16	123
07:30-07:45	288	9	13	32	342
07:45-08:00	285	11	10	20	326
Total período	**763**	**36**	**34**	**88**	**921**
08:00-08:15	332	9	14	22	377
08:15-08:30	218	6	8	17	249
08:30-08:45	325	11	11	29	376
08:45-09:00	200	4	8	21	233
Total período	**1.075**	**30**	**41**	**89**	**1.235**
09:00-09:15	225	9	16	29	279
09:15-09:30	185	9	10	30	234
09:30-09:45	200	9	15	9	233
09:45-10:00	224	3	15	32	274
Total período	**834**	**30**	**56**	**100**	**1.020**
10:00-10:15	262	14	15	46	337
10:15-10:30	121	10	9	17	157
10:30-10:45	155	3	5	17	180
10:45-11:00	140	10	16	23	189
Total período	**678**	**37**	**45**	**103**	**863**
11:00-11:15	177	7	8	12	204
11:15-11:30	144	7	8	20	179
11:30-11:45	201	9	9	21	240
11:45-12:00	307	7	7	8	329
Total período	**829**	**30**	**32**	**61**	**952**
12:00-12:15	237	17	6	6	266
12:15-12:30	269	9	11	6	295
12:30-12:45	251	7	9	5	272
12:45-13:00	247	8	15	7	277
Total período	**1.004**	**41**	**41**	**24**	**1.110**
13:00-13:15	217	7	19	11	254
13:15-13:30	194	8	14	13	229
13:30-13:45	155	10	11	10	186
13:45-14:00	141	10	11	10	172
Total período	**707**	**35**	**55**	**44**	**841**
14:00-14:15	150	10	7	28	195
14:15-14:30	183	11	2	11	207
14:30-14:45	253	6	8	17	284
14:45-15:00	158	10	7	21	196
Total período	**744**	**37**	**24**	**77**	**882**
15:00-15:15	139	11	13	13	176
15:15-15:30	155	6	8	14	183
15:30-15:45	177	7	6	11	201
15:45-16:00	167	8	10	12	197
Total período	**638**	**32**	**37**	**50**	**757**
16:00-16:15	201	25	6	14	246
16:15-16:30	194	10	7	13	224
16:30-16:45	174	8	4	16	202
16:45-17:00	218	6	4	12	240
Total período	**787**	**49**	**21**	**55**	**912**
17:00-17:15	255	3	4	13	275
17:15-17:30	258	12	6	13	289
17:30-17:45	214	0	0	15	229
17:45-18:00	90	2	2	10	104
Total período	**817**	**17**	**12**	**51**	**897**
18:00-18:15	199	13	10	14	236
18:15-18:30	195	4	8	12	219
18:30-18:45	227	10	6	17	260
18:45-19:00	259	12	8	23	302
Total período	**880**	**39**	**32**	**66**	**1.017**
Total 12 horas	**9.756**	**413**	**430**	**808**	**11.407**

CUADRO Nº 5.9

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 9: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	5	4	0	6	15
07:15-07:30	10	5	0	5	20
07:30-07:45	12	0	5	7	24
07:45-08:00	16	0	1	6	23
Total período	**43**	**9**	**6**	**24**	**82**
08:00-08:15	18	1	0	7	26
08:15-08:30	15	0	0	9	24
08:30-08:45	21	2	0	9	32
08:45-09:00	21	1	0	15	37
Total período	**75**	**4**	**0**	**40**	**119**
09:00-09:15	20	1	0	10	31
09:15-09:30	22	1	0	9	32
09:30-09:45	29	4	0	12	45
09:45-10:00	30	1	0	7	38
Total período	**101**	**7**	**0**	**38**	**146**
10:00-10:15	26	4	0	12	42
10:15-10:30	23	2	0	5	30
10:30-10:45	18	0	0	5	23
10:45-11:00	18	3	0	7	28
Total período	**85**	**9**	**0**	**29**	**123**
11:00-11:15	8	0	0	4	12
11:15-11:30	6	0	0	6	12
11:30-11:45	13	2	0	5	20
11:45-12:00	11	1	0	10	22
Total período	**38**	**3**	**0**	**25**	**66**
12:00-12:15	2	0	0	9	11
12:15-12:30	10	0	0	8	18
12:30-12:45	13	0	0	9	22
12:45-13:00	12	0	0	7	19
Total período	**37**	**0**	**0**	**33**	**70**
13:00-13:15	15	0	0	8	23
13:15-13:30	10	0	0	7	17
13:30-13:45	15	0	0	10	25
13:45-14:00	10	0	1	10	21
Total período	**50**	**0**	**1**	**35**	**86**
14:00-14:15	19	0	0	9	28
14:15-14:30	14	0	0	7	21
14:30-14:45	10	1	0	10	21
14:45-15:00	15	0	0	9	24
Total período	**58**	**1**	**0**	**35**	**94**
15:00-15:15	16	0	0	11	27
15:15-15:30	20	0	0	13	33
15:30-15:45	28	0	0	11	39
15:45-16:00	27	0	0	12	39
Total período	**91**	**0**	**0**	**47**	**138**
16:00-16:15	18	0	0	7	25
16:15-16:30	15	0	0	10	25
16:30-16:45	20	0	0	8	28
16:45-17:00	20	0	0	9	29
Total período	**73**	**0**	**0**	**34**	**107**
17:00-17:15	30	1	0	8	39
17:15-17:30	22	0	1	10	33
17:30-17:45	22	0	0	8	30
17:45-18:00	25	0	0	10	35
Total período	**99**	**1**	**1**	**36**	**137**
18:00-18:15	25	0	0	10	35
18:15-18:30	20	3	0	7	30
18:30-18:45	12	0	2	9	23
18:45-19:00	24	0	0	10	34
Total período	**81**	**3**	**2**	**36**	**122**
Total 12 horas	**831**	**37**	**10**	**412**	**1.290**

CUADRO Nº 5.10

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 10: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	22	0	0	4	26
07:15-07:30	35	0	0	8	43
07:30-07:45	37	1	0	10	48
07:45-08:00	31	0	0	4	35
Total período	**125**	**1**	**0**	**26**	**152**
08:00-08:15	35	0	0	12	47
08:15-08:30	28	0	0	7	35
08:30-08:45	28	2	0	9	39
08:45-09:00	20	0	0	7	27
Total período	**111**	**2**	**0**	**35**	**148**
09:00-09:15	30	2	0	10	42
09:15-09:30	25	1	0	9	35
09:30-09:45	36	1	0	6	43
09:45-10:00	23	2	0	8	33
Total período	**114**	**6**	**0**	**33**	**153**
10:00-10:15	26	2	1	10	39
10:15-10:30	21	1	0	8	30
10:30-10:45	21	2	0	8	31
10:45-11:00	17	0	0	6	23
Total período	**85**	**5**	**1**	**32**	**123**
11:00-11:15	14	1	0	8	23
11:15-11:30	13	0	0	9	22
11:30-11:45	12	1	0	6	19
11:45-12:00	12	0	1	4	17
Total período	**51**	**2**	**1**	**27**	**81**
12:00-12:15	21	2	0	5	28
12:15-12:30	15	1	0	1	17
12:30-12:45	20	2	0	11	33
12:45-13:00	21	2	0	7	30
Total período	**77**	**7**	**0**	**24**	**108**
13:00-13:15	20	0	0	5	25
13:15-13:30	11	4	0	6	21
13:30-13:45	27	0	0	6	33
13:45-14:00	25	1	0	10	36
Total período	**83**	**5**	**0**	**27**	**115**
14:00-14:15	28	0	1	7	36
14:15-14:30	26	0	0	6	32
14:30-14:45	19	0	0	8	27
14:45-15:00	15	0	1	6	22
Total período	**88**	**0**	**2**	**27**	**117**
15:00-15:15	28	4	1	6	39
15:15-15:30	24	0	0	4	28
15:30-15:45	17	0	0	6	23
15:45-16:00	18	1	0	6	25
Total período	**87**	**5**	**1**	**22**	**115**
16:00-16:15	28	0	0	5	33
16:15-16:30	29	2	0	8	39
16:30-16:45	25	1	0	4	30
16:45-17:00	23	2	2	6	33
Total período	**105**	**5**	**2**	**23**	**135**
17:00-17:15	30	2	0	9	41
17:15-17:30	22	1	1	7	31
17:30-17:45	19	0	0	8	27
17:45-18:00	24	0	0	0	24
Total período	**95**	**3**	**1**	**24**	**123**
18:00-18:15	20	0	0	6	26
18:15-18:30	22	2	0	7	31
18:30-18:45	18	1	0	4	23
18:45-19:00	35	0	0	7	42
Total período	**95**	**3**	**0**	**24**	**122**
Total 12 horas	**1.116**	**44**	**8**	**324**	**1.492**

CUADRO Nº 5.11

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 11: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	29	1	1	0	31
07:15-07:30	16	0	0	0	16
07:30-07:45	15	0	0	0	15
07:45-08:00	29	0	0	0	29
Total período	**89**	**1**	**1**	**0**	**91**
08:00-08:15	32	0	1	0	33
08:15-08:30	27	1	1	0	29
08:30-08:45	22	0	0	0	22
08:45-09:00	15	0	0	0	15
Total período	**96**	**1**	**2**	**0**	**99**
09:00-09:15	16	0	1	0	17
09:15-09:30	12	0	1	0	13
09:30-09:45	13	2	0	0	15
09:45-10:00	11	0	0	0	11
Total período	**52**	**2**	**2**	**0**	**56**
10:00-10:15	8	1	1	0	10
10:15-10:30	9	2	0	0	11
10:30-10:45	7	1	0	0	8
10:45-11:00	9	0	0	0	9
Total período	**33**	**4**	**1**	**0**	**38**
11:00-11:15	13	3	1	0	17
11:15-11:30	11	1	0	0	12
11:30-11:45	9	0	0	0	9
11:45-12:00	18	0	0	0	18
Total período	**51**	**4**	**1**	**0**	**56**
12:00-12:15	14	0	0	0	14
12:15-12:30	19	1	0	0	20
12:30-12:45	21	1	0	0	22
12:45-13:00	20	1	0	0	21
Total período	**74**	**3**	**0**	**0**	**77**
13:00-13:15	15	0	0	0	15
13:15-13:30	21	1	0	0	22
13:30-13:45	34	0	1	0	35
13:45-14:00	17	1	1	0	19
Total período	**87**	**2**	**2**	**0**	**91**
14:00-14:15	25	1	1	0	27
14:15-14:30	18	0	0	0	18
14:30-14:45	17	1	0	0	18
14:45-15:00	16	1	0	0	17
Total período	**76**	**3**	**1**	**0**	**80**
15:00-15:15	14	0	0	0	14
15:15-15:30	20	0	0	0	20
15:30-15:45	11	0	0	0	11
15:45-16:00	8	0	0	0	8
Total período	**53**	**0**	**0**	**0**	**53**
16:00-16:15	25	0	0	0	25
16:15-16:30	15	0	0	0	15
16:30-16:45	16	2	0	0	18
16:45-17:00	24	0	0	0	24
Total período	**80**	**2**	**0**	**0**	**82**
17:00-17:15	35	4	0	0	39
17:15-17:30	31	1	0	0	32
17:30-17:45	20	0	0	0	20
17:45-18:00	25	0	0	0	25
Total período	**111**	**5**	**0**	**0**	**116**
18:00-18:15	17	0	0	0	17
18:15-18:30	17	1	0	0	18
18:30-18:45	15	0	0	1	16
18:45-19:00	29	1	2	0	32
Total período	**78**	**2**	**2**	**1**	**83**
Total 12 horas	**880**	**29**	**12**	**1**	**922**

CUADRO Nº 5.12

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	5
Intersección	:	Av. Camilo Henríquez / Av. Diego Portales
Duración	:	12 horas

Movimiento 12: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	7	0	0	5	12
07:15-07:30	8	1	0	4	13
07:30-07:45	11	1	0	3	15
07:45-08:00	8	0	0	2	10
Total período	**34**	**2**	**0**	**14**	**50**
08:00-08:15	15	0	0	4	19
08:15-08:30	7	2	0	1	10
08:30-08:45	5	1	0	2	8
08:45-09:00	10	1	0	1	12
Total período	**37**	**4**	**0**	**8**	**49**
09:00-09:15	15	1	0	5	21
09:15-09:30	8	0	0	7	15
09:30-09:45	5	1	0	4	10
09:45-10:00	5	1	0	3	9
Total período	**33**	**3**	**0**	**19**	**55**
10:00-10:15	4	0	0	2	6
10:15-10:30	4	1	0	3	8
10:30-10:45	15	0	1	2	18
10:45-11:00	7	0	0	2	9
Total período	**30**	**1**	**1**	**9**	**41**
11:00-11:15	8	0	0	5	13
11:15-11:30	5	2	0	3	10
11:30-11:45	2	0	0	3	5
11:45-12:00	9	2	1	2	14
Total período	**24**	**4**	**1**	**13**	**42**
12:00-12:15	9	0	0	1	10
12:15-12:30	7	0	0	3	10
12:30-12:45	7	0	0	4	11
12:45-13:00	12	0	2	3	17
Total período	**35**	**0**	**2**	**11**	**48**
13:00-13:15	9	2	0	1	12
13:15-13:30	3	1	0	3	7
13:30-13:45	11	1	0	4	16
13:45-14:00	6	1	0	4	11
Total período	**29**	**5**	**0**	**12**	**46**
14:00-14:15	8	1	0	3	12
14:15-14:30	7	1	0	3	11
14:30-14:45	7	2	0	4	13
14:45-15:00	5	0	0	3	8
Total período	**27**	**4**	**0**	**13**	**44**
15:00-15:15	6	0	0	2	8
15:15-15:30	15	1	0	5	21
15:30-15:45	8	0	0	2	10
15:45-16:00	6	0	0	1	7
Total período	**35**	**1**	**0**	**10**	**46**
16:00-16:15	8	1	0	3	12
16:15-16:30	3	1	1	3	8
16:30-16:45	6	0	0	1	7
16:45-17:00	9	0	0	2	11
Total período	**26**	**2**	**1**	**9**	**38**
17:00-17:15	9	0	0	3	12
17:15-17:30	5	0	1	2	8
17:30-17:45	10	0	0	4	14
17:45-18:00	8	0	0	4	12
Total período	**32**	**0**	**1**	**13**	**46**
18:00-18:15	5	0	0	4	9
18:15-18:30	4	0	0	3	7
18:30-18:45	3	0	0	5	8
18:45-19:00	3	0	0	4	7
Total período	**15**	**0**	**0**	**16**	**31**
Total 12 horas	**357**	**26**	**6**	**147**	**536**

CUADRO Nº 6.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	6
Intersección	:	Av. Camilo Henríquez / El Peñón
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Sur a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	10	7	0	2	19
07:15-07:30	3	3	0	4	10
07:30-07:45	18	2	1	7	28
07:45-08:00	35	7	0	2	44
Total período	**66**	**19**	**1**	**15**	**101**
08:00-08:15	20	4	3	2	29
08:15-08:30	16	7	1	1	25
08:30-08:45	23	3	3	3	32
08:45-09:00	20	0	1	4	25
Total período	**79**	**14**	**8**	**10**	**111**
09:00-09:15	18	1	0	6	25
09:15-09:30	7	0	0	0	7
09:30-09:45	10	3	5	3	21
09:45-10:00	11	1	0	0	12
Total período	**46**	**5**	**5**	**9**	**65**
10:00-10:15	10	4	1	6	21
10:15-10:30	10	0	0	0	10
10:30-10:45	17	0	2	1	20
10:45-11:00	9	1	2	1	13
Total período	**46**	**5**	**5**	**8**	**64**
11:00-11:15	12	3	3	7	25
11:15-11:30	10	4	1	0	15
11:30-11:45	6	1	0	3	10
11:45-12:00	5	6	2	7	20
Total período	**33**	**14**	**6**	**17**	**70**
12:00-12:15	20	0	2	2	24
12:15-12:30	8	1	0	1	10
12:30-12:45	7	1	0	1	9
12:45-13:00	7	1	3	3	14
Total período	**42**	**3**	**5**	**7**	**57**
13:00-13:15	10	5	0	3	18
13:15-13:30	6	0	0	5	11
13:30-13:45	2	0	1	5	8
13:45-14:00	0	0	0	5	5
Total período	**18**	**5**	**1**	**18**	**42**
14:00-14:15	7	5	1	1	14
14:15-14:30	3	0	0	1	4
14:30-14:45	6	1	0	0	7
14:45-15:00	3	3	0	0	6
Total período	**19**	**9**	**1**	**2**	**31**
15:00-15:15	12	2	1	4	19
15:15-15:30	3	1	0	2	6
15:30-15:45	2	0	2	4	8
15:45-16:00	12	0	1	2	15
Total período	**29**	**3**	**4**	**12**	**48**
16:00-16:15	3	2	3	2	10
16:15-16:30	16	0	1	3	20
16:30-16:45	13	0	0	2	15
16:45-17:00	10	0	0	2	12
Total período	**42**	**2**	**4**	**9**	**57**
17:00-17:15	7	1	1	3	12
17:15-17:30	5	0	1	2	8
17:30-17:45	17	0	0	3	20
17:45-18:00	12	0	0	1	13
Total período	**41**	**1**	**2**	**9**	**53**
18:00-18:15	17	0	1	1	19
18:15-18:30	20	0	0	1	21
18:30-18:45	22	0	1	2	25
18:45-19:00	20	0	0	1	21
Total período	**79**	**0**	**2**	**5**	**86**
Total 12 horas	**540**	**80**	**44**	**121**	**785**

CUADRO Nº 6.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	6
Intersección	:	Av. Camilo Henríquez / El Peñón
Duración	:	12 horas

Movimiento 2: Tránsito directo de Sur a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	120	19	16	15	170
07:15-07:30	140	18	27	12	197
07:30-07:45	147	15	7	5	174
07:45-08:00	127	18	9	8	162
Total período	**534**	**70**	**59**	**40**	**703**
08:00-08:15	117	8	21	3	149
08:15-08:30	164	6	11	6	187
08:30-08:45	170	5	14	6	195
08:45-09:00	93	6	35	13	147
Total período	**544**	**25**	**81**	**28**	**678**
09:00-09:15	121	17	20	7	165
09:15-09:30	70	5	5	4	84
09:30-09:45	87	7	20	6	120
09:45-10:00	87	9	12	3	111
Total período	**365**	**38**	**57**	**20**	**480**
10:00-10:15	82	12	15	8	117
10:15-10:30	60	10	9	5	84
10:30-10:45	95	7	7	5	114
10:45-11:00	101	3	13	2	119
Total período	**338**	**32**	**44**	**20**	**434**
11:00-11:15	124	13	27	5	169
11:15-11:30	72	2	6	5	85
11:30-11:45	66	7	15	8	96
11:45-12:00	87	7	20	15	129
Total período	**349**	**29**	**68**	**33**	**479**
12:00-12:15	85	11	9	8	113
12:15-12:30	56	6	8	8	78
12:30-12:45	69	19	10	8	106
12:45-13:00	75	5	11	2	93
Total período	**285**	**41**	**38**	**26**	**390**
13:00-13:15	89	15	5	4	113
13:15-13:30	94	8	14	4	120
13:30-13:45	77	14	15	10	116
13:45-14:00	72	5	30	8	115
Total período	**332**	**42**	**64**	**26**	**464**
14:00-14:15	40	21	25	11	97
14:15-14:30	52	18	13	5	88
14:30-14:45	60	10	6	5	81
14:45-15:00	57	9	9	2	77
Total período	**209**	**58**	**53**	**23**	**343**
15:00-15:15	55	7	16	6	84
15:15-15:30	59	6	17	4	86
15:30-15:45	51	3	12	3	69
15:45-16:00	75	10	12	6	103
Total período	**240**	**26**	**57**	**19**	**342**
16:00-16:15	85	10	18	5	118
16:15-16:30	95	16	18	5	134
16:30-16:45	54	10	9	2	75
16:45-17:00	81	5	12	7	105
Total período	**315**	**41**	**57**	**19**	**432**
17:00-17:15	99	7	17	9	132
17:15-17:30	78	10	5	6	99
17:30-17:45	115	5	19	7	146
17:45-18:00	104	14	7	2	127
Total período	**396**	**36**	**48**	**24**	**504**
18:00-18:15	130	7	16	10	163
18:15-18:30	125	8	20	4	157
18:30-18:45	134	11	12	7	164
18:45-19:00	122	7	5	11	145
Total período	**511**	**33**	**53**	**32**	**629**
Total 12 horas	**4.418**	**471**	**679**	**310**	**5.878**

CUADRO Nº 6.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	6
Intersección	:	Av. Camilo Henríquez / El Peñón
Duración	:	12 horas

Movimiento 3: Tránsito directo de Norte a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	60	10	15	20	105
07:15-07:30	75	40	50	40	205
07:30-07:45	65	35	35	35	170
07:45-08:00	115	35	25	35	210
Total período	**315**	**120**	**125**	**130**	**690**
08:00-08:15	80	50	25	30	185
08:15-08:30	105	30	30	35	200
08:30-08:45	85	30	35	30	180
08:45-09:00	75	25	33	27	160
Total período	**345**	**135**	**123**	**122**	**725**
09:00-09:15	75	35	35	30	175
09:15-09:30	62	16	13	18	109
09:30-09:45	80	18	17	13	128
09:45-10:00	73	7	9	10	99
Total período	**290**	**76**	**74**	**71**	**511**
10:00-10:15	50	15	5	12	82
10:15-10:30	60	13	15	16	104
10:30-10:45	60	17	18	7	102
10:45-11:00	55	7	8	6	76
Total período	**225**	**52**	**46**	**41**	**364**
11:00-11:15	60	15	10	10	95
11:15-11:30	80	10	11	5	106
11:30-11:45	55	15	15	10	95
11:45-12:00	42	12	7	5	66
Total período	**237**	**52**	**43**	**30**	**362**
12:00-12:15	45	10	6	7	68
12:15-12:30	47	2	3	5	57
12:30-12:45	62	7	5	8	82
12:45-13:00	69	12	8	8	97
Total período	**223**	**31**	**22**	**28**	**304**
13:00-13:15	30	7	7	8	52
13:15-13:30	47	5	5	9	66
13:30-13:45	59	3	3	4	69
13:45-14:00	42	3	3	16	64
Total período	**178**	**18**	**18**	**37**	**251**
14:00-14:15	50	6	3	5	64
14:15-14:30	74	10	2	11	97
14:30-14:45	42	3	6	6	57
14:45-15:00	48	6	4	6	64
Total período	**214**	**25**	**15**	**28**	**282**
15:00-15:15	60	9	5	5	79
15:15-15:30	48	5	3	6	62
15:30-15:45	59	7	2	5	73
15:45-16:00	63	10	6	2	81
Total período	**230**	**31**	**16**	**18**	**295**
16:00-16:15	87	4	5	4	100
16:15-16:30	87	6	11	7	111
16:30-16:45	91	5	4	4	104
16:45-17:00	92	13	11	3	119
Total período	**357**	**28**	**31**	**18**	**434**
17:00-17:15	72	11	3	6	92
17:15-17:30	64	12	11	5	92
17:30-17:45	89	11	7	6	113
17:45-18:00	85	15	5	7	112
Total período	**310**	**49**	**26**	**24**	**409**
18:00-18:15	71	8	9	7	95
18:15-18:30	117	10	14	9	150
18:30-18:45	130	6	8	6	150
18:45-19:00	91	3	5	3	102
Total período	**409**	**27**	**36**	**25**	**497**
Total 12 horas	**3.333**	**644**	**575**	**572**	**5.124**

CUADRO Nº 6.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	6
Intersección	:	Av. Camilo Henríquez / El Peñón
Duración	:	12 horas

Movimiento 4: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	75	15	5	60	155
07:15-07:30	70	20	7	45	142
07:30-07:45	70	25	2	44	141
07:45-08:00	85	21	0	42	148
Total período	**300**	**81**	**14**	**191**	**586**
08:00-08:15	67	30	10	25	132
08:15-08:30	65	33	14	35	147
08:30-08:45	70	15	25	32	142
08:45-09:00	35	13	8	27	83
Total período	**237**	**91**	**57**	**119**	**504**
09:00-09:15	52	15	0	24	91
09:15-09:30	42	10	0	13	65
09:30-09:45	34	10	0	14	58
09:45-10:00	22	5	0	10	37
Total período	**150**	**40**	**0**	**61**	**251**
10:00-10:15	25	8	3	10	46
10:15-10:30	33	5	5	5	48
10:30-10:45	20	10	7	7	44
10:45-11:00	23	0	6	10	39
Total período	**101**	**23**	**21**	**32**	**177**
11:00-11:15	45	7	10	10	72
11:15-11:30	42	10	8	11	71
11:30-11:45	27	8	5	10	50
11:45-12:00	32	12	9	6	59
Total período	**146**	**37**	**32**	**37**	**252**
12:00-12:15	22	8	0	7	37
12:15-12:30	28	5	0	6	39
12:30-12:45	33	7	0	7	47
12:45-13:00	34	8	0	9	51
Total período	**117**	**28**	**0**	**29**	**174**
13:00-13:15	28	10	2	10	50
13:15-13:30	22	10	5	11	48
13:30-13:45	27	4	0	6	37
13:45-14:00	24	2	0	11	37
Total período	**101**	**26**	**7**	**38**	**172**
14:00-14:15	42	5	2	8	57
14:15-14:30	46	2	4	5	57
14:30-14:45	26	3	3	2	34
14:45-15:00	28	6	5	6	45
Total período	**142**	**16**	**14**	**21**	**193**
15:00-15:15	31	3	2	5	41
15:15-15:30	28	0	0	5	33
15:30-15:45	22	7	1	8	38
15:45-16:00	26	6	0	8	40
Total período	**107**	**16**	**3**	**26**	**152**
16:00-16:15	54	2	3	7	66
16:15-16:30	62	7	4	8	81
16:30-16:45	73	10	2	9	94
16:45-17:00	61	11	3	9	84
Total período	**250**	**30**	**12**	**33**	**325**
17:00-17:15	71	5	3	5	84
17:15-17:30	61	10	3	5	79
17:30-17:45	74	5	7	7	93
17:45-18:00	70	7	2	6	85
Total período	**276**	**27**	**15**	**23**	**341**
18:00-18:15	71	5	6	10	92
18:15-18:30	81	6	3	8	98
18:30-18:45	127	3	1	7	138
18:45-19:00	64	6	2	6	78
Total período	**343**	**20**	**12**	**31**	**406**
Total 12 horas	**2.270**	**435**	**187**	**641**	**3.533**

CUADRO Nº 6.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	6
Intersección	:	Av. Camilo Henríquez / El Peñón
Duración	:	12 horas

Movimiento 5: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	112	22	4	12	150
07:15-07:30	101	17	1	7	126
07:30-07:45	113	17	2	10	142
07:45-08:00	100	9	0	9	118
Total período	**426**	**65**	**7**	**38**	**536**
08:00-08:15	86	16	3	8	113
08:15-08:30	143	6	6	7	162
08:30-08:45	115	5	2	10	132
08:45-09:00	67	3	1	16	87
Total período	**411**	**30**	**12**	**41**	**494**
09:00-09:15	90	8	0	11	109
09:15-09:30	49	1	1	4	55
09:30-09:45	69	3	3	11	86
09:45-10:00	48	3	1	5	57
Total período	**256**	**15**	**5**	**31**	**307**
10:00-10:15	65	3	0	9	77
10:15-10:30	45	1	2	10	58
10:30-10:45	65	3	1	9	78
10:45-11:00	30	0	0	3	33
Total período	**205**	**7**	**3**	**31**	**246**
11:00-11:15	62	8	0	10	80
11:15-11:30	73	5	6	9	93
11:30-11:45	48	2	2	9	61
11:45-12:00	42	7	6	5	60
Total período	**225**	**22**	**14**	**33**	**294**
12:00-12:15	40	2	0	10	52
12:15-12:30	37	2	0	10	49
12:30-12:45	66	5	3	9	83
12:45-13:00	32	11	1	4	48
Total período	**175**	**20**	**4**	**33**	**232**
13:00-13:15	65	3	0	9	77
13:15-13:30	57	3	0	11	71
13:30-13:45	50	6	6	8	70
13:45-14:00	72	0	0	7	79
Total período	**244**	**12**	**6**	**35**	**297**
14:00-14:15	30	11	5	10	56
14:15-14:30	42	7	1	8	58
14:30-14:45	30	2	8	4	44
14:45-15:00	31	6	12	6	55
Total período	**133**	**26**	**26**	**28**	**213**
15:00-15:15	23	6	3	11	43
15:15-15:30	63	2	3	10	78
15:30-15:45	43	1	1	7	52
15:45-16:00	54	2	3	5	64
Total período	**183**	**11**	**10**	**33**	**237**
16:00-16:15	66	2	7	11	86
16:15-16:30	58	2	2	8	70
16:30-16:45	49	1	1	4	55
16:45-17:00	59	3	0	6	68
Total período	**232**	**8**	**10**	**29**	**279**
17:00-17:15	62	1	2	9	74
17:15-17:30	57	0	1	8	66
17:30-17:45	75	4	2	5	86
17:45-18:00	55	1	1	6	63
Total período	**249**	**6**	**6**	**28**	**289**
18:00-18:15	60	5	1	12	78
18:15-18:30	63	4	0	6	73
18:30-18:45	80	0	1	7	88
18:45-19:00	118	1	1	10	130
Total período	**321**	**10**	**3**	**35**	**369**
Total 12 horas	**3.060**	**232**	**106**	**395**	**3.793**

CUADRO Nº 6.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	6
Intersección	:	Av. Camilo Henríquez / El Peñón
Duración	:	12 horas

Movimiento 6: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	45	16	1	0	62
07:15-07:30	70	18	0	0	88
07:30-07:45	60	20	0	0	80
07:45-08:00	50	15	0	0	65
Total período	**225**	**69**	**1**	**0**	**295**
08:00-08:15	38	5	0	0	43
08:15-08:30	45	20	0	2	67
08:30-08:45	40	15	0	2	57
08:45-09:00	38	5	0	1	44
Total período	**161**	**45**	**0**	**5**	**211**
09:00-09:15	25	13	0	5	43
09:15-09:30	28	10	1	0	39
09:30-09:45	20	7	0	1	28
09:45-10:00	15	0	0	2	17
Total período	**88**	**30**	**1**	**8**	**127**
10:00-10:15	10	5	0	2	17
10:15-10:30	13	3	0	0	16
10:30-10:45	20	4	0	2	26
10:45-11:00	15	5	0	2	22
Total período	**58**	**17**	**0**	**6**	**81**
11:00-11:15	31	3	2	2	38
11:15-11:30	17	5	5	0	27
11:30-11:45	15	7	5	3	30
11:45-12:00	14	4	3	2	23
Total período	**77**	**19**	**15**	**7**	**118**
12:00-12:15	20	1	0	1	22
12:15-12:30	23	3	0	2	28
12:30-12:45	15	5	0	0	20
12:45-13:00	22	2	0	1	25
Total período	**80**	**11**	**0**	**4**	**95**
13:00-13:15	13	2	0	1	16
13:15-13:30	11	4	1	2	18
13:30-13:45	7	0	3	1	11
13:45-14:00	9	1	0	3	13
Total período	**40**	**7**	**4**	**7**	**58**
14:00-14:15	10	2	3	2	17
14:15-14:30	7	4	0	3	14
14:30-14:45	3	5	1	0	9
14:45-15:00	2	2	0	0	4
Total período	**22**	**13**	**4**	**5**	**44**
15:00-15:15	10	0	0	2	12
15:15-15:30	12	0	0	1	13
15:30-15:45	10	2	0	2	14
15:45-16:00	12	5	2	1	20
Total período	**44**	**7**	**2**	**6**	**59**
16:00-16:15	10	1	0	2	13
16:15-16:30	6	0	1	2	9
16:30-16:45	12	3	2	5	22
16:45-17:00	10	1	2	3	16
Total período	**38**	**5**	**5**	**12**	**60**
17:00-17:15	7	2	0	2	11
17:15-17:30	8	1	2	2	13
17:30-17:45	7	3	3	3	16
17:45-18:00	10	5	2	2	19
Total período	**32**	**11**	**7**	**9**	**59**
18:00-18:15	11	2	0	5	18
18:15-18:30	6	4	3	3	16
18:30-18:45	13	4	0	2	19
18:45-19:00	6	1	2	3	12
Total período	**36**	**11**	**5**	**13**	**65**
Total 12 horas	**901**	**245**	**44**	**82**	**1.272**

CUADRO Nº 7.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	7
Intersección	:	Av. Camilo Henríquez / Eyzaguirre
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Oriente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	7	0	1	2	10
07:15-07:30	14	1	0	5	20
07:30-07:45	14	1	0	2	17
07:45-08:00	20	0	0	2	22
Total período	**55**	**2**	**1**	**11**	**69**
08:00-08:15	13	2	1	2	18
08:15-08:30	14	1	5	4	24
08:30-08:45	35	1	4	5	45
08:45-09:00	25	5	8	2	40
Total período	**87**	**9**	**18**	**13**	**127**
09:00-09:15	10	1	5	3	19
09:15-09:30	8	0	3	5	16
09:30-09:45	12	2	3	1	18
09:45-10:00	10	0	3	1	14
Total período	**40**	**3**	**14**	**10**	**67**
10:00-10:15	3	0	0	1	4
10:15-10:30	8	1	1	1	11
10:30-10:45	12	3	3	2	20
10:45-11:00	14	0	0	4	18
Total período	**37**	**4**	**4**	**8**	**53**
11:00-11:15	7	1	2	0	10
11:15-11:30	10	0	0	1	11
11:30-11:45	6	4	3	1	14
11:45-12:00	5	5	1	0	11
Total período	**5**	**10**	**6**	**2**	**23**
12:00-12:15	10	0	1	1	12
12:15-12:30	6	0	0	0	6
12:30-12:45	17	2	3	2	24
12:45-13:00	16	2	2	2	22
Total período	**49**	**4**	**6**	**5**	**64**
13:00-13:15	15	0	0	2	17
13:15-13:30	16	2	0	2	20
13:30-13:45	6	0	1	1	8
13:45-14:00	4	1	2	0	7
Total período	**41**	**3**	**3**	**5**	**52**
14:00-14:15	6	0	2	1	9
14:15-14:30	7	0	2	1	10
14:30-14:45	7	1	2	1	11
14:45-15:00	12	2	0	2	16
Total período	**32**	**3**	**6**	**5**	**46**
15:00-15:15	13	0	2	2	17
15:15-15:30	9	1	4	3	17
15:30-15:45	5	2	0	0	7
15:45-16:00	22	1	6	1	30
Total período	**49**	**4**	**12**	**6**	**71**
16:00-16:15	17	2	2	2	23
16:15-16:30	13	2	7	3	25
16:30-16:45	10	5	6	2	23
16:45-17:00	9	5	2	2	18
Total período	**49**	**14**	**17**	**9**	**89**
17:00-17:15	25	0	8	1	34
17:15-17:30	7	0	2	0	9
17:30-17:45	24	0	1	1	26
17:45-18:00	13	1	3	1	18
Total período	**69**	**1**	**14**	**3**	**87**
18:00-18:15	12	2	4	3	21
18:15-18:30	7	1	0	0	8
18:30-18:45	5	1	3	1	10
18:45-19:00	7	0	1	1	9
Total período	**31**	**4**	**8**	**5**	**48**
Total 12 horas	**544**	**61**	**109**	**82**	**796**

CUADRO Nº 7.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	7
Intersección	:	Av. Camilo Henríquez / Eyzaguirre
Duración	:	12 horas

Movimiento 2: Tránsito directo de Oriente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	60	5	5	6	76
07:15-07:30	85	6	8	9	108
07:30-07:45	113	6	2	5	126
07:45-08:00	105	3	4	3	115
Total período	**363**	**20**	**19**	**23**	**425**
08:00-08:15	107	1	3	6	117
08:15-08:30	112	2	6	6	126
08:30-08:45	150	4	9	7	170
08:45-09:00	68	8	11	6	93
Total período	**437**	**15**	**29**	**25**	**506**
09:00-09:15	74	3	10	8	95
09:15-09:30	63	4	3	3	73
09:30-09:45	58	4	10	5	77
09:45-10:00	52	6	6	4	68
Total período	**247**	**17**	**29**	**20**	**313**
10:00-10:15	52	2	1	5	60
10:15-10:30	42	4	3	6	55
10:30-10:45	65	5	7	10	87
10:45-11:00	59	3	10	15	87
Total período	**218**	**14**	**21**	**36**	**289**
11:00-11:15	57	4	5	2	68
11:15-11:30	53	2	6	3	64
11:30-11:45	29	8	13	3	53
11:45-12:00	27	8	3	3	41
Total período	**166**	**22**	**27**	**11**	**226**
12:00-12:15	43	9	3	8	63
12:15-12:30	54	0	6	1	61
12:30-12:45	41	6	6	6	59
12:45-13:00	43	13	3	6	65
Total período	**181**	**28**	**18**	**21**	**248**
13:00-13:15	52	2	4	5	63
13:15-13:30	45	5	2	4	56
13:30-13:45	52	10	4	3	69
13:45-14:00	35	3	4	7	49
Total período	**184**	**20**	**14**	**19**	**237**
14:00-14:15	30	5	7	5	47
14:15-14:30	34	4	5	3	46
14:30-14:45	37	4	4	2	47
14:45-15:00	27	4	4	3	38
Total período	**128**	**17**	**20**	**13**	**178**
15:00-15:15	40	2	2	1	45
15:15-15:30	32	6	4	6	48
15:30-15:45	34	5	3	3	45
15:45-16:00	57	3	6	1	67
Total período	**163**	**16**	**15**	**11**	**205**
16:00-16:15	44	6	7	3	60
16:15-16:30	39	4	9	3	55
16:30-16:45	38	12	4	2	56
16:45-17:00	53	5	7	3	68
Total período	**174**	**27**	**27**	**11**	**239**
17:00-17:15	55	4	9	3	71
17:15-17:30	23	0	1	1	25
17:30-17:45	60	2	1	1	64
17:45-18:00	35	1	2	1	39
Total período	**173**	**7**	**13**	**6**	**199**
18:00-18:15	50	3	5	2	60
18:15-18:30	55	1	5	3	64
18:30-18:45	57	4	3	2	66
18:45-19:00	42	2	1	4	49
Total período	**204**	**10**	**14**	**11**	**239**
Total 12 horas	**2.638**	**213**	**246**	**207**	**3.304**

CUADRO Nº 7.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	7
Intersección	:	Av. Camilo Henríquez / Eyzaguirre
Duración	:	12 horas

Movimiento 3: Tránsito directo de Norponiente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	10	4	2	6	22
07:15-07:30	28	2	4	3	37
07:30-07:45	37	7	6	5	55
07:45-08:00	46	5	5	6	62
Total período	**121**	**18**	**17**	**20**	**176**
08:00-08:15	69	6	3	7	85
08:15-08:30	84	11	9	5	109
08:30-08:45	36	5	6	4	51
08:45-09:00	30	5	6	3	44
Total período	**219**	**27**	**24**	**19**	**289**
09:00-09:15	33	2	6	3	44
09:15-09:30	35	5	4	9	53
09:30-09:45	34	4	5	10	53
09:45-10:00	38	10	5	18	71
Total período	**140**	**21**	**20**	**40**	**221**
10:00-10:15	36	5	5	6	52
10:15-10:30	42	5	2	8	57
10:30-10:45	47	8	5	4	64
10:45-11:00	35	3	3	6	47
Total período	**160**	**21**	**15**	**24**	**220**
11:00-11:15	39	7	5	4	55
11:15-11:30	39	3	4	3	49
11:30-11:45	43	2	3	5	53
11:45-12:00	42	2	2	5	51
Total período	**163**	**14**	**14**	**17**	**208**
12:00-12:15	33	4	6	4	47
12:15-12:30	31	3	4	4	42
12:30-12:45	45	3	2	1	51
12:45-13:00	34	15	2	2	53
Total período	**143**	**25**	**14**	**11**	**193**
13:00-13:15	36	4	4	3	47
13:15-13:30	30	2	3	0	35
13:30-13:45	33	11	2	4	50
13:45-14:00	34	5	6	2	47
Total período	**133**	**22**	**15**	**9**	**179**
14:00-14:15	41	2	2	5	50
14:15-14:30	42	4	2	4	52
14:30-14:45	30	5	1	2	38
14:45-15:00	25	4	4	3	36
Total período	**138**	**15**	**9**	**14**	**176**
15:00-15:15	40	13	0	4	57
15:15-15:30	44	8	3	2	57
15:30-15:45	52	3	5	3	63
15:45-16:00	41	2	5	2	50
Total período	**177**	**26**	**13**	**11**	**227**
16:00-16:15	54	6	2	3	65
16:15-16:30	42	7	1	2	52
16:30-16:45	38	3	1	4	46
16:45-17:00	38	6	1	3	48
Total período	**172**	**22**	**5**	**12**	**211**
17:00-17:15	48	5	2	2	57
17:15-17:30	35	5	2	2	44
17:30-17:45	43	5	2	1	51
17:45-18:00	46	8	0	2	56
Total período	**172**	**23**	**6**	**7**	**208**
18:00-18:15	37	3	1	3	44
18:15-18:30	50	3	3	3	59
18:30-18:45	40	0	1	1	42
18:45-19:00	52	3	2	2	59
Total período	**179**	**9**	**7**	**9**	**204**
Total 12 horas	**1.917**	**243**	**159**	**193**	**2.512**

CUADRO Nº 7.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	7
Intersección	:	Av. Camilo Henríquez / Eyzaguirre
Duración	:	12 horas

Movimiento 4: Viraje derecha de Norponiente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	32	2	2	5	41
07:15-07:30	41	4	5	9	59
07:30-07:45	78	5	5	8	96
07:45-08:00	105	4	3	10	122
Total período	**256**	**15**	**15**	**32**	**318**
08:00-08:15	102	3	3	11	119
08:15-08:30	76	4	7	10	97
08:30-08:45	102	4	7	14	127
08:45-09:00	91	6	8	6	111
Total período	**371**	**17**	**25**	**41**	**454**
09:00-09:15	69	5	14	8	96
09:15-09:30	56	10	5	13	84
09:30-09:45	58	11	6	9	84
09:45-10:00	60	7	6	7	80
Total período	**243**	**33**	**31**	**37**	**344**
10:00-10:15	43	5	3	8	59
10:15-10:30	46	15	8	5	74
10:30-10:45	53	10	8	8	79
10:45-11:00	54	4	6	11	75
Total período	**196**	**34**	**25**	**32**	**287**
11:00-11:15	50	10	7	4	71
11:15-11:30	54	7	5	6	72
11:30-11:45	43	15	6	7	71
11:45-12:00	51	14	6	6	77
Total período	**198**	**46**	**24**	**23**	**291**
12:00-12:15	38	8	1	7	54
12:15-12:30	45	10	7	4	66
12:30-12:45	50	4	8	7	69
12:45-13:00	43	6	5	3	57
Total período	**176**	**28**	**21**	**21**	**246**
13:00-13:15	51	10	1	5	67
13:15-13:30	51	6	1	4	62
13:30-13:45	56	2	4	4	66
13:45-14:00	38	9	5	7	59
Total período	**196**	**27**	**11**	**20**	**254**
14:00-14:15	45	11	6	4	66
14:15-14:30	54	5	7	6	72
14:30-14:45	43	7	3	4	57
14:45-15:00	51	6	10	6	73
Total período	**193**	**29**	**26**	**20**	**268**
15:00-15:15	66	11	4	5	86
15:15-15:30	45	7	6	9	67
15:30-15:45	64	10	4	3	81
15:45-16:00	87	9	7	4	107
Total período	**262**	**37**	**21**	**21**	**341**
16:00-16:15	60	12	2	7	81
16:15-16:30	52	8	5	3	68
16:30-16:45	63	16	4	6	89
16:45-17:00	65	9	5	5	84
Total período	**240**	**45**	**16**	**21**	**322**
17:00-17:15	74	10	7	4	95
17:15-17:30	60	10	2	2	74
17:30-17:45	64	11	4	5	84
17:45-18:00	59	12	12	6	89
Total período	**257**	**43**	**25**	**17**	**342**
18:00-18:15	74	13	9	5	101
18:15-18:30	100	6	6	6	118
18:30-18:45	81	9	7	4	101
18:45-19:00	90	4	3	2	99
Total período	**345**	**32**	**25**	**17**	**419**
Total 12 horas	**2.933**	**386**	**265**	**302**	**3.886**

CUADRO Nº 7.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	7
Intersección	:	Av. Camilo Henríquez / Eyzaguirre
Duración	:	12 horas

Movimiento 5: Viraje izquierda de Surponiente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	59	7	4	8	78
07:15-07:30	78	8	7	5	98
07:30-07:45	62	7	1	5	75
07:45-08:00	64	10	1	4	79
Total período	**263**	**32**	**13**	**22**	**330**
08:00-08:15	67	2	4	6	79
08:15-08:30	68	7	2	5	82
08:30-08:45	61	10	4	5	80
08:45-09:00	34	8	2	9	53
Total período	**230**	**27**	**12**	**25**	**294**
09:00-09:15	33	9	5	4	51
09:15-09:30	35	6	6	5	52
09:30-09:45	43	5	4	6	58
09:45-10:00	37	7	6	3	53
Total período	**148**	**27**	**21**	**18**	**214**
10:00-10:15	35	5	6	5	51
10:15-10:30	23	7	5	5	40
10:30-10:45	34	5	0	2	41
10:45-11:00	42	6	1	2	51
Total período	**134**	**23**	**12**	**14**	**183**
11:00-11:15	42	5	4	1	52
11:15-11:30	39	6	3	4	52
11:30-11:45	30	7	3	6	46
11:45-12:00	39	8	0	5	52
Total período	**150**	**26**	**10**	**16**	**202**
12:00-12:15	34	10	0	5	49
12:15-12:30	39	3	4	8	54
12:30-12:45	29	1	1	3	34
12:45-13:00	21	2	1	1	25
Total período	**123**	**16**	**6**	**17**	**162**
13:00-13:15	37	5	1	4	47
13:15-13:30	29	3	1	3	36
13:30-13:45	31	4	1	4	40
13:45-14:00	27	10	2	3	42
Total período	**124**	**22**	**5**	**14**	**165**
14:00-14:15	36	10	5	2	53
14:15-14:30	30	3	2	2	37
14:30-14:45	36	12	4	3	55
14:45-15:00	35	4	1	3	43
Total período	**137**	**29**	**12**	**10**	**188**
15:00-15:15	27	4	1	2	34
15:15-15:30	26	7	4	2	39
15:30-15:45	37	2	4	3	46
15:45-16:00	35	8	3	3	49
Total período	**125**	**21**	**12**	**10**	**168**
16:00-16:15	35	5	2	3	45
16:15-16:30	43	5	4	3	55
16:30-16:45	37	3	1	1	42
16:45-17:00	35	3	1	3	42
Total período	**150**	**16**	**8**	**10**	**184**
17:00-17:15	37	3	3	0	43
17:15-17:30	5	2	0	1	8
17:30-17:45	43	2	5	2	52
17:45-18:00	22	2	5	0	29
Total período	**107**	**9**	**13**	**3**	**132**
18:00-18:15	36	2	1	1	40
18:15-18:30	33	1	3	0	37
18:30-18:45	52	0	2	3	57
18:45-19:00	75	0	0	2	77
Total período	**196**	**3**	**6**	**6**	**211**
Total 12 horas	**1.887**	**251**	**130**	**165**	**2.433**

CUADRO Nº 7.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	7
Intersección	:	Av. Camilo Henríquez / Eyzaguirre
Duración	:	12 horas

Movimiento 6: Viraje derecha de Surponiente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	16	0	3	4	23
07:15-07:30	10	2	1	3	16
07:30-07:45	9	3	1	3	16
07:45-08:00	20	0	1	1	22
Total período	**55**	**5**	**6**	**11**	**77**
08:00-08:15	27	1	5	2	35
08:15-08:30	48	3	0	2	53
08:30-08:45	18	1	5	1	25
08:45-09:00	15	1	0	1	17
Total período	**108**	**6**	**10**	**6**	**130**
09:00-09:15	12	1	4	4	21
09:15-09:30	12	1	2	5	20
09:30-09:45	12	2	2	1	17
09:45-10:00	13	1	2	2	18
Total período	**49**	**5**	**10**	**12**	**76**
10:00-10:15	14	2	2	3	21
10:15-10:30	12	0	8	2	22
10:30-10:45	15	1	0	2	18
10:45-11:00	11	3	1	2	17
Total período	**52**	**6**	**11**	**9**	**78**
11:00-11:15	14	3	0	2	19
11:15-11:30	14	1	2	2	19
11:30-11:45	12	6	2	5	25
11:45-12:00	10	0	4	6	20
Total período	**50**	**10**	**8**	**15**	**83**
12:00-12:15	15	4	4	2	25
12:15-12:30	9	1	2	2	14
12:30-12:45	20	2	2	4	28
12:45-13:00	23	5	1	0	29
Total período	**67**	**12**	**9**	**8**	**96**
13:00-13:15	28	1	4	3	36
13:15-13:30	16	1	4	1	22
13:30-13:45	12	2	3	2	19
13:45-14:00	19	1	8	1	29
Total período	**75**	**5**	**19**	**7**	**106**
14:00-14:15	20	2	2	1	25
14:15-14:30	18	1	2	2	23
14:30-14:45	21	8	5	2	36
14:45-15:00	18	0	3	2	23
Total período	**77**	**11**	**12**	**7**	**107**
15:00-15:15	18	2	5	3	28
15:15-15:30	21	1	4	3	29
15:30-15:45	31	0	4	1	36
15:45-16:00	20	5	2	1	28
Total período	**90**	**8**	**15**	**8**	**121**
16:00-16:15	21	3	2	4	30
16:15-16:30	17	1	4	1	23
16:30-16:45	24	2	3	4	33
16:45-17:00	22	5	1	1	29
Total período	**84**	**11**	**10**	**10**	**115**
17:00-17:15	20	3	1	4	28
17:15-17:30	20	5	2	3	30
17:30-17:45	14	3	1	0	18
17:45-18:00	18	2	0	2	22
Total período	**72**	**13**	**4**	**9**	**98**
18:00-18:15	26	2	1	1	30
18:15-18:30	14	0	3	1	18
18:30-18:45	31	1	1	3	36
18:45-19:00	20	1	0	2	23
Total período	**91**	**4**	**5**	**7**	**107**
Total 12 horas	**870**	**96**	**119**	**109**	**1.194**

CUADRO Nº 8.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	8
Intersección	:	Ruta G-25 / Acceso a Ruta G-421 (Las Vertientes)
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Sur a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	8	1	1	0	10
07:15-07:30	4	3	2	0	9
07:30-07:45	4	2	2	0	8
07:45-08:00	7	0	0	0	7
Total período	**23**	**6**	**5**	**0**	**34**
08:00-08:15	18	1	1	0	20
08:15-08:30	21	1	0	0	22
08:30-08:45	5	2	1	0	8
08:45-09:00	3	2	0	0	5
Total período	**47**	**6**	**2**	**0**	**55**
09:00-09:15	6	1	0	0	7
09:15-09:30	6	0	1	0	7
09:30-09:45	4	0	2	0	6
09:45-10:00	0	0	0	0	0
Total período	**16**	**1**	**3**	**0**	**20**
10:00-10:15	3	0	0	0	3
10:15-10:30	3	0	1	0	4
10:30-10:45	5	0	1	0	6
10:45-11:00	4	2	0	0	6
Total período	**15**	**2**	**2**	**0**	**19**
11:00-11:15	4	1	2	0	7
11:15-11:30	1	0	1	0	2
11:30-11:45	0	1	2	0	3
11:45-12:00	6	1	0	0	7
Total período	**11**	**3**	**5**	**0**	**19**
12:00-12:15	4	1	0	0	5
12:15-12:30	4	2	0	0	6
12:30-12:45	5	1	0	0	6
12:45-13:00	3	0	0	0	3
Total período	**16**	**4**	**0**	**0**	**20**
13:00-13:15	3	1	0	0	4
13:15-13:30	2	0	1	0	3
13:30-13:45	5	0	0	0	5
13:45-14:00	1	1	0	0	2
Total período	**11**	**2**	**1**	**0**	**14**
14:00-14:15	2	0	0	0	2
14:15-14:30	3	0	1	1	5
14:30-14:45	2	2	0	0	4
14:45-15:00	1	0	0	0	1
Total período	**8**	**2**	**1**	**1**	**12**
15:00-15:15	0	0	2	0	2
15:15-15:30	3	0	0	0	3
15:30-15:45	6	1	0	0	7
15:45-16:00	5	1	0	0	6
Total período	**14**	**2**	**2**	**0**	**18**
16:00-16:15	2	3	1	0	6
16:15-16:30	3	1	0	0	4
16:30-16:45	3	2	0	0	5
16:45-17:00	7	2	1	0	10
Total período	**15**	**8**	**2**	**0**	**25**
17:00-17:15	5	0	0	0	5
17:15-17:30	6	0	1	0	7
17:30-17:45	1	1	0	0	2
17:45-18:00	10	0	1	0	11
Total período	**22**	**1**	**2**	**0**	**25**
18:00-18:15	7	4	0	0	11
18:15-18:30	4	1	0	0	5
18:30-18:45	5	2	0	0	7
18:45-19:00	5	0	0	0	5
Total período	**21**	**7**	**0**	**0**	**28**
Total 12 horas	**219**	**44**	**25**	**1**	**289**

CUADRO Nº 8.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	8
Intersección	:	Ruta G-25 / Acceso a Ruta G-421 (Las Vertientes)
Duración	:	12 horas

Movimiento 2: Viraje derecha de Sur a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	1	0	0	2
07:15-07:30	2	0	0	0	2
07:30-07:45	1	0	0	0	1
07:45-08:00	2	0	0	0	2
Total período	**6**	**1**	**0**	**0**	**7**
08:00-08:15	1	0	0	0	1
08:15-08:30	2	0	0	0	2
08:30-08:45	4	0	0	0	4
08:45-09:00	6	0	0	0	6
Total período	**13**	**0**	**0**	**0**	**13**
09:00-09:15	2	0	0	0	2
09:15-09:30	2	1	0	0	3
09:30-09:45	3	2	0	0	5
09:45-10:00	6	1	0	0	7
Total período	**13**	**4**	**0**	**0**	**17**
10:00-10:15	2	0	0	0	2
10:15-10:30	4	0	0	0	4
10:30-10:45	1	0	0	0	1
10:45-11:00	0	0	0	0	0
Total período	**7**	**0**	**0**	**0**	**7**
11:00-11:15	1	0	0	0	1
11:15-11:30	1	0	0	0	1
11:30-11:45	1	0	0	0	1
11:45-12:00	1	1	0	0	2
Total período	**4**	**1**	**0**	**0**	**5**
12:00-12:15	1	0	0	0	1
12:15-12:30	2	0	0	0	2
12:30-12:45	3	0	0	0	3
12:45-13:00	1	3	0	0	4
Total período	**7**	**3**	**0**	**0**	**10**
13:00-13:15	2	0	0	0	2
13:15-13:30	2	1	0	0	3
13:30-13:45	2	0	0	0	2
13:45-14:00	2	0	0	0	2
Total período	**8**	**1**	**0**	**0**	**9**
14:00-14:15	0	0	0	0	0
14:15-14:30	3	1	0	0	4
14:30-14:45	1	0	0	0	1
14:45-15:00	0	1	0	0	1
Total período	**4**	**2**	**0**	**0**	**6**
15:00-15:15	0	0	0	0	0
15:15-15:30	1	0	0	0	1
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
16:00-16:15	1	0	0	0	1
16:15-16:30	2	0	0	0	2
16:30-16:45	4	0	0	0	4
16:45-17:00	3	0	0	0	3
Total período	**10**	**0**	**0**	**0**	**10**
17:00-17:15	2	0	0	0	2
17:15-17:30	1	0	0	0	1
17:30-17:45	3	1	0	0	4
17:45-18:00	1	0	0	0	1
Total período	**7**	**1**	**0**	**0**	**8**
18:00-18:15	3	0	0	0	3
18:15-18:30	1	2	0	0	3
18:30-18:45	3	0	2	0	5
18:45-19:00	2	0	0	0	2
Total período	**9**	**2**	**2**	**0**	**13**
Total 12 horas	**89**	**15**	**2**	**0**	**106**

CUADRO Nº 8.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	8
Intersección	:	Ruta G-25 / Acceso a Ruta G-421 (Las Vertientes)
Duración	:	12 horas

Movimiento 3: Viraje izquierda de Oriente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	1	0	0	1
07:15-07:30	2	0	0	0	2
07:30-07:45	2	1	0	0	3
07:45-08:00	0	0	0	0	0
Total período	**4**	**2**	**0**	**0**	**6**
08:00-08:15	1	0	0	0	1
08:15-08:30	3	0	0	0	3
08:30-08:45	0	0	0	0	0
08:45-09:00	3	0	0	0	3
Total período	**7**	**0**	**0**	**0**	**7**
09:00-09:15	2	0	0	0	2
09:15-09:30	2	0	0	0	2
09:30-09:45	1	0	0	0	1
09:45-10:00	1	0	0	0	1
Total período	**6**	**0**	**0**	**0**	**6**
10:00-10:15	1	0	0	0	1
10:15-10:30	1	1	0	0	2
10:30-10:45	0	0	0	0	0
10:45-11:00	5	0	0	0	5
Total período	**7**	**1**	**0**	**0**	**8**
11:00-11:15	1	0	1	0	2
11:15-11:30	0	0	0	0	0
11:30-11:45	1	0	0	0	1
11:45-12:00	1	0	0	0	1
Total período	**3**	**0**	**1**	**0**	**4**
12:00-12:15	2	0	2	0	4
12:15-12:30	2	0	0	0	2
12:30-12:45	1	0	0	0	1
12:45-13:00	3	0	0	0	3
Total período	**8**	**0**	**2**	**0**	**10**
13:00-13:15	2	0	0	0	2
13:15-13:30	2	1	0	0	3
13:30-13:45	1	0	1	0	2
13:45-14:00	1	0	0	0	1
Total período	**6**	**1**	**1**	**0**	**8**
14:00-14:15	1	1	0	0	2
14:15-14:30	1	0	0	0	1
14:30-14:45	1	0	0	0	1
14:45-15:00	4	1	0	0	5
Total período	**7**	**2**	**0**	**0**	**9**
15:00-15:15	0	2	0	0	2
15:15-15:30	1	0	0	0	1
15:30-15:45	1	0	0	0	1
15:45-16:00	1	0	0	0	1
Total período	**3**	**2**	**0**	**0**	**5**
16:00-16:15	0	0	0	0	0
16:15-16:30	9	0	0	0	9
16:30-16:45	2	0	0	0	2
16:45-17:00	3	0	0	0	3
Total período	**14**	**0**	**0**	**0**	**14**
17:00-17:15	3	0	0	0	3
17:15-17:30	5	1	0	0	6
17:30-17:45	0	0	0	0	0
17:45-18:00	2	0	0	0	2
Total período	**10**	**1**	**0**	**0**	**11**
18:00-18:15	2	0	0	0	2
18:15-18:30	2	1	0	0	3
18:30-18:45	5	0	0	0	5
18:45-19:00	1	0	0	0	1
Total período	**10**	**1**	**0**	**0**	**11**
Total 12 horas	**85**	**10**	**4**	**0**	**99**

CUADRO Nº 8.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	8
Intersección	:	Ruta G-25 / Acceso a Ruta G-421 (Las Vertientes)
Duración	:	12 horas

Movimiento 4: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	40	2	2	5	49
07:15-07:30	50	0	1	5	56
07:30-07:45	60	0	3	3	66
07:45-08:00	53	3	1	4	61
Total período	**203**	**5**	**7**	**17**	**232**
08:00-08:15	68	0	4	4	76
08:15-08:30	78	3	7	3	91
08:30-08:45	46	1	8	2	57
08:45-09:00	44	1	5	5	55
Total período	**236**	**5**	**24**	**14**	**279**
09:00-09:15	55	0	4	3	62
09:15-09:30	41	1	5	4	51
09:30-09:45	45	2	3	3	53
09:45-10:00	25	2	1	3	31
Total período	**166**	**5**	**13**	**13**	**197**
10:00-10:15	31	3	1	5	40
10:15-10:30	29	0	5	4	38
10:30-10:45	44	0	2	2	48
10:45-11:00	33	0	6	4	43
Total período	**137**	**3**	**14**	**15**	**169**
11:00-11:15	33	2	3	3	41
11:15-11:30	33	5	6	2	46
11:30-11:45	20	0	3	4	27
11:45-12:00	28	4	1	2	35
Total período	**114**	**11**	**13**	**11**	**149**
12:00-12:15	32	4	2	4	42
12:15-12:30	29	0	3	2	34
12:30-12:45	25	9	2	3	39
12:45-13:00	23	5	2	3	33
Total período	**109**	**18**	**9**	**12**	**148**
13:00-13:15	29	2	0	4	35
13:15-13:30	28	1	1	3	33
13:30-13:45	26	4	8	3	41
13:45-14:00	23	5	3	7	38
Total período	**106**	**12**	**12**	**17**	**147**
14:00-14:15	32	4	5	3	44
14:15-14:30	29	3	2	5	39
14:30-14:45	19	1	2	2	24
14:45-15:00	24	3	3	5	35
Total período	**104**	**11**	**12**	**15**	**142**
15:00-15:15	25	3	3	4	35
15:15-15:30	23	4	6	3	36
15:30-15:45	32	1	1	3	37
15:45-16:00	36	5	3	3	47
Total período	**116**	**13**	**13**	**13**	**155**
16:00-16:15	35	2	2	4	43
16:15-16:30	20	2	2	4	28
16:30-16:45	36	6	4	3	49
16:45-17:00	39	5	6	3	53
Total período	**130**	**15**	**14**	**14**	**173**
17:00-17:15	37	6	3	4	50
17:15-17:30	37	2	5	3	47
17:30-17:45	44	4	0	3	51
17:45-18:00	40	4	0	6	50
Total período	**158**	**16**	**8**	**16**	**198**
18:00-18:15	44	2	2	4	52
18:15-18:30	57	6	5	6	74
18:30-18:45	36	6	5	4	51
18:45-19:00	44	2	4	3	53
Total período	**181**	**16**	**16**	**17**	**230**
Total 12 horas	**1.760**	**130**	**155**	**174**	**2.219**

CUADRO Nº 8.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	8
Intersección	:	Ruta G-25 / Acceso a Ruta G-421 (Las Vertientes)
Duración	:	12 horas

Movimiento 5: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	15	3	2	1	21
07:15-07:30	8	0	0	0	8
07:30-07:45	9	3	4	3	19
07:45-08:00	29	0	3	3	35
Total período	**61**	**6**	**9**	**7**	**83**
08:00-08:15	42	0	0	3	45
08:15-08:30	34	4	2	2	42
08:30-08:45	48	1	4	3	56
08:45-09:00	25	3	5	4	37
Total período	**149**	**8**	**11**	**12**	**180**
09:00-09:15	35	1	4	6	46
09:15-09:30	18	2	5	6	31
09:30-09:45	26	5	3	7	41
09:45-10:00	34	4	10	4	52
Total período	**113**	**12**	**22**	**23**	**170**
10:00-10:15	31	6	1	11	49
10:15-10:30	29	4	8	5	46
10:30-10:45	30	1	2	3	36
10:45-11:00	31	4	0	3	38
Total período	**121**	**15**	**11**	**22**	**169**
11:00-11:15	35	4	1	4	44
11:15-11:30	36	3	6	4	49
11:30-11:45	33	3	1	4	41
11:45-12:00	46	3	5	2	56
Total período	**150**	**13**	**13**	**14**	**190**
12:00-12:15	30	2	4	5	41
12:15-12:30	28	4	1	2	35
12:30-12:45	43	2	1	4	50
12:45-13:00	42	5	3	2	52
Total período	**143**	**13**	**9**	**13**	**178**
13:00-13:15	36	3	4	4	47
13:15-13:30	35	0	5	3	43
13:30-13:45	28	3	3	3	37
13:45-14:00	26	6	5	3	40
Total período	**125**	**12**	**17**	**13**	**167**
14:00-14:15	32	3	3	3	41
14:15-14:30	35	2	3	3	43
14:30-14:45	31	1	5	5	42
14:45-15:00	32	3	2	4	41
Total período	**130**	**9**	**13**	**15**	**167**
15:00-15:15	33	4	5	4	46
15:15-15:30	33	1	3	3	40
15:30-15:45	25	2	2	3	32
15:45-16:00	39	0	0	3	42
Total período	**130**	**7**	**10**	**13**	**160**
16:00-16:15	46	2	3	4	55
16:15-16:30	46	4	3	3	56
16:30-16:45	45	4	1	4	54
16:45-17:00	35	5	1	3	44
Total período	**172**	**15**	**8**	**14**	**209**
17:00-17:15	40	4	2	3	49
17:15-17:30	43	4	0	3	50
17:30-17:45	31	3	0	4	38
17:45-18:00	32	4	1	4	41
Total período	**146**	**15**	**3**	**14**	**178**
18:00-18:15	43	1	2	0	46
18:15-18:30	33	1	3	3	40
18:30-18:45	39	1	2	2	44
18:45-19:00	43	3	0	4	50
Total período	**158**	**6**	**7**	**9**	**180**
Total 12 horas	**1.598**	**131**	**133**	**169**	**2.031**

CUADRO Nº 8.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	8
Intersección	:	Ruta G-25 / Acceso a Ruta G-421 (Las Vertientes)
Duración	:	12 horas

Movimiento 6: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	1	0	2
07:15-07:30	1	0	0	0	1
07:30-07:45	3	1	0	0	4
07:45-08:00	2	2	1	0	5
Total período	**7**	**3**	**2**	**0**	**12**
08:00-08:15	2	0	0	0	2
08:15-08:30	5	1	0	0	6
08:30-08:45	3	2	0	0	5
08:45-09:00	3	1	1	0	5
Total período	**13**	**4**	**1**	**0**	**18**
09:00-09:15	2	0	0	0	2
09:15-09:30	1	0	3	0	4
09:30-09:45	2	0	0	0	2
09:45-10:00	4	1	0	0	5
Total período	**9**	**1**	**3**	**0**	**13**
10:00-10:15	2	1	0	0	3
10:15-10:30	4	1	0	0	5
10:30-10:45	2	0	0	0	2
10:45-11:00	3	0	0	0	3
Total período	**11**	**2**	**0**	**0**	**13**
11:00-11:15	5	1	0	0	6
11:15-11:30	2	2	0	0	4
11:30-11:45	6	0	0	0	6
11:45-12:00	5	1	0	0	6
Total período	**18**	**4**	**0**	**0**	**22**
12:00-12:15	2	1	0	0	3
12:15-12:30	3	1	0	0	4
12:30-12:45	2	0	0	0	2
12:45-13:00	2	2	0	0	4
Total período	**9**	**4**	**0**	**0**	**13**
13:00-13:15	2	0	0	0	2
13:15-13:30	3	0	0	0	3
13:30-13:45	1	0	0	0	1
13:45-14:00	3	0	0	0	3
Total período	**9**	**0**	**0**	**0**	**9**
14:00-14:15	2	0	0	0	2
14:15-14:30	4	1	0	0	5
14:30-14:45	3	0	0	0	3
14:45-15:00	5	1	1	0	7
Total período	**14**	**2**	**1**	**0**	**17**
15:00-15:15	1	2	0	0	3
15:15-15:30	4	2	0	0	6
15:30-15:45	4	0	1	0	5
15:45-16:00	6	1	1	0	8
Total período	**15**	**5**	**2**	**0**	**22**
16:00-16:15	8	2	2	1	13
16:15-16:30	5	2	0	0	7
16:30-16:45	5	0	0	0	5
16:45-17:00	4	1	0	0	5
Total período	**22**	**5**	**2**	**1**	**30**
17:00-17:15	5	0	0	0	5
17:15-17:30	8	0	0	0	8
17:30-17:45	9	1	0	0	10
17:45-18:00	5	0	0	0	5
Total período	**27**	**1**	**0**	**0**	**28**
18:00-18:15	6	0	0	0	6
18:15-18:30	4	1	0	0	5
18:30-18:45	7	0	0	0	7
18:45-19:00	5	0	0	0	5
Total período	**22**	**1**	**0**	**0**	**23**
Total 12 horas	**176**	**32**	**11**	**1**	**220**

CUADRO Nº 9.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	9
Intersección	:	Ruta G-25 / Ruta G-345 (Acceso a Los Maitenes)
Duración	:	12 horas

Movimiento 1: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	10	0	0	1	11
07:15-07:30	19	0	2	2	23
07:30-07:45	23	0	1	2	26
07:45-08:00	15	0	1	3	19
Total período	**67**	**0**	**4**	**8**	**79**
08:00-08:15	33	1	3	3	40
08:15-08:30	30	1	3	2	36
08:30-08:45	25	0	5	2	32
08:45-09:00	17	1	2	4	24
Total período	**105**	**3**	**13**	**11**	**132**
09:00-09:15	22	0	1	2	25
09:15-09:30	14	2	6	3	25
09:30-09:45	16	0	1	1	18
09:45-10:00	15	0	1	1	17
Total período	**67**	**2**	**9**	**7**	**85**
10:00-10:15	19	4	2	1	26
10:15-10:30	19	0	4	2	25
10:30-10:45	27	0	5	2	34
10:45-11:00	8	1	2	1	12
Total período	**73**	**5**	**13**	**6**	**97**
11:00-11:15	19	1	7	2	29
11:15-11:30	15	1	1	2	19
11:30-11:45	11	1	2	1	15
11:45-12:00	12	3	0	1	16
Total período	**57**	**6**	**10**	**6**	**79**
12:00-12:15	18	1	2	2	23
12:15-12:30	22	4	3	1	30
12:30-12:45	17	5	1	2	25
12:45-13:00	14	2	0	2	18
Total período	**71**	**12**	**6**	**7**	**96**
13:00-13:15	20	0	3	2	25
13:15-13:30	16	1	3	1	21
13:30-13:45	16	2	3	2	23
13:45-14:00	27	3	3	6	39
Total período	**79**	**6**	**12**	**11**	**108**
14:00-14:15	22	2	3	4	31
14:15-14:30	16	1	1	1	19
14:30-14:45	20	2	0	2	24
14:45-15:00	19	4	3	2	28
Total período	**77**	**9**	**7**	**9**	**102**
15:00-15:15	4	4	3	2	13
15:15-15:30	12	1	0	0	13
15:30-15:45	18	6	2	2	28
15:45-16:00	17	5	0	0	22
Total período	**51**	**16**	**5**	**4**	**76**
16:00-16:15	16	1	1	2	20
16:15-16:30	13	2	2	3	20
16:30-16:45	29	2	3	2	36
16:45-17:00	17	0	3	1	21
Total período	**75**	**5**	**9**	**8**	**97**
17:00-17:15	21	1	3	3	28
17:15-17:30	28	3	0	2	33
17:30-17:45	22	4	1	3	30
17:45-18:00	29	1	3	4	37
Total período	**100**	**9**	**7**	**12**	**128**
18:00-18:15	22	4	5	4	35
18:15-18:30	22	1	1	2	26
18:30-18:45	16	2	2	2	22
18:45-19:00	24	3	1	2	30
Total período	**84**	**10**	**9**	**10**	**113**
Total 12 horas	**906**	**83**	**104**	**99**	**1.192**

CUADRO Nº 9.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	9
Intersección	:	Ruta G-25 / Ruta G-345 (Acceso a Los Maitenes)
Duración	:	12 horas

Movimiento 2: Viraje derecha de Oriente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	2	0	0	0	2
07:30-07:45	3	0	0	0	3
07:45-08:00	1	0	0	0	1
Total período	**6**	**0**	**0**	**0**	**6**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	2	0	0	0	2
08:45-09:00	1	0	0	0	1
Total período	**3**	**0**	**0**	**0**	**3**
09:00-09:15	1	0	0	0	1
09:15-09:30	2	0	0	0	2
09:30-09:45	2	0	0	0	2
09:45-10:00	0	0	0	0	0
Total período	**5**	**0**	**0**	**0**	**5**
10:00-10:15	4	0	0	0	4
10:15-10:30	0	0	0	0	0
10:30-10:45	2	0	0	0	2
10:45-11:00	1	0	0	0	1
Total período	**7**	**0**	**0**	**0**	**7**
11:00-11:15	1	0	0	0	1
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
12:00-12:15	1	0	0	0	1
12:15-12:30	1	0	0	0	1
12:30-12:45	3	0	0	0	3
12:45-13:00	1	1	0	0	2
Total período	**6**	**1**	**0**	**0**	**7**
13:00-13:15	0	0	0	0	0
13:15-13:30	0	0	0	0	0
13:30-13:45	1	0	0	0	1
13:45-14:00	2	0	0	0	2
Total período	**3**	**0**	**0**	**0**	**3**
14:00-14:15	1	0	0	0	1
14:15-14:30	0	0	0	0	0
14:30-14:45	1	0	0	0	1
14:45-15:00	1	0	0	0	1
Total período	**3**	**0**	**0**	**0**	**3**
15:00-15:15	2	0	0	1	3
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	2	0	0	0	2
Total período	**4**	**0**	**0**	**1**	**5**
16:00-16:15	0	1	0	0	1
16:15-16:30	1	0	0	0	1
16:30-16:45	2	0	0	0	2
16:45-17:00	0	0	0	0	0
Total período	**3**	**1**	**0**	**0**	**4**
17:00-17:15	0	0	0	0	0
17:15-17:30	2	0	0	0	2
17:30-17:45	2	0	0	0	2
17:45-18:00	1	0	0	0	1
Total período	**5**	**0**	**0**	**0**	**5**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	0	0	0
18:30-18:45	2	0	0	0	2
18:45-19:00	1	0	0	0	1
Total período	**3**	**0**	**0**	**0**	**3**
Total 12 horas	**49**	**2**	**0**	**1**	**52**

CUADRO Nº 9.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	9
Intersección	:	Ruta G-25 / Ruta G-345 (Acceso a Los Maitenes)
Duración	:	12 horas

Movimiento 3: Viraje izquierda de Norte a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	3	0	0	0	3
07:45-08:00	3	0	0	0	3
Total período	**6**	**0**	**0**	**0**	**6**
08:00-08:15	1	0	0	0	1
08:15-08:30	1	0	0	0	1
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
09:00-09:15	2	0	0	0	2
09:15-09:30	3	0	0	0	3
09:30-09:45	0	0	0	0	0
09:45-10:00	1	0	0	0	1
Total período	**6**	**0**	**0**	**0**	**6**
10:00-10:15	0	0	0	0	0
10:15-10:30	1	0	0	0	1
10:30-10:45	0	0	0	0	0
10:45-11:00	2	0	0	0	2
Total período	**3**	**0**	**0**	**0**	**3**
11:00-11:15	3	0	0	0	3
11:15-11:30	0	0	0	0	0
11:30-11:45	1	0	0	0	1
11:45-12:00	1	0	0	0	1
Total período	**5**	**0**	**0**	**0**	**5**
12:00-12:15	1	0	0	0	1
12:15-12:30	1	0	1	0	2
12:30-12:45	0	0	0	0	0
12:45-13:00	1	0	0	0	1
Total período	**3**	**0**	**1**	**0**	**4**
13:00-13:15	1	0	0	0	1
13:15-13:30	1	0	1	0	2
13:30-13:45	1	0	0	0	1
13:45-14:00	1	0	0	0	1
Total período	**4**	**0**	**1**	**0**	**5**
14:00-14:15	3	0	0	0	3
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**0**	**3**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	3	0	0	0	3
15:45-16:00	2	0	0	0	2
Total período	**5**	**0**	**0**	**0**	**5**
16:00-16:15	1	0	0	0	1
16:15-16:30	0	0	0	0	0
16:30-16:45	1	0	0	0	1
16:45-17:00	3	0	0	0	3
Total período	**5**	**0**	**0**	**0**	**5**
17:00-17:15	2	0	0	0	2
17:15-17:30	0	0	0	0	0
17:30-17:45	1	0	0	0	1
17:45-18:00	3	0	0	0	3
Total período	**6**	**0**	**0**	**0**	**6**
18:00-18:15	0	0	0	0	0
18:15-18:30	1	0	0	0	1
18:30-18:45	1	0	0	0	1
18:45-19:00	2	0	0	0	2
Total período	**4**	**0**	**0**	**0**	**4**
Total 12 horas	**52**	**0**	**2**	**0**	**54**

CUADRO Nº 9.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	9
Intersección	:	Ruta G-25 / Ruta G-345 (Acceso a Los Maitenes)
Duración	:	12 horas

Movimiento 4: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	1	0	0	0	1
07:30-07:45	2	0	0	0	2
07:45-08:00	2	0	1	0	3
Total período	**5**	**0**	**1**	**0**	**6**
08:00-08:15	2	0	3	0	5
08:15-08:30	4	0	2	0	6
08:30-08:45	5	0	0	0	5
08:45-09:00	4	0	3	0	7
Total período	**15**	**0**	**8**	**0**	**23**
09:00-09:15	0	0	1	0	1
09:15-09:30	1	0	0	0	1
09:30-09:45	2	0	0	0	2
09:45-10:00	2	0	0	0	2
Total período	**5**	**0**	**1**	**0**	**6**
10:00-10:15	1	0	0	0	1
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	0	1
10:45-11:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
11:00-11:15	3	0	1	0	4
11:15-11:30	0	0	0	0	0
11:30-11:45	1	0	0	0	1
11:45-12:00	0	0	0	0	0
Total período	**4**	**0**	**1**	**0**	**5**
12:00-12:15	0	0	0	0	0
12:15-12:30	1	0	0	0	1
12:30-12:45	5	0	0	0	5
12:45-13:00	2	1	0	0	3
Total período	**8**	**1**	**0**	**0**	**9**
13:00-13:15	4	0	0	0	4
13:15-13:30	3	0	0	0	3
13:30-13:45	2	0	0	0	2
13:45-14:00	0	0	0	0	0
Total período	**9**	**0**	**0**	**0**	**9**
14:00-14:15	3	0	0	0	3
14:15-14:30	1	0	0	0	1
14:30-14:45	1	0	0	0	1
14:45-15:00	2	0	1	0	3
Total período	**7**	**0**	**1**	**0**	**8**
15:00-15:15	2	0	1	0	3
15:15-15:30	2	0	0	0	2
15:30-15:45	2	0	0	0	2
15:45-16:00	2	0	0	0	2
Total período	**8**	**0**	**1**	**0**	**9**
16:00-16:15	1	2	0	0	3
16:15-16:30	0	0	1	0	1
16:30-16:45	3	1	0	0	4
16:45-17:00	2	0	2	0	4
Total período	**6**	**3**	**3**	**0**	**12**
17:00-17:15	1	0	1	0	2
17:15-17:30	0	0	0	0	0
17:30-17:45	4	0	0	0	4
17:45-18:00	6	0	1	0	7
Total período	**11**	**0**	**2**	**0**	**13**
18:00-18:15	8	1	2	2	13
18:15-18:30	5	0	2	3	10
18:30-18:45	1	1	2	2	6
18:45-19:00	5	0	0	4	9
Total período	**19**	**2**	**6**	**11**	**38**
Total 12 horas	**99**	**6**	**24**	**11**	**140**

CUADRO Nº 9.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	9
Intersección	:	Ruta G-25 / Ruta G-345 (Acceso a Los Maitenes)
Duración	:	12 horas

Movimiento 5: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	2	0	0	0	2
07:15-07:30	9	0	0	0	9
07:30-07:45	1	0	0	0	1
07:45-08:00	1	0	0	0	1
Total período	**13**	**0**	**0**	**0**	**13**
08:00-08:15	2	0	0	0	2
08:15-08:30	1	0	0	0	1
08:30-08:45	4	0	0	0	4
08:45-09:00	1	0	0	0	1
Total período	**8**	**0**	**0**	**0**	**8**
09:00-09:15	2	0	0	0	2
09:15-09:30	1	0	0	0	1
09:30-09:45	0	0	0	0	0
09:45-10:00	1	0	0	0	1
Total período	**4**	**0**	**0**	**0**	**4**
10:00-10:15	3	0	0	0	3
10:15-10:30	4	0	0	0	4
10:30-10:45	2	1	0	1	4
10:45-11:00	7	0	1	0	8
Total período	**16**	**1**	**1**	**1**	**19**
11:00-11:15	3	0	0	0	3
11:15-11:30	5	0	0	0	5
11:30-11:45	0	0	0	0	0
11:45-12:00	1	0	1	0	2
Total período	**9**	**0**	**1**	**0**	**10**
12:00-12:15	4	0	1	0	5
12:15-12:30	2	0	0	0	2
12:30-12:45	1	0	0	0	1
12:45-13:00	1	0	0	0	1
Total período	**8**	**0**	**1**	**0**	**9**
13:00-13:15	2	0	0	0	2
13:15-13:30	2	0	1	0	3
13:30-13:45	0	0	1	0	1
13:45-14:00	0	0	0	0	0
Total período	**4**	**0**	**2**	**0**	**6**
14:00-14:15	4	0	1	0	5
14:15-14:30	0	0	0	0	0
14:30-14:45	4	0	4	0	8
14:45-15:00	0	0	3	0	3
Total período	**8**	**0**	**8**	**0**	**16**
15:00-15:15	2	0	0	0	2
15:15-15:30	6	0	0	0	6
15:30-15:45	1	0	0	0	1
15:45-16:00	1	0	0	0	1
Total período	**10**	**0**	**0**	**0**	**10**
16:00-16:15	3	1	0	1	5
16:15-16:30	3	0	0	0	3
16:30-16:45	2	0	0	0	2
16:45-17:00	2	0	0	0	2
Total período	**10**	**1**	**0**	**1**	**12**
17:00-17:15	2	0	0	0	2
17:15-17:30	1	0	0	0	1
17:30-17:45	2	0	0	0	2
17:45-18:00	1	0	0	0	1
Total período	**6**	**0**	**0**	**0**	**6**
18:00-18:15	3	0	0	0	3
18:15-18:30	0	0	0	0	0
18:30-18:45	1	0	0	0	1
18:45-19:00	4	0	0	0	4
Total período	**8**	**0**	**0**	**0**	**8**
Total 12 horas	**104**	**2**	**13**	**2**	**121**

CUADRO Nº 9.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	9
Intersección	:	Ruta G-25 / Ruta G-345 (Acceso a Los Maitenes)
Duración	:	12 horas

Movimiento 6: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	2	1	0	0	3
07:15-07:30	4	0	0	0	4
07:30-07:45	10	0	2	1	13
07:45-08:00	14	3	3	1	21
Total período	**30**	**4**	**5**	**2**	**41**
08:00-08:15	23	0	0	1	24
08:15-08:30	17	0	1	2	20
08:30-08:45	27	0	2	1	30
08:45-09:00	23	0	4	2	29
Total período	**90**	**0**	**7**	**6**	**103**
09:00-09:15	31	2	1	1	35
09:15-09:30	19	0	5	5	29
09:30-09:45	16	9	2	7	34
09:45-10:00	29	2	7	2	40
Total período	**95**	**13**	**15**	**15**	**138**
10:00-10:15	17	6	4	2	29
10:15-10:30	22	4	1	10	37
10:30-10:45	17	2	5	3	27
10:45-11:00	24	2	1	2	29
Total período	**80**	**14**	**11**	**17**	**122**
11:00-11:15	29	5	1	1	36
11:15-11:30	19	1	3	2	25
11:30-11:45	21	1	0	2	24
11:45-12:00	14	3	1	3	21
Total período	**83**	**10**	**5**	**8**	**106**
12:00-12:15	26	4	3	2	35
12:15-12:30	16	0	4	3	23
12:30-12:45	23	1	2	1	27
12:45-13:00	25	0	0	3	28
Total período	**90**	**5**	**9**	**9**	**113**
13:00-13:15	27	5	4	1	37
13:15-13:30	21	3	3	1	28
13:30-13:45	10	0	1	1	12
13:45-14:00	16	4	2	1	23
Total período	**74**	**12**	**10**	**4**	**100**
14:00-14:15	10	4	4	4	22
14:15-14:30	15	0	0	0	15
14:30-14:45	17	3	1	1	22
14:45-15:00	18	2	2	2	24
Total período	**60**	**9**	**7**	**7**	**83**
15:00-15:15	16	2	2	2	22
15:15-15:30	15	3	2	2	22
15:30-15:45	21	1	3	2	27
15:45-16:00	21	0	1	1	23
Total período	**73**	**6**	**8**	**7**	**94**
16:00-16:15	18	1	0	2	21
16:15-16:30	16	3	2	3	24
16:30-16:45	20	1	2	2	25
16:45-17:00	27	2	1	2	32
Total período	**81**	**7**	**5**	**9**	**102**
17:00-17:15	16	2	3	1	22
17:15-17:30	14	1	1	3	19
17:30-17:45	15	2	1	0	18
17:45-18:00	21	2	0	2	25
Total período	**66**	**7**	**5**	**6**	**84**
18:00-18:15	16	2	1	2	21
18:15-18:30	28	1	1	0	30
18:30-18:45	15	0	3	1	19
18:45-19:00	28	1	1	1	31
Total período	**87**	**4**	**6**	**4**	**101**
Total 12 horas	**909**	**91**	**93**	**94**	**1.187**

CUADRO Nº 10.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	10
Intersección	:	Cañada Norte / El Volcán (San José de Maipo)
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Oriente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	0	2	3
07:15-07:30	0	0	0	1	1
07:30-07:45	1	0	0	0	1
07:45-08:00	5	0	0	0	5
Total período	**7**	**0**	**0**	**3**	**10**
08:00-08:15	11	0	0	0	11
08:15-08:30	7	0	0	0	7
08:30-08:45	3	0	0	0	3
08:45-09:00	7	1	0	0	8
Total período	**28**	**1**	**0**	**0**	**29**
09:00-09:15	8	0	0	0	8
09:15-09:30	11	0	0	0	11
09:30-09:45	4	0	0	0	4
09:45-10:00	8	1	0	0	9
Total período	**31**	**1**	**0**	**0**	**32**
10:00-10:15	2	0	0	0	2
10:15-10:30	8	0	0	0	8
10:30-10:45	3	0	0	0	3
10:45-11:00	8	0	0	1	9
Total período	**21**	**0**	**0**	**1**	**22**
11:00-11:15	6	0	0	0	6
11:15-11:30	3	0	0	0	3
11:30-11:45	9	0	0	0	9
11:45-12:00	3	1	0	0	4
Total período	**21**	**1**	**0**	**0**	**22**
12:00-12:15	9	0	0	0	9
12:15-12:30	2	1	0	0	3
12:30-12:45	4	0	0	0	4
12:45-13:00	5	0	0	0	5
Total período	**20**	**1**	**0**	**0**	**21**
13:00-13:15	10	0	0	1	11
13:15-13:30	10	0	0	1	11
13:30-13:45	9	0	0	1	10
13:45-14:00	10	2	0	0	12
Total período	**39**	**2**	**0**	**3**	**44**
14:00-14:15	6	0	0	0	6
14:15-14:30	5	0	0	0	5
14:30-14:45	12	0	0	0	12
14:45-15:00	3	0	0	0	3
Total período	**26**	**0**	**0**	**0**	**26**
15:00-15:15	5	0	0	0	5
15:15-15:30	5	0	0	1	6
15:30-15:45	8	0	0	0	8
15:45-16:00	4	0	0	0	4
Total período	**22**	**0**	**0**	**1**	**23**
16:00-16:15	11	0	0	0	11
16:15-16:30	5	1	0	0	6
16:30-16:45	8	0	0	0	8
16:45-17:00	9	0	0	0	9
Total período	**33**	**1**	**0**	**0**	**34**
17:00-17:15	6	0	0	0	6
17:15-17:30	5	0	0	0	5
17:30-17:45	9	0	0	1	10
17:45-18:00	5	0	0	0	5
Total período	**25**	**0**	**0**	**1**	**26**
18:00-18:15	16	0	0	1	17
18:15-18:30	4	0	0	1	5
18:30-18:45	3	0	0	0	3
18:45-19:00	7	0	0	0	7
Total período	**30**	**0**	**0**	**2**	**32**
Total 12 horas	**303**	**7**	**0**	**11**	**321**

CUADRO Nº 10.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	10
Intersección	:	Cañada Norte / El Volcán (San José de Maipo)
Duración	:	12 horas

Movimiento 2: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	0	0	1
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	1	1	0	0	2
Total período	**2**	**1**	**0**	**0**	**3**
08:00-08:15	2	0	0	0	2
08:15-08:30	0	0	0	1	1
08:30-08:45	0	1	0	0	1
08:45-09:00	1	0	0	0	1
Total período	**3**	**1**	**0**	**1**	**5**
09:00-09:15	1	0	0	0	1
09:15-09:30	3	0	0	0	3
09:30-09:45	0	0	0	0	0
09:45-10:00	1	0	0	0	1
Total período	**5**	**0**	**0**	**0**	**5**
10:00-10:15	1	0	0	0	1
10:15-10:30	3	0	0	0	3
10:30-10:45	1	0	0	0	1
10:45-11:00	2	0	0	0	2
Total período	**7**	**0**	**0**	**0**	**7**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	5	1	0	0	6
11:45-12:00	0	0	0	0	0
Total período	**5**	**1**	**0**	**0**	**6**
12:00-12:15	1	0	0	0	1
12:15-12:30	1	0	0	0	1
12:30-12:45	2	0	0	0	2
12:45-13:00	1	0	0	0	1
Total período	**5**	**0**	**0**	**0**	**5**
13:00-13:15	1	1	0	0	2
13:15-13:30	1	0	0	0	1
13:30-13:45	3	0	0	0	3
13:45-14:00	1	1	0	0	2
Total período	**6**	**2**	**0**	**0**	**8**
14:00-14:15	3	0	0	0	3
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	1	0	1
Total período	**3**	**0**	**1**	**0**	**4**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	1	0	0	0	1
15:45-16:00	4	0	0	0	4
Total período	**5**	**0**	**0**	**0**	**5**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
17:00-17:15	3	0	0	0	3
17:15-17:30	1	0	0	0	1
17:30-17:45	2	1	0	0	3
17:45-18:00	0	1	0	0	1
Total período	**6**	**2**	**0**	**0**	**8**
18:00-18:15	2	1	1	0	4
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	1	1	0	0	2
Total período	**3**	**2**	**1**	**0**	**6**
Total 12 horas	**50**	**9**	**2**	**1**	**62**

CUADRO Nº 10.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	10
Intersección	:	Cañada Norte / El Volcán (San José de Maipo)
Duración	:	12 horas

Movimiento 3: Viraje izquierda de Norte a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	0	0	1
07:15-07:30	0	0	0	0	0
07:30-07:45	1	0	0	1	2
07:45-08:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**1**	**3**
08:00-08:15	1	1	0	0	2
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	2	0	0	0	2
Total período	**3**	**1**	**0**	**0**	**4**
09:00-09:15	0	0	0	0	0
09:15-09:30	1	0	0	0	1
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	2	0	0	0	2
10:30-10:45	2	0	0	0	2
10:45-11:00	0	0	0	0	0
Total período	**4**	**0**	**0**	**0**	**4**
11:00-11:15	1	0	0	0	1
11:15-11:30	0	1	0	0	1
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**1**	**1**	**0**	**0**	**2**
12:00-12:15	1	0	0	0	1
12:15-12:30	1	0	0	0	1
12:30-12:45	2	0	0	0	2
12:45-13:00	0	0	0	0	0
Total período	**4**	**0**	**0**	**0**	**4**
13:00-13:15	1	0	0	0	1
13:15-13:30	1	0	0	0	1
13:30-13:45	1	0	0	0	1
13:45-14:00	3	0	0	0	3
Total período	**6**	**0**	**0**	**0**	**6**
14:00-14:15	1	0	0	0	1
14:15-14:30	1	0	0	0	1
14:30-14:45	1	0	0	0	1
14:45-15:00	1	0	0	0	1
Total período	**4**	**0**	**0**	**0**	**4**
15:00-15:15	2	1	0	0	3
15:15-15:30	1	1	0	0	2
15:30-15:45	1	0	0	0	1
15:45-16:00	0	0	0	0	0
Total período	**4**	**2**	**0**	**0**	**6**
16:00-16:15	3	0	0	0	3
16:15-16:30	2	0	0	0	2
16:30-16:45	3	0	0	0	3
16:45-17:00	0	0	0	0	0
Total período	**8**	**0**	**0**	**0**	**8**
17:00-17:15	0	0	0	0	0
17:15-17:30	2	0	0	0	2
17:30-17:45	2	0	0	0	2
17:45-18:00	4	0	0	0	4
Total período	**8**	**0**	**0**	**0**	**8**
18:00-18:15	2	0	0	0	2
18:15-18:30	4	0	0	0	4
18:30-18:45	2	0	0	0	2
18:45-19:00	1	0	0	0	1
Total período	**9**	**0**	**0**	**0**	**9**
Total 12 horas	**54**	**4**	**0**	**1**	**59**

CUADRO Nº 10.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	10
Intersección	:	Cañada Norte / El Volcán (San José de Maipo)
Duración	:	12 horas

Movimiento 4: Tránsito directo de Norte a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	6	0	0	1	7
07:15-07:30	5	0	0	0	5
07:30-07:45	15	1	0	1	17
07:45-08:00	18	0	0	2	20
Total período	**44**	**1**	**0**	**4**	**49**
08:00-08:15	35	1	0	4	40
08:15-08:30	18	0	0	0	18
08:30-08:45	27	0	0	3	30
08:45-09:00	26	0	0	1	27
Total período	**106**	**1**	**0**	**8**	**115**
09:00-09:15	27	2	0	3	32
09:15-09:30	28	1	0	4	33
09:30-09:45	19	0	0	4	23
09:45-10:00	30	0	0	5	35
Total período	**104**	**3**	**0**	**16**	**123**
10:00-10:15	25	0	1	0	26
10:15-10:30	22	1	0	9	32
10:30-10:45	24	1	0	3	28
10:45-11:00	24	1	1	2	28
Total período	**95**	**3**	**2**	**14**	**114**
11:00-11:15	28	0	0	1	29
11:15-11:30	27	0	1	3	31
11:30-11:45	15	0	0	5	20
11:45-12:00	19	2	1	3	25
Total período	**89**	**2**	**2**	**12**	**105**
12:00-12:15	24	2	0	1	27
12:15-12:30	17	0	0	4	21
12:30-12:45	27	0	0	2	29
12:45-13:00	37	0	0	2	39
Total período	**105**	**2**	**0**	**9**	**116**
13:00-13:15	32	3	0	1	36
13:15-13:30	23	2	0	3	28
13:30-13:45	24	1	1	0	26
13:45-14:00	17	1	0	1	19
Total período	**96**	**7**	**1**	**5**	**109**
14:00-14:15	14	4	0	3	21
14:15-14:30	18	2	0	1	21
14:30-14:45	19	0	0	5	24
14:45-15:00	17	0	0	3	20
Total período	**68**	**6**	**0**	**12**	**86**
15:00-15:15	16	0	0	3	19
15:15-15:30	24	1	0	2	27
15:30-15:45	22	1	2	1	26
15:45-16:00	25	0	2	3	30
Total período	**87**	**2**	**4**	**9**	**102**
16:00-16:15	16	1	1	0	18
16:15-16:30	20	1	0	3	24
16:30-16:45	24	1	0	2	27
16:45-17:00	21	1	0	2	24
Total período	**81**	**4**	**1**	**7**	**93**
17:00-17:15	37	0	0	2	39
17:15-17:30	12	0	1	1	14
17:30-17:45	25	0	0	3	28
17:45-18:00	26	3	0	4	33
Total período	**100**	**3**	**1**	**10**	**114**
18:00-18:15	19	0	0	1	20
18:15-18:30	27	0	0	0	27
18:30-18:45	21	0	0	1	22
18:45-19:00	33	0	0	1	34
Total período	**100**	**0**	**0**	**3**	**103**
Total 12 horas	**1.075**	**34**	**11**	**109**	**1.229**

CUADRO Nº 10.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	10
Intersección	:	Cañada Norte / El Volcán (San José de Maipo)
Duración	:	12 horas

Movimiento 5: Viraje derecha de Norte a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	1	1	0	2
07:30-07:45	1	0	1	1	3
07:45-08:00	1	0	3	0	4
Total período	**2**	**1**	**5**	**1**	**9**
08:00-08:15	1	0	1	0	2
08:15-08:30	1	0	0	0	1
08:30-08:45	2	0	2	0	4
08:45-09:00	1	0	4	0	5
Total período	**5**	**0**	**7**	**0**	**12**
09:00-09:15	0	0	1	0	1
09:15-09:30	1	0	4	0	5
09:30-09:45	1	0	2	0	3
09:45-10:00	2	1	0	0	3
Total período	**4**	**1**	**7**	**0**	**12**
10:00-10:15	1	0	11	0	12
10:15-10:30	0	1	2	0	3
10:30-10:45	0	0	6	0	6
10:45-11:00	0	1	1	0	2
Total período	**1**	**2**	**20**	**0**	**23**
11:00-11:15	0	0	0	0	0
11:15-11:30	1	1	1	0	3
11:30-11:45	2	1	2	0	5
11:45-12:00	0	0	1	0	1
Total período	**3**	**2**	**4**	**0**	**9**
12:00-12:15	0	0	3	0	3
12:15-12:30	1	1	3	0	5
12:30-12:45	3	0	1	0	4
12:45-13:00	5	0	0	0	5
Total período	**9**	**1**	**7**	**0**	**17**
13:00-13:15	1	0	1	0	2
13:15-13:30	0	0	3	0	3
13:30-13:45	2	0	1	0	3
13:45-14:00	0	0	3	0	3
Total período	**3**	**0**	**8**	**0**	**11**
14:00-14:15	0	0	2	0	2
14:15-14:30	0	0	4	0	4
14:30-14:45	1	1	0	0	2
14:45-15:00	0	0	2	0	2
Total período	**1**	**1**	**8**	**0**	**10**
15:00-15:15	0	0	2	0	2
15:15-15:30	0	0	2	0	2
15:30-15:45	1	0	1	0	2
15:45-16:00	1	0	0	0	1
Total período	**2**	**0**	**5**	**0**	**7**
16:00-16:15	2	0	3	0	5
16:15-16:30	0	0	1	0	1
16:30-16:45	4	0	2	0	6
16:45-17:00	0	0	0	0	0
Total período	**6**	**0**	**6**	**0**	**12**
17:00-17:15	2	0	2	0	4
17:15-17:30	2	0	0	0	2
17:30-17:45	0	0	1	0	1
17:45-18:00	0	0	0	0	0
Total período	**4**	**0**	**3**	**0**	**7**
18:00-18:15	2	0	1	0	3
18:15-18:30	3	0	1	0	4
18:30-18:45	1	0	3	0	4
18:45-19:00	1	0	2	0	3
Total período	**7**	**0**	**7**	**0**	**14**
Total 12 horas	**47**	**8**	**87**	**1**	**143**

CUADRO Nº 10.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	10
Intersección	:	Cañada Norte / El Volcán (San José de Maipo)
Duración	:	12 horas

Movimiento 6: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	1	0	0	1
Total período	**0**	**1**	**0**	**0**	**1**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
10:00-10:15	0	0	1	0	1
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	1	0	0	0	1
Total período	**1**	**0**	**1**	**0**	**2**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
12:00-12:15	0	0	0	0	0
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	2	0	0	0	2
Total período	**2**	**0**	**0**	**0**	**2**
13:00-13:15	1	0	0	0	1
13:15-13:30	0	0	0	0	0
13:30-13:45	1	0	0	0	1
13:45-14:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
17:00-17:15	1	0	0	0	1
17:15-17:30	2	0	0	0	2
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**0**	**3**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
Total 12 horas	**8**	**1**	**1**	**0**	**10**

CUADRO Nº 10.7

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	10
Intersección	:	Cañada Norte / El Volcán (San José de Maipo)
Duración	:	12 horas

Movimiento 7: Viraje derecha de Poniente a Sur

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	0	0	1
07:15-07:30	1	0	0	0	1
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
08:00-08:15	1	0	0	0	1
08:15-08:30	1	0	0	0	1
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
09:00-09:15	0	1	0	0	1
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**0**	**1**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
12:00-12:15	0	0	0	0	0
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
13:00-13:15	1	0	0	0	1
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
15:00-15:15	1	0	0	0	1
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	0	0	0
18:30-18:45	1	0	0	0	1
18:45-19:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
Total 12 horas	**7**	**1**	**0**	**0**	**8**

CUADRO Nº 11.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	11
Intersección	:	Cañada Norte / Comercio (San José de Maipo)
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Sur a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	0	0	1
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	1	0	0	0	1
Total período	**2**	**0**	**0**	**0**	**2**
08:00-08:15	2	0	0	0	2
08:15-08:30	2	0	0	0	2
08:30-08:45	0	1	0	0	1
08:45-09:00	7	0	0	0	7
Total período	**11**	**1**	**0**	**0**	**12**
09:00-09:15	5	0	0	0	5
09:15-09:30	5	0	0	0	5
09:30-09:45	3	0	0	0	3
09:45-10:00	3	0	0	0	3
Total período	**16**	**0**	**0**	**0**	**16**
10:00-10:15	1	0	0	0	1
10:15-10:30	3	0	0	0	3
10:30-10:45	4	0	0	0	4
10:45-11:00	4	0	0	2	6
Total período	**12**	**0**	**0**	**2**	**14**
11:00-11:15	2	0	0	0	2
11:15-11:30	2	0	0	0	2
11:30-11:45	6	0	0	0	6
11:45-12:00	1	0	0	0	1
Total período	**11**	**0**	**0**	**0**	**11**
12:00-12:15	2	0	0	0	2
12:15-12:30	1	1	0	0	2
12:30-12:45	1	0	0	0	1
12:45-13:00	3	0	0	0	3
Total período	**7**	**1**	**0**	**0**	**8**
13:00-13:15	3	0	0	0	3
13:15-13:30	7	0	0	1	8
13:30-13:45	2	0	0	0	2
13:45-14:00	5	2	0	0	7
Total período	**17**	**2**	**0**	**1**	**20**
14:00-14:15	2	0	0	0	2
14:15-14:30	1	0	0	0	1
14:30-14:45	0	0	0	0	0
14:45-15:00	2	0	0	0	2
Total período	**5**	**0**	**0**	**0**	**5**
15:00-15:15	1	0	0	0	1
15:15-15:30	2	0	0	1	3
15:30-15:45	1	0	0	0	1
15:45-16:00	4	0	0	0	4
Total período	**8**	**0**	**0**	**1**	**9**
16:00-16:15	4	0	0	0	4
16:15-16:30	1	1	0	0	2
16:30-16:45	1	0	0	0	1
16:45-17:00	3	0	0	0	3
Total período	**9**	**1**	**0**	**0**	**10**
17:00-17:15	3	0	0	0	3
17:15-17:30	3	0	0	0	3
17:30-17:45	1	1	0	0	2
17:45-18:00	2	0	0	0	2
Total período	**9**	**1**	**0**	**0**	**10**
18:00-18:15	5	0	0	0	5
18:15-18:30	2	0	0	0	2
18:30-18:45	2	1	0	0	3
18:45-19:00	5	0	0	0	5
Total período	**14**	**1**	**0**	**0**	**15**
Total 12 horas	**121**	**7**	**0**	**4**	**132**

CUADRO Nº 11.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	11
Intersección	:	Cañada Norte / Comercio (San José de Maipo)
Duración	:	12 horas

Movimiento 2: Tránsito directo de Sur a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	19	0	0	2	21
07:15-07:30	17	0	0	2	19
07:30-07:45	18	0	0	4	22
07:45-08:00	19	0	0	2	21
Total período	**73**	**0**	**0**	**10**	**83**
08:00-08:15	33	1	0	2	36
08:15-08:30	23	0	0	1	24
08:30-08:45	23	0	0	4	27
08:45-09:00	17	0	0	2	19
Total período	**96**	**1**	**0**	**9**	**106**
09:00-09:15	18	1	0	2	21
09:15-09:30	14	0	0	2	16
09:30-09:45	17	1	0	2	20
09:45-10:00	20	0	0	2	22
Total período	**69**	**2**	**0**	**8**	**79**
10:00-10:15	17	1	0	3	21
10:15-10:30	20	0	0	2	22
10:30-10:45	21	0	0	2	23
10:45-11:00	18	0	0	1	19
Total período	**76**	**1**	**0**	**8**	**85**
11:00-11:15	15	0	0	2	17
11:15-11:30	17	0	0	1	18
11:30-11:45	20	0	0	2	22
11:45-12:00	18	0	0	1	19
Total período	**70**	**0**	**0**	**6**	**76**
12:00-12:15	25	0	0	3	28
12:15-12:30	30	2	1	1	34
12:30-12:45	18	1	0	2	21
12:45-13:00	27	0	0	2	29
Total período	**100**	**3**	**1**	**8**	**112**
13:00-13:15	27	0	0	3	30
13:15-13:30	21	0	0	1	22
13:30-13:45	24	1	0	6	31
13:45-14:00	32	2	0	3	37
Total período	**104**	**3**	**0**	**13**	**120**
14:00-14:15	26	0	0	2	28
14:15-14:30	14	3	0	3	20
14:30-14:45	16	5	0	2	23
14:45-15:00	16	0	0	2	18
Total período	**72**	**8**	**0**	**9**	**89**
15:00-15:15	10	0	0	1	11
15:15-15:30	18	0	0	1	19
15:30-15:45	13	4	0	1	18
15:45-16:00	19	3	0	2	24
Total período	**60**	**7**	**0**	**5**	**72**
16:00-16:15	20	1	0	2	23
16:15-16:30	19	1	0	3	23
16:30-16:45	29	0	0	2	31
16:45-17:00	28	1	0	2	31
Total período	**96**	**3**	**0**	**9**	**108**
17:00-17:15	27	0	0	2	29
17:15-17:30	26	1	0	5	32
17:30-17:45	26	0	0	4	30
17:45-18:00	30	0	0	3	33
Total período	**109**	**1**	**0**	**14**	**124**
18:00-18:15	26	2	0	4	32
18:15-18:30	17	1	0	2	20
18:30-18:45	29	0	0	2	31
18:45-19:00	20	0	0	2	22
Total período	**92**	**3**	**0**	**10**	**105**
Total 12 horas	**1.017**	**32**	**1**	**109**	**1.159**

CUADRO Nº 11.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	11
Intersección	:	Cañada Norte / Comercio (San José de Maipo)
Duración	:	12 horas

Movimiento 3: Viraje derecha de Sur a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	2	0	0	0	2
Total período	**2**	**0**	**0**	**0**	**2**
08:00-08:15	4	0	0	1	5
08:15-08:30	4	0	0	0	4
08:30-08:45	3	0	0	0	3
08:45-09:00	4	0	0	0	4
Total período	**15**	**0**	**0**	**1**	**16**
09:00-09:15	3	0	0	0	3
09:15-09:30	0	0	0	0	0
09:30-09:45	2	0	0	0	2
09:45-10:00	3	0	0	1	4
Total período	**8**	**0**	**0**	**1**	**9**
10:00-10:15	3	0	0	0	3
10:15-10:30	3	0	0	0	3
10:30-10:45	3	0	0	0	3
10:45-11:00	3	0	0	0	3
Total período	**12**	**0**	**0**	**0**	**12**
11:00-11:15	6	1	0	0	7
11:15-11:30	2	0	0	0	2
11:30-11:45	1	0	0	0	1
11:45-12:00	5	0	0	0	5
Total período	**14**	**1**	**0**	**0**	**15**
12:00-12:15	4	0	0	0	4
12:15-12:30	4	0	0	0	4
12:30-12:45	1	0	0	1	2
12:45-13:00	7	0	0	0	7
Total período	**16**	**0**	**0**	**1**	**17**
13:00-13:15	4	0	0	0	4
13:15-13:30	6	0	0	0	6
13:30-13:45	3	1	0	0	4
13:45-14:00	3	0	0	0	3
Total período	**16**	**1**	**0**	**0**	**17**
14:00-14:15	16	0	0	0	16
14:15-14:30	4	0	0	0	4
14:30-14:45	4	0	0	0	4
14:45-15:00	2	0	0	0	2
Total período	**26**	**0**	**0**	**0**	**26**
15:00-15:15	4	0	0	1	5
15:15-15:30	5	0	0	0	5
15:30-15:45	5	0	0	0	5
15:45-16:00	1	0	0	0	1
Total período	**15**	**0**	**0**	**1**	**16**
16:00-16:15	5	0	0	0	5
16:15-16:30	5	0	0	0	5
16:30-16:45	5	0	0	0	5
16:45-17:00	2	0	0	0	2
Total período	**17**	**0**	**0**	**0**	**17**
17:00-17:15	3	0	0	1	4
17:15-17:30	4	0	0	0	4
17:30-17:45	0	0	0	0	0
17:45-18:00	4	0	0	1	5
Total período	**11**	**0**	**0**	**2**	**13**
18:00-18:15	10	0	0	0	10
18:15-18:30	5	0	0	0	5
18:30-18:45	4	0	0	0	4
18:45-19:00	6	0	0	0	6
Total período	**25**	**0**	**0**	**0**	**25**
Total 12 horas	**177**	**2**	**0**	**6**	**185**

CUADRO Nº 11.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	11
Intersección	:	Cañada Norte / Comercio (San José de Maipo)
Duración	:	12 horas

Movimiento 4: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	2	0	0	2	4
07:15-07:30	0	0	0	1	1
07:30-07:45	0	0	0	0	0
07:45-08:00	5	1	0	0	6
Total período	**7**	**1**	**0**	**3**	**11**
08:00-08:15	11	0	0	0	11
08:15-08:30	5	0	0	1	6
08:30-08:45	2	1	0	0	3
08:45-09:00	4	1	0	0	5
Total período	**22**	**2**	**0**	**1**	**25**
09:00-09:15	3	0	0	0	3
09:15-09:30	8	0	0	0	8
09:30-09:45	5	0	0	0	5
09:45-10:00	6	0	0	1	7
Total período	**22**	**0**	**0**	**1**	**23**
10:00-10:15	3	0	0	0	3
10:15-10:30	7	0	0	0	7
10:30-10:45	1	0	0	0	1
10:45-11:00	5	0	0	0	5
Total período	**16**	**0**	**0**	**0**	**16**
11:00-11:15	3	0	0	0	3
11:15-11:30	3	0	0	0	3
11:30-11:45	5	1	0	0	6
11:45-12:00	3	1	0	0	4
Total período	**14**	**2**	**0**	**0**	**16**
12:00-12:15	7	0	0	0	7
12:15-12:30	2	0	0	0	2
12:30-12:45	5	0	0	0	5
12:45-13:00	6	0	0	0	6
Total período	**20**	**0**	**0**	**0**	**20**
13:00-13:15	7	0	0	0	7
13:15-13:30	4	0	0	2	6
13:30-13:45	8	0	0	0	8
13:45-14:00	3	0	1	0	4
Total período	**22**	**0**	**1**	**2**	**25**
14:00-14:15	6	0	0	0	6
14:15-14:30	3	0	0	0	3
14:30-14:45	11	0	0	0	11
14:45-15:00	2	0	1	0	3
Total período	**22**	**0**	**1**	**0**	**23**
15:00-15:15	4	0	0	0	4
15:15-15:30	4	0	0	0	4
15:30-15:45	9	0	0	0	9
15:45-16:00	5	0	0	0	5
Total período	**22**	**0**	**0**	**0**	**22**
16:00-16:15	8	0	0	0	8
16:15-16:30	4	0	0	0	4
16:30-16:45	5	0	0	0	5
16:45-17:00	7	0	0	0	7
Total período	**24**	**0**	**0**	**0**	**24**
17:00-17:15	3	0	0	0	3
17:15-17:30	4	1	0	0	5
17:30-17:45	7	0	0	1	8
17:45-18:00	1	1	0	0	2
Total período	**15**	**2**	**0**	**1**	**18**
18:00-18:15	9	0	0	0	9
18:15-18:30	9	1	0	2	12
18:30-18:45	1	0	0	0	1
18:45-19:00	4	0	1	0	5
Total período	**23**	**1**	**1**	**2**	**27**
Total 12 horas	**229**	**8**	**3**	**10**	**250**

CUADRO Nº 11.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	11
Intersección	:	Cañada Norte / Comercio (San José de Maipo)
Duración	:	12 horas

Movimiento 5: Viraje derecha de Oriente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	0	0	1
07:15-07:30	2	0	1	0	3
07:30-07:45	1	0	1	0	2
07:45-08:00	0	0	2	0	2
Total período	**4**	**0**	**4**	**0**	**8**
08:00-08:15	2	0	4	0	6
08:15-08:30	1	0	7	0	8
08:30-08:45	2	0	0	0	2
08:45-09:00	2	0	2	0	4
Total período	**7**	**0**	**13**	**0**	**20**
09:00-09:15	2	0	5	0	7
09:15-09:30	2	0	3	0	5
09:30-09:45	1	0	1	0	2
09:45-10:00	5	0	1	0	6
Total período	**10**	**0**	**10**	**0**	**20**
10:00-10:15	0	1	5	0	6
10:15-10:30	2	0	6	0	8
10:30-10:45	0	0	4	0	4
10:45-11:00	0	0	2	0	2
Total período	**2**	**1**	**17**	**0**	**20**
11:00-11:15	3	0	5	0	8
11:15-11:30	3	0	2	0	5
11:30-11:45	1	0	1	0	2
11:45-12:00	0	0	1	0	1
Total período	**7**	**0**	**9**	**0**	**16**
12:00-12:15	0	1	4	0	5
12:15-12:30	0	0	0	0	0
12:30-12:45	3	0	0	0	3
12:45-13:00	1	1	1	0	3
Total período	**4**	**2**	**5**	**0**	**11**
13:00-13:15	2	0	4	1	7
13:15-13:30	3	0	2	0	5
13:30-13:45	5	0	6	0	11
13:45-14:00	0	0	1	0	1
Total período	**10**	**0**	**13**	**1**	**24**
14:00-14:15	6	0	1	0	7
14:15-14:30	4	0	1	0	5
14:30-14:45	4	0	1	0	5
14:45-15:00	0	0	4	0	4
Total período	**14**	**0**	**7**	**0**	**21**
15:00-15:15	1	0	5	0	6
15:15-15:30	0	0	2	0	2
15:30-15:45	6	1	1	0	8
15:45-16:00	0	0	1	0	1
Total período	**7**	**1**	**9**	**0**	**17**
16:00-16:15	1	0	1	0	2
16:15-16:30	4	0	2	0	6
16:30-16:45	2	0	4	0	6
16:45-17:00	0	0	3	0	3
Total período	**7**	**0**	**10**	**0**	**17**
17:00-17:15	1	0	1	1	3
17:15-17:30	1	0	0	0	1
17:30-17:45	0	1	1	1	3
17:45-18:00	2	0	4	0	6
Total período	**4**	**1**	**6**	**2**	**13**
18:00-18:15	1	0	3	0	4
18:15-18:30	1	0	3	0	4
18:30-18:45	9	1	2	0	12
18:45-19:00	3	0	2	0	5
Total período	**14**	**1**	**10**	**0**	**25**
Total 12 horas	**90**	**6**	**113**	**3**	**212**

CUADRO Nº 11.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	11
Intersección	:	Cañada Norte / Comercio (San José de Maipo)
Duración	:	12 horas

Movimiento 6: Viraje izquierda de Poniente a Norte

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	2	0	0	0	2
Total período	**2**	**0**	**0**	**0**	**2**
08:00-08:15	1	0	0	0	1
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	0	0	0
09:45-10:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	1	0	0	0	1
10:30-10:45	2	0	0	0	2
10:45-11:00	1	1	0	0	2
Total período	**4**	**1**	**0**	**0**	**5**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	0	1	0	0	1
11:45-12:00	0	0	0	0	0
Total período	**0**	**1**	**0**	**0**	**1**
12:00-12:15	0	0	0	0	0
12:15-12:30	1	0	0	0	1
12:30-12:45	0	0	0	0	0
12:45-13:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
13:00-13:15	1	0	0	0	1
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	0	0	0
13:45-14:00	2	0	0	0	2
Total período	**3**	**0**	**0**	**0**	**3**
14:00-14:15	0	0	0	0	0
14:15-14:30	1	0	0	0	1
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
16:00-16:15	0	0	0	0	0
16:15-16:30	4	0	0	0	4
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**4**	**0**	**0**	**0**	**4**
17:00-17:15	1	0	0	0	1
17:15-17:30	3	0	0	0	3
17:30-17:45	0	0	0	0	0
17:45-18:00	2	0	0	0	2
Total período	**6**	**0**	**0**	**0**	**6**
18:00-18:15	1	0	0	0	1
18:15-18:30	2	0	0	0	2
18:30-18:45	1	0	0	0	1
18:45-19:00	0	0	0	0	0
Total período	**4**	**0**	**0**	**0**	**4**
Total 12 horas	**28**	**2**	**0**	**0**	**30**

CUADRO Nº 11.7

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	11
Intersección	:	Cañada Norte / Comercio (San José de Maipo)
Duración	:	12 horas

Movimiento 7: Tránsito directo Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	1	0	0	0	1
07:45-08:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
09:00-09:15	0	0	0	0	0
09:15-09:30	1	0	0	0	1
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	0	1
10:45-11:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
11:00-11:15	0	0	0	0	0
11:15-11:30	3	0	0	0	3
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**0**	**3**
12:00-12:15	2	0	0	0	2
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
13:00-13:15	1	0	0	0	1
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	0	0	0
13:45-14:00	1	0	0	0	1
Total período	**2**	**0**	**0**	**0**	**2**
14:00-14:15	1	0	0	0	1
14:15-14:30	0	0	0	0	0
14:30-14:45	1	0	0	0	1
14:45-15:00	1	0	0	0	1
Total período	**3**	**0**	**0**	**0**	**3**
15:00-15:15	1	1	0	0	2
15:15-15:30	0	0	0	0	0
15:30-15:45	1	0	0	0	1
15:45-16:00	0	0	0	0	0
Total período	**2**	**1**	**0**	**0**	**3**
16:00-16:15	3	0	0	0	3
16:15-16:30	0	0	0	0	0
16:30-16:45	3	0	0	0	3
16:45-17:00	0	0	0	0	0
Total período	**6**	**0**	**0**	**0**	**6**
17:00-17:15	0	0	0	0	0
17:15-17:30	1	0	0	0	1
17:30-17:45	2	1	0	0	3
17:45-18:00	1	0	0	0	1
Total período	**4**	**1**	**0**	**0**	**5**
18:00-18:15	3	0	0	0	3
18:15-18:30	4	0	0	0	4
18:30-18:45	2	0	0	0	2
18:45-19:00	1	0	0	0	1
Total período	**10**	**0**	**0**	**0**	**10**
Total 12 horas	**36**	**2**	**0**	**0**	**38**

CUADRO Nº 12.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	12
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-421 (El Toyo)
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Suroriente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	1	0	2
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	1	0	0	0	1
Total período	**2**	**0**	**1**	**0**	**3**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	1	0	1
09:45-10:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	0	1
10:45-11:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
11:00-11:15	0	1	0	0	1
11:15-11:30	0	0	0	0	0
11:30-11:45	1	0	0	0	1
11:45-12:00	0	0	0	0	0
Total período	**1**	**1**	**0**	**0**	**2**
12:00-12:15	1	0	0	0	1
12:15-12:30	0	0	0	0	0
12:30-12:45	2	1	0	0	3
12:45-13:00	0	0	0	0	0
Total período	**3**	**1**	**0**	**0**	**4**
13:00-13:15	0	0	0	0	0
13:15-13:30	1	0	0	0	1
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
14:00-14:15	0	0	0	0	0
14:15-14:30	2	0	0	0	2
14:30-14:45	1	0	0	0	1
14:45-15:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**0**	**3**
15:00-15:15	1	0	0	0	1
15:15-15:30	2	1	0	0	3
15:30-15:45	1	0	0	0	1
15:45-16:00	0	0	0	0	0
Total período	**4**	**1**	**0**	**0**	**5**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	1	1	0	0	2
16:45-17:00	1	0	0	0	1
Total período	**2**	**1**	**0**	**0**	**3**
17:00-17:15	1	0	0	0	1
17:15-17:30	1	0	0	0	1
17:30-17:45	1	0	0	0	1
17:45-18:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**0**	**3**
18:00-18:15	2	0	0	0	2
18:15-18:30	0	0	0	0	0
18:30-18:45	0	1	0	0	1
18:45-19:00	3	0	0	0	3
Total período	**5**	**1**	**0**	**0**	**6**
Total 12 horas	**26**	**5**	**2**	**0**	**33**

CUADRO Nº 12.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	12
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-421 (El Toyo)
Duración	:	12 horas

Movimiento 2: Tránsito directo de Suroriente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	8	0	1	0	9
07:15-07:30	11	0	0	0	11
07:30-07:45	15	0	1	2	18
07:45-08:00	16	0	3	1	20
Total período	**50**	**0**	**5**	**3**	**58**
08:00-08:15	22	0	5	0	27
08:15-08:30	10	0	4	2	16
08:30-08:45	13	0	2	0	15
08:45-09:00	9	0	1	1	11
Total período	**54**	**0**	**12**	**3**	**69**
09:00-09:15	9	1	8	0	18
09:15-09:30	9	0	3	1	13
09:30-09:45	10	0	1	0	11
09:45-10:00	10	2	2	1	15
Total período	**38**	**3**	**14**	**2**	**57**
10:00-10:15	7	0	4	0	11
10:15-10:30	6	0	3	1	10
10:30-10:45	8	0	5	0	13
10:45-11:00	13	1	5	1	20
Total período	**34**	**1**	**17**	**2**	**54**
11:00-11:15	7	1	1	0	9
11:15-11:30	9	1	3	1	14
11:30-11:45	11	0	0	0	11
11:45-12:00	8	0	3	1	12
Total período	**35**	**2**	**7**	**2**	**46**
12:00-12:15	9	2	2	0	13
12:15-12:30	6	3	1	1	11
12:30-12:45	14	2	1	0	17
12:45-13:00	13	0	2	1	16
Total período	**42**	**7**	**6**	**2**	**57**
13:00-13:15	14	1	1	0	16
13:15-13:30	9	0	2	1	12
13:30-13:45	13	2	3	0	18
13:45-14:00	22	1	1	1	25
Total período	**58**	**4**	**7**	**2**	**71**
14:00-14:15	7	0	3	0	10
14:15-14:30	12	0	0	2	14
14:30-14:45	10	1	2	0	13
14:45-15:00	6	1	2	1	10
Total período	**35**	**2**	**7**	**3**	**47**
15:00-15:15	5	3	1	0	9
15:15-15:30	9	1	2	0	12
15:30-15:45	12	4	0	0	16
15:45-16:00	13	1	0	1	15
Total período	**39**	**9**	**3**	**1**	**52**
16:00-16:15	18	1	1	0	20
16:15-16:30	9	1	3	1	14
16:30-16:45	12	1	0	1	14
16:45-17:00	12	0	3	1	16
Total período	**51**	**3**	**7**	**3**	**64**
17:00-17:15	14	0	0	0	14
17:15-17:30	9	1	1	2	13
17:30-17:45	9	1	1	1	12
17:45-18:00	12	1	2	2	17
Total período	**44**	**3**	**4**	**5**	**56**
18:00-18:15	14	0	2	0	16
18:15-18:30	14	0	1	1	16
18:30-18:45	14	0	2	0	16
18:45-19:00	12	0	4	1	17
Total período	**54**	**0**	**9**	**2**	**65**
Total 12 horas	**534**	**34**	**98**	**30**	**696**

CUADRO Nº 12.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	12
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-421 (El Toyo)
Duración	:	12 horas

Movimiento 3: Tránsito directo de Norponiente a Suroriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	2	1	2	0	5
07:15-07:30	9	0	1	2	12
07:30-07:45	9	0	1	0	10
07:45-08:00	1	0	1	2	4
Total período	**21**	**1**	**5**	**4**	**31**
08:00-08:15	12	0	3	0	15
08:15-08:30	12	0	0	1	13
08:30-08:45	7	0	2	1	10
08:45-09:00	11	0	1	0	12
Total período	**42**	**0**	**6**	**2**	**50**
09:00-09:15	8	1	3	1	13
09:15-09:30	15	1	1	0	17
09:30-09:45	17	1	5	2	25
09:45-10:00	11	1	1	2	15
Total período	**51**	**4**	**10**	**5**	**70**
10:00-10:15	15	3	9	1	28
10:15-10:30	10	1	2	0	13
10:30-10:45	16	0	1	1	18
10:45-11:00	13	0	6	0	19
Total período	**54**	**4**	**18**	**2**	**78**
11:00-11:15	11	3	0	1	15
11:15-11:30	17	0	1	0	18
11:30-11:45	12	2	2	1	17
11:45-12:00	11	2	1	0	14
Total período	**51**	**7**	**4**	**2**	**64**
12:00-12:15	9	1	0	1	11
12:15-12:30	19	0	1	0	20
12:30-12:45	13	2	3	1	19
12:45-13:00	7	0	1	0	8
Total período	**48**	**3**	**5**	**2**	**58**
13:00-13:15	21	1	0	1	23
13:15-13:30	19	2	1	0	22
13:30-13:45	16	1	2	1	20
13:45-14:00	19	1	0	0	20
Total período	**75**	**5**	**3**	**2**	**85**
14:00-14:15	9	4	6	0	19
14:15-14:30	7	0	3	1	11
14:30-14:45	13	4	2	0	19
14:45-15:00	15	0	1	3	19
Total período	**44**	**8**	**12**	**4**	**68**
15:00-15:15	9	1	0	1	11
15:15-15:30	4	1	3	0	8
15:30-15:45	15	1	2	1	19
15:45-16:00	14	0	1	0	15
Total período	**42**	**3**	**6**	**2**	**53**
16:00-16:15	10	1	0	1	12
16:15-16:30	16	0	0	0	16
16:30-16:45	6	0	1	1	8
16:45-17:00	12	0	1	0	13
Total período	**44**	**1**	**2**	**2**	**49**
17:00-17:15	13	0	0	0	13
17:15-17:30	14	0	0	1	15
17:30-17:45	14	1	1	0	16
17:45-18:00	10	0	0	1	11
Total período	**51**	**1**	**1**	**2**	**55**
18:00-18:15	10	0	0	1	11
18:15-18:30	14	1	0	0	15
18:30-18:45	12	0	0	0	12
18:45-19:00	11	0	1	1	13
Total período	**47**	**1**	**1**	**2**	**51**
Total 12 horas	**570**	**38**	**73**	**31**	**712**

CUADRO Nº 12.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	12
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-421 (El Toyo)
Duración	:	12 horas

Movimiento 4: Viraje derecha de Norponiente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	0	0	1
07:15-07:30	0	0	0	0	0
07:30-07:45	1	0	0	0	1
07:45-08:00	1	0	0	0	1
Total período	**3**	**0**	**0**	**0**	**3**
08:00-08:15	2	0	0	0	2
08:15-08:30	2	0	0	0	2
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**4**	**0**	**0**	**0**	**4**
09:00-09:15	0	1	0	0	1
09:15-09:30	1	1	0	0	2
09:30-09:45	1	0	0	0	1
09:45-10:00	1	0	0	0	1
Total período	**3**	**2**	**0**	**0**	**5**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	0	1
10:45-11:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
11:00-11:15	1	0	0	0	1
11:15-11:30	2	0	0	0	2
11:30-11:45	0	0	0	0	0
11:45-12:00	3	0	0	0	3
Total período	**6**	**0**	**0**	**0**	**6**
12:00-12:15	4	0	0	0	4
12:15-12:30	0	0	0	0	0
12:30-12:45	1	0	0	0	1
12:45-13:00	0	1	0	0	1
Total período	**5**	**1**	**0**	**0**	**6**
13:00-13:15	0	0	0	0	0
13:15-13:30	2	0	0	0	2
13:30-13:45	3	0	0	0	3
13:45-14:00	0	0	0	0	0
Total período	**5**	**0**	**0**	**0**	**5**
14:00-14:15	2	0	0	0	2
14:15-14:30	0	0	0	0	0
14:30-14:45	2	0	0	0	2
14:45-15:00	1	0	0	0	1
Total período	**5**	**0**	**0**	**0**	**5**
15:00-15:15	1	0	0	0	1
15:15-15:30	0	0	0	0	0
15:30-15:45	2	0	0	0	2
15:45-16:00	2	0	0	0	2
Total período	**5**	**0**	**0**	**0**	**5**
16:00-16:15	4	0	0	0	4
16:15-16:30	3	0	0	0	3
16:30-16:45	0	0	0	0	0
16:45-17:00	4	0	0	0	4
Total período	**11**	**0**	**0**	**0**	**11**
17:00-17:15	1	0	0	0	1
17:15-17:30	1	0	0	0	1
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
18:00-18:15	1	0	0	0	1
18:15-18:30	2	0	0	0	2
18:30-18:45	3	0	0	0	3
18:45-19:00	1	0	0	0	1
Total período	**7**	**0**	**0**	**0**	**7**
Total 12 horas	**57**	**3**	**0**	**0**	**60**

CUADRO Nº 12.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	12
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-421 (El Toyo)
Duración	:	12 horas

Movimiento 5: Viraje izquierda de Surponiente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	2	1	0	0	3
07:15-07:30	1	0	0	0	1
07:30-07:45	2	0	0	0	2
07:45-08:00	2	0	0	0	2
Total período	**7**	**1**	**0**	**0**	**8**
08:00-08:15	2	0	0	0	2
08:15-08:30	0	0	0	0	0
08:30-08:45	1	0	0	0	1
08:45-09:00	1	0	0	0	1
Total período	**4**	**0**	**0**	**0**	**4**
09:00-09:15	0	0	0	0	0
09:15-09:30	1	0	0	0	1
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	0	1
10:45-11:00	1	0	0	0	1
Total período	**2**	**0**	**0**	**0**	**2**
11:00-11:15	0	0	0	0	0
11:15-11:30	1	0	0	0	1
11:30-11:45	1	0	0	0	1
11:45-12:00	3	1	0	0	4
Total período	**5**	**1**	**0**	**0**	**6**
12:00-12:15	4	0	0	0	4
12:15-12:30	1	0	0	0	1
12:30-12:45	1	0	0	0	1
12:45-13:00	0	0	0	0	0
Total período	**6**	**0**	**0**	**0**	**6**
13:00-13:15	1	1	0	0	2
13:15-13:30	2	0	0	0	2
13:30-13:45	1	0	0	0	1
13:45-14:00	1	0	0	0	1
Total período	**5**	**1**	**0**	**0**	**6**
14:00-14:15	3	0	0	0	3
14:15-14:30	1	0	0	0	1
14:30-14:45	1	0	0	0	1
14:45-15:00	1	0	0	0	1
Total período	**6**	**0**	**0**	**0**	**6**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
16:00-16:15	0	0	0	0	0
16:15-16:30	2	0	0	0	2
16:30-16:45	1	0	0	0	1
16:45-17:00	1	0	1	0	2
Total período	**4**	**0**	**1**	**0**	**5**
17:00-17:15	1	0	0	0	1
17:15-17:30	2	0	0	0	2
17:30-17:45	2	0	0	0	2
17:45-18:00	4	0	0	0	4
Total período	**9**	**0**	**0**	**0**	**9**
18:00-18:15	5	1	1	0	7
18:15-18:30	2	0	0	0	2
18:30-18:45	0	0	0	0	0
18:45-19:00	3	1	0	0	4
Total período	**10**	**2**	**1**	**0**	**13**
Total 12 horas	**60**	**5**	**2**	**0**	**67**

CUADRO Nº 12.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	12
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-421 (El Toyo)
Duración	:	12 horas

Movimiento 6: Viraje derecha de Surponiente a Suroriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	1	0	0	0	1
08:15-08:30	1	0	0	0	1
08:30-08:45	0	0	0	0	0
08:45-09:00	1	0	1	0	2
Total período	**3**	**0**	**1**	**0**	**4**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	1	0	0	0	1
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
11:00-11:15	1	0	0	0	1
11:15-11:30	1	0	0	0	1
11:30-11:45	0	0	0	0	0
11:45-12:00	1	0	0	0	1
Total período	**3**	**0**	**0**	**0**	**3**
12:00-12:15	1	0	0	0	1
12:15-12:30	3	0	0	0	3
12:30-12:45	2	0	0	0	2
12:45-13:00	2	0	0	0	2
Total período	**8**	**0**	**0**	**0**	**8**
13:00-13:15	0	0	0	0	0
13:15-13:30	0	0	0	0	0
13:30-13:45	0	1	0	0	1
13:45-14:00	0	0	0	0	0
Total período	**0**	**1**	**0**	**0**	**1**
14:00-14:15	1	0	0	0	1
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	2	0	0	0	2
Total período	**3**	**0**	**0**	**0**	**3**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	1	1	0	0	2
15:45-16:00	0	0	0	0	0
Total período	**1**	**1**	**0**	**0**	**2**
16:00-16:15	1	1	0	0	2
16:15-16:30	2	0	0	0	2
16:30-16:45	1	0	0	0	1
16:45-17:00	0	0	0	0	0
Total período	**4**	**1**	**0**	**0**	**5**
17:00-17:15	0	0	0	0	0
17:15-17:30	0	1	0	0	1
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**0**	**1**	**0**	**0**	**1**
18:00-18:15	1	0	0	0	1
18:15-18:30	0	0	0	0	0
18:30-18:45	2	0	0	0	2
18:45-19:00	0	0	0	1	1
Total período	**3**	**0**	**0**	**1**	**4**
Total 12 horas	**27**	**4**	**1**	**1**	**33**

CUADRO Nº 13.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	13
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-455 (Acceso a embalse El Yeso
Duración	:	12 horas

Movimiento 1: Tránsito directo de Suroriente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	1	0	1	0	2
07:15-07:30	2	1	1	0	4
07:30-07:45	1	0	1	1	3
07:45-08:00	2	0	2	0	4
Total período	**6**	**1**	**5**	**1**	**13**
08:00-08:15	1	0	0	1	2
08:15-08:30	1	0	3	0	4
08:30-08:45	0	0	6	0	6
08:45-09:00	1	0	2	0	3
Total período	**3**	**0**	**11**	**1**	**15**
09:00-09:15	0	0	1	0	1
09:15-09:30	0	0	3	0	3
09:30-09:45	1	0	2	0	3
09:45-10:00	0	0	1	0	1
Total período	**1**	**0**	**7**	**0**	**8**
10:00-10:15	2	0	2	0	4
10:15-10:30	0	0	3	0	3
10:30-10:45	0	0	1	0	1
10:45-11:00	1	0	2	0	3
Total período	**3**	**0**	**8**	**0**	**11**
11:00-11:15	1	0	1	0	2
11:15-11:30	2	0	3	0	5
11:30-11:45	0	0	0	0	0
11:45-12:00	1	0	1	0	2
Total período	**4**	**0**	**5**	**0**	**9**
12:00-12:15	2	0	0	1	3
12:15-12:30	2	0	3	0	5
12:30-12:45	1	0	0	0	1
12:45-13:00	1	0	1	0	2
Total período	**6**	**0**	**4**	**1**	**11**
13:00-13:15	0	0	3	0	3
13:15-13:30	3	0	2	0	5
13:30-13:45	2	0	2	0	4
13:45-14:00	2	0	3	0	5
Total período	**7**	**0**	**10**	**0**	**17**
14:00-14:15	3	0	3	1	7
14:15-14:30	1	0	0	0	1
14:30-14:45	1	0	2	0	3
14:45-15:00	0	0	0	0	0
Total período	**5**	**0**	**5**	**1**	**11**
15:00-15:15	1	0	0	0	1
15:15-15:30	2	0	0	0	2
15:30-15:45	0	0	0	0	0
15:45-16:00	0	1	0	0	1
Total período	**3**	**1**	**0**	**0**	**4**
16:00-16:15	3	0	2	0	5
16:15-16:30	3	0	0	0	3
16:30-16:45	0	0	0	0	0
16:45-17:00	2	0	0	0	2
Total período	**8**	**0**	**2**	**0**	**10**
17:00-17:15	2	1	1	1	5
17:15-17:30	2	0	2	0	4
17:30-17:45	0	0	1	0	1
17:45-18:00	2	1	1	1	5
Total período	**6**	**2**	**5**	**2**	**15**
18:00-18:15	1	0	2	0	3
18:15-18:30	0	0	2	0	2
18:30-18:45	1	0	2	0	3
18:45-19:00	3	0	5	0	8
Total período	**5**	**0**	**11**	**0**	**16**
Total 12 horas	**57**	**4**	**73**	**6**	**140**

CUADRO Nº 13.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	13
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-455 (Acceso a embalse El Yeso
Duración	:	12 horas

Movimiento 2: Viraje derecha de Suroriente a Nororiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	1	0	1
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	1	0	1
Total período	**0**	**0**	**2**	**0**	**2**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	0	0	0
09:45-10:00	0	1	0	0	1
Total período	**0**	**1**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
11:00-11:15	1	0	0	0	1
11:15-11:30	0	0	0	0	0
11:30-11:45	0	1	0	0	1
11:45-12:00	0	0	0	0	0
Total período	**1**	**1**	**0**	**0**	**2**
12:00-12:15	0	0	0	0	0
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	2	0	2
12:45-13:00	0	0	0	0	0
Total período	**0**	**0**	**2**	**0**	**2**
13:00-13:15	0	0	4	0	4
13:15-13:30	0	0	2	0	2
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	1	0	1
Total período	**0**	**0**	**7**	**0**	**7**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
15:00-15:15	0	1	0	0	1
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	1	0	1
15:45-16:00	0	0	0	0	0
Total período	**0**	**1**	**1**	**0**	**2**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	1	0	1
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	2	0	2
Total período	**0**	**0**	**3**	**0**	**3**
17:00-17:15	0	1	0	0	1
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	1	0	1
17:45-18:00	0	0	0	0	0
Total período	**0**	**1**	**1**	**0**	**2**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	0	1	0	0	1
Total período	**0**	**1**	**0**	**0**	**1**
Total 12 horas	**1**	**5**	**16**	**0**	**22**

CUADRO Nº 13.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	13
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-455 (Acceso a embalse El Yeso
Duración	:	12 horas

Movimiento 3: Viraje izquierda de Nororiente a Suroriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	0	1	0	0	1
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**0**	**1**	**0**	**0**	**1**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	2	0	2
09:30-09:45	0	0	1	0	1
09:45-10:00	0	0	0	0	0
Total período	**0**	**0**	**3**	**0**	**3**
10:00-10:15	0	1	0	0	1
10:15-10:30	0	0	1	0	1
10:30-10:45	0	0	0	0	0
10:45-11:00	0	0	0	0	0
Total período	**0**	**1**	**1**	**0**	**2**
11:00-11:15	1	0	0	0	1
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
12:00-12:15	0	0	0	0	0
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
13:00-13:15	1	0	0	0	1
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	1	0	1
13:45-14:00	0	0	3	0	3
Total período	**1**	**0**	**4**	**0**	**5**
14:00-14:15	0	0	3	0	3
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**0**	**0**	**3**	**0**	**3**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	1	0	0	1
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**0**	**1**	**0**	**0**	**1**
16:00-16:15	0	0	0	0	0
16:15-16:30	1	0	0	0	1
16:30-16:45	0	0	1	0	1
16:45-17:00	0	0	0	0	0
Total período	**1**	**0**	**1**	**0**	**2**
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
18:00-18:15	0	0	1	0	1
18:15-18:30	0	0	1	0	1
18:30-18:45	0	0	0	0	0
18:45-19:00	0	0	0	0	0
Total período	**0**	**0**	**2**	**0**	**2**
Total 12 horas	**3**	**3**	**14**	**0**	**20**

CUADRO Nº 13.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	13
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-455 (Acceso a embalse El Yeso
Duración	:	12 horas

Movimiento 4: Viraje derecha de Nororiente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	2	0	2
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**2**	**0**	**2**
08:00-08:15	0	0	0	0	0
08:15-08:30	1	0	0	0	1
08:30-08:45	0	0	1	0	1
08:45-09:00	0	0	0	0	0
Total período	**1**	**0**	**1**	**0**	**2**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	1	0	1
09:45-10:00	0	0	3	0	3
Total período	**0**	**0**	**4**	**0**	**4**
10:00-10:15	0	0	1	0	1
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	1	0	2
10:45-11:00	0	0	0	0	0
Total período	**1**	**0**	**2**	**0**	**3**
11:00-11:15	1	0	1	0	2
11:15-11:30	0	0	1	0	1
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	1	0	1
Total período	**1**	**0**	**3**	**0**	**4**
12:00-12:15	1	0	1	0	2
12:15-12:30	1	0	0	0	1
12:30-12:45	0	1	1	0	2
12:45-13:00	0	1	1	0	2
Total período	**2**	**2**	**3**	**0**	**7**
13:00-13:15	1	0	1	0	2
13:15-13:30	1	0	0	0	1
13:30-13:45	2	0	0	0	2
13:45-14:00	0	0	0	0	0
Total período	**4**	**0**	**1**	**0**	**5**
14:00-14:15	0	0	1	0	1
14:15-14:30	1	0	1	0	2
14:30-14:45	1	1	0	0	2
14:45-15:00	1	0	0	0	1
Total período	**3**	**1**	**2**	**0**	**6**
15:00-15:15	1	0	0	0	1
15:15-15:30	1	0	1	0	2
15:30-15:45	2	0	0	0	2
15:45-16:00	1	0	1	0	2
Total período	**5**	**0**	**2**	**0**	**7**
16:00-16:15	0	0	2	0	2
16:15-16:30	0	0	0	0	0
16:30-16:45	1	0	0	0	1
16:45-17:00	1	0	1	0	2
Total período	**2**	**0**	**3**	**0**	**5**
17:00-17:15	0	0	2	0	2
17:15-17:30	0	0	1	0	1
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	1	0	1
Total período	**0**	**0**	**4**	**0**	**4**
18:00-18:15	0	0	0	0	0
18:15-18:30	1	0	0	0	1
18:30-18:45	1	0	0	0	1
18:45-19:00	1	1	0	0	2
Total período	**3**	**1**	**0**	**0**	**4**
Total 12 horas	**22**	**4**	**27**	**0**	**53**

CUADRO Nº 13.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	13
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-455 (Acceso a embalse El Yeso
Duración	:	12 horas

Movimiento 5: Viraje izquierda de Norponiente a Nororiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	1	0	1
07:30-07:45	0	0	0	0	0
07:45-08:00	0	1	1	0	2
Total período	**0**	**1**	**2**	**0**	**3**
08:00-08:15	0	0	0	0	0
08:15-08:30	1	0	0	0	1
08:30-08:45	1	0	0	0	1
08:45-09:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
09:00-09:15	1	0	2	0	3
09:15-09:30	0	0	3	0	3
09:30-09:45	0	0	0	0	0
09:45-10:00	0	1	3	0	4
Total período	**1**	**1**	**8**	**0**	**10**
10:00-10:15	1	0	3	0	4
10:15-10:30	0	0	0	0	0
10:30-10:45	3	0	1	0	4
10:45-11:00	2	0	0	0	2
Total período	**6**	**0**	**4**	**0**	**10**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	1	0	1
11:45-12:00	1	0	0	0	1
Total período	**1**	**0**	**1**	**0**	**2**
12:00-12:15	0	0	1	0	1
12:15-12:30	2	0	0	0	2
12:30-12:45	2	0	0	0	2
12:45-13:00	3	0	1	0	4
Total período	**7**	**0**	**2**	**0**	**9**
13:00-13:15	2	0	0	0	2
13:15-13:30	0	0	2	0	2
13:30-13:45	0	0	0	0	0
13:45-14:00	1	0	0	0	1
Total período	**3**	**0**	**2**	**0**	**5**
14:00-14:15	1	0	2	0	3
14:15-14:30	1	0	1	0	2
14:30-14:45	1	0	0	0	1
14:45-15:00	0	0	0	0	0
Total período	**3**	**0**	**3**	**0**	**6**
15:00-15:15	2	0	0	0	2
15:15-15:30	0	0	1	0	1
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**2**	**0**	**1**	**0**	**3**
16:00-16:15	1	0	1	0	2
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	1	0	0	0	1
Total período	**2**	**0**	**1**	**0**	**3**
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	1	0	0	0	1
17:45-18:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
18:00-18:15	1	0	2	0	3
18:15-18:30	2	0	0	0	2
18:30-18:45	0	0	0	0	0
18:45-19:00	1	0	0	0	1
Total período	**4**	**0**	**2**	**0**	**6**
Total 12 horas	**32**	**2**	**26**	**0**	**60**

CUADRO Nº 13.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	13
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-455 (Acceso a embalse El Yeso
Duración	:	12 horas

Movimiento 6: Tránsito directo de Norponiente a Suroriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	1	0	1
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	3	0	3
07:45-08:00	3	0	1	0	4
Total período	**3**	**0**	**5**	**0**	**8**
08:00-08:15	0	0	2	0	2
08:15-08:30	0	0	1	0	1
08:30-08:45	1	0	1	0	2
08:45-09:00	0	0	0	0	0
Total período	**1**	**0**	**4**	**0**	**5**
09:00-09:15	1	0	1	0	2
09:15-09:30	3	0	2	0	5
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**4**	**0**	**3**	**0**	**7**
10:00-10:15	0	0	2	0	2
10:15-10:30	0	0	0	0	0
10:30-10:45	2	0	7	0	9
10:45-11:00	4	1	2	0	7
Total período	**6**	**1**	**11**	**0**	**18**
11:00-11:15	3	0	7	0	10
11:15-11:30	3	0	1	1	5
11:30-11:45	2	0	0	0	2
11:45-12:00	1	0	1	0	2
Total período	**9**	**0**	**9**	**1**	**19**
12:00-12:15	3	1	0	0	4
12:15-12:30	0	0	0	0	0
12:30-12:45	4	0	1	0	5
12:45-13:00	1	2	1	0	4
Total período	**8**	**3**	**2**	**0**	**13**
13:00-13:15	2	1	1	0	4
13:15-13:30	1	0	0	0	1
13:30-13:45	0	0	1	0	1
13:45-14:00	1	0	1	0	2
Total período	**4**	**1**	**3**	**0**	**8**
14:00-14:15	0	0	2	0	2
14:15-14:30	3	0	3	0	6
14:30-14:45	2	1	3	0	6
14:45-15:00	2	0	4	1	7
Total período	**7**	**1**	**12**	**1**	**21**
15:00-15:15	1	0	3	0	4
15:15-15:30	0	0	0	1	1
15:30-15:45	1	0	2	1	4
15:45-16:00	3	0	3	0	6
Total período	**5**	**0**	**8**	**2**	**15**
16:00-16:15	2	0	2	0	4
16:15-16:30	2	0	1	0	3
16:30-16:45	0	0	0	0	0
16:45-17:00	3	0	0	0	3
Total período	**7**	**0**	**3**	**0**	**10**
17:00-17:15	3	0	2	0	5
17:15-17:30	0	0	0	0	0
17:30-17:45	2	1	0	0	3
17:45-18:00	0	0	0	0	0
Total período	**5**	**1**	**2**	**0**	**8**
18:00-18:15	0	0	1	0	1
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	1	0	0	0	1
Total período	**1**	**0**	**1**	**0**	**2**
Total 12 horas	**60**	**7**	**63**	**4**	**134**

CUADRO Nº 14.1

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	14
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-465 (Los Queltehues
Duración	:	12 horas

Movimiento 1: Viraje izquierda de Oriente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	1	0	0	0	1
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
12:00-12:15	0	0	0	0	0
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
13:00-13:15	0	0	0	0	0
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
Total 12 horas	**1**	**0**	**0**	**0**	**1**

CUADRO Nº 14.2

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	14
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-465 (Los Queltehues
Duración	:	12 horas

Movimiento 2: Tránsito directo de Oriente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	1	0	1
07:15-07:30	0	0	1	0	1
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**2**	**0**	**2**
08:00-08:15	0	0	3	0	3
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	1	0	1
08:45-09:00	0	0	3	0	3
Total período	**0**	**0**	**7**	**0**	**7**
09:00-09:15	0	0	6	0	6
09:15-09:30	0	0	2	0	2
09:30-09:45	0	0	3	0	3
09:45-10:00	0	0	1	0	1
Total período	**0**	**0**	**12**	**0**	**12**
10:00-10:15	0	0	2	0	2
10:15-10:30	0	0	1	0	1
10:30-10:45	0	0	2	0	2
10:45-11:00	0	0	4	0	4
Total período	**0**	**0**	**9**	**0**	**9**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	3	0	3
11:30-11:45	1	0	1	0	2
11:45-12:00	2	0	1	0	3
Total período	**3**	**0**	**5**	**0**	**8**
12:00-12:15	0	0	2	0	2
12:15-12:30	1	0	2	0	3
12:30-12:45	3	0	1	0	4
12:45-13:00	1	0	2	0	3
Total período	**5**	**0**	**7**	**0**	**12**
13:00-13:15	2	0	8	0	10
13:15-13:30	0	0	5	0	5
13:30-13:45	1	0	1	0	2
13:45-14:00	1	0	4	0	5
Total período	**4**	**0**	**18**	**0**	**22**
14:00-14:15	0	0	2	1	3
14:15-14:30	1	1	2	0	4
14:30-14:45	1	0	0	0	1
14:45-15:00	0	0	0	0	0
Total período	**2**	**1**	**4**	**1**	**8**
15:00-15:15	0	1	0	0	1
15:15-15:30	1	0	0	0	1
15:30-15:45	0	0	1	0	1
15:45-16:00	0	0	0	0	0
Total período	**1**	**1**	**1**	**0**	**3**
16:00-16:15	3	0	1	0	4
16:15-16:30	1	0	1	0	2
16:30-16:45	1	0	0	0	1
16:45-17:00	2	0	2	0	4
Total período	**7**	**0**	**4**	**0**	**11**
17:00-17:15	0	0	2	1	3
17:15-17:30	2	0	3	0	5
17:30-17:45	0	1	1	0	2
17:45-18:00	0	0	1	1	2
Total período	**2**	**1**	**7**	**2**	**12**
18:00-18:15	1	0	2	0	3
18:15-18:30	0	0	3	0	3
18:30-18:45	1	0	1	0	2
18:45-19:00	2	1	5	0	8
Total período	**4**	**1**	**11**	**0**	**16**
Total 12 horas	**28**	**4**	**87**	**3**	**122**

CUADRO Nº 14.3

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	14
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-465 (Los Queltehues
Duración	:	12 horas

Movimiento 3: Tránsito directo de Norponiente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	1	0	1
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
08:00-08:15	1	1	2	0	4
08:15-08:30	1	0	3	0	4
08:30-08:45	0	1	0	0	1
08:45-09:00	0	0	1	0	1
Total período	**2**	**2**	**6**	**0**	**10**
09:00-09:15	0	0	2	0	2
09:15-09:30	0	0	2	0	2
09:30-09:45	1	0	1	0	2
09:45-10:00	2	0	1	0	3
Total período	**3**	**0**	**6**	**0**	**9**
10:00-10:15	1	0	4	0	5
10:15-10:30	0	0	3	0	3
10:30-10:45	0	0	0	0	0
10:45-11:00	0	0	2	0	2
Total período	**1**	**0**	**9**	**0**	**10**
11:00-11:15	1	0	1	0	2
11:15-11:30	5	0	5	0	10
11:30-11:45	3	0	2	1	6
11:45-12:00	4	0	5	0	9
Total período	**13**	**0**	**13**	**1**	**27**
12:00-12:15	1	0	2	0	3
12:15-12:30	2	0	0	0	2
12:30-12:45	1	0	1	0	2
12:45-13:00	0	0	1	0	1
Total período	**4**	**0**	**4**	**0**	**8**
13:00-13:15	2	1	3	0	6
13:15-13:30	1	0	1	0	2
13:30-13:45	1	0	0	0	1
13:45-14:00	1	3	0	0	4
Total período	**5**	**4**	**4**	**0**	**13**
14:00-14:15	1	0	7	0	8
14:15-14:30	1	0	0	0	1
14:30-14:45	0	0	3	0	3
14:45-15:00	0	1	4	0	5
Total período	**2**	**1**	**14**	**0**	**17**
15:00-15:15	1	0	3	1	5
15:15-15:30	1	0	3	0	4
15:30-15:45	0	1	0	1	2
15:45-16:00	1	0	2	0	3
Total período	**3**	**1**	**8**	**2**	**14**
16:00-16:15	3	0	4	0	7
16:15-16:30	4	0	0	0	4
16:30-16:45	0	0	0	0	0
16:45-17:00	1	0	0	0	1
Total período	**8**	**0**	**4**	**0**	**12**
17:00-17:15	0	0	1	0	1
17:15-17:30	1	0	1	0	2
17:30-17:45	1	0	0	0	1
17:45-18:00	1	0	0	0	1
Total período	**3**	**0**	**2**	**0**	**5**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	1	0	1
18:30-18:45	0	0	1	0	1
18:45-19:00	0	0	0	0	0
Total período	**0**	**0**	**2**	**0**	**2**
Total 12 horas	**44**	**8**	**73**	**3**	**128**

CUADRO Nº 14.4

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	14
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-465 (Los Queltehues
Duración	:	12 horas

Movimiento 4: Viraje derecha de Norponiente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	2	0	0	0	2
08:15-08:30	0	0	0	0	0
08:30-08:45	1	0	0	0	1
08:45-09:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**0**	**3**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
11:00-11:15	0	0	0	0	0
11:15-11:30	1	0	0	0	1
11:30-11:45	1	1	1	0	3
11:45-12:00	0	0	0	0	0
Total período	**2**	**1**	**1**	**0**	**4**
12:00-12:15	1	0	0	0	1
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	0	1	0	0	1
Total período	**1**	**1**	**0**	**0**	**2**
13:00-13:15	1	0	0	0	1
13:15-13:30	1	1	0	0	2
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	0	0	0
Total período	**2**	**1**	**0**	**0**	**3**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	2	0	0	0	2
14:45-15:00	0	0	1	0	1
Total período	**2**	**0**	**1**	**0**	**3**
15:00-15:15	1	0	0	0	1
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	1	0	0	0	1
Total período	**2**	**0**	**0**	**0**	**2**
16:00-16:15	0	0	0	0	0
16:15-16:30	1	0	0	0	1
16:30-16:45	1	0	0	0	1
16:45-17:00	1	0	0	0	1
Total período	**3**	**0**	**0**	**0**	**3**
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	1	0	0	0	1
17:45-18:00	1	1	0	0	2
Total período	**2**	**1**	**0**	**0**	**3**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
Total 12 horas	**18**	**4**	**2**	**0**	**24**

CUADRO Nº 14.5

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	14
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-465 (Los Queltehues
Duración	:	12 horas

Movimiento 5: Viraje izquierda de Surponiente a Norponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	0	0	0	0	0
08:15-08:30	1	0	0	0	1
08:30-08:45	1	0	0	0	1
08:45-09:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
09:00-09:15	0	0	0	0	0
09:15-09:30	1	0	0	0	1
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	2	0	0	0	2
Total período	**2**	**0**	**0**	**0**	**2**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
12:00-12:15	0	0	0	0	0
12:15-12:30	0	0	0	0	0
12:30-12:45	1	0	0	0	1
12:45-13:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
13:00-13:15	0	0	0	0	0
13:15-13:30	1	0	0	0	1
13:30-13:45	4	0	0	0	4
13:45-14:00	0	0	0	0	0
Total período	**5**	**0**	**0**	**0**	**5**
14:00-14:15	0	0	0	0	0
14:15-14:30	1	1	0	0	2
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**1**	**1**	**0**	**0**	**2**
15:00-15:15	0	0	0	0	0
15:15-15:30	1	0	0	0	1
15:30-15:45	0	0	0	0	0
15:45-16:00	0	1	0	0	1
Total período	**1**	**1**	**0**	**0**	**2**
16:00-16:15	1	0	0	0	1
16:15-16:30	3	0	0	0	3
16:30-16:45	1	0	0	0	1
16:45-17:00	1	0	0	0	1
Total período	**6**	**0**	**0**	**0**	**6**
17:00-17:15	0	1	0	0	1
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0
17:45-18:00	1	0	0	0	1
Total período	**1**	**1**	**0**	**0**	**2**
18:00-18:15	0	0	0	0	0
18:15-18:30	1	0	0	0	1
18:30-18:45	0	0	0	0	0
18:45-19:00	2	0	0	0	2
Total período	**3**	**0**	**0**	**0**	**3**
Total 12 horas	**24**	**3**	**0**	**0**	**27**

CUADRO Nº 14.6

Medición	:	23-nov-06
Lugar	:	Región Metropolitana
Punto de Control Nº	:	14
Intersección	:	Ruta G-25 (Camino a El Volcán) / Ruta G-465 (Los Queltehues
Duración	:	12 horas

Movimiento 6: Viraje derecha de Surponiente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	0	0	0	0	0
08:15-08:30	1	0	0	0	1
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	1	0	0	0	1
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	0	0	0	0	0
10:45-11:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	0	0	0	0	0
11:45-12:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
12:00-12:15	0	0	0	0	0
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
13:00-13:15	0	0	0	0	0
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
17:00-17:15	0	0	0	0	0
17:15-17:30	0	0	0	0	0
17:30-17:45	0	0	0	0	0
17:45-18:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
Total 12 horas	**2**	**0**	**0**	**0**	**2**

CUADRO Nº 15.1

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	15
Ubicación	:	Ruta G-455, Camino hacia el Embalse El Yeso
Duración	:	24 horas

Movimiento 1: Tránsito directo de Nororiente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	0	1
10:45-11:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	1	0	0	0	1
11:45-12:00	1	0	0	0	1
Total período	**2**	**0**	**0**	**0**	**2**
12:00-12:15	1	0	0	0	1
12:15-12:30	0	0	0	0	0
12:30-12:45	1	0	0	0	1
12:45-13:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
13:00-13:15	0	0	0	0	0
13:15-13:30	0	0	0	0	0
13:30-13:45	2	0	0	0	2
13:45-14:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	1	0	0	0	1
15:45-16:00	3	0	0	0	3
Total período	**4**	**0**	**0**	**0**	**4**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
17:00-17:15	1	0	0	0	1
17:15-17:30	0	0	0	0	0
17:30-17:45	2	0	0	0	2
17:45-18:00	0	0	0	0	0
Total período	**3**	**0**	**0**	**0**	**3**
18:00-18:15	1	0	0	0	1
18:15-18:30	1	1	0	0	2
18:30-18:45	0	0	0	0	0
18:45-19:00	0	0	0	0	0
Total período	**2**	**1**	**0**	**0**	**3**

Continuación CUADRO Nº 15.1

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	15
Ubicación	:	Ruta G-455, Camino hacia el Embalse El Yeso
Duración	:	24 horas

Movimiento 1: Tránsito directo de Nororiente a Surponiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
19:00-19:15	0	0	0	0	0
19:15-19:30	1	0	0	0	1
19:30-19:45	1	0	0	0	1
19:45-20:00	0	0	0	0	0
Total período	**2**	**0**	**0**	**0**	**2**
20:00-20:15	1	0	0	0	1
20:15-20:30	0	0	0	0	0
20:30-20:45	0	0	0	0	0
20:45-21:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
21:00-21:15	0	0	0	0	0
21:15-21:30	0	0	0	0	0
21:30-21:45	0	0	0	0	0
21:45-22:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
22:00-22:15	1	1	0	0	2
22:15-22:30	0	0	3	0	3
22:30-22:45	0	0	0	0	0
22:45-23:00	0	0	0	0	0
Total período	**1**	**1**	**3**	**0**	**5**
23:00-23:15	0	0	0	0	0
23:15-23:30	0	0	1	0	1
23:30-23:45	0	0	0	0	0
23:45-00:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
00:00-00:15	0	0	0	0	0
00:15-00:30	0	0	0	0	0
00:30-00:45	0	0	0	0	0
00:45-01:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
01:00-01:15	0	0	0	0	0
01:15-01:30	0	0	0	0	0
01:30-01:45	0	0	0	0	0
01:45-02:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
02:00-02:15	0	0	0	0	0
02:15-02:30	0	0	0	0	0
02:30-02:45	1	0	0	0	1
02:45-03:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
03:00-03:15	0	0	0	0	0
03:15-03:30	0	0	0	0	0
03:30-03:45	0	0	0	0	0
03:45-04:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
04:00-04:15	0	0	0	0	0
04:15-04:30	0	0	0	0	0
04:30-04:45	0	0	0	0	0
04:45-05:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
05:00-05:15	0	0	0	0	0
05:15-05:30	0	0	0	0	0
05:30-05:45	0	0	0	0	0
05:45-06:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
06:00-06:15	0	0	0	0	0
06:15-06:30	0	0	0	0	0
06:30-06:45	0	0	0	0	0
06:45-07:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
Total 24 horas	**22**	**2**	**4**	**0**	**28**

CUADRO Nº 15.2

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	15
Intersección	:	Ruta G-455, Camino hacia el Embalse El Yeso
Duración	:	24 horas

Movimiento 2: Tránsito directo de Surponiente a Nororiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	0	0	0
07:15-07:30	0	0	0	0	0
07:30-07:45	0	0	0	0	0
07:45-08:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
08:00-08:15	0	0	0	0	0
08:15-08:30	0	0	0	0	0
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
09:00-09:15	1	0	0	0	1
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	0	0	0
09:45-10:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
10:00-10:15	0	0	0	0	0
10:15-10:30	0	0	0	0	0
10:30-10:45	1	0	0	0	1
10:45-11:00	1	0	0	0	1
Total período	**2**	**0**	**0**	**0**	**2**
11:00-11:15	0	0	0	0	0
11:15-11:30	0	0	0	0	0
11:30-11:45	1	0	0	0	1
11:45-12:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
12:00-12:15	0	0	0	0	0
12:15-12:30	1	0	0	0	1
12:30-12:45	0	0	0	0	0
12:45-13:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
13:00-13:15	0	0	0	0	0
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	0	0	0
13:45-14:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
14:00-14:15	0	0	0	0	0
14:15-14:30	0	0	0	0	0
14:30-14:45	0	0	0	0	0
14:45-15:00	2	0	0	0	2
Total período	**2**	**0**	**0**	**0**	**2**
15:00-15:15	0	0	0	0	0
15:15-15:30	0	0	0	0	0
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
16:00-16:15	0	0	0	0	0
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	0	0	0
16:45-17:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
17:00-17:15	0	0	0	0	0
17:15-17:30	1	0	0	0	1
17:30-17:45	0	1	1	0	2
17:45-18:00	1	0	1	0	2
Total período	**2**	**1**	**2**	**0**	**5**
18:00-18:15	0	0	1	0	1
18:15-18:30	0	0	0	0	0
18:30-18:45	0	0	0	0	0
18:45-19:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**

Continuación CUADRO Nº 15.2

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	15
Intersección	:	Ruta G-455, Camino hacia el Embalse El Yeso
Duración	:	24 horas

Movimiento 2: Tránsito directo de Surponiente a Nororiente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
19:00-19:15	0	0	0	0	0
19:15-19:30	0	0	0	0	0
19:30-19:45	0	0	0	0	0
19:45-20:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
20:00-20:15	1	0	0	0	1
20:15-20:30	0	0	0	0	0
20:30-20:45	0	0	0	0	0
20:45-21:00	1	0	0	0	1
Total período	**2**	**0**	**0**	**0**	**2**
21:00-21:15	0	0	0	0	0
21:15-21:30	0	0	0	0	0
21:30-21:45	0	0	0	0	0
21:45-22:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
22:00-22:15	0	0	0	0	0
22:15-22:30	0	0	0	0	0
22:30-22:45	0	0	0	0	0
22:45-23:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
23:00-23:15	0	0	0	0	0
23:15-23:30	0	0	0	0	0
23:30-23:45	0	0	1	0	1
23:45-00:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
00:00-00:15	0	0	0	0	0
00:15-00:30	0	0	0	0	0
00:30-00:45	0	0	0	0	0
00:45-01:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
01:00-01:15	0	0	0	0	0
01:15-01:30	0	0	0	0	0
01:30-01:45	0	0	0	0	0
01:45-02:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
02:00-02:15	0	0	0	0	0
02:15-02:30	0	0	0	0	0
02:30-02:45	0	0	0	0	0
02:45-03:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
03:00-03:15	0	0	0	0	0
03:15-03:30	0	0	0	0	0
03:30-03:45	0	0	0	0	0
03:45-04:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
04:00-04:15	0	0	0	0	0
04:15-04:30	0	0	0	0	0
04:30-04:45	0	0	0	0	0
04:45-05:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
05:00-05:15	0	0	0	0	0
05:15-05:30	0	0	0	0	0
05:30-05:45	0	0	0	0	0
05:45-06:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
06:00-06:15	0	0	0	0	0
06:15-06:30	0	0	0	0	0
06:30-06:45	0	0	0	0	0
06:45-07:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
Total 24 horas	**12**	**1**	**4**	**0**	**17**

CUADRO Nº 16.1

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	16
Ubicación	:	Ruta G-25. Camino El Volcán, frente a Pueblo El Volcán
Duración	:	24 horas

Movimiento 1: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	3	1	4
07:15-07:30	0	0	4	0	4
07:30-07:45	0	0	6	0	6
07:45-08:00	0	0	2	0	2
Total período	**0**	**0**	**15**	**1**	**16**
08:00-08:15	1	0	3	0	4
08:15-08:30	0	1	3	0	4
08:30-08:45	0	0	5	0	5
08:45-09:00	0	1	1	0	2
Total período	**1**	**2**	**12**	**0**	**15**
09:00-09:15	0	0	3	0	3
09:15-09:30	0	0	3	0	3
09:30-09:45	1	0	3	0	4
09:45-10:00	0	1	2	0	3
Total período	**1**	**1**	**11**	**0**	**13**
10:00-10:15	0	0	3	0	3
10:15-10:30	0	0	4	0	4
10:30-10:45	0	0	3	0	3
10:45-11:00	0	0	2	0	2
Total período	**0**	**0**	**12**	**0**	**12**
11:00-11:15	0	0	1	0	1
11:15-11:30	0	0	3	0	3
11:30-11:45	1	0	1	0	2
11:45-12:00	0	0	1	0	1
Total período	**1**	**0**	**6**	**0**	**7**
12:00-12:15	0	1	3	0	4
12:15-12:30	0	0	3	0	3
12:30-12:45	0	1	2	0	3
12:45-13:00	0	1	1	0	2
Total período	**0**	**3**	**9**	**0**	**12**
13:00-13:15	0	1	1	0	2
13:15-13:30	0	0	2	0	2
13:30-13:45	0	0	4	0	4
13:45-14:00	0	0	5	0	5
Total período	**0**	**1**	**12**	**0**	**13**
14:00-14:15	1	0	2	0	3
14:15-14:30	2	0	3	0	5
14:30-14:45	1	0	0	0	1
14:45-15:00	2	1	0	0	3
Total período	**6**	**1**	**5**	**0**	**12**
15:00-15:15	1	0	0	0	1
15:15-15:30	0	0	1	0	1
15:30-15:45	0	1	3	0	4
15:45-16:00	0	2	3	0	5
Total período	**1**	**3**	**7**	**0**	**11**
16:00-16:15	0	0	2	0	2
16:15-16:30	0	0	0	0	0
16:30-16:45	0	0	2	0	2
16:45-17:00	0	0	2	0	2
Total período	**0**	**0**	**6**	**0**	**6**
17:00-17:15	0	1	2	0	3
17:15-17:30	1	0	3	0	4
17:30-17:45	0	0	2	0	2
17:45-18:00	0	0	2	0	2
Total período	**1**	**1**	**9**	**0**	**11**
18:00-18:15	0	0	1	0	1
18:15-18:30	2	0	1	0	3
18:30-18:45	2	0	4	0	6
18:45-19:00	2	1	0	0	3
Total período	**6**	**1**	**6**	**0**	**13**

Continuación CUADRO Nº 16.1

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	16
Ubicación	:	Ruta G-25. Camino El Volcán, frente a Pueblo El Volcán
Duración	:	24 horas

Movimiento 1: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
19:00-19:15	1	0	6	0	7
19:15-19:30	0	0	3	0	3
19:30-19:45	1	0	0	0	1
19:45-20:00	0	0	1	0	1
Total período	**2**	**0**	**10**	**0**	**12**
20:00-20:15	1	0	0	0	1
20:15-20:30	0	0	1	0	1
20:30-20:45	2	0	2	0	4
20:45-21:00	0	0	0	0	0
Total período	**3**	**0**	**3**	**0**	**6**
21:00-21:15	1	1	0	0	2
21:15-21:30	0	0	1	0	1
21:30-21:45	0	0	0	0	0
21:45-22:00	0	0	1	0	1
Total período	**1**	**1**	**2**	**0**	**4**
22:00-22:15	0	0	0	0	0
22:15-22:30	0	0	0	0	0
22:30-22:45	0	0	0	0	0
22:45-23:00	1	0	3	0	4
Total período	**1**	**0**	**3**	**0**	**4**
23:00-23:15	0	0	2	0	2
23:15-23:30	0	0	0	0	0
23:30-23:45	0	0	0	0	0
23:45-00:00	0	0	0	0	0
Total período	**0**	**0**	**2**	**0**	**2**
00:00-00:15	1	0	0	0	1
00:15-00:30	0	0	0	0	0
00:30-00:45	0	0	0	0	0
00:45-01:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
01:00-01:15	0	0	0	0	0
01:15-01:30	0	0	0	0	0
01:30-01:45	1	0	0	0	1
01:45-02:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
02:00-02:15	0	0	0	0	0
02:15-02:30	0	0	0	0	0
02:30-02:45	0	0	0	0	0
02:45-03:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
03:00-03:15	1	0	0	0	1
03:15-03:30	0	0	0	0	0
03:30-03:45	0	0	0	0	0
03:45-04:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
04:00-04:15	0	0	0	0	0
04:15-04:30	0	0	0	0	0
04:30-04:45	0	0	0	0	0
04:45-05:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
05:00-05:15	0	0	0	0	0
05:15-05:30	0	0	0	0	0
05:30-05:45	0	0	0	0	0
05:45-06:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
06:00-06:15	0	0	1	0	1
06:15-06:30	0	0	4	0	4
06:30-06:45	0	0	3	0	3
06:45-07:00	0	0	2	0	2
Total período	**0**	**0**	**10**	**0**	**10**
Total 24 horas	**27**	**14**	**140**	**1**	**182**

CUADRO Nº 16.2

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	16
Intersección	:	Ruta G-25. Camino El Volcán, frente a Pueblo El Volcán
Duración	:	24 horas

Movimiento 2: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	6	0	6
07:15-07:30	0	0	2	0	2
07:30-07:45	0	1	1	0	2
07:45-08:00	0	0	5	0	5
Total período	**0**	**1**	**14**	**0**	**15**
08:00-08:15	1	0	1	0	2
08:15-08:30	0	0	3	0	3
08:30-08:45	0	0	0	0	0
08:45-09:00	0	0	2	0	2
Total período	**1**	**0**	**6**	**0**	**7**
09:00-09:15	1	0	2	0	3
09:15-09:30	0	0	0	0	0
09:30-09:45	0	0	1	0	1
09:45-10:00	1	0	4	0	5
Total período	**2**	**0**	**7**	**0**	**9**
10:00-10:15	0	0	3	0	3
10:15-10:30	0	0	1	1	2
10:30-10:45	1	1	3	0	5
10:45-11:00	0	0	3	0	3
Total período	**1**	**1**	**10**	**1**	**13**
11:00-11:15	0	1	1	0	2
11:15-11:30	2	1	3	0	6
11:30-11:45	0	0	3	0	3
11:45-12:00	2	2	2	0	6
Total período	**4**	**4**	**9**	**0**	**17**
12:00-12:15	0	0	3	0	3
12:15-12:30	0	0	0	0	0
12:30-12:45	0	0	0	0	0
12:45-13:00	1	0	1	0	2
Total período	**1**	**0**	**4**	**0**	**5**
13:00-13:15	0	0	0	0	0
13:15-13:30	0	0	0	0	0
13:30-13:45	0	0	1	0	1
13:45-14:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
14:00-14:15	0	0	1	0	1
14:15-14:30	2	1	5	0	8
14:30-14:45	0	0	7	0	7
14:45-15:00	0	0	2	1	3
Total período	**2**	**1**	**15**	**1**	**19**
15:00-15:15	0	0	2	0	2
15:15-15:30	0	1	3	0	4
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	3	0	3
Total período	**0**	**1**	**8**	**0**	**9**
16:00-16:15	1	0	0	0	1
16:15-16:30	0	0	3	0	3
16:30-16:45	0	1	3	0	4
16:45-17:00	0	0	2	0	2
Total período	**1**	**1**	**8**	**0**	**10**
17:00-17:15	0	1	3	0	4
17:15-17:30	1	0	2	0	3
17:30-17:45	0	0	2	0	2
17:45-18:00	0	0	0	0	0
Total período	**1**	**1**	**7**	**0**	**9**
18:00-18:15	0	0	2	0	2
18:15-18:30	0	0	2	0	2
18:30-18:45	0	0	0	0	0
18:45-19:00	0	0	1	0	1
Total período	**0**	**0**	**5**	**0**	**5**

Continuación CUADRO Nº 16.2

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	16
Intersección	:	Ruta G-25. Camino El Volcán, frente a Pueblo El Volcán
Duración	:	24 horas

Movimiento 2: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
19:00-19:15	2	0	0	1	3
19:15-19:30	0	0	0	0	0
19:30-19:45	2	0	0	0	2
19:45-20:00	1	0	0	0	1
Total período	**5**	**0**	**0**	**1**	**6**
20:00-20:15	0	0	0	0	0
20:15-20:30	0	0	0	0	0
20:30-20:45	0	0	0	0	0
20:45-21:00	1	0	2	0	3
Total período	**1**	**0**	**2**	**0**	**3**
21:00-21:15	0	0	0	0	0
21:15-21:30	0	0	0	0	0
21:30-21:45	0	0	1	0	1
21:45-22:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
22:00-22:15	0	0	0	0	0
22:15-22:30	0	0	1	0	1
22:30-22:45	0	0	0	0	0
22:45-23:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
23:00-23:15	0	0	0	0	0
23:15-23:30	0	0	0	0	0
23:30-23:45	0	0	0	0	0
23:45-00:00	1	0	0	0	1
Total período	**1**	**0**	**0**	**0**	**1**
00:00-00:15	0	0	0	0	0
00:15-00:30	0	0	1	0	1
00:30-00:45	0	0	1	0	1
00:45-01:00	0	0	0	0	0
Total período	**0**	**0**	**2**	**0**	**2**
01:00-01:15	0	0	0	0	0
01:15-01:30	0	0	0	0	0
01:30-01:45	0	0	0	0	0
01:45-02:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
02:00-02:15	0	0	0	0	0
02:15-02:30	0	0	0	0	0
02:30-02:45	1	0	0	0	1
02:45-03:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
03:00-03:15	0	0	0	0	0
03:15-03:30	0	0	0	0	0
03:30-03:45	0	0	0	0	0
03:45-04:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
04:00-04:15	0	0	1	0	1
04:15-04:30	0	0	1	0	1
04:30-04:45	0	0	5	0	5
04:45-05:00	0	0	4	0	4
Total período	**0**	**0**	**11**	**0**	**11**
05:00-05:15	0	0	6	0	6
05:15-05:30	0	0	2	0	2
05:30-05:45	0	0	3	0	3
05:45-06:00	0	0	3	0	3
Total período	**0**	**0**	**14**	**0**	**14**
06:00-06:15	0	0	2	0	2
06:15-06:30	0	0	7	0	7
06:30-06:45	0	0	2	0	2
06:45-07:00	0	0	8	0	8
Total período	**0**	**0**	**19**	**0**	**19**
Total 24 horas	**21**	**10**	**144**	**3**	**178**

CUADRO Nº 17.1

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	17
Intersección	:	Ruta G-25. Camino El Volcán / Acceso a Baños Morales
Duración	:	24 horas

Movimiento 1: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	0	0	5	0	5
07:15-07:30	0	0	4	0	4
07:30-07:45	1	0	4	0	5
07:45-08:00	0	1	1	0	2
Total período	**1**	**1**	**14**	**0**	**16**
08:00-08:15	0	1	4	0	5
08:15-08:30	0	0	7	0	7
08:30-08:45	0	0	3	0	3
08:45-09:00	0	0	2	0	2
Total período	**0**	**1**	**16**	**0**	**17**
09:00-09:15	0	0	0	0	0
09:15-09:30	0	1	3	0	4
09:30-09:45	0	0	6	0	6
09:45-10:00	0	0	1	0	1
Total período	**0**	**1**	**10**	**0**	**11**
10:00-10:15	1	0	3	0	4
10:15-10:30	1	0	2	0	3
10:30-10:45	0	0	2	0	2
10:45-11:00	0	1	1	0	2
Total período	**2**	**1**	**8**	**0**	**11**
11:00-11:15	1	0	1	0	2
11:15-11:30	1	0	3	0	4
11:30-11:45	0	1	0	0	1
11:45-12:00	0	0	4	0	4
Total período	**2**	**1**	**8**	**0**	**11**
12:00-12:15	0	1	2	0	3
12:15-12:30	1	0	1	0	2
12:30-12:45	0	2	2	0	4
12:45-13:00	0	0	4	0	4
Total período	**1**	**3**	**9**	**0**	**13**
13:00-13:15	0	0	5	0	5
13:15-13:30	0	0	5	0	5
13:30-13:45	1	0	2	0	3
13:45-14:00	1	0	0	0	1
Total período	**2**	**0**	**12**	**0**	**14**
14:00-14:15	1	0	1	0	2
14:15-14:30	0	0	1	0	1
14:30-14:45	2	0	0	0	2
14:45-15:00	1	0	2	0	3
Total período	**4**	**0**	**4**	**0**	**8**
15:00-15:15	0	2	1	0	3
15:15-15:30	1	1	4	0	6
15:30-15:45	0	0	0	0	0
15:45-16:00	0	0	2	0	2
Total período	**1**	**3**	**7**	**0**	**11**
16:00-16:15	1	0	2	0	3
16:15-16:30	1	1	2	0	4
16:30-16:45	1	0	2	0	3
16:45-17:00	0	0	3	0	3
Total período	**3**	**1**	**9**	**0**	**13**
17:00-17:15	0	0	2	0	2
17:15-17:30	0	1	4	0	5
17:30-17:45	0	0	0	0	0
17:45-18:00	2	0	2	0	4
Total período	**2**	**1**	**8**	**0**	**11**
18:00-18:15	3	1	3	0	7
18:15-18:30	1	0	4	0	5
18:30-18:45	2	0	1	0	3
18:45-19:00	3	0	5	0	8
Total período	**9**	**1**	**13**	**0**	**23**

Continuación CUADRO Nº 17.1

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	17
Intersección	:	Ruta G-25. Camino El Volcán / Acceso a Baños Morales
Duración	:	24 horas

Movimiento 1: Tránsito directo de Oriente a Poniente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
19:00-19:15	0	0	0	0	0
19:15-19:30	0	0	0	0	0
19:30-19:45	1	0	2	0	3
19:45-20:00	0	0	0	0	0
Total período	**1**	**0**	**2**	**0**	**3**
20:00-20:15	2	0	0	0	2
20:15-20:30	1	0	1	0	2
20:30-20:45	0	0	0	0	0
20:45-21:00	1	0	0	0	1
Total período	**4**	**0**	**1**	**0**	**5**
21:00-21:15	0	0	0	0	0
21:15-21:30	0	0	0	0	0
21:30-21:45	0	0	0	0	0
21:45-22:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
22:00-22:15	0	0	0	0	0
22:15-22:30	0	0	1	0	1
22:30-22:45	1	2	1	0	4
22:45-23:00	0	0	1	0	1
Total período	**1**	**2**	**3**	**0**	**6**
23:00-23:15	0	0	0	0	0
23:15-23:30	0	0	0	0	0
23:30-23:45	0	0	0	0	0
23:45-00:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
00:00-00:15	1	0	0	0	1
00:15-00:30	0	0	0	0	0
00:30-00:45	0	0	0	0	0
00:45-01:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**0**	**1**
01:00-01:15	0	0	0	0	0
01:15-01:30	0	0	0	0	0
01:30-01:45	0	0	0	0	0
01:45-02:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
02:00-02:15	0	0	0	0	0
02:15-02:30	0	0	0	0	0
02:30-02:45	0	0	0	0	0
02:45-03:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
03:00-03:15	0	0	0	0	0
03:15-03:30	0	0	0	0	0
03:30-03:45	0	0	0	0	0
03:45-04:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
04:00-04:15	0	0	0	0	0
04:15-04:30	0	0	0	0	0
04:30-04:45	0	0	0	0	0
04:45-05:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
05:00-05:15	0	0	0	0	0
05:15-05:30	0	0	0	0	0
05:30-05:45	0	3	0	0	3
05:45-06:00	0	1	2	0	3
Total período	**0**	**4**	**2**	**0**	**6**
06:00-06:15	0	0	4	0	4
06:15-06:30	0	0	1	0	1
06:30-06:45	0	1	2	0	3
06:45-07:00	0	0	5	0	5
Total período	**0**	**1**	**12**	**0**	**13**
Total 24 horas	**34**	**21**	**138**	**0**	**193**

CUADRO Nº 17.2

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	17
Intersección	:	Ruta G-25. Camino El Volcán / Acceso a Baños Morales
Duración	:	24 horas

Movimiento 2: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
07:00-07:15	10	0	2	0	12
07:15-07:30	0	1	7	0	8
07:30-07:45	0	1	4	0	5
07:45-08:00	0	0	3	0	3
Total período	**10**	**2**	**16**	**0**	**28**
08:00-08:15	0	1	2	0	3
08:15-08:30	0	0	3	0	3
08:30-08:45	0	0	3	0	3
08:45-09:00	0	0	1	0	1
Total período	**0**	**1**	**9**	**0**	**10**
09:00-09:15	0	0	2	0	2
09:15-09:30	1	0	1	0	2
09:30-09:45	0	0	2	0	2
09:45-10:00	1	0	1	0	2
Total período	**2**	**0**	**6**	**0**	**8**
10:00-10:15	0	0	1	0	1
10:15-10:30	0	1	0	0	1
10:30-10:45	0	0	4	0	4
10:45-11:00	2	0	2	0	4
Total período	**2**	**1**	**7**	**0**	**10**
11:00-11:15	0	1	3	0	4
11:15-11:30	1	0	4	0	5
11:30-11:45	1	2	0	0	3
11:45-12:00	3	0	4	0	7
Total período	**5**	**3**	**11**	**0**	**19**
12:00-12:15	1	1	3	0	5
12:15-12:30	1	2	1	0	4
12:30-12:45	0	0	5	0	5
12:45-13:00	1	0	0	0	1
Total período	**3**	**3**	**9**	**0**	**15**
13:00-13:15	0	0	0	0	0
13:15-13:30	1	0	0	0	1
13:30-13:45	0	0	1	0	1
13:45-14:00	1	0	1	0	2
Total período	**2**	**0**	**2**	**0**	**4**
14:00-14:15	0	0	1	0	1
14:15-14:30	1	0	0	0	1
14:30-14:45	2	2	1	0	5
14:45-15:00	1	0	6	0	7
Total período	**4**	**2**	**8**	**0**	**14**
15:00-15:15	0	0	8	0	8
15:15-15:30	1	0	1	0	2
15:30-15:45	0	0	1	0	1
15:45-16:00	0	1	2	0	3
Total período	**1**	**1**	**12**	**0**	**14**
16:00-16:15	0	0	1	0	1
16:15-16:30	0	0	1	0	1
16:30-16:45	1	0	1	0	2
16:45-17:00	1	1	4	0	6
Total período	**2**	**1**	**7**	**0**	**10**
17:00-17:15	0	0	5	0	5
17:15-17:30	1	0	2	0	3
17:30-17:45	0	1	4	0	5
17:45-18:00	1	0	2	0	3
Total período	**2**	**1**	**13**	**0**	**16**
18:00-18:15	0	0	0	0	0
18:15-18:30	0	0	1	0	1
18:30-18:45	0	0	2	0	2
18:45-19:00	0	0	1	0	1
Total período	**0**	**0**	**4**	**0**	**4**

Continuación CUADRO Nº 17.2

Medición	:	16-nov-07
Lugar	:	Comuna de San José de Maipo, Región Metropolitana
Punto de Control Nº	:	17
Intersección	:	Ruta G-25. Camino El Volcán / Acceso a Baños Morales
Duración	:	24 horas

Movimiento 2: Tránsito directo de Poniente a Oriente

Período	Vehículos Livianos	Camiones de 2 ejes	Camiones + de 2 ejes	Buses y Taxibuses	TOTAL
19:00-19:15	0	0	0	0	0
19:15-19:30	0	0	1	0	1
19:30-19:45	0	0	0	0	0
19:45-20:00	3	0	2	0	5
Total período	**3**	**0**	**3**	**0**	**6**
20:00-20:15	0	0	0	1	1
20:15-20:30	1	0	0	0	1
20:30-20:45	0	0	0	0	0
20:45-21:00	0	0	0	0	0
Total período	**1**	**0**	**0**	**1**	**2**
21:00-21:15	0	0	1	0	1
21:15-21:30	0	0	0	0	0
21:30-21:45	1	0	0	0	1
21:45-22:00	0	0	0	0	0
Total período	**1**	**0**	**1**	**0**	**2**
22:00-22:15	0	0	1	0	1
22:15-22:30	0	0	0	0	0
22:30-22:45	0	0	0	0	0
22:45-23:00	1	0	0	0	1
Total período	**1**	**0**	**1**	**0**	**2**
23:00-23:15	0	0	0	0	0
23:15-23:30	0	0	0	0	0
23:30-23:45	0	0	0	0	0
23:45-00:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
00:00-00:15	0	0	0	0	0
00:15-00:30	0	0	0	0	0
00:30-00:45	0	0	0	0	0
00:45-01:00	0	0	1	0	1
Total período	**0**	**0**	**1**	**0**	**1**
01:00-01:15	0	0	1	0	1
01:15-01:30	0	0	0	0	0
01:30-01:45	0	0	0	0	0
01:45-02:00	0	0	0	0	0
Total período	**0**	**0**	**1**	**0**	**1**
02:00-02:15	0	0	0	0	0
02:15-02:30	0	0	0	0	0
02:30-02:45	0	0	0	0	0
02:45-03:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
03:00-03:15	0	0	0	0	0
03:15-03:30	0	0	0	0	0
03:30-03:45	0	0	0	0	0
03:45-04:00	0	0	0	0	0
Total período	**0**	**0**	**0**	**0**	**0**
04:00-04:15	0	0	0	0	0
04:15-04:30	0	0	0	0	0
04:30-04:45	0	0	1	0	1
04:45-05:00	0	0	4	0	4
Total período	**0**	**0**	**5**	**0**	**5**
05:00-05:15	0	5	0	0	5
05:15-05:30	0	0	2	0	2
05:30-05:45	0	1	4	0	5
05:45-06:00	0	1	1	0	2
Total período	**0**	**7**	**7**	**0**	**14**
06:00-06:15	0	0	2	0	2
06:15-06:30	0	0	3	0	3
06:30-06:45	0	0	3	0	3
06:45-07:00	0	0	8	0	8
Total período	**0**	**0**	**16**	**0**	**16**
Total 24 horas	**39**	**22**	**139**	**1**	**201**

PARTE B

MEDICIONES DE TRÁNSITO
LINEA BASE VIAL

AMBITRANS CONSULTING ENGINEERS LTD.

ROAD IMPACT ASSESSMENT
"ALTO MAIPO HYDROELECTRIC PROJECT"
CORDILLERA PROVINCE
METROPOLITAN REGION

REPORT

MAY 2008

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ROAD IMPACT ASSESSMENT
ALTO MAIPO HYDROELCTRIC PROJECT
CORDILLERA PROVINCE
METROPOLITAN REGION

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APPENDIXES:
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Appendix 2: Design of crossroads and junctions.
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ROAD IMPACT ASSESSMENT
ALTO MAIPO HYDROELCTRIC PROJECT
CORDILLERA PROVINCE
METROPOLITAN REGION

I. INTRODUCTION

The road impact assessment, by the owner of the project, to determine the impacts associated with the generated traffic flow during PHAM execution as follows:

The working methodology complies with current regulations of Regional Secretariat of the Ministry of Transportation and Telecommunications of the Metropolitan Region (SEREMI) regarding road impact assessment, of Regional Secretariat of the Ministry of Housing and Urban Development, and of the Department of Roads of the Public Works Ministry of Chile. It essentially focuses on determining the effect that will generate the traffic flow associated with the project on the levels of service and the degree of saturation of roads and relevant intersections that form the area of direct influence of the project.

Although current regulations are not specific with respect to conducting a road impact assessment (RIA) regarding projects affecting transportation, experience shows that municipalities affected by these kinds of projects do require it. There are sectorial regulations that rule these projects in terms of developing and approving of a road impact assessment in which executable measures be proposed in order to satisfy the needs of transportation without damaging infrastructure, services, and other activities of both their immediate and non-immediate surroundings of the future location of the project.

For instance, a RIA is required regarding a greater use of a roadway, and when there is a verification of the way in and way out of a building from any road or to a road because of territorial planning as a structuring and/or basic component of a road network system. With regard to Alto Maipo project, it will generate more traffic flow from public roadways to project site. Besides, various internal, exclusive roads will converge on public roadways; hence, a RIA is required.

It should be noted that this study analyses the road impact only while the construction phase occurs in which a greater traffic flow will be generated because of transportation of personnel and materials, supplies, and machinery. During operation phase traffic flows will be minimal, since a small number of people will be required to work in power plant control rooms and sporadic traffic of cargo vehicles to maintenance work.

I.3 Project Overview

According to chapter 2 of EIA, Alto Maipo hydroelectric project considers the construction of two run-of-river plants in series hydraulic, namely, Alfalfal II and Las Lajas. Both run-of-river plants will generate a maximum electric power of 530 MW.

Alfalfal II run-of-river plant will be located nearby Colorado River, downstream the current Alfalfal power plant while Las Lajas run-of-river plant will be located nearby El Sauce area.

Both run-of-river plants will operate using the water resources that come from El Volcán upper area, El Yeso reservoir, waters that go through the turbines of Alfalfal power plant, and the catchment area in the intermediate zone of Colorado River.

With regard to roadways in the area of influence near to working faces the project will require, before construction phase, various road junctions with public roadways that have to be designed in accordance with current regulations of the Department of Roads of the Public Works Ministry of Chile (MOP). See the projected road junctions in table 1.

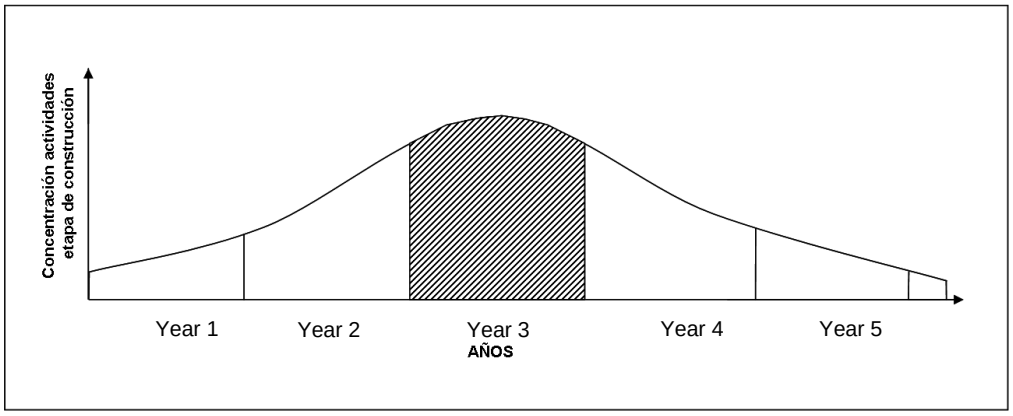
Table 1 Projected Road Junctions

Road Junction	Km	Road	Access to	Working face
La Obra	15,82	G-25	Aggregate extraction	La Obra
Nº 7	22,43	G-25	Maipo river discharge	Maipo
Nº 8	80,65	G-25	Water intake	El Volcán
Nº 10	4,97	G-345	Las Lajas tunnel	Las Lajas
Nº 6	7,62	G-345	Muck disposal	Las Lajas
Nº 5	9,13	G-345	Substation portal access	El Sauce
Nº 4	9,98	G-345	Camp and facilities	El Sauce
Nº 3	10,30	G-345	Ventana Los Maitenes	El Sauce
Nº 2	16,42	G-345	Camp and facilities	Aucayes
Crossroads (Quebrada Trescientos)	19,99	G-345	Tunnel	Alfalfal
Nº 1	20,47	G-345	Temporary facilities	Alfalfal
Nº 9	18,95	G-455	Muck disposal	El Yeso

I.3.1 Construction and Operation Phases

It is estimated a construction period of 5 years after getting the Environmental Qualification Resolution (RCA) with a greater concentration of traffic flows between the second and fourth year, according to Gauss curve in figure 1. During this period of approximately 3 years, most of the machinery, materials, and supplies will be transported as well as most of the workers who will alternate between extended stay in camps and some rest period in their private homes.

Figure 1
Developing activities during Construction Phase of the Project



Upon completion of construction activities, operations will start up in which traffic flow of workers as well as cargo vehicles will be minimal.

Gantt chart, included as an attachment in annex 2 of this EIA, shows the timeline for different working areas.

III. SPECIFIC OBJECTIVE AND SCOPE OF THE STUDY

The specific objective of this study is to estimate road impact on the area of influence because of the additional traffic flow that may be generated so as to determine both quantitatively and qualitatively the effects on the capacity and the levels of service of the affected roads.

In this regard, it is required that the following information be analyzed:

Baseline: It takes into account a detailed description of the most important characteristics of the current road supply and demand as well as the determination of the levels of service. In this regard, in section 5.6 of EIA there is a complete description of the baseline of the project.

a) *Current situation*: The current levels of service are estimated for rush hours in every relevant intersection of the area of influence.

b) *Base situation*: Normal flows are projected when the construction phase of the hydroelectric power plants starts. In this regard, specific growth rates are used to reflect the normal increase of the traffic flow in the area as years go by. Thus, the base situation is determined, being the reference to verify traffic congestion rates by adding the traffic flows of the project.

c) *With-project situation*: By adding the traffic flow of the project to the current road demand projected for 2008 and 2010 it will be determined the level of service of the with-project situation. It is implied that the traffic flow of the project in the operation phase will always be lower than the one of the construction phase in which a lower quantity of vehicles and some cargo vehicles will transit for maintenance work. Considering the aforementioned factors it is relevant to analyze traffic flow in the construction phase in which the increase of vehicular traffic flow over normal flows of the various sectors involved will become significant in the vehicular traffic of the area of influence.

e) *Road impact analysis*: Considering the probable differences between the levels of service and the degree of saturation of the current situation and the with-project situation, it will be assessed the magnitude of the road impact and mitigation measures will be proposed to make transport effective.

IV. METHODOLOGY

In accordance with the objectives stated in point III of this report, the first thing to determine is the baseline so as to know the main characteristics of the current road supply and demand. The road supply corresponds to both the physical and operational conditions of the roads for users i.e. capacity and levels of service, characteristics of the road (type of road, road width), the number of lanes, traffic flow directions, type and the condition of the road surface or pavement, plan and elevation geometry, intersection regulations, etc.

The road demand corresponds with the quantification (volume) and characterization of different types of vehicles on the roadways.

Based on the aforementioned characteristics and traffic simulation software (SIDRA; modeling gap acceptance, useful to model isolated intersections) it is determined the level of service of the current situation as a reference to comparative analysis between base situation and with-project situation.

Regarding paved rural roads, such as road G-25 from Las Vizcachas to El Yeso bridge and road G-345 access to El Alfalfal, the levels of service were analyzed using the methodology proposed in volume 6 of the Manual for Highways of the Public Works Ministry of Chile (Chapter 6.803), to estimate the capacity of the roads in prevailing conditions. The calculations do not include graveled roads and dirt roads since they do not present a well-defined geometry, specifically, the horizontal geometry. This is the case of road G-25, between El Yeso bridge and Baños Morales area, and road G-455 road access to El Yeso reservoir.

Finally, the main conclusions and recommendations are presented to mitigate the possible impacts that may occur on current roadways.

VII. ROAD IMPACT ANALYSIS

VII.1 Definition of road impact to assess

It is estimated that the construction of Alto Maipo hydroelectric power plants will generate an increase of the traffic flows in the direct area of influence of the project. It might translate into reducing the level of service of the road operation in that area which in turn might translate into increasing the magnitude of the typical impacts of road operation such as traffic accidents, pavement distress, and traffic congestion.

Regarding traffic accidents, despite various studies that have shown the direct relation between the increase of the risk of traffic accidents and the increase of the vehicle growth rate and some other variables such as, speed, visibility, etc., and the existence of predictive models that include them showing similar input values, the traffic accident rates are different in magnitude and with uncertain results. Therefore, it is difficult to quantify the increase of the traffic accident rate since there is no certainty as to the rate of occurrence of accidents in the roadways is directly associated with the generated traffic flow.

With regard to the advance of pavement distress, in intercity highways this is usually absorbed by routine and periodic maintenance work which is done by the Department of Roads of the Public Works Ministry of Chile while in communal highways the maintenance work is done by respective municipalities. In any case, this parameter is not relevant if cargo vehicles traffic complies with the standard axle load set by the Department of Roads of the Public Works Ministry of Chile.

In accordance with the foregoing, the main impact that has to be analyzed is the congestion rate, whose increase can be measurable comparing the variations of the levels of service of both with-project and non-project situations.

VII.2 Basic Methodology

To assess the road impact that will be generated by the project on the roadways of the area of influence, calculations have to be made regarding the level of service of the existing infrastructure considering the levels of the traffic demand in rush hours without including the demands generated by the operation of the project. This is known as base situation and/or reference situation.

Then, it is determined the level of service including the maximum traffic volume per hour that will be generated by the project. Finally, to examine the differences of both levels of service identifying the magnitude of the generated impact (slight, moderate, and severe).

VII.3 Area of Influence of Road Impact

As previously stated, from road impact standpoint the area of influence of the project includes all the roads that are an integral part of the routes according to point II of this report. It can be divided in two subsectors because of using two different methods to calculate the level of service (LOS). To determine the level of service (LOS) in some sections of rural roads it is used the proposed methodology of volume 6 of the Manual for Highways. As to urban and rural intersections, it is used the traffic simulation software SIDRA.

- *Calculation of Capacity and Level of Service in sections of the road:* It refers to rural paved sections that are an integral part of the proposed tracing such as road G-25 in the area between Las Vizcachas and La Obra and between La Obra and El Yeso bridge; Road G-345 up to El Alfalfal. It does not include either the calculation of capacity in road G-455 up to El Yeso reservoir or road G-25 between El Yeso bridge and Baños Morales owing to the absence of pavement and a defined geometry.

- *Modeling of Isolated Intersections SIDRA*: The most relevant paved intersections of the proposed tracing are modeled, with the exception of points 13 and 14 that correspond to graveled intersections without defined geometry.

  The modeling also includes two intersections currently non-existent (unmeasured). Once the construction phase of the project starts, they should be fully operational. The first one is called Proy-1, between the access road to Maipo river discharge and road G-25; the second one is called Proy-2, which corresponds to a junction in road G-345. It represents various similar intersections that will be used as road access to works and they should be built in advance to be used by the construction flows of the project.

  In summary, the intersections to model are shown in table 4:

TABLE 4
INTERSECTIONS TO MODEL

Punto	Entre	Comuna
1	Av. La Florida / Av. Departamental	La Florida
2	Av. La Florida / Rojas Magallanes	La Florida
3	Av. La Florida / Trinidad Oriente	La Florida
4	Av. La Florida / San José de la Estrella	La Florida
5	Av. Camilo Henríquez / Av. Diego Portales	La Florida y Puente Alto
6	Av. Camilo Henríquez / El Peñón	Puente Alto
7	Av. Camilo Henríquez / Eyzaguirre	Puente Alto
8	Ruta G-25 / Acceso a Ruta G-421	Puente Alto
9	Ruta G-25 / Ruta G-345	San José de Maipo
10	El Volcán / Cañada Norte	San José de Maipo
11	Comercio / Cañada Norte	San José de Maipo
12	Ruta G-25 (Camino al Volcán) / Ruta G-421	San José de Maipo
PROY1	Ruta G-25 / Nuevo camino a Descarga río Maipo	San José de Maipo
PROY2	Ruta G-345 / Empalme Tipo Proyectado	San José de Maipo

Elaboración Propia

VII.4 Analysis periods

The periods to analyze correspond to rush hour traffic as to normal traffic flows in the area as well as those generated by the construction of the project.

To represent normal rush hour traffic it was necessary to determine based on traffic measurements made by consultants, three peak hour events per day: first rush hour, second rush hour, and third rush hour. To determine the length of time of each peak hour event, graphs of flux vs. time were used from measurements that had been done in every intersection. Thus, rush hour traffic representative ranges were obtained through a sort of averaging process ("hora móvil") to generate a time window in order to precisely identify rush hour traffic events and its duration. (See tables 6 and 7).

The vehicular volumes in those peak hour traffic events translated into equivalent flows in accordance with Urban Road Design Manual, Volume 3 "Design Procedures of Urban Road infrastructure", of the Ministry of Housing and Urban Development (See table 5). Such conversion process represents the capacity-reducing effect of a road in terms of total vehicles-per-hour. Every commercial vehicle (buses and trucks) equates to various light vehicles with regard to traffic flow, as shown in the following table:

TABLE 5
EQUIVALENCY FACTORS

TYPE OF VEHICLE	EQUIVALENCY FACTORS
Light vehicles	1.00
Two-axle trucks	2.00
Multi-axle trucks	2.50
Taxibuses	1.65
Buses	2.00

TABLE 6
PERIOD (2006)
(RUSH HOUR TRAFFIC)

POINT N	INTERSECTIÓN	FIRST RUSH HOUR	THIRD RUSH HOUR	SECOND RUSH HOUR
1	Av. La Florida / Av. Departamental	07:30 a 08:30	12:30 a 13:30	18:00 a 19:00
2	Av. La Florida / Rojas Magallanes	07:30 a 08:30	12:30 a 13:30	18:00 a 19:00
3	Av. La Florida / Trinidad Oriente	07:30 a 08:30	12:30 a 13:30	18:00 a 19:00
4	Av. La Florida / San José de la Estrella	07:15 a 08:15	13:00 a 14:00	18:00 a 19:00
5	Av. Camilo Henríquez / Av. Diego Portales	07:30 a 08:30	12:15 a 13:15	18:00 a 19:00
6	Av. Camilo Henríquez / El Peñón	07:15 a 08:15	11:00 a 12:00	18:00 a 19:00
7	Road G-25 / Eyzaguirre (Las Vizcachas)	07:45 a 08:45	11:00 a 12:00	15:45 a 16:45
8	Road G-25 / Acceso a Ruta G-421 (Las Vertientes)	08:00 a 09:00	11:00 a 12:00	18:00 a 19:00
9	Road G-25 / Ruta G-345 (Acceso a El Alfalfal)	09:45 a 10:45	12:15 a 13:15	18:00 a 19:00
10	Camino El Volcán / Cañada Norte	09:45 a 10:45	12:45 a 13:45	17:30 a 18:30
11	Comercio / Cañada Norte	08:00 a 09:00	13:15 a 14:15	17:45 a 18:45
12	Road G-25 / Road G-421 (El Toyo)	09:15 a 10:15	13:15 a 14:15	15:30 a 16:30
Proy-1	Road G-25 / New road to Maipo river discharge	Similar to rush hour traffic of intersections 8 and 9		
Proy-2	Road G-345 / Projected junction	Similar to rush hour traffic of intersection 9		

Table 7 shows traffic flow of equivalent vehicles for every rush hour traffic period previously identified.

TABLE 7
RUSH HOUR TRAFFIC FLOW (2006)
TOTAL VEHICLES IN THE INTERSECTION
(VEQ / HOUR)

POINT N	INTERSECTION	FIRST RUSH HOUR	THIRD RUSH HOUR	SECOND RUSH HOUR
1	Av. La Florida / Av. Departamental	7506	4209	5961
2	Av. La Florida / Rojas Magallanes	5563	3541	4763
3	Av. La Florida / Trinidad Oriente	5433	3115	4535
4	Av. La Florida / San José de la Estrella	3822	2315	2202
5	Av. Camilo Henríquez / Av. Diego Portales	5020	3079	3489
6	Av. Camilo Henríquez / El Peñón	3933	2117	2411
7	Road G-25 / Eyzaguirre (Las Vizcachas)	2183	1372	1519
8	Road G-25 / Acceso a Ruta G-421 (Las Vertientes)	649	485	572
9	Road G-25 / Road G-345 (Access to El Alfalfal)	337	298	331
10	Camino El Volcán / Cañada Norte	226	216	192
11	Comercio / Cañada Norte	212	250	252
12	Road G-25 / Road G-421 (El Toyo)	196	204	172
Proy-1	Road G-25 / New road to Maipo river discharge	Similar to rush hour traffic of intersections 8 and 9		
Proy-2	Ruta G-345 / Projected junction	Similar to rush hour traffic of intersection 9		

VII.5 Time flux analysis

As a comparative flux between both base and with-project situations, maximum rush hour traffic are used according to peak hours as shown in Table 6, but considering the corresponding flows to total dynamics that come about in every intersection. They are expressed in vehicles per hour (as shown in census worksheet) because of SIDRA requirements.

The traffic projection from 2006 to the various temporary cut-offs is based on the annual growth rates recommended by MIDEPLAN, which are currently in force in the country and correspond to 4% for light vehicles and 2% for other types of vehicles.

Traffic modeling includes the base situation of 2006, both the base and with-project situations of 2008 (start of construction phase), and 2010, considering the peak of the construction phase expected on 2010.

There is no modeling of the operation phase for reasons outlined earlier.

VII.6 Traffic project generation

Details of transport requirements can be found in tables 8, 9, and 10 regarding cargo vehicles, and passenger vehicles (buses, light vehicles) to each working face. For purposes of estimation, the required vehicular fleet for this project has been taken into consideration in order to meet the requirements of the works i.e. all activities that will be developed in the next 5 years related to the construction phase of the project. (See Gantt chart).

It should be noted that this detail also includes trucks for aggregate extraction transport from the extraction shaft located in the area of La Obra and the traffic flows because of concrete transport.

The tables also show the calculations regarding total required traffic flow as well as the total vehicle per day and the total vehicle per hour, types of vehicles inclusive. These calculations constitute the basis for the **project flow** that will be used in the modeling of intersections with SIDRA and the calculation of capacity in some sections of the roads. The tables also present the time traffic flow as follows: Trucks = **3** per hour; Buses = **2** per hour; and Light vehicles = **1** per hour, in accordance with the direction of the traffic flow. In figure 25 are shown the project flows (VL, trucks, buses) diverging to each working face.

Table 8
Cargo transportation in trucks

	CARGO TRANSPORTATION TO WORKS *								
	unit	Working face							Total
		Maipo	El Sauce	Pta. Aux	Aucayes	Loading C.	Yeso	Volcan	
CARGO TRANSPORTATION TO WORKS (ton)									
Steel and anchor bolts	ton	300	600	600	300	1.000	1.000	1.000	**4.800**
Cement	ton	12.000	16.000	16.000	12.000	8.000	10.000	12.000	**86.000**
Complementary aggregates	ton	60.000	20.000	20.000	5.000	0	0	0	**105.000**
Timber	ton	50	200	200	50	700	700	300	**2.200**
Fuels	ton	200	600	800	200	400	400	400	**3.000**
Steel pipes	ton	0	1.200	3.000	0	0	1.600	200	**6.000**
Concrete pipes	ton	0	0	0	0	0	0	5.000	**5.000**
Other payload	ton	1.000	1.750	2.000	1300	1.000	1.200	1.750	**10.000**
Total	**ton**	**73.550**	**40.350**	**42.600**	**18.850**	**11.100**	**14.900**	**20.650**	**222.000**
TOTAL TRUCKS (CONSTRUCTION PHASE 5 YEARS)									
Steel and anchor bolts	trk 6 ton	50	100	100	50	167	167	167	**800**
Cement	trk 6 ton	2.000	2.667	2.667	1.667	1.333	2.000	2.000	**14.333**
Complementary aggregates	trk 18 ton	3.333	1.111	1.111	278	0	0	0	**5.833**
Timber	trk 6 ton	8	33	33	8	117	117	50	**367**
Fuels	trk 8 ton	25	75	100	25	50	50	50	**375**
Steel pipes	trk 6 ton	0	200	500	0	0	267	33	**1.000**
Concrete pipes	trk 6 ton	0	0	0	0	0	0	833	**833**
Other payload	trk 6 ton	167	292	333	167	167	250	292	**1.667**
Total	**truck**	**5.583**	**4.478**	**4.844**	**2.194**	**1.833**	**2.850**	**3.425**	**25.208**
TOTAL TRUCKS ANNUAL/DAILY/HOUR (3 YEARS/288 DAYS)									
Total trucks 5 years (daily)	trk	4	3	3	2	1	2	2	18
Total trucks considering 3 years (daily)	**trk**	**6**	**5**	**6**	**3**	**2**	**3**	**4**	**29**
Trucks per year (3 years)	trk	1.861	1.493	1.615	731	611	950	1.142	**8.403**
Trucks per day (3 years)	trk	6	5	6	3	2	3	4	**29**
Trucks per hour (calculated)	trk	0,3	0,2	0,2	0,1	0,1	0,1	0,2	**1,2**
Trucks per hour (adopted)	**trk**	**1**	**1**	**1**	**1**	**1**	**1**	**1**	**7**

*One way flow

Auxiliary plant and Loading center: They correspond to above ground works in the area of Alfalfal.

Additionally, there will be low traffic flow on road G-345 in a section of approximately 2 kilometers due to muck disposal transport. It will be done from Las Lajas tunnel access portal working face (VL2) to muck disposal site 14. The quantity of material that is to be transported amounts to 159.000 Ton/ year during 15 months, which means, in the most unfavorable condition, a traffic flow of 2 trucks per hour.

Table 9
Transportation of personnel in buses

	TRANSPORTE DE PERSONAL EN BUS HACIA LAS OBRAS (4 turnos / mes)							
	unidad	Frente de trabajo						Total
		Volcán	Yeso	Aucayes	Estanque	Las Lajas	Maipo	
TRANSPORTE DE PERSONAL, PEOR SITUACION CONSIDERADA (ENERO DE 2011)								
pasajeros/mes	pasajeros	267	587	160	960	720	160	**2.854**
bus/mes	bus (cap. 40 pas.)	7	15	4	24	18	4	**71**
bus/4 turnos	bus	2	4	1	6	5	1	**18**
TRANSPORTE DE PERSONAL (HORA)								
bus	%	9,36%	20,57%	5,61%	33,63%	25,22%	5,61%	**100%**
Bus por hora (calculado)	bus	1,7	3,7	1,0	6,0	4,5	1,0	**18**
Bus por hora (adoptado)	**bus**	**2**	**4**	**1**	**6**	**5**	**1**	**19**

*flujo en un sentido

Pond: It corresponds to above ground works in the area of Alfalfal.

Table 10
Transportation of personnel in light vehicles

	TRANSPORTE DE PERSONAL EN VEHICULOS LIVIANOS HACIA LAS OBRAS								
	unidad	Frente de trabajo							**Total**
		Volcán	Volcán	Yeso	Aucayes	Estanque	Las Lajas	Maipo	
TRANSPORTE DE VEHICULOS LIVIANOS (2/DIA)									
Vehiculos livianos (diario)	vehiculo	2	2	2	2	2	2	2	**14**
Total	vehiculo	2	2	2	2	2	2	2	**14**
TRANSPORTE DE VEHICULOS LIVIANOS (concentrado en una hora)									
Vehiculos livianos	%	14,29%	14,29%	14,29%	14,29%	14,29%	14,29%	14,29%	**100%**
Vehiculos livianos por hora (calculado)	vehiculos	0,14	0,14	0,14	0,14	0,14	0,14	0,14	**1**
Vehiculos livianos por hora (adoptado)	**vehiculos**	**2**	**2**	**2**	**2**	**2**	**2**	**2**	**14**

*flujo en un sentido

Pond: It corresponds to above ground works in the area of Alfalfal.

VII.7 Estimation of Levels of Service

In general terms, the categories of levels of service for both urban and interurban roads are defined as follows:

- *Level-of-service A*: It describes free-flow operations with low traffic flow at or above the posted speed limit.
- *Level-of-service B*: It describes a stable free-flow operations in which the traffic stream is slightly restricted.
- *Level-of-service C*: It describes at or near free-flow operations. Speed and maneuverability are noticeably restricted because of high traffic flow.
- *Level-of-service D*: It describes decreasing free-flow levels.
- *Level-of-service E*: It describes operations at capacity. Compare to level of service D, flow becomes even more irregular and speed decreases rapidly because there are virtually no usable gaps to maneuver in the traffic stream.
- *Level-of-service F*: It describes a breakdown in vehicular flow. Flow is forced, with frequent slowing required. It represents a road in constant traffic jam. Roads operating in this level of service generally have more demand than capacity.

As previously stated, the methodology described in Volume 6 of the Manual for Highways is used in rural roads to estimate capacities and levels of service in prevailing conditions getting actual results based on ideal capacity values that are affected by both physical and operational reductions of the road such as heavy goods vehicles (HGV), road width, lateral frictions, type of roads, proper visibility in some sections of the road, etc.

With regards to the urban case and the main interurban intersections analyzed, the level of service can be obtained through estimating the degree of saturation (X), which is a congestion severity index, as an equal ratio between demand (traffic flow) and road supply (capacity). It will be congestion if X tends to 1.

However, if the degree of saturation is higher than 0.6, the congestion usually manifest itself as instability in the traffic flow and intersections through decreasing speed, restricted maneuverability, etc.

According to Rahmi Akcelik's "Calibrating SIDRA" from the Australian Road Research Report No. 180 of 1990, the level of service according to the degree of saturation can be estimated as follows:

Table 11
CATEGORIES OF LEVELS OF SERVICE

LEVEL OF SERVICE	DEGREE OF SATURATION (X)
A	X ≤ 0,60
B	0,60 <X ≤ 0,75
C	0,75 <X ≤ 0,90
D	0,90 <X ≤ 0,95
E	0,95 <X ≤ 1,00
F	1,00 <X

In summary, as to intersections included in this study the analysis will be focused on determining if the eventual reduction of capacity and the increase of the traffic flow associated with the project will have a bearing in the decrease of the current level of service. To this end, the traffic simulation software SIDRA is used because it allows simulating the traffic flow in isolated intersections delivering data regarding a congestion index such as the degree of saturation, and impacts such as, delays and the increase of the length of the queue.

The results of the modeling for both base and with-project situations are presented in appendix 1 “SIDRA modeling”.

VII.7.1 Calculations of capacity and levels of service in road segments

To calculate the capacity and the level of service in road segments rush hour traffic registered in peak hours is used. Thus, the analysis represents the highest demand situation, regarding usual traffic flow in that specific road segment as well as the final result when the traffic flow of the project is added.

In this regard, the road segment between Las Vizcachas and La Obra of road G-25 registered, in a business day, a peak hour traffic flow between 07:45 and 08:45 with a rush hour traffic flow of **1079** vehicles per hour considering traffic in both directions. It corresponds to all vehicular traffic flows derived from the east branch of intersection 7 (Road G-25 / Eyzaguirre) i.e. the flow of Nº 1, 2, 3, and 6 from / to San José de Maipo.

In road G-25, the road segment between La Obra and El Yeso bridge, passed across San Gabriel, where the paved road ends, there is a peak hour traffic flow between 08:00 and 09:00 hours with a rush hour traffic flow of **479** vehicles per hour considering traffic in both directions.

This value is higher than the one registered among all measured intersections from La Obra to El Volcán, adopting ex profeso its value so as to cover any situation regarding traffic flows in the other intersections. This value corresponds to all vehicular traffic flows derived from the east branch of intersection **8** (Road G-25 / Access to Road G-421 – Las Vertientes) i.e. the flow of Nº 2, 3, 4, and 5.

In road G-345, access to Los Maitenes, there is a peak hour traffic flow between 09:45 and 10:45 hours, business day, with a rush hour traffic flow **24** vehicles per hour considering traffic flow in both directions. It corresponds to all vehicular traffic flows derived from the north branch of intersection **9** (Road G-25 / Road G-345) i.e. the flow of Nº 2, 3, 4 and 5.

Each road is analyzed according to its current geometric and operational conditions considering the tracing of three different situations in order to determine the effect of commercial vehicles on the capacity of a road. These are as follows:

Flat terrain: It describes a terrain which horizontal and vertical alignments allow commercial vehicles to maintain operational speeds similar to passenger vehicles.

Undulating terrain: It describes a terrain which horizontal and vertical alignments forced commercial vehicles to maintain reduced operational speeds in some sections of the road, lower than the speed of passenger vehicles. Trucks can operate at speed regime in some sectors.

Mountainous terrain: It describes a terrain which horizontal and vertical alignments forced commercial vehicles to keep on operating at speed regime. At the same time, the horizontal alignment forced passenger vehicles to reduce speed.

General characteristics of the roads (design parameters)

The following design parameters and relevant characteristics are considered as *input* in order to apply the aforementioned methodology. This analysis includes neither the section between El Yeso bridge and El Volcán nor the section between Romeral and El Yeso reservoir (Road G-455) since they have neither paved roads nor a well-defined geometry.

Section 1: Road G-25 between Las Vizcachas and La Obra

- Type of road : Bi-directional two-lane road
- Number of lanes : 4
- Road width : 3.5 m.
- Berms : 3 m both sides (average berm width)
- Distance to lateral obstructions : 1.8 m.
- Overtaking conditions : 100% suitable
- Average speed (VPC)[1] : 110 K.P.H.
- Type of terrain : Flat

Section 2: Road G-25 between La Obra and El Yeso bridge

- Type of road : Bi-directional single-lane road
- Number of lanes : 2
- Road width : 3.0 m.
- Berms : 0.5 m both sides (average berm width)
- Distance to lateral obstructions : 1.2 m.
- Overtaking conditions : 60% suitable
- Average speed (VPC) : 96 K.P.H.
- Type of terrain : Undulating

Section 3: Road G-345 access to El Alfalfal

- Type of road : Bi-directional single-lane road
- Number of lanes : 2

[1]The average speed of the road (VPC), corresponds to the weighted average of the design speeds of the different components of the roads (curves and straight sections).

- Road width : 3 m.
- Berms : 0,5 m. both sides
- Distance to lateral obstructions : 1 m (average)
- Overtaking conditions : 60% suitable
- Average speed (VPC) : 72 K.P.H.
- Type of terrain : Undulating

- **Calculation of capacity and level of service of the road**

– **Capacity**

The capacity of a road is defined as a measure of effectiveness of the road to accommodate traffic flow i.e. it corresponds to the highest number of vehicles that have a reasonable probability to pass through a section of the highway under prevailing conditions of both the road and the traffic flow.

The prevailing conditions of the road are set by its components such as alignment, road width, berm width, free lateral distance, good visibility for overtaking, etc.

The prevailing conditions of the traffic flow are set by nature and the composition of the traffic flow of the road.

The calculation of capacity of a road is done under ideal prevailing conditions in which the correction factors are applied to road width, distance to lateral obstructions, berms, trucks, and buses in slopes.

- **Level of Service:**

The level of service (LOS) corresponds to a qualitative measurement of the effect generated by a series of factors that includes speed, unrestricted maneuverability, road traffic safety, driver comfort levels, and operational costs.

Level of service standard uses the letters A through F, with A being the best and F being the worst, covering all possible operational conditions in a road.

On the other hand, Service volume (SV) is determined for every level of service and it corresponds to the highest number of vehicles that a section of a road can accommodate, which is associated with a specific level of service.

- **Capacity of a four-lane undivided unidirectional road (Road G-25 between Las Vizcachas and La Obra)**

Capacity is determined using the design parameters of the road as well as the data regarding road demand and the previously stated methodology indicated in the section “Capacity of unidirectional roads without controlled access”.

According to this methodology, the capacity of undivided bi-directional roads without controlled access is determined as follows:

$$C = 2000 * N * W * Tc * Bc$$

Where:

C : Capacity (Veh / hour)
N : Number of lanes in one direction
W : Road width correction factor
Tc : Truck correction factor
Bc : Bus correction factor

To calculate the level of service in each period it is imperative to determine the service volume under prevailing conditions as follows:

$$VS = 2000 * N * (v/c) * W * TL * BL$$

Where:

SV : Service volume
N : Number of lanes in one direction

v/c : Volume /capacity ratio
W : Road width correction factor
TL : Truck correction factor for a given LOS
BL : Bus correction factor for a given LOS

- **Capacity of a single-lane bi-directional road (Road G-25 passed across La Obra and road G-345 between El Manzano and El Alfalfal sector)**

The capacity of a bi-directional road is determined as follows:

$$C = 2000 * W_c * T_c * B_c$$

Where:

C : Capacity (Veh / hour)
Wc : Road width correction factor
Tc : Truck correction factor
Bc : Bus correction factor

To calculate the level of service it is imperative to determine in advance the service volume under prevailing conditions as follows:

$$VS = 2000 * (v/c) * W_L * T_L * B_L$$

Where:

SV : Service volume
v/c : Volume / capacity ratio
W_L : Road width correction factor
T_L : Truck correction factor for a given LOS
B_L : Bus correction factor for a given LOS

Table 12 shows maximum traffic flows that were considered to calculate capacity and levels of service for each section of the road.

Table 12
MAXIMUM TRAFFIC FLOWS TO CALCULATE CAPACITY IN SECTIONS OF THE ROAD AND PERCENTAGE OF TRUCKS AND BUSES

A) SITUACIÓN ACTUAL AÑO 2006

TRAMO Nº 1 Las Vizcachas - La Obra	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	904	112	63	1079
PORCENTAJES	84%	10%	6%	100%

TRAMO Nº 2 Ruta G-25 desde La Obra	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	405	48	26	479
PORCENTAJES	85%	10%	5%	100%

TRAMO Nº 3 Ruta G-345 Acceso El Alfalfal	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	22	1	1	24
PORCENTAJES	92%	4%	4%	100%

B) SITUACIÓN BASE AÑO 2010

TRAMO Nº 2	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	1058	121	68	1247
PORCENTAJES	85%	10%	5%	100%

TRAMO Nº 3	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	474	52	28	554
PORCENTAJES	86%	9%	5%	100%

TRAMO Nº 5	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	26	1	1	28
PORCENTAJES	92%	4%	4%	100%

C) SITUACIÓN CON PROYECTO 2010 (CONSTRUCCIÓN)

TRAMO Nº 2	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	1086	123	106	1315
PORCENTAJES	83%	9%	8%	100%

TRAMO Nº 3	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	502	66	66	634
PORCENTAJES	79%	10%	10%	100%

TRAMO Nº 5	VEHICULOS LIVIANOS	VEHICULOS PESADOS		TOTAL
		Camiones	Buses	
TOTAL	42	9	25	76
PORCENTAJES	55%	12%	33%	100%

Tables Nº 13, 14 and 15 present the level of service of each section of the road and table Nº 16 presents the summary of them.

Table 13

CALCULO DE CAPACIDAD Y NIVEL DE SERVICIO DE LA VÍA
Tramo 1 Las Vizcachas - La Obra

Distancia a obstáculos laterales:	1,8	m
Ancho de pista	3,5	m
Número de Pistas por Sentido	2	
Tramos con Visibilidad adecuada:	100	%
Velocidad prom. del camino (VPC):	110	km/h
Terreno:	Plano	

A) SITUACIÓN ACTUAL AÑO 2006

Porcentaje	Camiones	10%	Tot. Veh en hora punta:	**1079**
	Buses	6%	Nivel de Servicio:	**B**

	v/c	Wc	Tc	Bc	VS
A	0,200	0,951	**0,833**	**0,943**	598
B	0,450	0,953	**0,870**	**0,943**	1407
C	0,700	0,956	**0,870**	**0,943**	2196
D	0,850	0,958	**0,909**	**0,943**	2792
Capacidad (VPH):	**3137**	0,956	0,870	0,943	

B) SITUACIÓN BASE AÑO 2010

Porcentaje	Camiones	10%	Tot. Veh en hora punta:	**1247**
	Buses	5%	Nivel de Servicio:	**B**

	v/c	Wc	Tc	Bc	VS
A	0,200	0,951	**0,833**	**0,952**	603
B	0,450	0,953	**0,870**	**0,952**	1421
C	0,700	0,956	**0,870**	**0,952**	2217
D	0,850	0,958	**0,909**	**0,952**	2819
Capacidad (VPH):	**3167**	0,956	0,870	0,952	

C) SITUACIÓN CON PROYECTO (ETAPA CONSTRUCCIÓN) AÑO 2010

Porcentaje	Camiones	9%	Tot. Veh en hora punta:	**1315**
	Buses	8%	Nivel de Servicio:	**B**

	v/c	Wc	Tc	Bc	VS
A	0,200	0,951	**0,847**	**0,926**	597
B	0,450	0,953	**0,881**	**0,926**	1399
C	0,700	0,956	**0,881**	**0,926**	2184
D	0,850	0,958	**0,917**	**0,926**	2766
Capacidad (VPH):	**3120**	0,956	0,881	0,926	

Table 14

CALCULO DE CAPACIDAD Y NIVEL DE SERVICIO DE LA VÍA
Tramo 2 La Obra - Puente el Yeso

Distancia a obstáculos laterales:	1,2	m
Ancho de pista	3	m
Número de Pistas por Sentido	1	
Tramos con Visibilidad adecuada:	60	%
Velocidad prom. del camino (VPC):	96	km/h
Terreno:	Ondulado	

A) SITUACIÓN ACTUAL AÑO 2006

Porcentaje	Camiones	10%	Tot. Veh en hora punta:	**479**
	Buses	5%	Nivel de Servicio:	**D**

	v/c	Wc	Tc	Bc	VS
A	-	-	-	-	-
B	0,300	0,710	**0,714**	**0,690**	210
C	0,560	0,730	**0,714**	**0,690**	403
D	0,790	0,740	**0,714**	**0,690**	576
Capacidad (VPH):	**719**	0,730	0,714	0,690	

B) SITUACIÓN BASE AÑO 2010

Porcentaje	Camiones	9%	Tot. Veh en hora punta:	**554**
	Buses	5%	Nivel de Servicio:	**D**

	v/c	Wc	Tc	Bc	VS
A	-	-	-	-	-
B	0,300	0,710	**0,735**	**0,690**	216
C	0,560	0,730	**0,735**	**0,690**	415
D	0,790	0,740	**0,735**	**0,690**	593
Capacidad (VPH):	**740**	0,730	0,735	0,690	

C) SITUACIÓN CON PROYECTO (ETAPA CONSTRUCCIÓN) AÑO 2010

Porcentaje	Camiones	10%	Tot. Veh en hora punta:	**634**
	Buses	10%	Nivel de Servicio:	**D**

	v/c	Wc	Tc	Bc	VS
A	-	-	-	-	-
B	0,300	0,710	**0,714**	**0,769**	234
C	0,560	0,730	**0,714**	**0,769**	449
D	0,790	0,740	**0,714**	**0,769**	642
Capacidad (VPH):	**801**	0,730	0,714	0,769	

Table 15

CALCULO DE CAPACIDAD Y NIVEL DE SERVICIO DE LA VÍA
Tramo 3 Acceso a Los Maitenes

Distancia a obstáculos laterales:	1,0	m
Ancho de pista	3	m
Número de Pistas por Sentido	1	
Tramos con Visibilidad adecuada:	60	%
Velocidad prom. del camino (VPC):	72	km/h
Terreno:	Ondulado	

A) SITUACIÓN ACTUAL AÑO 2006

Porcentaje	Camiones	4%	Tot. Veh en hora punta:	**24**
	Buses	4%	Nivel de Servicio:	**C**

	v/c	Wc	Tc	Bc	VS
A	-	-	-	-	-
B	-	-	-	-	-
C	0,410	0,700	**0,862**	**0,893**	442
D	0,570	0,720	**0,862**	**0,893**	632
Capacidad (VPH):	**1078**	0,700	0,862	0,893	

B) SITUACIÓN BASE AÑO 2010

Porcentaje	Camiones	4%	Tot. Veh en hora punta:	**28**
	Buses	4%	Nivel de Servicio:	**C**

	v/c	Wc	Tc	Bc	VS
A	-	-	-	-	-
B	-	-	-	-	-
C	0,370	0,700	**0,862**	**0,893**	399
D	0,550	0,720	**0,862**	**0,893**	610
Capacidad (VPH):	**1078**	0,700	0,862	0,893	

C) SITUACIÓN CON PROYECTO (ETAPA) CONSTRUCCIÓN AÑO 2010

Porcentaje	Camiones	12%	Tot. Veh en hora punta:	**76**
	Buses	33%	Nivel de Servicio:	**C**

	v/c	Wc	Tc	Bc	VS
A	-	-	-	-	-
B	-	-	-	-	-
C	0,370	0,700	**0,676**	**0,503**	176
D	0,550	0,720	**0,676**	**0,503**	269
Capacidad (VPH):	**476**	0,700	0,676	0,503	

Table 16

RESUMEN NIVEL DE SERVICIO EN TRAMOS DE VÍAS					
TRAMO	RUTA	ENTRE	ESCENARIOS		
			ACTUAL 2007	BASE 2010	CON PROYECTO 2010
1	G-25	LAS VIZCACHAS Y LA OBRA	B	B	B
2		LA OBRA Y PUENTE EL YESO	D	D	D
3	G-345	ACCESO LOS MAITENES	C	C	C

VII.7.2 Modeling of isolated intersections

The modeling of the intersections is done considering the rush hour traffic flow registered in the peak hours of each intersection. The situations are as follows:

a) Current situation year 2006: It represents the actual situation of 2006 regarding traffic flows and operational conditions of each section of the road.

b) Base situation and with-project situation (construction) year 2008: It represents the start of the construction phase, when transition towards peaking of the works occurs. Traffic flows of the current situation are projected to 2008 as well as those coming from the project.

c) Base situation and with-project situation (construction) year 2010: It represents the peak of the works. Traffic flows of the current situation are projected to 2010 with the addition of the highest traffic flows of the project.

Base situation is the reference that allows assessing the fluctuations of the levels of service with the addition of the traffic flows of the project considering the existing road supply and the road demand in specific hours that were measured in each checkpoint.

The degree of saturation and delays as well as the movement of the length of the queue are shown in tables S.5 y S.15 of appendix 1 “SIDRA MODELLING”.

Table 17 shows maximum rush hour traffic considered for SIDRA modeling separated by movement and type of vehicle i.e. light and heavy goods vehicles.

Table 18 presents the levels of service and the degree of saturation values of all analyzed intersections, which is summarized in table 19.

Table 17
TRAFFIC FLOWS SIDRA MODELLING (VEH)

INTERSECCIÓN	HORA PUNTA MÁXIMA	MOVIMIENTO	SITUACIÓN ACTUAL AÑO 2006		AÑO 2008				AÑO 2010			
					SITUACIÓN BASE		SITUACIÓN CON PROYECTO (CONSTRUCCIÓN)		SITUACIÓN BASE		SITUACIÓN CON PROYECTO (CONSTRUCCIÓN)	
			VL	VP	VL	VP	VL	VP	VL	VP	VL	VP
Nº 1 Av. La Florida / Av. Departamental	MAÑANA 07:30 a 08:30 hrs.	**Movimiento 1**	**2.369**	**137**	**2.562**	**143**	**2.576**	**163**	**2.771**	**148**	**2.785**	**168**
		Movimiento 2	14	3	15	3	15	3	16	3	16	3
		Movimiento 3	515	76	557	79	557	79	602	82	602	82
		Movimiento 4	1.214	138	1.313	144	1.313	144	1.420	149	1.420	149
		Movimiento 5	282	140	305	146	305	146	330	152	330	152
		Movimiento 6	55	5	59	5	59	5	64	5	64	5
		Movimiento 7	**928**	**76**	**1.004**	**79**	**1.018**	**99**	**1.086**	**82**	**1.100**	**102**
		Movimiento 8	17	1	18	1	18	1	20	1	20	1
		Movimiento 9	1	1	1	1	1	1	1	1	1	1
		Movimiento 10	508	37	549	38	549	38	594	40	594	40
		Movimiento 11	256	78	277	81	277	81	299	84	299	84
Nº 2 Av. La Florida / Rojas Magallanes	MAÑANA 07:30 a 08:30 hrs.	Movimiento 1	231	4	250	4	250	4	270	4	270	4
		Movimiento 2	**2.061**	**192**	**2.229**	**200**	**2.243**	**220**	**2.411**	**208**	**2.425**	**228**
		Movimiento 3	72	17	78	18	78	18	84	18	84	18
		Movimiento 4	115	14	124	15	124	15	135	15	135	15
		Movimiento 5	427	7	462	7	462	7	500	8	500	8
		Movimiento 6	97	2	105	2	105	2	113	2	113	2
		Movimiento 7	72	5	78	5	78	5	84	5	84	5
		Movimiento 8	**1.237**	**168**	**1.338**	**175**	**1.352**	**195**	**1.447**	**182**	**1.461**	**202**
		Movimiento 9	39	4	42	4	42	4	46	4	46	4
		Movimiento 10	55	1	59	1	59	1	64	1	64	1
		Movimiento 11	311	6	336	6	336	6	364	6	364	6
		Movimiento 12	42	1	45	1	45	1	49	1	49	1
Nº 3 Av. La Florida / Trinidad Oriente	MAÑANA 07:30 a 08:30 hrs.	Movimiento 1	271	16	293	17	293	17	317	17	317	17
		Movimiento 2	**2.233**	**149**	**2.415**	**155**	**2.429**	**175**	**2.612**	**161**	**2.626**	**181**
		Movimiento 3	8	1	9	1	9	1	9	1	9	1
		Movimiento 4	16	1	17	1	17	1	19	1	19	1
		Movimiento 5	205	1	222	1	222	1	240	1	240	1
		Movimiento 6	135	1	146	1	146	1	158	1	158	1
		Movimiento 7	207	28	224	29	224	29	242	30	242	30
		Movimiento 8	**1.184**	**162**	**1.281**	**169**	**1.295**	**189**	**1.385**	**175**	**1.399**	**195**
		Movimiento 9	174	1	188	1	188	1	204	1	204	1
		Movimiento 10	146	5	158	5	158	5	171	5	171	5
		Movimiento 11	87	2	94	2	94	2	102	2	102	2
		Movimiento 12	76	15	82	16	82	16	89	16	89	16
Nº 4 Av. La Florida / San José de la Estrella	MAÑANA 07:15 a 08:15 hrs.	Movimiento 1	141	6	153	6	153	6	165	6	165	6
		Movimiento 2	**1.740**	**173**	**1.882**	**180**	**1.896**	**200**	**2.036**	**187**	**2.050**	**207**
		Movimiento 3	**815**	**186**	**882**	**194**	**896**	**214**	**953**	**201**	**967**	**221**
		Movimiento 4	104	6	112	6	112	6	122	6	122	6
		Movimiento 5	232	4	251	4	251	4	271	4	271	4
		Movimiento 6	46	11	50	11	50	11	54	12	54	12
Nº 5 Av. Camilo Henríquez / Av. Diego Portales	MAÑANA 07:30 a 08:30 hrs.	Movimiento 1	119	25	129	26	129	26	139	27	139	27
		Movimiento 2	**1.968**	**159**	**2.129**	**165**	**2.143**	**185**	**2.302**	**172**	**2.316**	**192**
		Movimiento 3	30	2	32	2	32	2	35	2	35	2
		Movimiento 4	59	3	64	3	64	3	69	3	69	3
		Movimiento 5	127	3	137	3	137	3	149	3	149	3
		Movimiento 6	281	1	304	1	304	1	329	1	329	1
		Movimiento 7	133	3	144	3	144	3	156	3	156	3
		Movimiento 8	**1.123**	**171**	**1.215**	**178**	**1.229**	**198**	**1.314**	**185**	**1.328**	**205**
		Movimiento 9	61	36	66	37	66	37	71	39	71	39
		Movimiento 10	131	34	142	35	142	35	153	37	153	37
		Movimiento 11	103	3	111	3	111	3	120	3	120	3
		Movimiento 12	41	13	44	14	44	14	48	14	48	14
Nº 6 Av. Camilo Henríquez / El Peñón	MAÑANA 07:15 a 08:15 hrs.	Movimiento 1	76	35	82	36	82	36	89	38	89	38
		Movimiento 2	**531**	**151**	**574**	**157**	**588**	**177**	**621**	**163**	**635**	**183**
		Movimiento 3	**335**	**435**	**362**	**453**	**376**	**473**	**392**	**471**	**406**	**491**
		Movimiento 4	292	271	316	282	316	282	342	293	342	293
		Movimiento 5	400	99	433	103	433	103	468	107	468	107
		Movimiento 6	218	58	236	60	236	60	255	63	255	63

Table 17 continuation

INTERSECCIÓN	HORA PUNTA MÁXIMA	MOVIMIENTO	SITUACIÓN ACTUAL AÑO 2006		AÑO 2008				AÑO 2010			
					SITUACIÓN BASE		SITUACIÓN CON PROYECTO (CONSTRUCCIÓN)		SITUACIÓN BASE		SITUACIÓN CON PROYECTO (CONSTRUCCIÓN)	
			VL	VP	VL	VP	VL	VP	VL	VP	VL	VP
Nº 7 Av. Camilo Henríquez / Eyzaguirre	MAÑANA 07:45 a 08:45 hrs.	Movimiento 1	82	27	89	28	89	28	96	29	96	29
		Movimiento 2	**474**	**54**	**513**	**56**	**527**	**76**	**555**	**58**	**569**	**78**
		Movimiento 3	**235**	**72**	**254**	**75**	**268**	**95**	**275**	**78**	**289**	**98**
		Movimiento 4	385	80	416	83	416	83	450	87	450	87
		Movimiento 5	260	60	281	62	281	62	304	65	304	65
		Movimiento 6	113	22	122	23	122	23	132	24	132	24
Nº 8 Ruta G-25 / Acceso a Ruta G-421 (Las Vertientes)	MAÑANA 08:00 a 09:00 hrs.	Movimiento 1	47	8	51	8	51	8	55	9	55	9
		Movimiento 2	13	1	14	1	14	1	15	1	15	1
		Movimiento 3	7	1	8	1	8	1	8	1	8	1
		Movimiento 4	**236**	**43**	**255**	**45**	**269**	**71**	**276**	**47**	**290**	**73**
		Movimiento 5	**149**	**31**	**161**	**32**	**175**	**58**	**174**	**34**	**188**	**60**
		Movimiento 6	13	5	14	5	14	5	15	5	15	5
Nº 9 Ruta G-25 / Ruta G-345 (Acceso a Los Maitenes)	MAÑANA 09:45 a 10:45 hrs.	**Movimiento 1**	**80**	**22**	**87**	**23**	**91**	**31**	**94**	**24**	**98**	**32**
		Movimiento 2	6	1	6	1	6	1	7	1	7	1
		Movimiento 3	2	1	2	1	2	1	2	1	2	1
		Movimiento 4	**4**	**1**	**4**	**1**	**12**	**17**	**5**	**1**	**13**	**17**
		Movimiento 5	**10**	**2**	**11**	**2**	**19**	**18**	**12**	**2**	**20**	**18**
		Movimiento 6	**85**	**48**	**92**	**50**	**96**	**58**	**99**	**52**	**103**	**60**
Nº 10 Camino El Volcán (San José de Maipo) / Cañada Norte	MAÑANA 08:00 a 09:00 hrs.	Movimiento 1	21	1	23	1	23	1	25	1	25	1
		Movimiento 2	6	1	6	1	6	1	7	1	7	1
		Movimiento 3	4	1	4	1	4	1	5	1	5	1
		Movimiento 4	**101**	**20**	**109**	**21**	**113**	**29**	**118**	**22**	**122**	**30**
		Movimiento 5	3	21	3	22	3	22	4	23	4	23
		Movimiento 6	1	1	1	1	1	1	1	1	1	1
		Movimiento 7	1	1	1	1	1	1	1	1	1	1
Nº 11 Comercio (San José de Maipo) / Cañada Norte	TARDE 17:45 a 18:45 hrs.	Movimiento 1	11	1	12	1	12	1	13	1	13	1
		Movimiento 2	**102**	**14**	**110**	**15**	**114**	**23**	**119**	**15**	**123**	**23**
		Movimiento 3	23	1	25	1	25	1	27	1	27	1
		Movimiento 4	20	4	22	4	22	4	23	4	23	4
		Movimiento 5	13	13	14	14	14	14	15	14	15	14
		Movimiento 6	6	1	6	1	6	1	7	1	7	1
		Movimiento 7	10	1	11	1	11	1	12	1	12	1
Nº 12 Ruta G-25 (Camino al Volcán) / Ruta G-421 (El Toyo)	MEDIO DIA 13:15 a 14:15 hrs.	Movimiento 1	1	1	1	1	1	1	1	1	1	1
		Movimiento 2	**51**	**14**	**55**	**15**	**59**	**23**	**60**	**15**	**64**	**23**
		Movimiento 3	**63**	**18**	**68**	**19**	**72**	**27**	**74**	**19**	**78**	**27**
		Movimiento 4	7	1	8	1	8	1	8	1	8	1
		Movimiento 5	7	1	8	1	8	1	8	1	8	1
		Movimiento 6	1	1	1	1	1	1	1	1	1	1
Ruta G-25 / Nuevo camino a Descarga río Maipo	-	**Movimiento 1**	**-**	**-**	**-**	**-**	**189**	**59**	**-**	**-**	**203**	**60**
		Movimiento 2	-	-	-	-	1	1	-	-	1	1
		Movimiento 3	-	-	-	-	1	1	-	-	1	1
		Movimiento 4	**-**	**-**	**-**	**-**	**2**	**2**	**-**	**-**	**2**	**2**
		Movimiento 5	**-**	**-**	**-**	**-**	**2**	**2**	**-**	**-**	**2**	**2**
		Movimiento 6	**-**	**-**	**-**	**-**	**151**	**67**	**-**	**-**	**162**	**68**
Ruta G-345 / Empalme Tipo proyectado	-	**Movimiento 1**	**-**	**-**	**-**	**-**	**12**	**12**	**-**	**-**	**13**	**12**
		Movimiento 2	-	-	-	-	1	1	-	-	1	1
		Movimiento 3	-	-	-	-	1	1	-	-	1	1
		Movimiento 4	**-**	**-**	**-**	**-**	**2**	**6**	**-**	**-**	**2**	**6**
		Movimiento 5	**-**	**-**	**-**	**-**	**2**	**6**	**-**	**-**	**2**	**6**
		Movimiento 6	**-**	**-**	**-**	**-**	**23**	**13**	**-**	**-**	**25**	**13**

Nota: en negrilla los movimientos involucrados.

Table 18

DEGREE OF SATURATION AND LEVELS OF SERVICE IN INTERSECTIONS

INTERSECCIÓN	HORA PUNTA MÁXIMA	RAMA	SITUACIÓN ACTUAL AÑO 2006		AÑO 2008				AÑO 2010			
					SITUACION BASE		SITUACION CON PROYECTO (CONSTRUCCIÓN)		SITUACION BASE		SITUACION CON PROYECTO (CONSTRUCCIÓN)	
			GS	NS	GS	NS	GS	NS	GS	NS	GS	NS
Nº 1 Av. La Florida / Av. Departamental	MAÑANA 07:30 a 08:30 hrs.	Av. La Florida (sur)	0,670	C	0,725	C	0,732	C	0,773	C	0,787	C
		Av. Departamental (ori)	1,235	F	1,323	F	1,323	F	1,416	F	1,416	F
		Av. La Florida (norte)	0,386	B	0,415	B	0,433	B	0,447	B	0,465	B
		Av. Departamental (pon)	0,561	C	0,598	C	0,598	C	0,636	C	0,636	C
		INTERSECCIÓN	**1,235**	**F**	**1,323**	**F**	**1,323**	**F**	**1,416**	**F**	**1,416**	**F**
Nº 2 Av. La Florida / Rojas Magallanes	MAÑANA 07:30 a 08:30 hrs.	Av. La Florida (sur)	0,826	B	0,893	B	0,893	B	0,984	B	0,984	B
		Rojas Magallanes (ori)	0,558	D	0,903	E	0,903	E	0,940	F	0,940	F
		Av. La Florida (norte)	0,410	B	0,439	B	0,454	B	0,477	B	0,490	B
		Rojas Magallanes (pon)	0,518	D	0,557	D	0,557	D	0,581	D	0,581	D
		INTERSECCIÓN	**0,826**	**B**	**0,903**	**C**	**0,903**	**C**	**0,984**	**C**	**0,984**	**C**
Nº 3 Av. La Florida / Trinidad Oriente	MAÑANA 07:30 a 08:30 hrs.	Av. La Florida (sur)	0,870	B	0,940	B	0,940	B	1,000	B	1,000	B
		Trinidad Oriente (ori)	0,841	D	0,909	E	0,909	E	0,984	F	0,984	F
		Av. La Florida (norte)	0,756	B	0,810	B	0,810	B	0,867	B	0,867	B
		Trinidad Oriente (pon)	0,410	C	0,442	C	0,442	C	0,474	C	0,474	C
		INTERSECCIÓN	**0,870**	**B**	**0,940**	**B**	**0,940**	**B**	**1,000**	**B**	**1,000**	**B**
Nº 4 Av. La Florida / San José de la Estrella	MAÑANA 07:15 a 08:15 hrs.	Av. La Florida (sur)	0,940	B	1,000	C	1,011	E	1,011	E	1,035	F
		Av. La Florida (norte)	0,359	A	0,384	A	0,399	B	0,410	B	0,425	B
		San José de La Estrella	0,507	C	0,547	C	0,547	C	0,590	C	0,590	C
		INTERSECCIÓN	**0,940**	**B**	**1,000**	**C**	**1,011**	**D**	**1,011**	**D**	**1,035**	**E**
Nº 5 Av. Camilo Henríquez / Av. Diego Portales	MAÑANA 07:30 a 08:30 hrs.	Av. Camilo Henríquez	0,747	B	0,800	B	0,821	B	0,860	C	0,882	C
		Av. Diego Portales (ori)	0,746	C	0,804	C	0,804	C	0,869	D	0,869	D
		Av. La Florida	0,507	B	0,543	B	0,560	B	0,581	B	0,599	B
		Av. Diego Portales (pon)	0,582	C	0,621	C	0,621	C	0,666	C	0,666	C
		INTERSECCIÓN	**0,747**	**B**	**0,804**	**B**	**0,821**	**B**	**0,869**	**B**	**0,882**	**C**
Nº 6 Av. Camilo Henríquez / El Peñón	MAÑANA 07:15 a 08:15 hrs.	Av. Camilo Henríquez (sur)	1,000	B	1,000	B	1,001	B	1,001	B	1,001	B
		Av. Camilo Henríquez (norte)	0,746	B	0,787	B	0,787	B	0,830	B	0,830	B
		El Peñón	1,050	F	1,122	F	1,122	F	1,198	F	1,198	F
		INTERSECCIÓN	**1,050**	**D**	**1,122**	**E**	**1,122**	**E**	**1,198**	**F**	**1,198**	**F**
Nº 7 Av. Camilo Henríquez / Eyzaguirre	MAÑANA 07:45 a 08:45 hrs.	Ruta G-25	0,219	A	0,237	A	0,254	A	0,256	A	0,273	A
		Av. Camilo Henríquez	0,295	A	0,315	A	0,315	A	0,337	A	0,337	A
		Eyzaguirre	1,749	F	2,144	F	2,366	F	2,655	F	2,929	F
		INTERSECCIÓN	**1,749**	**F**	**2,144**	**F**	**2,366**	**F**	**2,655**	**F**	**2,929**	**F**
Nº 8 Ruta G-25 / Acceso a Ruta G-421	MAÑANA 08:00 a 09:00 hrs.	Acceso a Ruta G-421	0,126	A	0,142	A	0,157	A	0,162	A	0,179	A
		Ruta G-25 (ori)	0,183	A	0,196	A	0,232	A	0,210	A	0,246	A
		Ruta G-25 (pon)	0,127	A	0,135	A	0,170	A	0,144	A	0,246	A
		INTERSECCIÓN	**0,183**	**A**	**0,196**	**A**	**0,232**	**A**	**0,210**	**A**	**0,246**	**A**
Nº 9 Ruta G-25 / Ruta G-345	MAÑANA 09:45 a 10:45 hrs.	Ruta G-25 (ori)	0,067	A	0,072	A	0,083	A	0,077	A	0,088	A
		Ruta G-345	0,005	A	0,005	A	0,018	A	0,006	A	0,019	A
		Ruta G-25 (pon)	0,098	A	0,104	A	0,115	A	0,110	A	0,121	A
		INTERSECCIÓN	**0,098**	**A**	**0,104**	**A**	**0,115**	**A**	**0,110**	**A**	**0,121**	**A**
Nº 10 Camino El Volcán / Cañada Norte	MAÑANA 08:00 a 09:00 hrs.	Cañada Norte (ori)	0,029	A	0,031	A	0,032	A	0,035	A	0,035	A
		Camino El Volcán (norte)	0,052	A	0,055	A	0,061	A	0,059	A	0,065	A
		Cañana Norte (pon)	0,004	A	0,004	A	0,004	A	0,004	A	0,004	A
		INTERSECCIÓN	**0,052**	**A**	**0,055**	**A**	**0,061**	**A**	**0,059**	**A**	**0,065**	**A**
Nº 11 Comercio / Cañada Norte	TARDE 17:45 a 18:45 hrs.	Comercio (sur)	0,045	A	0,049	A	0,054	A	0,052	A	0,058	A
		Cañada Norte (ori)	0,053	A	0,057	A	0,058	A	0,060	A	0,061	A
		Cañada Norte (pon)	0,020	A	0,021	A	0,022	A	0,024	A	0,024	A
		INTERSECCIÓN	**0,053**	**A**	**0,057**	**A**	**0,058**	**A**	**0,060**	**A**	**0,061**	**A**
Nº 12 Ruta G-25 (Camino al Volcán) / Ruta G-421	MEDIODIA 13:15 a 14:15 hrs.	Ruta G-25 (suroriente)	0,045	A	0,048	A	0,059	A	0,051	A	0,061	A
		Ruta G-25 (norponiente)	0,058	A	0,063	A	0,074	A	0,066	A	0,077	A
		Ruta G-421	0,011	A	0,014	A	0,015	A	0,014	A	0,015	A
		INTERSECCIÓN	**0,058**	**A**	**0,063**	**A**	**0,074**	**A**	**0,066**	**A**	**0,077**	**A**
Ruta G-25 / Nuevo camino a Descarga río Maipo	-	Ruta G-25 (ori)	-	-	-	-	0,168	A	-	-	0,182	A
		Nuevo Camino	-	-	-	-	0,006	A	-	-	0,006	A
		Ruta G-25 (pon)	-	-	-	-	0,160	A	-	-	0,167	A
		INTERSECCIÓN	**-**	**-**	**-**	**-**	**0,168**	**A**	**-**	**-**	**0,182**	**A**
Ruta G-345 / Empalme Tipo proyectado	-	Ruta G-345 (ori)	-	-	-	-	0,021	A	-	-	0,022	A
		Nuevo Camino	-	-	-	-	0,009	A	-	-	0,009	A
		Ruta G-345 (pon)	-	-	-	-	0,033	A	-	-	0,034	A
		INTERSECCIÓN	**-**	**-**	**-**	**-**	**0,033**	**A**	**-**	**-**	**0,034**	**A**

Table 19
SUMMARY OF LEVELS OF SERVICE SIDRA MODELLING

INTERSECCIÓN	SITUACIÓN ACTUAL AÑO 2006	AÑO 2008		AÑO 2010	
		SITUACION BASE	SITUACION CON PROYECTO (CONSTRUCCIÓN)	SITUACION BASE	SITUACION CON PROYECTO (CONSTRUCCIÓN)
Nº 1: Av. La Florida / Av. Departamental	F	F	F	F	F
Nº 2: Av. La Florida / Rojas Magallanes	B	C	C	C	C
Nº 3 Av. La Florida / Trinidad Oriente	B	B	B	B	B
Nº 4: Av. La Florida / San José de la Estrella	B	C	D	D	E
Nº 5: Av. Camilo Henríquez / Av. Diego Portales	B	B	B	B	C
Nº 6: Av. Camilo Henríquez / El Peñón	D	E	E	F	F
Nº 7: Av. Camilo Henríquez / Eyzaguirre	F	F	F	F	F
Nº 8: Ruta G-25 / Acceso a Ruta G-421	A	A	A	A	A
Nº 9: Ruta G-25 / Ruta G-345	A	A	A	A	A
Nº 10: Camino El Volcán / Cañada Norte	A	A	A	A	A
Nº 11: Comercio / Cañada Norte	A	A	A	A	A
Nº 12: Ruta G-25 (Camino a El Volcán) / Ruta G-421	A	A	A	A	A
Ruta G-25 / Nuevo camino a Descarga río Maipo	-	-	A	-	A
Ruta G-345 / Empalme Tipo proyectado	-	-	A	-	A

VIII. IDENTIFICATION OF ROAD CONFLICTS

The main road conflicts and/or restrictions detected along the road from and to the various working faces are presented as follows:

a) Intersection Av. La Florida – Av. Departamental: At the outset of road G-25, vehicles turn from Av. Departamental east to south through Av. La Florida generating a queue that interferes with the traffic flow that is passing through Av. La Florida towards the north. This is an existing conflict, independent of the operation of the project.

b) In km. 0.5 to the right of Av. La Florida, there is fair on every Saturday, which generates a vehicle/pedestrian conflict. This is an existing conflict, independent of the operation of the project.

c) Access to Parque del Prado cemetery: the arrival of funeral processions generates a traffic jam when vehicles turn to the left in order to gain access to the cemetery with the addition of chaotic parking on a side street and on the central reservation (median strip) of Av. La Florida. This is an existing conflict, independent of the operation of the project.

d) In the intersection of Av.Camilo Henríquez (Road G-25) with Av. Gabriela to the east, the articulated buses of Transantiago are added to the overall traffic flow of Av. La Florida. When buses turn to the north, they present problems regarding the turning radius in every intersection. Buses got stuck in the east road of Av. La Florida blocking the traffic flow to the north, which generates long queues of vehicles that tend to disappear as the bus turning is completed. The expected modifications in the public bus system Transantiago in the near future should remove the aforementioned conflict.

e) Between the southern access to San José de Maipo and El Yeso bridge, most of the loaded mining trucks to Santiago reach high speeds without proper regard for traffic regulations. The same situation occurs between El Yeso bridge and Baños Morales.

f) Road G-455 to El Yeso reservoir presents some sectors in which stone slides and cut off the road occur. There are also large, winding, horizontal, and vertical sectors with curves of reduced turning radii. There are almost no traffic signs.

g) Road G-25 between San Gabriel and Lo Valdés: The lack of paved roads causes excessive noise and suspended dust particles. The road surface presents scarce granulated material and a great quantity of loose fine material. Overtaking high goods vehicles is difficult

because of the generated dust cloud as well as the existing potholes and the narrowness of the road in some sectors. It adds to the problem the high speed of mining trucks.

h) Stones slides in Las Amarillas: In road G-25, between El Volcán and Baños Morales there is an area of landslides, which is a permanent threat to road safety. In winter, cutting off roads are usual. At the same time, there are various watercourses crossing the road because of the lack of drainage works, situation that repeats itself at various points of the road G-455.

i) Pass through urban areas of San José de Maipo, San Alfonso, and San Gabriel: Vehicles that are going up to the Andes through Cajón del Maipo have to pass across these localities. It should be noted the significant population density of San José de Maipo.

j) Steep slopes sectors: There is a steep and sustained slope area in road G-25, at El Yeso bridge exit that extends approximately 1500m to the east, which forces trucks to decrease speed. On the other hand, road G-455 also presents areas of steep and sustained slopes, specifically where the tracing of the road moves away the river. The precarious conditions of the road surface restrict traffic flow if both rainfall and snowfall occur.

k) Animals on the road: It is usually the case to find cattle and goats in road G-25, road G-455, and in road G-345.

l) Departure of trucks from aggregate plant La Obra: Departure of loaded trucks is unobstructed because of the existence of a junction that makes a simple connection to road G-25. On the other hand, because of the lack of a direct and safe connection to turn to the left, the traffic flow is altered when the trucks return to the aggregate plant. Besides, there is a dangerous junction affecting the southern lane of road G-25.

IX. CONCLUSIONS

With regard to this project, the study demonstrates that it is feasible to add the traffic flow related to the construction of the project. It is recommended putting into execution some mitigation measures that will be presented in further detail later.

The critical conditions of the traffic flow have been taken into account i.e. maximum traffic flow of the project in rush hour traffic with an adequate safety margin so as to prepare and develop the current conclusions and recommendations.

Sections of the road and isolated intersections have been analyzed separately. Considering the capacity of the sections of the roads, there are no further modifications in the levels of service that have an effect on the project flow (See table 16).

***a) Sections of the roads*:**

Section 1 Las Vizcachas – La Obra

Table 12 shows this part of the dual carriageway which presents level-of-service **B** along the road for 2006 base situation. This level is maintained in the base situation of 2010 as well as the with-project situation of the same year i.e. the peak of the construction phase. In this regard, it is probable that this level will be maintained in both situations in 2008. (Being 2008 the start of the works).

This good level of service lies in various factors that affect driver comfort levels. These factors are road width, straight alignment, and good visibility. It is worth to mention that the vehicular growth rate for 2008 and 2010 as well as the project flow does not have a bearing in the level of service of this section of the road.

Section 2 La Obra – Puente El Yeso

This section of the road presents diverse characteristics regarding geometry, with almost no straight sections and many areas of vertical and horizontal curves. This condition in ground plan and elevation restricts the speed of operation and driver comfort levels decreases. As a consequence, the level of service varies compare to the previous section. Table 14 presents level-of-service **D** for 2006 current situation maintaining this level for both base situation and with-project situation in 2010. Hence, the traffic flows of the construction phase will generate a slight road

impact—in accordance with the classification that defines a slight, moderate, and severe road impacts—causing a slight decrease only, concerning the capacity of this section of the road.

Section 3 Road G-345 Access to Los Maitenes

This way presents a level-of-service **C** along the road because of being an undulating road, which restricts the speed of operation, and the visibility. Nevertheless, the addition of the traffic flows of the project in the construction phase does not modify the level of service causing a slight road impact.

***b) Intersections*:**

Some intersections show variations regarding degrees of saturation and levels of service. The details are as follows:

There is only one intersection that shows moderate variations in the levels of service in the construction phase of the project for 2008 and 2010. It corresponds to checkpoint 4 (Av. La Florida / San José de la Estrella). This is because of the high traffic flow in the peak hours and the narrowing of Av. La Florida east, from 3 lanes in the road to the south to 2 lanes in the road to the north, generating a bottleneck of the south-north traffic flow in the peak hours. As a consequence, the intersection is susceptible to experience congestion because of adding more vehicles (Project traffic flow).

It should be noted that the modeling included the worst-case scenario regarding the most demanding situation in intersections, considering that the traffic flows of the project would rise and fall simultaneously within the first rush hour when high traffic flows from La Florida and Puente Alto are going to downtown Santiago. However, this is a fictitious situation, very unlikely to occur, since the traffic flow related to the project will be going in the opposite direction.

The intersection Av. Camilo Henríquez / Av. Diego Portales also shows a moderate variation in the level of service as a result of the construction phase of the project for 2010. This is because of the high traffic flow that the intersection would present that year. The geometric conditions of the intersection have no bearing on it compare to previous one. It is worth to mention that there will be no colliding with the time lapse interval related to the traffic flow of the project.

The intersections Av. La Florida / San José de la Estrella and Av. Camilo Henríquez / El Peñón experience a variation in the level of service between the current situation (2006) and the projection for 2008 (base situation); there is also a variation between the situation for 2008 and the projection for 2010 (base situation) as a result of the normal vehicular growth rate. The same situation occurs

in the intersection Av. La Florida /Rojas Magallanes between the current situation (2006) and the projection for 2008 (base situation). These intersections present a slight road impact, since there are no variations in the levels of service.

The rest of the intersections maintain the level of service of the current situation for 2006 in both the base and with-project situations for 2008 and 2010. It is worth to mention the level-of-service **F** of the current situation regarding the intersections Av. La Florida / Av. Departamental and Av. Camilo *Henríquez* **/** Eyzaguirre. Both intersections are nodes in which high traffic flows from various parts of the Chilean capital city converge upon.

It should be noted that Av. La Florida is a collective-distributor road that connects Cajón del Maipo and some sectors of Puente Alto to Santiago. At the present time, the traffic flows coming from Puente Alto, Cajón del Maipo, and mainly La Florida indicate that it is evidently overused, as shown by the measurements and modeling of the study. Besides, there is a continuous growth in residential density in this town and the road infrastructure has not been adapted to the increase in population density.

The levels of service of the intersections located in the rural area of road G-25 and road G-345 are remarkably better reaching level-of-service **A** and degrees of saturation lower than 0.6 in all cases. These intersections do not present variations in the levels of service but there is a small increase in the degrees of saturation which is insufficient to generate modifications. In this regard, there is a low incidence in the traffic flows of the project.

In summary, the project will generate slight road impacts along the analyzed road with the exception of intersections 4 and 5 where lower degrees of deterioration in the levels of service are expected.

X. CONTROL AND MITIGATION MEASURES

Regarding the road impact generated by the project, the owner shall put mitigation measures into execution, as shown in chapter 6 and 2 of EIA (See figure 1 and 2 of annex 14). In summary, they are as follows:

- The provisions of DS Nº 18, October, 1995, of the Public Works Ministry of Chile indicate that "every activity that generates in its loading center an annual load equivalent to or greater than 60.000 tons, shall provide weighing systems for trucks and commercial vehicles in accordance with general calibration regulations of the Public Works Ministry of Chile". At the same time, a permanent and strict monitoring for vehicle weight shall be done, in accordance with decree Nº 158, January, 1980, in which maximum gross weight limitations are set and decrees Nº 200, July, 1993, and Nº 396, November, 1993, in which maximum gross weight limitations in urban roads are set. Maximum gross weight cannot exceed 45 tons in both cases. As previously stated in chapter 6, "Road Environmental Management", concerning the transport of muck disposal to the muck disposal site 14 i.e. the working faces of the construction of Las Lajas power plant access portal (VL4) and Las Lajas tunnel access portal (VL2), the contractor shall provide weighing systems for trucks and commercial vehicles in accordance with general calibration regulations of the Department of Roads of the Public Works Ministry of Chile.

- The transportation of materials and supplies shall be done in suitable, covered trucks to prevent road spillage as well as to instruct drivers regarding road conflicts indicated in this report in order to take the necessary precautions for a safe and reliable transport.

- The provisions of Decree Nº 18, 2001 and its modifications, that prohibit transit of cargo vehicles within the Américo Vespucio ring, shall be complied with.

- Trucks are not allowed to pass through Puente Alto and La Florida urban areas between 07:00 and 09:00, business day, while returning to Santiago through road G-25.

- The provisions of DS Nº130, indicate that traffic of trucks greater than four tons is suspended from 14:00 hours on Saturday to 24:00 hours on Sunday through road G-25 Puente Alto – El Volcán and road G-421 San Juan de Pirque - El Toyo.

- It shall be submitted to the Department of Roads, prior to the start of the construction phase of PHAM, the projects regarding instruments and devices that allow trucks that return from the working faces to the borrow pit located in La Obra to safely and comfortably turn to the

left without disrupting traffic flow. A priori, the design of the junction will be perpendicular to the southern carriageway of road G-25 in order to directly come into the pit through the current access.

- Regarding those junctions and/or crossroads that will be connected to the existing road network, the owner of the project shall submit to the Regional Department of Roads the respective engineering projects, which will be sponsored by a certified civil engineer authorized by the Department of Roads. As regards the projects of crossroads and junctions that will be connected to the existing road network, they shall comply with the requirements of the Department of Roads, regarding intersections, traffic signs, and geometric aspects such as the turning radius and channeling. In appendix 2, there is an attachment concerning junctions and crossroads design.

- With regards to roadway improvement, the owner shall put into execution the following measures:

  - To replace the granular road surface CBR > 60 % from Km. 13,8 to Km. 20,0 with a width of 7m and a thickness 15 cm.

  - The installation of road signs from Km.12 to Km 23,3. It is estimated that 50 road signs and 60 delineator posts will be required.

  - The installation of traffic barriers in curves without good visibility and involving the risk of vehicles falling from considerable heights. From Km.12 to Km. 23,3. (Total estimated 200m.)

  - A work of art corrugated tube type diameter d=0.80 m in the area in which the road surface will be replaced at about Km.20

  - Annual irrigation of bischofite dustkill effect. It is estimated that a seasonal irrigation will be needed along the road (23 Km.) including the section of the road that will be paved by MOP.

- Regarding road G-455, access to El Yeso reservoir, the mitigation measures are as follows:

  - The installation of road signs along the road. It is estimated that 100 road signs and 50 delineator posts will be required.

- The installation of traffic barriers in curves without good visibility and involving the risk of vehicles falling from considerable heights. From Km.10 to km 19,0. (Total estimated 200 m.)

- A work of art corrugated tube type diameter d=0.80 m in an area of approximately Km.6 where there is a loading center for water trucks.

- To replace the granular road surface CBR > 60 % from Pk 17,8 to Pk 18,3 with width of 7m and a thickness of 15 cm.

- Construction of two speed bumps of natural stone, sector Pk 18,0

- To construct masonry wall lower than 1m to delimit border and contain the spill in order to make time for manual or mechanical cleanup. In sectors 40 m in Pk 3,6, 80 m Pk 4,2 and 300 m between Pk 17,8 to Pk 18,8.

- To lengthen three box culverts slab-type of 4 to 7 m.

- Annual irrigation of bischofite dustkill effect. It is estimated that a seasonal irrigation will be needed along the road (22 km.)

A graphical representation of the planned measures is included as an attachment.

For further details regarding these measures, see annex 19 “Roadway Improvement Program” and annex 21 “Dust Suppression Application Program” included as attachments to the main body of EIA.

AMBITRANS INGENIEROS CONSULTORES LTDA.

Estudio preparado para ARCADIS GEOTÉCNICA S.A.

ESTUDIO DE IMPACTO VIAL
"PROYECTO HIDROELÉCTRICO ALTO MAIPO"
PROVINCIA CORDILLERA
REGIÓN METROPOLITANA

APÉNDICE Nº 1
MODELACIÓN SIDRA

ENERO DE 2008

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SITUACIÓN ACTUAL AÑO 2006

1F

A R R B - S I D R A 4.07

Registered User No. 115
Time and Date of Analysis 7:22 PM, 26 Dec 2007

INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	0	0	2369	137	0	0	1.00	1.00
2	0	0	0	0	14	3	1.00	1.00
EAST: Av. Departamental (ori)								
3	515	76	0	0	0	0	1.00	1.00
4	0	0	1214	138	0	0	1.00	1.00
5	0	0	0	0	282	140	1.00	1.00
NORTH: Av. La Florida (norte)								
6	55	5	0	0	0	0	1.00	1.00
7	0	0	928	76	0	0	1.00	1.00
8	0	0	0	0	17	1	1.00	1.00
WEST: Av. Departamental (pon)								
9	1	1	0	0	0	0	1.00	1.00
10	0	0	508	37	0	0	1.00	1.00
11	0	0	0	0	256	78	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr	To	Op	Pr	Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)															
1	T	1	2							4		60.7		68	
2	R	*1	2							4		61.0		68	
EAST: Av. Departamental (ori)															
3	L	2	1							4		54.0Max		50	
4	T	2	1							4		54.0Max		50	
5	R	*2	1							4		54.0Max		50	
NORTH: Av. La Florida (norte)															

```
    6 L         1  2                        4        33.2              68
    7 T         1  2                        4        36.8              68
    8 R  (Und)  1  2          2  1  R       4   51   34.1     52.3     68    3
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L         2  1                        4        28.2              50
   10 T         2  1                        4        28.9              50
   11 R         2  1                        4        35.2              50
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:22 PM, 26 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 T    2506   6964          .360          3758    .80     20    100   .667
    2 R      17     47          .362            25    .80     19    100   .670
 ---------------------------------------------------------------------------
-
 EAST: Av. Departamental (ori)
    3 L     591   1206          .490           479    .80    -35    100
1.235*
    4 T    1352   2760          .490          1095    .80    -35    100  1.234
    5 R     422    861          .490           342    .80    -35    100
1.235*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    6 L      60    288          .208           155    .90    133    100   .386
    7 T    1004   4816          .208          2599    .80    107    100   .386
    8 R      18      0  1957    .215   .009     47    .90    136    100   .382
 ---------------------------------------------------------------------------
-
 WEST: Av. Departamental (pon)
    9 L       2     13          .154             5    .80    106    100   .388
   10 T     545   3447          .158          1368    .80    101    100   .398
   11 R     334   1500          .223           595    .90     60    100   .561
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:22 PM, 26 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
2 R		1	2	4	.362	.452	61.0
5 R		2	1	54	-	-	54.0Max
			Total:	58	.362	.452	115.0

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	126	106	126

(Cycle time specified by the user)

Degree of Saturation (Highest) = 1.235
Practical Spare Capacity (Lowest) = -35 %
Total Vehicle Flow = 6851
Total Vehicle Capacity (all lanes) = 10468

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	67	72	.571
2	72	77	49	54	.429

Current Phase Sequence No.: 1 Phases: A B

1
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SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	Longest Que per Lane (m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)									
1 T	14.52	20.9	1622	.65	15.9	101	136.72	38.8	94.0
2 R	.10	20.9	11	.65	15.8	101	.93	38.8	94.0
EAST: Av. Departamental (ori)									
3 L	78.47	478.0	2036	3.45	108.3	729	180.80	6.5	289.6
4 T	179.60	478.2	4660	3.45	110.1	728	413.77	6.5	289.7

```
     5 R    56.25  479.8   1459  3.46   98.7   731  129.51    6.5  290.3
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     6 L      .28   16.9     31   .52    7.3    47    2.68   46.8   92.2
     7 T     4.70   16.8    653   .65    7.4    48   48.78   40.5   90.5
     8 R      .08   16.8     16   .89    7.4    48     .84   46.9   89.2
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
     9 L      .02   27.2      1   .64    6.8    44     .11   36.3   96.6
    10 T     4.12   27.2    351   .64    6.9    44   30.64   36.3   96.6
    11 R     2.74   29.5    233   .70    9.1    67   18.67   40.2   98.7
 ---------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2523     14.61   20.9   1633   .65   137.65    38.8    94.0   237098.3
 ---------------------------------------------------------------------
 EAST: Av. Departamental (ori)
  2365    314.32  478.5   8155  3.45   724.07     6.5   289.8   685376.4
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1082      5.06   16.8    700   .65    52.29    40.9    90.6    98027.4
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
   881      6.87   28.1    586   .67    49.42    37.7    97.4    85811.7
 ---------------------------------------------------------------------
 ALL GROUPS:
  6851    340.87  179.1  11075  1.62   963.44    14.4   161.5  1106314.0
 ---------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:22 PM, 26 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 T      1   58  68    0   0    631  947  .667   20.9   .65   15.9  101
  2 T      1   58  68    0   0    631  947  .667   20.9   .65   15.9  101
  3 T      1   58  68    0   0    631  947  .667   20.9   .65   15.9  101
  4 TR     1,  58  68    0   0    629  944  .667   20.9   .65   15.8  101
```

```
           2
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
  1 LT     3,  76  50    0   0    808  655 1.235  478.0  3.45  108.3  729
           4
  2 T      4   76  50    0   0    822  666 1.235  477.7  3.44  110.1  728
  3 TR     4,  76  50    0   0    734  595 1.235  479.8  3.46   98.7  731
           5
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 LT     6,  58  68    0   0    358  927  .386   16.9   .52    7.3   47
           7
  2 T      7   58  68    0   0    359  928  .386   16.9   .52    7.3   47
  3 TR     7,  51   1    6  68    365  946  .386   16.8   .89    7.4   48
           8
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
  1 LT     9,  76  50    0   0    273  685  .398   27.2   .64    6.8   44
          10
  2 T     10   76  50    0   0    274  687  .398   27.2   .64    6.9   44
  3 R     11   76  50    0   0    334  595  .561   29.5   .70    9.1   67
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:22 PM, 26 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       1     0  631    0  631 1850 1754     0    0  947  .667  100
          *

          *
 ***********       1     0  631    0  631 1850 1754     0    0  947  .667  100
          *

          *
 ***********       1     0  631    0  631 1850 1754     0    0  947  .667  100
          *
          *
 ****** ****       1,    0  612   17  629 1850 1749     0    0  944  .667  100
       *  *        2
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,  591  217    0  808 1850 1650     0    0  655 1.235  100
          *        4

          *
 ***********       4     0  822    0  822 1850 1679     0    0  666 1.235  100
          *
          *
 ****** ****       4,    0  312  422  734 1850 1499     0    0  595 1.235  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,   60  298    0  358 1850 1718     0    0  927  .386  100
          *        7

          *
 ***********       7     0  359    0  359 1850 1720     0    0  928  .386  100
          *
          *    Slip Lane
 ****** ****       7,    0  347   18  365 1850  184  1750   57* 946  .386  100
       *  *        8
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
```

```
       *  *
 ****** ****       9,     2  271    0  273 1850 1727     0    0  685  .398  100
          *       10

          *
 ***********      10     0  274    0  274 1850 1732     0    0  687  .398  100
          *

 ******           11     0    0  334  334 1850 1500     0    0  595  .561  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:22 PM, 26 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 T        2506  3758   100   .667   68        20.9   .65    15.9  136.72
    2 R          17    25   100   .670   68*       20.9   .65    15.8     .93
 ---------------------------------------------------------------------------
 EAST: Av. Departamental (ori)
    3 L         591   479   100  1.235*  50       478.0  3.45   108.3  180.80
    4 T        1352  1095   100  1.234   50       478.2  3.45   110.1  413.77
    5 R         422   342   100  1.235*  50*      479.8  3.46    98.7  129.51
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    6 L          60   155   100   .386   68        16.9   .52     7.3    2.68
    7 T        1004  2599   100   .386   68        16.8   .65     7.4   48.78
    8 R  (Und)   18    47   100   .382   68    3   16.8   .89     7.4     .84
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L           2     5   100   .388   50        27.2   .64     6.8     .11
   10 T         545  1368   100   .398   50        27.2   .64     6.9   30.64
   11 R         334   595   100   .561   50        29.5   .70     9.1   18.67
 ---------------------------------------------------------------------------
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:22 PM, 26 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)								
1	T	94.0	236	787	849	20615	589	57829
2	R	94.0	2	5	6	140	4	392
ALL MOVS:		94.0	237	792	854	20755	593	58221
EAST: Av. Departamental (ori)								
3	L	289.6	171	793	432	11923	428	65353
4	T	289.7	392	1815	988	27280	979	149562
5	R	290.3	123	568	309	8526	306	46804
ALL MOVS:		289.8	685	3176	1728	47728	1713	261719
NORTH: Av. La Florida (norte)								
6	L	92.2	6	18	23	472	14	1227
7	T	90.5	91	297	325	7703	227	21852
8	R	89.2	2	5	7	140	4	343
ALL MOVS:		90.6	98	320	355	8315	245	23422
WEST: Av. Departamental (pon)								
9	L	96.6	0	1	1	17	0	49
10	T	96.6	53	179	186	4527	132	13252
11	R	98.7	33	110	138	3017	82	7651
ALL MOVS:		97.4	86	289	325	7560	215	20951
INTERSECTION:		161.5	1106	4577	3262	84357	2766	364313

1

ARRB SIDRA 4.07 - Time and Date of Analysis 7:22 PM, 26 Dec 2007
INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Ratio (g/C) 1st grn	Green Ratio (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	T	.540		2506	3758	.667	1.00	20.9	C
2	R	.540*		17	25	.670	1.00	20.9	C
ALL MOVS:				2523	3784	.670		20.9	C
EAST: Av. Departamental (ori)									

```
   3 L         .397          591    479   1.235*  1.00   478.0    F
   4 T         .397         1352   1095   1.234   1.00   478.2    F
   5 R         .397*         422    342   1.235*  1.00   479.8    F
               ----------------------------------------------------
     ALL MOVS:              2365   1915   1.235          478.5    F
 ------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
   6 L         .540           60    155    .386   1.00    16.9    B
   7 T         .540         1004   2599    .386   1.00    16.8    B
   8 R  (Und)  .540   .024    18     47    .382   1.00    16.8    B
               ----------------------------------------------------
     ALL MOVS:              1082   2802    .386           16.8    B
 ------------------------------------------------------------------
 WEST: Av. Departamental (pon)
   9 L         .397            2      5    .388   1.00    27.2    C
  10 T         .397          545   1368    .398   1.00    27.2    C
  11 R         .397          334    595    .561   1.00    29.5    C
               ----------------------------------------------------
     ALL MOVS:                881   1968    .561           28.1    C
               ----------------------------------------------------
     INTERSECTION:           6851  10468   1.235          179.1    F
 ------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:22 PM, 26 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     1
                 Cycle Time = 126


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:47 PM, 28 Dec 2007

INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.:     2
                Cycle Time = 122
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	231	4	0	0	0	0	1.00	1.00
2	0	0	2061	192	0	0	1.00	1.00
3	0	0	0	0	72	17	1.00	1.00
EAST: Rojas Magallanes								
4	115	14	0	0	0	0	1.00	1.00
5	0	0	427	7	0	0	1.00	1.00
6	0	0	0	0	97	2	1.00	1.00
NORTH: Av. La Florida (norte)								
7	72	5	0	0	0	0	1.00	1.00
8	0	0	1237	168	0	0	1.00	1.00
9	0	0	0	0	39	4	1.00	1.00
WEST: Rojas Magallanes								
10	55	1	0	0	0	0	1.00	1.00
11	0	0	311	6	0	0	1.00	1.00
12	0	0	0	0	42	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr	To	Op	Pr	Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)															
1	L	*1	2							4		91.0Max		87	
2	T	1	2							4		74.1		87	
3	R	1	2							4		74.0		87	
EAST: Rojas Magallanes															
4	L	*2	1							4		22.8		27	
5	T	2	1							4		22.8		27	
6	R	2	1							4		22.8		27	

```
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         1  2                        4        34.8              87
    8 T         1  2                        4        48.5              87
    9 R         1  2                        4        48.6              87
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         2  1                        4        21.5              27
   11 T         2  1                        4        21.5              27
   12 R         2  1                        4        21.5              27
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     235    399<         .589           285    .80     -3    100
.826*
    2 T    2253   4902          .460          3496    .80     24    100   .645
    3 R      89    194          .459           138    .80     24    100   .643
 ---------------------------------------------------------------------------
-
 EAST: Rojas Magallanes
    4 L     129   1045          .123           231    .80     43    100   .558
    5 T     434   3516          .123           778    .80     43    100   .558
    6 R      99    802          .123           177    .80     43    100   .558
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L      77    381<         .202           272    .80    182    100   .283
    8 T    1405   4813          .292          3432    .80     95    100   .409
    9 R      43    147          .293           105    .80     95    100   .410
 ---------------------------------------------------------------------------
-
 WEST: Rojas Magallanes
   10 L      56    489          .115           108    .80     55    100   .517
   11 T     317   2766          .115           612    .80     54    100   .518
   12 R      43    375          .115            83    .80     54    100   .518
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
```

```
 Intersection No.:     2
                  Cycle Time = 122


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      91           -          -        91.0Max
      4 L            2   1       4         .123       .154       22.8
                                ----       ------     ------     ------
                       Total:   95         .123       .154      113.8
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22       122        112        122

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .826
    Practical Spare Capacity (Lowest)  =      -3 %
    Total Vehicle Flow                 =    5180
    Total Vehicle Capacity (all lanes) =    9718
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        86      91   .746
      2        91      96        26      31   .254
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
```

```
 SOUTH: Av. La Florida (sur)
     1 L      1.45   22.3    212   .90    3.3    20   10.61   38.2   95.1
     2 T      5.81    9.3   1077   .48   14.1    92   97.39   44.3   88.3
     3 R       .23    9.3     43   .48   13.9    92    3.85   44.3   88.3
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L      1.51   42.2    103   .80    6.4    41    8.55   31.5  103.6
     5 T      5.09   42.2    347   .80    6.8    41   28.76   31.5  103.6
     6 R      1.16   42.2     79   .80    6.8    41    6.56   31.5  103.6
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L       .11    5.3     21   .27     .8     5    2.55   46.6   85.6
     8 T      2.77    7.1    512   .36    6.6    44   53.00   45.5   86.8
     9 R       .08    7.1     16   .36    6.6    44    1.62   45.5   86.8
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L       .65   41.8     44   .79    6.2    38    3.69   31.6  103.4
    11 T      3.68   41.8    251   .79    6.2    38   20.86   31.6  103.4
    12 R       .50   41.8     34   .79    6.2    38    2.83   31.6  103.4
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2577      7.50   10.5   1331   .52   111.85    43.6    88.9   229208.1
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
   662      7.76   42.2    529   .80    43.87    31.5   103.6    68594.9
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1525      2.96    7.0    549   .36    57.18    45.6    86.8   132347.7
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
   416      4.83   41.8    329   .79    27.38    31.6   103.4    43015.7
 ----------------------------------------------------------------------
 ALL GROUPS:
  5180     23.05   16.0   2738   .53   240.27    40.9    91.3   473166.4
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                 Cycle Time = 122


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
```

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   35  87    0   0    235  284  .826   22.3   .90    3.3   20   20
  2 T      2   35  87    0   0    784 1216  .645    9.3   .48   14.1   92
  3 T      2   35  87    0   0    784 1216  .645    9.3   .48   14.1   92
  4 TR     2,  35  87    0   0    775 1202  .645    9.3   .48   13.9   92
           3
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
  1 LT     4,  95  27    0   0    213  382  .558   42.2   .80    6.4   41
           5
  2 T      5   95  27    0   0    225  403  .558   42.2   .80    6.8   41
  3 TR     5,  95  27    0   0    224  402  .558   42.2   .80    6.8   41
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   35  87    0   0     77  272  .283    5.3   .27     .8    5   20
  2 T      8   35  87    0   0    482 1178  .409    7.1   .36    6.6   44
  3 T      8   35  87    0   0    482 1178  .409    7.1   .36    6.6   44
  4 TR     8,  35  87    0   0    483 1181  .409    7.1   .36    6.6   44
           9
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
  1 LT    10,  95  27    0   0    208  402  .518   41.8   .79    6.2   38
          11
  2 TR    11,  95  27    0   0    208  401  .518   41.8   .79    6.2   38
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   235    0    0  235 1850  399<    0    0  284  .826  100
```

```
          *
 ***********       2     0  784    0  784 1850 1705     0    0 1216  .645  100
          *

          *
 ***********       2     0  784    0  784 1850 1705     0    0 1216  .645  100
          *
          *
 ****** ****       2,    0  686   89  775 1850 1686     0    0 1202  .645  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,  129   84    0  213 1850 1726     0    0  382  .558  100
          *        5

          *
 ***********       5     0  225    0  225 1850 1821     0    0  403  .558  100
          *
          *
 ****** ****       5,    0  125   99  224 1850 1817     0    0  402  .558  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7    77    0    0   77 1850  381<    0    0  272  .283  100


          *
 ***********       8     0  482    0  482 1850 1652     0    0 1178  .409  100
          *

          *
 ***********       8     0  482    0  482 1850 1652     0    0 1178  .409  100
          *
          *
```

```
****** ****        8,     0  440   43  483 1850 1656     0     0 1181  .409  100
      *  *         9
     ***
      *
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
                                          Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
      *
     ***
      *  *
****** ****       10,   56  152    0  208 1850 1816     0     0  402  .518  100
         *        11
         *
****** ****       11,    0  165   43  208 1850 1814     0     0  401  .518  100
      *  *        12
     ***
      *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122
```

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Eff. Grn 1st Grn	Eff. Grn 2nd Grn	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
SOUTH: Av. La Florida (sur)											
1	L	235	285<	100	.826*	87*		22.3	.90	3.3	10.61
2	T	2253	3496	100	.645	87		9.3	.48	14.1	97.39
3	R	89	138	100	.643	87		9.3	.48	13.9	3.85
EAST: Rojas Magallanes											
4	L	129	231	100	.558	27*		42.2	.80	6.4	8.55
5	T	434	778	100	.558	27		42.2	.80	6.8	28.76
6	R	99	177	100	.558	27		42.2	.80	6.8	6.56
NORTH: Av. La Florida (norte)											
7	L	77	272<	100	.283	87		5.3	.27	.8	2.55
8	T	1405	3432	100	.409	87		7.1	.36	6.6	53.00
9	R	43	105	100	.410	87		7.1	.36	6.6	1.62
WEST: Rojas Magallanes											
10	L	56	108	100	.517	27		41.8	.79	6.2	3.69

```
   11 T         317   612   100   .518   27        41.8   .79     6.2   20.86
   12 R          43    83   100   .518   27        41.8   .79     6.2    2.83
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           95.1       22        75      82    2034      56    5491
     2 T           88.3      199       641     714   16758     497   46962
     3 R           88.3        8        25      28     662      20    1855
                 -------------------------------------------------------
      ALL MOVS:    88.9      229       741     824   19454     573   54308
 ---------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L          103.6       13        47      47    1172      33    3510
     5 T          103.6       45       158     158    3944     112   11810
     6 R          103.6       10        36      36     900      26    2694
                 -------------------------------------------------------
      ALL MOVS:   103.6       69       242     241    6016     171   18014
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L           85.6        7        21      23     509      16    1546
     8 T           86.8      122       389     429    9818     305   28701
     9 R           86.8        4        12      13     300       9     878
                 -------------------------------------------------------
      ALL MOVS:    86.8      132       422     465   10628     331   31125
 ---------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L          103.4        6        20      20     507      14    1519
    11 T          103.4       33       115     115    2869      82    8600
    12 R          103.4        4        16      16     389      11    1167
                 -------------------------------------------------------
      ALL MOVS:   103.4       43       151     151    3765     108   11286
                 -------------------------------------------------------
  INTERSECTION:    91.3      473      1556    1681   39863    1183  114733
 ---------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
```

```
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .713*          235    285<   .826*  1.00    22.3    C
    2 T         .713          2253   3496    .645   1.00     9.3    B
    3 R         .713            89    138    .643   1.00     9.3    B
                ------------------------------------------------------
      ALL MOVS:               2577   3919    .826           10.5    B
 ---------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         .221*          129    231    .558   1.00    42.2    D
    5 T         .221           434    778    .558   1.00    42.2    D
    6 R         .221            99    177    .558   1.00    42.2    D
                ------------------------------------------------------
      ALL MOVS:                662   1187    .558           42.2    D
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .713            77    272<   .283   1.00     5.3    A
    8 T         .713          1405   3432    .409   1.00     7.1    B
    9 R         .713            43    105    .410   1.00     7.1    B
                ------------------------------------------------------
      ALL MOVS:               1525   3809    .410            7.0    B
 ---------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         .221            56    108    .517   1.00    41.8    D
   11 T         .221           317    612    .518   1.00    41.8    D
   12 R         .221            43     83    .518   1.00    41.8    D
                ------------------------------------------------------
      ALL MOVS:                416    803    .518           41.8    D
                ------------------------------------------------------
a
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes
```

```
 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:52 PM, 28 Dec 2007

INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.:     3
                 Cycle Time =  86
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	271	16	0	0	0	0	1.00	1.00
2	0	0	2233	149	0	0	1.00	1.00
3	0	0	0	0	8	1	1.00	1.00
EAST: Trinidad Oriente (ori)								
4	16	1	205	1	0	0	1.00	1.00
6	0	0	0	0	135	1	1.00	1.00
NORTH: Av. La Florida (norte)								
7	207	28	0	0	0	0	1.00	1.00
8	0	0	1184	162	0	0	1.00	1.00
9	0	0	0	0	174	1	1.00	1.00
WEST: Trinidad Oriente (pon)								
10	146	5	0	0	0	0	1.00	1.00
11	0	0	87	2	0	0	1.00	1.00
12	0	0	0	0	76	15	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	P H A S E M A T R I X First Green Fr To Op Pr	Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	L	*1 2		4		62.0	Max	58	
2	T	1 2		4		53.2		58	
3	R	1 2		4		52.4		58	
EAST: Trinidad Oriente (ori)									
4	LT	2 1		4		25.0		20	
6	R	*2 1		4		25.0		20	
NORTH: Av. La Florida (norte)									

```
    7 L         1  2                        4        58.8              58
    8 T         1  2                        4        36.6              58
    9 R         1  2                        4        36.6              58
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         2  1                        4        14.3              20
   11 T         2  1                        4        14.3              20
   12 R         2  1                        4        14.3              20
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:52 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     287    489<         .587           330    .80     -8    100
.870*
    2 T    2382   5203          .458          3509    .80     18    100   .679
    3 R       9     20          .450            13    .80     20    100   .667
 ---------------------------------------------------------------------------
-
 EAST: Trinidad Oriente (ori)
    4 LT    223   1140          .196           265    .80     -5    100   .841
    6 R     136    695          .196           162    .80     -5    100   .841
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L     235    461<         .510           311    .80      6    100   .756
    8 T    1346   4436          .303          2992    .80     78    100   .450
    9 R     175    577          .303           389    .80     78    100   .450
 ---------------------------------------------------------------------------
-
 WEST: Trinidad Oriente (pon)
   10 L     151   1583          .095           368    .80     95    100   .410
   11 T      89    933          .095           217    .80     95    100   .410
   12 R      91    954          .095           222    .80     95    100   .410
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:52 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
1 L		1	2	62	-	-	62.0Max
6 R		2	1	4	.196	.245	25.0
				---	---	---	---
			Total:	66	.196	.245	87.0

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	86	86	86

(Cycle time specified by the user)

Cycle time is at maximum and short lanes exist.
A shorter cycle time may give better results.

Degree of Saturation (Highest) = .870
Practical Spare Capacity (Lowest) = -8 %
Total Vehicle Flow = 5124
Total Vehicle Capacity (all lanes) = 8777

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	57	62	.721
2	62	67	19	24	.279

Current Phase Sequence No.: 1 Phases: A B

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:52 PM, 28 Dec 2007
INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	Longest Que per Lane (m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)									
1 L	1.37	17.2	258	.90	3.2	20	11.70	40.4	93.1
2 T	5.56	8.4	1287	.54	11.4	73	94.53	44.8	88.3

```
     3 R      .02    8.4      5   .54   11.4    73     .36   44.8   88.3
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
     4 LT    2.68   43.3    224  1.01    9.6    58   14.34   31.2  104.6
     6 R     1.64   43.3    137  1.01    9.6    58    8.75   31.2  104.6
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L      .99   15.2    183   .78    2.6    17    9.28   41.3   91.7
     8 T     2.45    6.5    566   .42    5.8    38   47.54   45.8   86.9
     9 R      .32    6.5     74   .42    5.8    38    6.18   45.8   86.9
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
    10 L     1.17   28.0    115   .76    3.5    21    7.90   36.0   97.5
    11 T      .69   28.0     68   .76    3.5    21    4.65   36.0   97.5
    12 R      .71   28.0     69   .76    3.2    21    4.76   36.0   97.5
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2678      6.95    9.3   1551   .58   106.58    44.3    88.8   237764.9
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
   359      4.32   43.3    361  1.01    23.09    31.2   104.6    37534.9
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1756      3.76    7.7    823   .47    63.01    45.2    87.5   153723.3
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   331      2.57   28.0    253   .76    17.31    36.0    97.5    32280.5
 ---------------------------------------------------------------------------
 ALL GROUPS:
  5124     17.60   12.4   2987   .58   209.99    42.7    90.0   461303.6
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:52 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
```

```
  1 L      1   28  58    0   0    287  330  .871   17.2   .90    3.2   20   20
  2 T      2   28  58    0   0    797 1174  .679    8.4   .54   11.4   73
  3 T      2   28  58    0   0    797 1174  .679    8.4   .54   11.4   73
  4 TR     2,  28  58    0   0    797 1174  .679    8.4   .54   11.4   73
           3
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
  1 LTR    4,  66  20    0   0    359  427  .841   43.3  1.01    9.6   58
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   28  58    0   0    235  311  .756   15.2   .78    2.6   17   20
  2 T      8   28  58    0   0    501 1114  .450    6.5   .42    5.6   38
  3 T      8   28  58    0   0    501 1114  .450    6.5   .42    5.6   38
  4 TR     8,  28  58    0   0    519 1153  .450    6.5   .42    5.8   38
           9
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
  1 LT    10,  66  20    0   0    171  417  .410   28.0   .76    3.5   21
          11
  2 TR    11,  66  20    0   0    160  390  .410   28.0   .76    3.2   21
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:52 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   287    0    0  287 1850  489<    0    0  330  .871  100


          *
 ***********       2     0  797    0  797 1850 1741     0    0 1174  .679  100
          *

          *
 ***********       2     0  797    0  797 1850 1741     0    0 1174  .679  100
          *
```

```
          *
 ****** ****       2,    0  788    9  797 1850 1740     0    0 1174  .679  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   17  206  136  359 1850 1835     0    0  427  .841  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   235    0    0  235 1850  461<    0    0  311  .756  100


          *
 ***********       8     0  501    0  501 1850 1651     0    0 1114  .450  100
          *

          *
 ***********       8     0  501    0  501 1850 1651     0    0 1114  .450  100
          *
          *
 ****** ****       8,    0  344  175  519 1850 1710     0    0 1153  .450  100
       *  *        9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *  *
****** ****      10,  151   20    0  171 1850 1793     0    0  417  .410  100
         *       11
         *
****** ****      11,    0   69   91  160 1850 1677     0    0  390  .410  100
       *  *      12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:52 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         287   330<  100   .870*  58*       17.2   .90     3.2   11.70
    2 T        2382  3509   100   .679   58         8.4   .54    11.4   94.53
    3 R           9    13   100   .667   58         8.4   .54    11.4     .36
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        223   265   100   .841   20        43.3  1.01     9.6   14.34
    6 R         136   162   100   .841   20*       43.3  1.01     9.6    8.75
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         235   311<  100   .756   58        15.2   .78     2.6    9.28
    8 T        1346  2992   100   .450   58         6.5   .42     5.8   47.54
    9 R         175   389   100   .450   58         6.5   .42     5.8    6.18
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         151   368   100   .410   20        28.0   .76     3.5    7.90
   11 T          89   217   100   .410   20        28.0   .76     3.5    4.65
   12 R          91   222   100   .410   20        28.0   .76     3.2    4.76
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:52 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
```

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)								
1	L	93.1	27	89	100	2493	67	6417
2	T	88.3	210	676	767	18241	526	49227
3	R	88.3	1	3	3	69	2	186
ALL MOVS:		88.8	238	768	870	20803	594	55831
EAST: Trinidad Oriente (ori)								
4	LT	104.6	23	82	83	2105	58	6119
6	R	104.6	14	50	51	1284	36	3732
ALL MOVS:		104.6	38	133	134	3389	94	9851
NORTH: Av. La Florida (norte)								
7	L	91.7	22	71	79	1932	54	5166
8	T	86.9	117	373	417	9675	292	27345
9	R	86.9	15	48	54	1258	38	3555
ALL MOVS:		87.5	154	492	551	12865	384	36067
WEST: Trinidad Oriente (pon)								
10	L	97.5	15	50	53	1322	37	3692
11	T	97.5	9	30	31	779	22	2176
12	R	97.5	9	30	32	797	22	2225
ALL MOVS:		97.5	32	110	117	2898	81	8094
INTERSECTION:		90.0	461	1503	1672	39956	1153	109842

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:52 PM, 28 Dec 2007
INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	L	.674*		287	330<	.870*	1.00	17.2	B
2	T	.674		2382	3509	.679	1.00	8.4	B
3	R	.674		9	13	.667	1.00	8.4	B
ALL MOVS:				2678	3852	.870		9.3	B
EAST: Trinidad Oriente (ori)									
4	LT	.233		223	265	.841	1.00	43.3	D
6	R	.233*		136	162	.841	1.00	43.3	D

```
                 ----------------------------------------------------
     ALL MOVS:                359    427    .841           43.3    D
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .674           235    311<   .756   1.00    15.2    B
    8 T         .674          1346   2992    .450   1.00     6.5    B
    9 R         .674           175    389    .450   1.00     6.5    B
                 ----------------------------------------------------
     ALL MOVS:               1756   3692    .756            7.7    B
 ---------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         .233           151    368    .410   1.00    28.0    C
   11 T         .233            89    217    .410   1.00    28.0    C
   12 R         .233            91    222    .410   1.00    28.0    C
                 ----------------------------------------------------
     ALL MOVS:                331    807    .410           28.0    C
                 ----------------------------------------------------
     INTERSECTION:           5124   8777    .870           12.4    B
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:52 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  2
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:58 PM, 28 Dec 2007

 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                 Cycle Time =  86


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
          1           141     6      0     0      0     0   1.00   1.00
          2             0     0   1740   173      0     0   1.00   1.00
 ------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
          3             0     0    815   186      0     0   1.00   1.00
          4             0     0      0     0    104     6   1.00   1.00
 ------------------------------------------------------------------------
 WEST: San Jose de La Estrella
          5           232     4      0     0      0     0   1.00   1.00
          6             0     0      0     0     46    11   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L        *1  2  L                    13        65.0Max           47
    2 T         1  2                        4        64.6              56
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         1  2                        4        29.1              56
    4 R  (Und)  1  2          2  1          4    4   24.0     28.7     56   22
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L        *2  1                        4        17.9              22
    6 R         2  1                        4        11.0Min           22
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
```

```
 Intersection No.:     4
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     147    286<         .514           156    .80    -15    100
.940*
    2 T    1913   3393          .564          2209    .80     -8    100   .866
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    3 T    1001   4287          .233          2792    .80    123    100   .359
    4 R     110    446    64    .209   .259    307    .90    151    100   .359
 ---------------------------------------------------------------------------
-
 WEST: San Jose de La Estrella
    5 L     236   1819          .130           465    .80     58    100   .507
    6 R      57   1551          .037           397    .80    457    100   .144
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------
      1 L            1   2      65           -          -        65.0Max
      5 L            2   1       4         .130       .162       17.9
                                ----       ------     ------     ------
                       Total:   69         .130       .162       82.9
 ---------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         82         86

      (Cycle time specified by the user)
```

```
   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =    .940
   Practical Spare Capacity (Lowest)  =     -15 %
   Total Vehicle Flow                 =    3464
   Total Vehicle Capacity (all lanes) =    6326
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        55      60   .698
      2        60      65        21      26   .302
 ---------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L      .91   22.4    132   .90    2.4    15    6.99   38.1   95.5
     2 T     9.25   17.4   1502   .79   19.9   130   95.72   40.3   93.2
 ------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T     1.79    6.4    411   .41    4.0    28   34.61   45.9   86.9
     4 R      .16    5.3     45   .41    3.6    25    3.66   46.5   86.7
 ------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L     1.79   27.4    182   .77    4.8    29   12.34   36.2   97.3
     6 R      .39   24.7     40   .70    1.1     8    2.80   37.2   95.8
 ------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2060     10.16   17.8   1634   .79   102.71    40.1    93.3   192251.7
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
```

```
  1111      1.95    6.3    456   .41    38.27    46.0    86.9    96496.2
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
   293      2.19   26.9    221   .76    15.15    36.4    97.0    28422.5
 ----------------------------------------------------------------------
 ALL GROUPS:
  3464     14.30   14.9   2311   .67   156.13    41.4    91.6   317170.4
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   39  47    0   0    147  156  .942   22.4   .90    2.4   15   15
  2 T      2   30  56    0   0    957 1105  .866   17.4   .79   19.9  130
  3 T      2   30  56    0   0    957 1105  .866   17.4   .79   19.9  130
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 T      3   30  56    0   0    364 1016  .359    6.8   .41    4.0   28
  2 T      3   30  56    0   0    364 1016  .359    6.8   .41    4.0   28
  3 TR     3,  25  56    4   1    382 1066  .359    5.3   .41    3.6   25
           4
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
  1 L      5   64  22    0   0    236  465  .507   27.4   .77    4.8   29
  2 R      6   64  22    0   0     57  397  .144   24.7   .70    1.1    8
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   147    0    0  147 1850  286<    0   75  156  .942  100


          *
 ***********       2     0  957    0  957 1850 1697     0    0 1105  .866  100
          *

          *
 ***********       2     0  957    0  957 1850 1697     0    0 1105  .866  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  364    0  364 1850 1560     0    0 1016  .359  100
          *

          *
 ***********       3     0  364    0  364 1850 1560     0    0 1016  .359  100
          *
          *    Slip Lane
 ****** ****       3,    0  272  110  382 1850 1611  1454    0 1066  .359  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   236    0    0  236 1850 1819     0    0  465  .507  100


 ******            6     0    0   57   57 1850 1551     0    0  397  .144  100
       *
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         147   156<  100   .940*  47*       22.4   .90     2.4    6.99
    2 T        1913  2209   100   .866   56        17.4   .79    19.9   95.72
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T        1001  2792   100   .359   56         6.4   .41     4.0   34.61
    4 R  (Und)  110   307   100   .359   56   22    5.3   .41     3.6    3.66
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         236   465   100   .507   22*       27.4   .77     4.8   12.34
    6 R          57   397   100   .144   22        24.7   .70     1.1    2.80
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           95.5       14        47      52    1314      35    3434
     2 T           93.2      178       591     664   16447     446   42893
                 -------------------------------------------------------
      ALL MOVS:    93.3      192       638     716   17760     481   46327
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T           86.9       87       277     309    7146     217   20360
     4 R           86.7       10        30      34     782      24    2228
                 -------------------------------------------------------
```

```
      ALL MOVS:    86.9       96       308     343    7927     241   22589
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L           97.3       23        78      83    2070      57    5742
     6 R           95.8        5        18      20     482      14    1358
                 -------------------------------------------------------
      ALL MOVS:    97.0       28        97     103    2552      71    7100
                 -------------------------------------------------------
  INTERSECTION:    91.6      317      1043    1163   28239     793   76016
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .547*          147    156<   .940*  1.00    22.4    C
    2 T         .651          1913   2209    .866   1.00    17.4    B
                ------------------------------------------------------
      ALL MOVS:               2060   2366    .940           17.8    B
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         .651          1001   2792    .359   1.00     6.4    A
    4 R  (Und)  .651   .256    110    307    .359   1.00     5.3    A
                ------------------------------------------------------
      ALL MOVS:               1111   3098    .359            6.3    A
 ---------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         .256*          236    465    .507   1.00    27.4    C
    6 R         .256            57    397    .144   1.00    24.7    C
                ------------------------------------------------------
      ALL MOVS:                293    862    .507           26.9    C
                ------------------------------------------------------
      INTERSECTION:           3464   6326    .940           14.9    B
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 DIAGNOSTIC REPORT
```

```
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:16 PM, 28 Dec 2007

INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES * AM5APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 5
Cycle Time = 86

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. Camilo Henriquez								
1	119	25	0	0	0	0	1.00	1.00
2	0	0	1968	159	0	0	1.00	1.00
3	0	0	0	0	30	2	1.00	1.00
EAST: Av. Diego Portales (ori)								
4	59	3	127	3	0	0	1.00	1.00
6	0	0	0	0	281	1	1.00	1.00
NORTH: Av. La Florida								
7	133	3	0	0	0	0	1.00	1.00
8	0	0	1123	171	0	0	1.00	1.00
9	0	0	0	0	61	36	1.00	1.00
WEST: Av. Diego Portales (pon)								
10	131	34	103	3	0	0	1.00	1.00
12	0	0	0	0	41	13	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE First Green Fr	To	Op	Pr	MATRIX Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. Camilo Henriquez															
1	L	1	2							4		32.4		48	
2	T	1	2							4		48.6		48	
3	R	*1	2			2	1	R		4	8	49.2	32.0	48	26
EAST: Av. Diego Portales (ori)															
4	LT	*2	1							4		32.0		30	
6	R	2	1							4		31.9		30	
NORTH: Av. La Florida															
7	L	1	2							4		27.4		48	

```
    8 T         1  2                        4        34.4              48
    9 R         1  2          2  1  R       4    9   41.3     11.0Min  48   25
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        2  1                        4        25.8              30
   12 R         2  1                        4        25.8              30
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez
    1 L     144    545<         .264           304    .80     69    100   .473
    2 T    2127   5132          .414          2864    .80      8    100   .743
    3 R      32     48    53    .420   .223     43    .80      7    100
.747*
 ---------------------------------------------------------------------------
-
 EAST: Av. Diego Portales (ori)
    4 LT    192    738          .260           257    .80      7    100   .746
    6 R     282   1085          .260           378    .80      7    100   .745
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida
    7 L     136    626<         .217           349    .80    106    100   .389
    8 T    1294   4576          .283          2554    .80     58    100   .507
    9 R      97    272   137    .357   .000    192    .80     58    100   .506
 ---------------------------------------------------------------------------
-
 WEST: Av. Diego Portales (pon)
   10 LT    271   1337          .203           466    .80     38    100   .581
   12 R      54    266          .203            93    .80     37    100   .582
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------
```

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
3 R	1st	1	2	4	.420	.526	49.2
4 LT		2	1	4	.260	.325	32.0
			Total:	8	.681	.851	81.2

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	86	54	86

(Cycle time specified by the user)

Cycle time is at maximum and short lanes exist.
A shorter cycle time may give better results.

Degree of Saturation (Highest) = .747
Practical Spare Capacity (Lowest) = 7 %
Total Vehicle Flow = 4629
Total Vehicle Capacity (all lanes) = 7501

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	47	52	.605
2	52	57	29	34	.395

Current Phase Sequence No.: 1 Phases: A B

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:16 PM, 28 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES * AM5APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 5
Cycle Time = 86

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	(m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. Camilo Henriquez									
1 L	.37	9.2	63	.44	1.7	12	5.27	44.3	88.1
2 T	8.58	14.5	1504	.71	13.1	84	97.65	41.6	91.6
3 R	.12	13.4	24	.74	12.6	81	1.44	42.2	91.1
EAST: Av. Diego Portales (ori)									
4 LT	1.40	26.3	157	.82	10.3	62	10.27	36.6	97.0
6 R	2.06	26.3	230	.82	10.3	62	15.08	36.6	97.0

```
 NORTH: Av. La Florida
     7 L      .34    9.1     58   .43    1.6    10    4.94   44.4   88.0
     8 T     3.79   10.5    712   .55    6.8    46   51.50   43.6   89.3
     9 R      .20    7.6     52   .54    5.4    38    3.56   45.2   88.3
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT    1.72   22.9    199   .74    6.3    44   13.54   37.9   95.2
    12 R      .34   22.9     40   .74    6.3    44    2.70   37.9   95.2
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
  2303      9.07   14.2   1591   .69   104.37    41.8    91.3   210350.0
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
   474      3.46   26.3    386   .82    25.35    36.6    97.0    45978.8
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
  1527      4.33   10.2    823   .54    60.00    43.8    89.1   136079.3
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   325      2.06   22.9    239   .74    16.23    37.9    95.2    30955.3
 ---------------------------------------------------------------------------
 ALL GROUPS:
  4629     18.93   14.7   3039   .66   205.95    41.5    91.5   423363.4
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
  1 L      1   38  48    0   0    144  304  .474    9.2   .44    1.7   12   28
  2 T      2   38  48    0   0    713  961  .743   15.1   .69   13.1   84
  3 T      2   38  48    0   0    713  961  .743   15.1   .69   13.1   84
  4 TR     2,  29  48    8   1    732  986  .743   13.4   .74   12.6   81
           3
 ---------------------------------------------------------------------------
-
```

```
  EAST: Av. Diego Portales (ori)
  1 LTR    4,  56  30    0   0    474  636  .745   26.3   .82   10.3   62
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
  1 L      7   38  48    0   0    136  349  .390    9.1   .43    1.6   10   28
  2 T      8   38  48    0   0    462  912  .507   11.7   .55    6.8   46
  3 T      8   38  48    0   0    462  912  .507   11.7   .55    6.8   46
  4 TR     8,  28  48    9   1    467  921  .507    7.6   .54    5.4   38
           9
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
  1 LTR   10,  56  30    0   0    325  559  .581   22.9   .74    6.3   44
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   144    0    0  144 1850  545<    0    0  304  .474  100


          *
 ***********       2     0  713    0  713 1850 1721     0    0  961  .743  100
          *

          *
 ***********       2     0  713    0  713 1850 1721     0    0  961  .743  100
          *
          *
 ****** ****       2,    0  700   32  732 1850 1722  2141   84* 986  .743  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
                                          Saturation Flow  End  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   62  130  282  474 1850 1823     0    0  636  .745  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   136    0    0  136 1850  626<    0    0  349  .390  100


          *
 ***********       8     0  462    0  462 1850 1634     0    0  912  .507  100
          *

          *
 ***********       8     0  462    0  462 1850 1634     0    0  912  .507  100
          *
          *
 ****** ****       8,    0  370   97  467 1850 1565  4097   84* 921  .507  100
       *  *        9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****      10,  165  106   54  325 1850 1603     0    0  559  .581  100
       *  *       12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
```

```
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         144   304<  100   .473   48         9.2   .44     1.7    5.27
    2 T        2127  2864   100   .743   48        14.5   .71    13.1   97.65
    3 R          32    43   100   .747*  48*  26   13.4   .74    12.6    1.44
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        192   257   100   .746   30*       26.3   .82    10.3   10.27
    6 R         282   378   100   .745   30        26.3   .82    10.3   15.08
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         136   349<  100   .389   48         9.1   .43     1.6    4.94
    8 T        1294  2554   100   .507   48        10.5   .55     6.8   51.50
    9 R          97   192   100   .506   48   25    7.6   .54     5.4    3.56
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        271   466   100   .581   30        22.9   .74     6.3   13.54
   12 R          54    93   100   .582   30        22.9   .74     6.3    2.70
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
     1 L           88.1       13        41      45    1050      32    3001
     2 T           91.6      195       640     720   17584     487   46511
     3 R           91.1        3        10      11     263       7     694
                 -------------------------------------------------------
      ALL MOVS:    91.3      210       691     775   18897     526   50206
 ---------------------------------------------------------------------------
```

```
 EAST: Av. Diego Portales (ori)
     4 LT          97.0       19        63      68    1702      47    4632
     6 R           97.0       27        93     100    2500      68    6803
                 ------------------------------------------------------------
      ALL MOVS:    97.0       46       156     168    4203     115   11435
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
     7 L           88.0       12        38      42     987      30    2830
     8 T           89.3      116       375     419    9983     289   27346
     9 R           88.3        9        28      31     739      21    2008
                 ------------------------------------------------------------
      ALL MOVS:    89.1      136       441     493   11709     340   32184
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT          95.2       26        87      94    2325      65    6357
    12 R           95.2        5        17      19     463      13    1267
                 ------------------------------------------------------------
      ALL MOVS:    95.2       31       104     113    2788      77    7624
                 ------------------------------------------------------------
  INTERSECTION:    91.5      423      1391    1550   37597    1058  101449
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         .558           144    304<   .473   1.00     9.2    B
    2 T         .558          2127   2864    .743   1.00    14.5    B
    3 R         .558*  .302     32     43    .747*  1.00    13.4    B
                ------------------------------------------------------
      ALL MOVS:               2303   3211    .747           14.2    B
 ---------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        .349*          192    257    .746   1.00    26.3    C
    6 R         .349           282    378    .745   1.00    26.3    C
                ------------------------------------------------------
      ALL MOVS:                474    636    .746           26.3    C
 ---------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         .558           136    349<   .389   1.00     9.1    B
    8 T         .558          1294   2554    .507   1.00    10.5    B
    9 R         .558   .291     97    192    .506   1.00     7.6    B
                ------------------------------------------------------
      ALL MOVS:               1527   3095    .507           10.2    B
 ---------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        .349           271    466    .581   1.00    22.9    C
```

```
   12 R         .349            54     93    .582   1.00    22.9    C
                ---------------------------------------------------
      ALL MOVS:                325    559    .582           22.9    C
                ---------------------------------------------------
      INTERSECTION:           4629   7501    .747           14.7    B
 -------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:16 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    5:43 PM, 28 Dec 2007

 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
          1            76    35      0     0      0     0   1.00   1.00
          2             0     0    531   151      0     0   1.00   1.00
 ------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
          3             0     0    335   435      0     0   1.00   1.00
          4             0     0      0     0    292   271   1.00   1.00
 ------------------------------------------------------------------------
 WEST: El Penon
          5           400    99      0     0      0     0   1.00   1.00
          6             0     0      0     0    218    58   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L        *1  2  L                    33        65.0Max           26
    2 LT        1  2                        4        21.1              55
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         1  2                        4        41.1              55
    4 R         1  2                        4        55.3              55
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L        *2  1                        4        40.0Max           28
    6 R         2  1                        4        22.3              28
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
```

```
 Intersection No.:     6
                  Cycle Time =  91


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez (S)
    1 L     110    385<         .286           110    .80    -20    100  1.000
    2 LT    683E  4543          .150          2746    .80    222    100   .249
 ---------------------------------------------------------------------------
-
 NORTH: Av. Camilo Henriquez (N)
    3 T     770   2364          .326          1429    .80     48     72   .539
    4 R     563   1249          .451           755    .80      7    100   .746
 ---------------------------------------------------------------------------
-
 WEST: El Penon
    5 L     499   1544          .323           475    .80    -24    100
1.050*
    6 R     276   1529          .181           470    .90     53    100   .587
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect

   Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      65           -          -        65.0Max
      5 L            2   1      40           -          -        40.0Max
                                ----       ------     ------     ------
                       Total:   105         .000       .000      105.0
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)
```

```
   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        22        91         91         91

     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.050
   Practical Spare Capacity (Lowest)  =     -24 %
   Total Vehicle Flow                 =    2901
   Total Vehicle Capacity (all lanes) =    5985
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        54      59   .648
      2        59      64        27      32   .352
 ---------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.5 - MOVEMENT PERFORMANCE
 ---------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
     1 L      .99   32.5     99   .90    2.5    20    6.28   34.4  100.1
     2 LT    1.59    8.4    286   .42    2.7    20   24.88   44.8   87.7
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
     3 T     2.26   10.6    407   .53    5.7    54   31.34   43.6   89.1
     4 R     2.22   14.2    374   .66   10.5    93   26.07   41.8   91.3
 ---------------------------------------------------------------------------
 WEST: El Penon
     5 L    24.14  174.2   1119  2.24   31.4   226   71.78   14.6  160.8
     6 R     2.04   26.6    210   .76    5.9    43   14.62   36.5   96.9
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
```

```
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
   793      2.58   11.7    385   .49    31.16    43.0    89.4    70875.7
 ----------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
  1333      4.48   12.1    781   .59    57.41    42.8    90.0   119992.8
 ----------------------------------------------------------------------
 WEST: El Penon
   775     26.18  121.6   1329  1.72    86.40    18.6   138.1   107007.3
 ----------------------------------------------------------------------
 ALL GROUPS:
  2901     33.25   41.3   2495   .86   174.96    31.8   102.7   297875.8
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                             Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
  1 L      1   65  26    0   0    110  110 1.000   32.5   .90    2.5   20<  20
  2 LT     2   36  55    0   0    228  915  .249    8.4   .42    2.7   20
  3 T      2   36  55    0   0    228  915  .249    8.4   .42    2.7   20
  4 T      2   36  55    0   0    228  915  .249    8.4   .42    2.7   20
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
  1 T      3   36  55    0   0    385  714  .539   10.6   .53    5.7   54
  2 T      3   36  55    0   0    385  714  .539   10.6   .53    5.7   54
  3 R      3,  36  55    0   0    563  755  .746   14.2   .66   10.5   93
           4
 ---------------------------------------------------------------------------
-
  WEST: El Penon
  1 L      5   63  28    0   0    499  475 1.051  174.2  2.24   31.4  226
  2 R      6   63  28    0   0    276  470  .587   26.6   .76    5.9   43
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
```

```
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   110    0    0  110 1850  385<    0   71  110 1.000  100

       *
      ***
       *  *
 ****** ****       2     1E 227    0  228 1850 1514     0    0  915  .249  100
          *

          *
 ***********       2     0  228    0  228 1850 1515     0    0  915  .249  100
          *

          *
 ***********       2     0  228    0  228 1850 1515     0    0  915  .249  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  385    0  385 1850 1182     0    0  714  .539   72
          *
Prog

          *
 ***********       3     0  385    0  385 1850 1182     0    0  714  .539   72
          *
Prog

 ******            3,    0    0  563  563 1850 1249     0    0  755  .746  100
       *           4
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: El Penon
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   499    0    0  499 1850 1544     0    0  475 1.051  100


 ******            6     0    0  276  276 1850 1529     0    0  470  .587  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
   Prog  Lane under-utilisation found by the "Program"
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L         110   110<  100  1.000   26*       32.5   .90     2.5    6.28
    2 LT        683E 2746   100   .249   55         8.4   .42     2.7   24.88
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         770  1429    72   .539   55        10.6   .53     5.7   31.34
    4 R         563   755   100   .746   55        14.2   .66    10.5   26.07
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L         499   475   100  1.050*  28*      174.2  2.24    31.4   71.78
    6 R         276   470   100   .587   28        26.6   .76     5.9   14.62
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
```

INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Fuel Consumption Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. Camilo Henriquez (S)							
1 L	100.1	11	38	40	1026	28	2786
2 LT	87.7	60	192	212	4922	150	14119
ALL MOVS:	89.4	71	230	253	5949	177	16905
NORTH: Av. Camilo Henriquez (N)							
3 T	89.1	69	222	248	5884	172	16236
4 R	91.3	51	169	189	4603	128	12267
ALL MOVS:	90.0	120	391	437	10487	300	28503
WEST: El Penon							
5 L	160.8	80	332	241	6387	201	26339
6 R	96.9	27	91	97	2408	67	6675
ALL MOVS:	138.1	107	423	338	8795	268	33014
INTERSECTION:	102.7	298	1044	1028	25230	745	78422

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:43 PM, 28 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	Green Time Ratio (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. Camilo Henriquez (S)									
1	L	.286*		110	110<	1.000	1.00	32.5	D
2	LT	.604		683E	2746	.249	1.00	8.4	B
ALL MOVS:				793	2856	1.000		11.7	B
NORTH: Av. Camilo Henriquez (N)									
3	T	.604		770	1429	.539	1.00	10.6	B
4	R	.604		563	755	.746	1.00	14.2	B
ALL MOVS:				1333	2184	.746		12.1	B

```
 ----------------------------------------------------------------------
 WEST: El Penon
    5 L         .308*          499    475   1.050*  1.00   174.2    F
    6 R         .308           276    470    .587   1.00    26.6    C
                ------------------------------------------------------
      ALL MOVS:                775    946   1.050          121.6    F
                ------------------------------------------------------
      INTERSECTION:           2901   5985   1.050           41.3    D
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:43 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

Registered User No. 115
Time and Date of Analysis 10:33 AM, 27 Dec 2007

INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25								
1	82	27	0	0	0	0	1.00	1.00
2	0	0	474	54	0	0	1.00	1.00
NORTH WEST: Av. Camilo Henriquez								
3	0	0	235	72	0	0	1.00	1.00
4	0	0	0	0	385	80	1.00	1.00
SOUTH WEST: Eyzaguirre								
5	260	60	0	0	0	0	1.00	1.00
6	0	0	0	0	113	22	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 10:33 AM, 27 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25							
1 L	109	307	497	.80	265	100	.219
2 T	528	0	2409	.80	265	100	.219
NORTH WEST: Av. Camilo Henriquez							
3 T	307	0	2997	.80	681	100	.102
4 R	465	0	1578	.98	233	100	.295
SOUTH WEST: Eyzaguirre							
5 L	320	1177+	183	.80	-54	100	1.749*
6 R	135	540+	692	.80	310	100	.195

```
 ------------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =   1.749
    Practical Spare Capacity (Lowest)  =     -54 %
    Total Vehicle Flow                 =    1864
    Total Vehicle Capacity (all lanes) =    8357
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
     1 L      .00     .0      7   .07     .0     0    2.46   45.0   85.5
     2 T      .00     .0     11   .02     .0     0   11.79   45.0   84.4
 ----------------------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
     3 T      .00     .0      0   .00     .0     0    6.82   45.0   83.9
     4 R      .00     .0                12.0#        10.33   45.0   83.9
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L   125.37 1410.4    320  1.00   71.5   510  205.80    2.4  658.3
     6 R      .11    3.0     72   .54     .6     4    4.10   43.4   90.3
 ----------------------------------------------------------------------
   #  Largest density/concentration (number of passenger car space equivalents
      (pcse) per km or per mile if US units) for any lane

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
   637       .00     .0     18   .03    14.26    45.0    84.6    53861.3
 ----------------------------------------------------------------------
```

```
 NORTH WEST: Av. Camilo Henriquez
   772       .00     .0      0   .00    17.16    45.0    83.9    64739.4
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
   455    125.48  992.8    392   .86   209.90     3.4   489.8   222858.9
 ----------------------------------------------------------------------
 ALL GROUPS:
  1864    125.48  242.3    410   .22   241.31    11.2   183.2   341459.6
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25
  1 LT      1,   269  1229  .219     .0   .07     .0    0
            2
  2 T       2    368  1678  .219     .0   .00     .0    0
 ---------------------------------------------------------------
  NORTH WEST: Av. Camilo Henriquez
  1 T       3    154  1499  .102     .0   .00     .0    0
  2 T       3    154  1499  .102     .0   .00     .0    0
  3 R       4    465  1578  .295     .0         12.0#
 ---------------------------------------------------------------
  SOUTH WEST: Eyzaguirre
  1 L       5    320   183 1.752 1410.4  1.00   71.5  510
  2 R       6    135   692  .195    3.0   .54     .6    4
 ---------------------------------------------------------------
   #  Concentration/density (pcse per km, or per mile if US units)

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,  109  160    0  269 1850 1229     0   60 1229  .219  100
          *        2

          *
 ***********       2     0  368    0  368 1850 1678     0    0 1678  .219  100
          *
 ---------------------------------------------------------------------------
-
  NORTH WEST: Av. Camilo Henriquez
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  154    0  154 1850 1499     0    0 1499  .102  100
          *

          *
 ***********       3     0  154    0  154 1850 1499     0    0 1499  .102  100
          *
               Continuous Lane
 ******            4     0    0  465  465 1850 1578     0    0 1578  .295  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Eyzaguirre
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   320    0    0  320 1850  183     0   60  183 1.752  100

               Slip Lane
 ******            6     0    0  135  135 1850  692     0   60  692  .195  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
1
```

```
ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.:     7
            Unsignalised Intersection


Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
-----------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
 Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
 No.     Typ  Flow   Cap.  Util  Satn
              (veh  (veh               (sec)         (veh)
               /h)   /h)   (%)     x
-----------------------------------------------------------------
EAST: Ruta G-25
   1 L         109   497   100   .219     .0   .07      .0    2.46
   2 T         528  2409   100   .219     .0   .02      .0   11.79
-----------------------------------------------------------------
NORTH WEST: Av. Camilo Henriquez
   3 T         307  2997   100   .102     .0   .00      .0    6.82
   4 R  (Con)  465  1578   100   .295     .0          12.0#  10.33
-----------------------------------------------------------------
SOUTH WEST: Eyzaguirre
   5 L         320   183   100  1.749*1410.4  1.00    71.5  205.80
   6 R         135   692   100   .195    3.0   .54      .6    4.10
-----------------------------------------------------------------

  *  Maximum degree of saturation
  #  Largest density/concentration (number of passenger car space equivalents
     (pcse) per km or per mile if US units) for any lane

  Stop Rate is proportion of stopped vehicles including queueing effects.
  Geometric delays not included.
1
ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.:     7
            Unsignalised Intersection


Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
-------------------------------------------------------------------------
  Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
  No.             Rate    Total     Total   Total   Total   Total   Total
                  mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
-------------------------------------------------------------------------
EAST: Ruta G-25
    1 L           85.5        9        30      28     687      23    2300
    2 T           84.4       45       142     135    3239     111   10917
                -------------------------------------------------------
     ALL MOVS:    84.6       54       172     164    3926     135   13217
-------------------------------------------------------------------------
NORTH WEST: Av. Camilo Henriquez
    3 T           83.9       26        82      78    1860      64    6291
    4 R           83.9       39       124     118    2818      97    9528
                -------------------------------------------------------
     ALL MOVS:    83.9       65       205     196    4678     162   15819
```

```
 ---------------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L          658.3      211      1059     386   10432     527   90657
     6 R           90.3       12        40      41    1053      30    3001
                 -------------------------------------------------------
      ALL MOVS:   489.8      223      1099     427   11485     557   93658
                 -------------------------------------------------------
  INTERSECTION:   183.2      341      1476     787   20089     854  122694
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 EAST: Ruta G-25
    1 L            109    497    .219   1.00      .0    A
    2 T            528   2409    .219   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    637   2906    .219             .0    A
 -------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
    3 T            307   2997    .102   1.00      .0    A
    4 R  (Con)     465   1578    .295   1.00      .0    B#
                 ----------------------------------------
      ALL MOVS:    772   4575    .295             .0    A
 -------------------------------------------------------
 SOUTH WEST: Eyzaguirre
    5 L            320    183   1.749*  1.00  1410.4    F
    6 R            135    692    .195   1.00     3.0    A
                 ----------------------------------------
      ALL MOVS:    455    875   1.749          992.8    F
                 ----------------------------------------
  INTERSECTION:   1864   8357   1.749          242.3    F
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   #  Level Of Service for continuous movements based on density/concentration
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   10:33 AM, 27 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
```

```
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

Registered User No. 115
Time and Date of Analysis 6:05 PM, 27 Dec 2007

INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Acceso a Ruta G-421								
1	47	8	0	0	0	0	1.00	1.00
2	0	0	0	0	13	1	1.00	1.00
EAST: Ruta G-25 (ori)								
3	7	1	0	0	0	0	1.00	1.00
4	0	0	236	43	0	0	1.00	1.00
WEST: Ruta G-25 (pon)								
5	0	0	149	31	0	0	1.00	1.00
6	0	0	0	0	13	5	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 6:05 PM, 27 Dec 2007
INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Acceso a Ruta G-421							
1 L	55	476+	436	.80	534	100	.126
2 R	14	9+	111	.80	534	100	.126
EAST: Ruta G-25 (ori)							
3 L	8	253	44	.80	340	100	.182
4 T	279	0	1527	.80	338	100	.183*
WEST: Ruta G-25 (pon)							
5 T	180	0	1423	.80	532	100	.126
6 R	18	0	142	.80	531	100	.127

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .183
    Practical Spare Capacity (Lowest)  =     338 %
    Total Vehicle Flow                 =     554
    Total Vehicle Capacity (all lanes) =    3684
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L      .04    2.9     27   .49     .4     3    1.65   48.1   98.5
     2 R      .01    2.9      7   .49     .4     3     .42   48.1   98.5
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L      .00    2.2      0   .00    1.0     7     .19   48.5   83.3
     4 T      .17    2.2      1   .00    1.0     7    6.70   48.5   83.3
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T      .00     .0      0   .00     .0     0    3.60   50.0   82.1
     6 R      .00     .0      0   .00     .0     0     .36   50.0   82.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    69       .06    2.9     34   .49     2.06    48.1    98.5     6799.9
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   287       .18    2.2      1   .00     6.89    48.5    83.3    23893.3
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   198       .00     .0      0   .00     3.96    50.0    82.1    16255.1
 ----------------------------------------------------------------------
 ALL GROUPS:
   554       .23    1.5     35   .06    12.92    49.0    84.7    46948.3
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Acceso a Ruta G-421
  1 LR      1,    69   547  .126    2.9   .49     .4    3
            2
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 LT      3,   287  1571  .183    2.2   .00    1.0    7
            4
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 TR      5,   198  1565  .126     .0   .00     .0    0
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Acceso a Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *
 ******            1,   55    0   14   69 1850  547     0   14  547  .126  100
       *           2
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    8  279    0  287 1850 1571     0   60 1571  .183  100
          *        4
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       5,    0  180   18  198 1850 1565     0    0 1565  .126  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ----------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    1 L          55   436   100   .126    2.9   .49      .4    1.65
    2 R          14   111   100   .126    2.9   .49      .4     .42
 ----------------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L           8    44   100   .182    2.2   .00     1.0     .19
    4 T         279  1527   100   .183*   2.2   .00     1.0    6.70
```

```
 ----------------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T         180  1423   100   .126     .0   .00      .0    3.60
    6 R          18   142   100   .127     .0   .00      .0     .36
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L           98.5        5        16      24     502      14    1194
     2 R           98.5        1         4       6     128       3     304
                 ----------------------------------------------------------
      ALL MOVS:    98.5        7        20      30     630      17    1498
 ---------------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L           83.3        1         2       2      45       2     157
     4 T           83.3       23        72      75    1560      58    5472
                 ----------------------------------------------------------
      ALL MOVS:    83.3       24        74      78    1605      60    5629
 ---------------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T           82.1       15        46      48     997      37    3435
     6 R           82.1        1         5       5     100       4     344
                 ----------------------------------------------------------
      ALL MOVS:    82.1       16        50      53    1097      41    3779
                 ----------------------------------------------------------
  INTERSECTION:    84.7       47       144     160    3331     117   10905
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
```

```
 SOUTH: Acceso a Ruta G-421
    1 L             55    436    .126   1.00     2.9    A
    2 R             14    111    .126   1.00     2.9    A
                 ----------------------------------------
      ALL MOVS:     69    547    .126            2.9    A
 -------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L              8     44    .182   1.00     2.2    A
    4 T            279   1527    .183*  1.00     2.2    A
                 ----------------------------------------
      ALL MOVS:    287   1571    .183            2.2    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T            180   1423    .126   1.00      .0    A
    6 R             18    142    .127   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    198   1565    .127             .0    A
                 ----------------------------------------
  INTERSECTION:    554   3684    .183            1.5    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:05 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

Registered User No. 115
Time and Date of Analysis 5:11 PM, 27 Dec 2007

INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25 (ori)								
1	0	0	80	22	0	0	1.00	1.00
2	0	0	0	0	6	1	1.00	1.00
NORTH: Ruta G-345								
3	2	1	0	0	0	0	1.00	1.00
4	0	0	0	0	4	1	1.00	1.00
WEST: Ruta G-25 (pon)								
5	10	2	0	0	0	0	1.00	1.00
6	0	0	85	48	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:11 PM, 27 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25 (ori)							
1 T	102	0	1522	.80	1094	100	.067
2 R	7	0	1619	.80	****	100	.004
NORTH: Ruta G-345							
3 L	3	247+	656	.80	****	100	.005
4 R	5	102+	1085	.80	****	100	.005
WEST: Ruta G-25 (pon)							
5 L	12	112	1074	.80	7060	100	.011
6 T	133	0	1359	.80	717	100	.098*

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .098
    Practical Spare Capacity (Lowest)  =     717 %
    Total Vehicle Flow                 =     262
    Total Vehicle Capacity (all lanes) =    7314
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    2.91   35.0   91.8
     2 R      .00     .0      0   .00     .0     0     .20   35.0   91.8
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     3 L      .00    1.7      1   .36     .3     2     .40   34.4   95.4
     4 R      .00     .4      1   .13     .1     1     .26   34.9   93.7
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .00     .4      2   .15     .1     1     .48   34.9   93.7
     6 T      .00     .0      0   .00     .0     0    3.80   35.0   91.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   109       .00     .0      0   .00     3.11    35.0    91.8    10005.2
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     8       .00     .9      2   .22      .66    34.7    94.3      754.5
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   145       .00     .0      2   .01     4.28    35.0    92.0    13332.8
 ----------------------------------------------------------------------
 ALL GROUPS:
   262       .00     .0      4   .01     8.05    35.0    92.0    24092.5
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 T       1    102  1522  .067     .0   .00     .0    0
  2 R       2      7  1619  .004     .0   .00     .0    0    80
 ---------------------------------------------------------------
  NORTH: Ruta G-345
  1 L       3      3   656  .005    1.7   .36     .3    2
  2 R       4      5  1085  .005     .4   .13     .1    1
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 L       5     12  1074  .011     .4   .15     .1    1    50
  2 T       6    133  1359  .098     .0   .00     .0    0
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
          *
 ***********       1     0  102    0  102 1850 1522     0    0 1522  .067  100
          *

 ******            2     0    0    7    7 1850 1619     0    0 1619  .004  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Ruta G-345
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            3     3    0    0    3 1850  656     0    5  656  .005  100


 ******            4     0    0    5    5 1850 1085     0   11 1085  .005  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5    12    0    0   12 1850 1074     0   12 1074  .011  100


          *
 ***********       6     0  133    0  133 1850 1359     0    0 1359  .098  100
          *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
```

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25 (ori)									
1	T	102	1522	100	.067	.0	.00	.0	2.91
2	R	7	1619	100	.004	.0	.00	.0	.20
NORTH: Ruta G-345									
3	L	3	656	100	.005	1.7	.36	.3	.40
4	R	5	1085	100	.005	.4	.13	.1	.26
WEST: Ruta G-25 (pon)									
5	L	12	1074	100	.011	.4	.15	.1	.48
6	T	133	1359	100	.098*	.0	.00	.0	3.80

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:11 PM, 27 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25 (ori)								
1	T	91.8	9	32	25	750	23	2528
2	R	91.8	1	2	2	51	2	173
ALL MOVS:		91.8	10	34	27	802	25	2701
NORTH: Ruta G-345								
3	L	95.4	0	1	1	24	1	78
4	R	93.7	0	2	1	38	1	127
ALL MOVS:		94.3	1	3	2	62	2	205
WEST: Ruta G-25 (pon)								
5	L	93.7	1	4	3	92	3	306
6	T	91.8	12	41	33	978	31	3296
ALL MOVS:		92.0	13	45	36	1070	33	3602
INTERSECTION:		92.0	24	82	65	1934	60	6509

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:11 PM, 27 Dec 2007

```
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.:     9
            Unsignalised Intersection


Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
-------------------------------------------------------
 Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
 No.     Typ    Flow    Cap.     of   Factor  Delay
                (veh   (veh     Satn
                  /h)    /h)    (v/c)         (sec)
-------------------------------------------------------
EAST: Ruta G-25 (ori)
   1 T            102   1522    .067   1.00      .0    A
   2 R              7   1619    .004   1.00      .0    A
               ----------------------------------------
     ALL MOVS:    109   3141    .067             .0    A
-------------------------------------------------------
NORTH: Ruta G-345
   3 L              3    656    .005   1.00     1.7    A
   4 R              5   1085    .005   1.00      .4    A
               ----------------------------------------
     ALL MOVS:      8   1741    .005             .9    A
-------------------------------------------------------
WEST: Ruta G-25 (pon)
   5 L             12   1074    .011   1.00      .4    A
   6 T            133   1359    .098*  1.00      .0    A
               ----------------------------------------
     ALL MOVS:    145   2433    .098             .0    A
               ----------------------------------------
 INTERSECTION:    262   7314    .098             .0    A
-------------------------------------------------------

  Level of Service calculations are based on overall delay.
  *  Maximum v/c ratio, or critical green periods
1
ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.:     9
            Unsignalised Intersection


DIAGNOSTIC REPORT
-------------------------------------------------------------------------------
-
* Information about this run:
  Intersection Type: Unsignalised - Give Way
  Driving on the right-hand side of the road
  Input data specified in Metric units
  User level: Advanced
  Default Values File No. 30
  Flow period (for performance): 60 minutes
  Unit time (for volumes): 60 minutes

* Stop Rate is proportion of stopped vehicles including queueing effects.
  Geometric delays not included.
```

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 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
1F
                         A R R B  -  S I D R A  4.07
                 ----------------------------------------------

                                          Registered User No. 115
                 Time and Date of Analysis    5:11 PM, 27 Dec 2007

 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ----------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                      LV    HV     LV    HV     LV    HV          Factor
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
          1            0     0     80    22      0     0   1.00   1.00
          2            0     0      0     0      6     1   1.00   1.00
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
          3            2     1      0     0      0     0   1.00   1.00
          4            0     0      0     0      4     1   1.00   1.00
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
          5           10     2      0     0      0     0   1.00   1.00
          6            0     0     85    48      0     0   1.00   1.00
 ----------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------
  Mov      Arv    Total   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   Opng     Cap.  Deg.   Spare  Util   Satn
           (veh   Flow    (veh   Satn   Cap.
            /h)  (pcu/h)   /h)    xp     (%)    (%)     x
 ---------------------------------------------------------
 EAST: Ruta G-25 (ori)
    1 T     102      0     1522   .80   1094    100   .067
    2 R       7      0     1619   .80   ****    100   .004
 ---------------------------------------------------------
 NORTH: Ruta G-345
    3 L       3    247+     656   .80   ****    100   .005
    4 R       5    102+    1085   .80   ****    100   .005
```

```
 ----------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L      12    112     1074   .80   7060    100   .011
    6 T     133      0     1359   .80    717    100   .098*
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .098
    Practical Spare Capacity (Lowest)  =     717 %
    Total Vehicle Flow                 =     262
    Total Vehicle Capacity (all lanes) =    7314
 ----------------------------------------------------------------------

 Table S.5 - MOVEMENT PERFORMANCE
 ---------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ---------------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    2.91   35.0   91.8
     2 R      .00     .0      0   .00     .0     0     .20   35.0   91.8
 ---------------------------------------------------------------------------
 NORTH: Ruta G-345
     3 L      .00    1.7      1   .36     .3     2     .40   34.4   95.4
     4 R      .00     .4      1   .13     .1     1     .26   34.9   93.7
 ---------------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .00     .4      2   .15     .1     1     .48   34.9   93.7
     6 T      .00     .0      0   .00     .0     0    3.80   35.0   91.8
 ---------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   109       .00     .0      0   .00     3.11    35.0    91.8    10005.2
```

```
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     8       .00     .9      2   .22      .66    34.7    94.3      754.5
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   145       .00     .0      2   .01     4.28    35.0    92.0    13332.8
 ----------------------------------------------------------------------
 ALL GROUPS:
   262       .00     .0      4   .01     8.05    35.0    92.0    24092.5
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 T       1    102  1522  .067     .0   .00     .0    0
  2 R       2      7  1619  .004     .0   .00     .0    0    80
 ---------------------------------------------------------------
  NORTH: Ruta G-345
  1 L       3      3   656  .005    1.7   .36     .3    2
  2 R       4      5  1085  .005     .4   .13     .1    1
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 L       5     12  1074  .011     .4   .15     .1    1    50
  2 T       6    133  1359  .098     .0   .00     .0    0
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
          *
 ***********       1     0  102    0  102 1850 1522     0    0 1522  .067  100
          *

 ******            2     0    0    7    7 1850 1619     0    0 1619  .004  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Ruta G-345
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            3     3    0    0    3 1850  656     0    5  656  .005  100


 ******            4     0    0    5    5 1850 1085     0   11 1085  .005  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5    12    0    0   12 1850 1074     0   12 1074  .011  100


          *
 ***********       6     0  133    0  133 1850 1359     0    0 1359  .098  100
          *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
```

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25 (ori)									
1	T	102	1522	100	.067	.0	.00	.0	2.91
2	R	7	1619	100	.004	.0	.00	.0	.20
NORTH: Ruta G-345									
3	L	3	656	100	.005	1.7	.36	.3	.40
4	R	5	1085	100	.005	.4	.13	.1	.26
WEST: Ruta G-25 (pon)									
5	L	12	1074	100	.011	.4	.15	.1	.48
6	T	133	1359	100	.098*	.0	.00	.0	3.80

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:11 PM, 27 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25 (ori)								
1	T	91.8	9	32	25	750	23	2528
2	R	91.8	1	2	2	51	2	173
ALL MOVS:		91.8	10	34	27	802	25	2701
NORTH: Ruta G-345								
3	L	95.4	0	1	1	24	1	78
4	R	93.7	0	2	1	38	1	127
ALL MOVS:		94.3	1	3	2	62	2	205
WEST: Ruta G-25 (pon)								
5	L	93.7	1	4	3	92	3	306
6	T	91.8	12	41	33	978	31	3296
ALL MOVS:		92.0	13	45	36	1070	33	3602
INTERSECTION:		92.0	24	82	65	1934	60	6509

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:11 PM, 27 Dec 2007

```
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 EAST: Ruta G-25 (ori)
    1 T            102   1522    .067   1.00      .0    A
    2 R              7   1619    .004   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    109   3141    .067             .0    A
 -------------------------------------------------------
 NORTH: Ruta G-345
    3 L              3    656    .005   1.00     1.7    A
    4 R              5   1085    .005   1.00      .4    A
                 ----------------------------------------
      ALL MOVS:      8   1741    .005             .9    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L             12   1074    .011   1.00      .4    A
    6 T            133   1359    .098*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    145   2433    .098             .0    A
                 ----------------------------------------
  INTERSECTION:    262   7314    .098             .0    A
 -------------------------------------------------------
   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:11 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

Registered User No. 115
Time and Date of Analysis 5:41 PM, 27 Dec 2007

INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Canada Norte (ori)								
1	21	1	0	0	0	0	1.00	1.00
2	0	0	6	1	0	0	1.00	1.00
NORTH: Camino El Volcan (norte)								
3	4	1	0	0	0	0	1.00	1.00
4	0	0	101	20	0	0	1.00	1.00
5	0	0	0	0	3	21	1.00	1.00
WEST: Canada Norte (pon)								
6	0	0	1	1	0	0	1.00	1.00
7	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:41 PM, 27 Dec 2007
INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10APM *
SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Canada Norte (ori)							
1 L	22	130	759	.80	2660	100	.029
2 T	7	150	241	.80	2654	100	.029
NORTH: Camino El Volcan (norte)							
3 L	5	0	96	.80	1436	100	.052*
4 T	121	0	2332	.80	1442	100	.052*
5 R	24	0	463	.80	1443	100	.052*
WEST: Canada Norte (pon)							

```
    6 T       2    160+     466   .80   ****    100   .004
    7 R       2    155+     466   .80   ****    100   .004
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .052
    Practical Spare Capacity (Lowest)  =    1436 %
    Total Vehicle Flow                 =     183
    Total Vehicle Capacity (all lanes) =    4822
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L      .00     .5      4   .18     .2     1     .58   49.6   85.0
     2 T      .00     .5      1   .18     .2     1     .18   49.6   85.0
 ------------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L      .00     .0      0   .00     .0     0     .10   50.0   82.1
     4 T      .00     .0      0   .00     .0     0    2.42   50.0   82.1
     5 R      .00     .0      0   .00     .0     0     .48   50.0   82.1
 ------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T      .00     .7      0   .21     .2     2     .13   49.5   85.4
     7 R      .00     .7      0   .21     .2     2     .13   49.5   85.4
 ------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    29       .00     .5      5   .18      .76    49.6    85.0     2465.1
```

```
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
   150       .00     .0      0   .00     3.00    50.0    82.1    12314.5
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     4       .00     .7      1   .21      .26    49.5    85.4      341.5
 ----------------------------------------------------------------------
 ALL GROUPS:
   183       .01     .1      6   .03     4.02    49.9    82.6    15121.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 LT      1,    29  1000  .029     .5   .18     .2    1
            2
 ---------------------------------------------------------------
  NORTH: Camino El Volcan (norte)
  1 LT      3,    82  1585  .052     .0   .00     .0    0
            4
  2 TR      4,    68  1306  .052     .0   .00     .0    0
            5
 ---------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 TR      6,     4   931  .004     .7   .21     .2    2
            7
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   22    7    0   29 1850 1000     0    7 1000  .029  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH: Camino El Volcan (norte)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    5   77    0   82 1850 1585     0    0 1585  .052  100
          *        4
          *
 ****** ****       4,    0   44   24   68 1850 1306     0    0 1306  .052  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       6,    0    2    2    4 1850  931     0   11  931  .004  100
       *  *        7
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
```

```
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L          22   759   100   .029     .5   .18      .2     .58
    2 T           7   241   100   .029     .5   .18      .2     .18
 ----------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L           5    96   100   .052*    .0   .00      .0     .10
    4 T         121  2332   100   .052*    .0   .00      .0    2.42
    5 R          24   463   100   .052*    .0   .00      .0     .48
 ----------------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T           2   466   100   .004     .7   .21      .2     .13
    7 R           2   466   100   .004     .7   .21      .2     .13
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L           85.0        2         6       6     138       5     438
     2 T           85.0        1         2       2      44       1     139
                 -------------------------------------------------------
      ALL MOVS:    85.0        2         8       8     182       6     578
 ---------------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L           82.1        0         1       1      28       1      95
     4 T           82.1       10        31      32     670      25    2309
     5 R           82.1        2         6       6     133       5     458
                 -------------------------------------------------------
      ALL MOVS:    82.1       12        38      40     831      31    2863
 ---------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T           85.4        0         1       1      13       0      40
     7 R           85.4        0         1       1      13       0      40
                 -------------------------------------------------------
      ALL MOVS:    85.4        0         1       1      26       1      80
                 -------------------------------------------------------
  INTERSECTION:    82.6       15        47      50    1039      38    3520
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
```

```
 Intersection No.:    10
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ----------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L             22    759    .029   1.00      .5    A
    2 T              7    241    .029   1.00      .5    A
                 ----------------------------------------
      ALL MOVS:     29   1000    .029             .5    A
 ----------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L              5     96    .052*  1.00      .0    A
    4 T            121   2332    .052*  1.00      .0    A
    5 R             24    463    .052*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    150   2891    .052             .0    A
 ----------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T              2    466    .004   1.00      .7    A
    7 R              2    466    .004   1.00      .7    A
                 ----------------------------------------
      ALL MOVS:      4    932    .004             .7    A
                 ----------------------------------------
  INTERSECTION:    183   4822    .052             .1    A
 ----------------------------------------------------------
   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:41 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10APM *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

Registered User No. 115
Time and Date of Analysis 5:49 PM, 27 Dec 2007

INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11APT *
SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Comercio (sur)								
1	11	1	0	0	0	0	1.00	1.00
2	0	0	102	14	0	0	1.00	1.00
3	0	0	0	0	23	1	1.00	1.00
EAST: Canada Norte (ori)								
4	0	0	20	4	0	0	1.00	1.00
5	0	0	0	0	13	13	1.00	1.00
WEST: Canada Norte (pon)								
6	6	1	0	0	0	0	1.00	1.00
7	0	0	10	1	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:49 PM, 27 Dec 2007
INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11APT *
SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Comercio (sur)							
1 L	12	0	264	.80	1660	100	.045
2 T	116	0	2555	.80	1662	100	.045
3 R	24	0	529	.80	1663	100	.045
EAST: Canada Norte (ori)							
4 T	24	147+	457	.80	1423	100	.053*
5 R	26	135+	495	.80	1423	100	.053*
WEST: Canada Norte (pon)							

```
    6 L        7    178      354   .80   3946    100   .020
    7 T       11    152      556   .80   3944    100   .020
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .053
    Practical Spare Capacity (Lowest)  =    1423 %
    Total Vehicle Flow                 =     220
    Total Vehicle Capacity (all lanes) =    5209
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L      .00     .0      0   .00     .0     0     .24   50.0   82.1
     2 T      .00     .0      0   .00     .0     0    2.32   50.0   82.1
     3 R      .00     .0      0   .00     .0     0     .48   50.0   82.1
 ------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T      .00     .6      5   .19     .2     1     .59   49.6   85.2
     5 R      .00     .6      5   .19     .2     1     .64   49.6   85.2
 ------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L      .00     .8      2   .22     .2     1     .22   49.5   85.5
     7 T      .00     .8      2   .22     .2     1     .35   49.5   85.5
 ------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Comercio (sur)
   152       .00     .0      0   .00     3.04    50.0    82.1    12478.7
```

```
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    50       .01     .6     10   .19     1.23    49.6    85.2     4260.0
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
    18       .00     .8      4   .22      .58    49.5    85.5     1539.1
 ----------------------------------------------------------------------
 ALL GROUPS:
   220       .01     .2     14   .06     4.85    49.9    83.1    18277.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ----------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ----------------------------------------------------------------
  SOUTH: Comercio (sur)
  1 LT      1,    75  1660  .045     .0   .00     .0    0
            2
  2 TR      2,    77  1688  .045     .0   .00     .0    0
            3
 ----------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 TR      4,    50   951  .053     .6   .19     .2    1
            5
 ----------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 LT      6,    18   910  .020     .8   .22     .2    1
            7
 ----------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Comercio (sur)
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   12   63    0   75 1850 1660     0    0 1660  .045  100
         *         2
         *
 ****** ****       2,    0   53   24   77 1850 1688     0    0 1688  .045  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
         *
 ****** ****       4,    0   24   26   50 1850  951     0   26  951  .053  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,    7   11    0   18 1850  910     0   11  910  .020  100
         *         7
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
```

```
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L          12   264   100   .045     .0   .00      .0     .24
    2 T         116  2555   100   .045     .0   .00      .0    2.32
    3 R          24   529   100   .045     .0   .00      .0     .48
 ----------------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T          24   457   100   .053*    .6   .19      .2     .59
    5 R          26   495   100   .053*    .6   .19      .2     .64
 ----------------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L           7   354   100   .020     .8   .22      .2     .22
    7 T          11   556   100   .020     .8   .22      .2     .35
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L           82.1        1         3       3      66       2     229
     2 T           82.1       10        29      31     642      24    2214
     3 R           82.1        2         6       6     133       5     458
                 -------------------------------------------------------
      ALL MOVS:    82.1       12        38      41     842      31    2901
 ---------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T           85.2        2         6       7     152       5     479
     5 R           85.2        2         7       8     165       6     519
                 -------------------------------------------------------
      ALL MOVS:    85.2        4        13      14     317      11     998
 ---------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L           85.5        1         2       2      45       1     140
     7 T           85.5        1         3       3      71       2     220
                 -------------------------------------------------------
      ALL MOVS:    85.5        2         5       5     116       4     360
                 -------------------------------------------------------
  INTERSECTION:    83.1       18        57      61    1275      46    4260
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
```

```
 Intersection No.:    11
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ----------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L             12    264    .045   1.00      .0    A
    2 T            116   2555    .045   1.00      .0    A
    3 R             24    529    .045   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    152   3348    .045             .0    A
 ----------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T             24    457    .053*  1.00      .6    A
    5 R             26    495    .053*  1.00      .6    A
                 ----------------------------------------
      ALL MOVS:     50    952    .053             .6    A
 ----------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L              7    354    .020   1.00      .8    A
    7 T             11    556    .020   1.00      .8    A
                 ----------------------------------------
      ALL MOVS:     18    910    .020             .8    A
                 ----------------------------------------
  INTERSECTION:    220   5209    .053             .2    A
 ----------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:49 PM, 27 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11APT *
 SITUACION ACTUAL ANO 2006 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection

 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

Registered User No. 115
Time and Date of Analysis 6:23 PM, 27 Dec 2007

INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * AM12APMD
*
SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH EAST: Ruta G-25 (suroriente)								
1	1	1	0	0	0	0	1.00	1.00
2	0	0	51	14	0	0	1.00	1.00
NORTH WEST: Ruta G-25 (norponiente)								
3	0	0	63	18	0	0	1.00	1.00
4	0	0	0	0	7	1	1.00	1.00
SOUTH WEST: Ruta G-421								
5	7	1	0	0	0	0	1.00	1.00
6	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1
ARRB SIDRA 4.07 - Time and Date of Analysis 6:23 PM, 27 Dec 2007
INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * AM12APMD
*
SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH EAST: Ruta G-25 (suroriente)							
1 L	2	97	45	.80	1700	100	.044
2 T	65	0	1459	.80	1696	100	.045
NORTH WEST: Ruta G-25 (norponiente)							
3 T	81	0	1388	.80	1271	100	.058*
4 R	8	0	137	.80	1270	100	.058*
SOUTH WEST: Ruta G-421							

```
    5 L       8     75+     699   .80   6890    100   .011
    6 R       2      8+     175   .80   6900    100   .011
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .058
    Practical Spare Capacity (Lowest)  =    1270 %
    Total Vehicle Flow                 =     166
    Total Vehicle Capacity (all lanes) =    3902
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L      .00    1.9      0   .00     .8     6     .07   48.7   83.1
     2 T      .03    1.9      0   .00     .8     6    2.12   48.7   83.1
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T      .00     .0      0   .00     .0     0    1.62   50.0   82.1
     4 R      .00     .0      0   .00     .0     0     .16   50.0   82.1
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L      .00     .3      1   .10     .1     1     .23   49.8   84.6
     6 R      .00     .3      0   .10     .1     1     .06   49.8   84.6
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
```

```
   67       .04    1.9      0   .00     2.18    48.7    83.1     5570.5
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
   89       .00     .0      0   .00     1.78    50.0    82.1     7306.6
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
   10       .00     .3      1   .10      .29    49.8    84.6      846.0
 ----------------------------------------------------------------------
 ALL GROUPS:
  166       .04     .8      1   .01     4.25    49.5    82.7    13723.2
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH EAST: Ruta G-25 (suroriente)
  1 LT      1,    67  1504  .045    1.9   .00     .8    6
            2
 ---------------------------------------------------------------
  NORTH WEST: Ruta G-25 (norponiente)
  1 TR      3,    89  1525  .058     .0   .00     .0    0
            4
 ---------------------------------------------------------------
  SOUTH WEST: Ruta G-421
  1 LR      5,    10   873  .011     .3   .10     .1    1
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH EAST: Ruta G-25 (suroriente)
                                          Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,    2   65    0   67 1850 1504     0   60 1504  .045  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH WEST: Ruta G-25 (norponiente)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       3,    0   81    8   89 1850 1525     0    0 1525  .058  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            5,    8    0    2   10 1850  873     0    2  873  .011  100
       *           6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ------------------------------------------------------------------
```

```
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L           2    45   100   .044    1.9   .00      .8     .07
    2 T          65  1459   100   .045    1.9   .00      .8    2.12
 ----------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T          81  1388   100   .058*    .0   .00      .0    1.62
    4 R           8   137   100   .058*    .0   .00      .0     .16
 ----------------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L           8   699   100   .011     .3   .10      .1     .23
    6 R           2   175   100   .011     .3   .10      .1     .06
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L           83.1        0         1       1      11       0      39
     2 T           83.1        5        17      18     363      14    1272
                 -------------------------------------------------------
      ALL MOVS:    83.1        6        17      18     374      14    1311
 ---------------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T           82.1        7        20      22     449      17    1546
     4 R           82.1        1         2       2      44       2     153
                 -------------------------------------------------------
      ALL MOVS:    82.1        7        23      24     493      18    1699
 ---------------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L           84.6        1         2       2      48       2     160
     6 R           84.6        0         1       1      12       0      40
                 -------------------------------------------------------
      ALL MOVS:    84.6        1         3       3      60       2     200
                 -------------------------------------------------------
  INTERSECTION:    82.7       14        42      45     927      34    3209
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection
```

```
 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L              2     45    .044   1.00     1.9    A
    2 T             65   1459    .045   1.00     1.9    A
                 ----------------------------------------
      ALL MOVS:     67   1504    .045            1.9    A
 ---------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T             81   1388    .058*  1.00      .0    A
    4 R              8    137    .058*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:     89   1525    .058             .0    A
 ---------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L              8    699    .011   1.00      .3    A
    6 R              2    175    .011   1.00      .3    A
                 ----------------------------------------
      ALL MOVS:     10    874    .011             .3    A
                 ----------------------------------------
  INTERSECTION:    166   3902    .058             .8    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:23 PM, 27 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12APMD
*
 SITUACION ACTUAL ANO 2006 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

SITUACIÓN BASE AÑO 2008

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    1:43 PM, 28 Dec 2007

INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.:     1
                 Cycle Time = 126


Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
-------------------------------------------------------------------------
       Mov              Left       Through       Right     Flow   Peak
       No.           ---------    ---------    ---------   Scale  Hour
                      LV    HV     LV    HV     LV    HV          Factor
-------------------------------------------------------------------------
SOUTH: Av. La Florida (sur)
         1             0     0   2562   143      0     0   1.00   1.00
         2             0     0      0     0     15     3   1.00   1.00
-------------------------------------------------------------------------
EAST: Av. Departamental (ori)
         3           557    79      0     0      0     0   1.00   1.00
         4             0     0   1313   144      0     0   1.00   1.00
         5             0     0      0     0    305   146   1.00   1.00
-------------------------------------------------------------------------
NORTH: Av. La Florida (norte)
         6            59     5      0     0      0     0   1.00   1.00
         7             0     0   1004    79      0     0   1.00   1.00
         8             0     0      0     0     18     1   1.00   1.00
-------------------------------------------------------------------------
WEST: Av. Departamental (pon)
         9             1     1      0     0      0     0   1.00   1.00
        10             0     0    549    38      0     0   1.00   1.00
        11             0     0      0     0    277    81   1.00   1.00
-------------------------------------------------------------------------
Based on unit time =  60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.


Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
-------------------------------------------------------------------------------
 Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
 No.     Typ  First Green   Second Green  --------  ------------     --------
              ------------  ------------  1st  2nd  1st      2nd     1st  2nd
              Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
-------------------------------------------------------------------------------
SOUTH: Av. La Florida (sur)
   1 T         1  2                        4        65.1              68
   2 R        *1  2                        4        65.6              68
-------------------------------------------------------------------------------
EAST: Av. Departamental (ori)
   3 L         2  1                        4        54.0Max           50
   4 T         2  1                        4        54.0Max           50
   5 R        *2  1                        4        54.0Max           50
-------------------------------------------------------------------------------
NORTH: Av. La Florida (norte)
```

```
    6 L         1  2                        4        35.3              68
    7 T         1  2                        4        39.3              68
    8 R  (Und)  1  2          2  1  R       4   51   36.4     52.4     68    3
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L         2  1                        4        30.3              50
   10 T         2  1                        4        30.7              50
   11 R         2  1                        4        37.2              50
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:43 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 T    2705   6977          .388          3765    .80     11    100   .718
    2 R      18     46          .391            25    .80     10    100   .725
 ---------------------------------------------------------------------------
-
 EAST: Av. Departamental (ori)
    3 L     636   1212          .525           481    .80    -40    100  1.322
    4 T    1457   2776          .525          1102    .80    -40    100
1.323*
    5 R     451    859          .525           341    .80    -40    100
1.323*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    6 L      64    286          .224           154    .90    117    100   .415
    7 T    1083   4833          .224          2608    .80     93    100   .415
    8 R      19      0  1922    .231   .010     46    .90    119    100   .410
 ---------------------------------------------------------------------------
-
 WEST: Av. Departamental (pon)
    9 L       2     12          .167             5    .80     90    100   .420
   10 T     587   3458          .170          1372    .80     87    100   .428
   11 R     358   1509          .237           599    .90     51    100   .598
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:43 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
2 R		1	2	4	.391	.489	65.6
5 R		2	1	54	-	-	54.0Max
			Total:	58	.391	.489	119.6

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	126	114	126

(Cycle time specified by the user)

Degree of Saturation (Highest) = 1.323
Practical Spare Capacity (Lowest) = -40 %
Total Vehicle Flow = 7380
Total Vehicle Capacity (all lanes) = 10498

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	67	72	.571
2	72	77	49	54	.429

Current Phase Sequence No.: 1 Phases: A B

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:43 PM, 28 Dec 2007
INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	(m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)									
1 T	16.38	21.8	1830	.68	17.9	113	151.83	38.4	94.5
2 R	.11	21.8	12	.68	17.9	113	1.01	38.4	94.5
EAST: Av. Departamental (ori)									
3 L	112.01	634.0	2620	4.12	139.2	933	241.16	5.1	350.9
4 T	256.69	634.2	6003	4.12	141.5	933	552.62	5.1	351.0

```
     5 R    79.62  635.6   1861  4.13  127.0   935  171.37    5.1  351.5
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     6 L      .31   17.2     34   .53    8.0    52    2.89   46.6   92.4
     7 T     5.17   17.2    716   .66    8.1    52   53.23   40.4   90.7
     8 R      .09   17.1     17   .90    8.1    52     .89   46.7   89.3
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
     9 L      .02   27.6      1   .65    7.5    48     .11   36.1   96.8
    10 T     4.50   27.6    384   .65    7.5    48   33.30   36.1   96.8
    11 R     2.99   30.1    255   .71    9.9    73   20.28   40.0   99.0
 ---------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2723     16.49   21.8   1842   .68   152.84    38.4    94.5   257363.7
 ---------------------------------------------------------------------
 EAST: Av. Departamental (ori)
  2544    448.33  634.4  10484  4.12   965.15     5.1   351.1   893159.8
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1166      5.56   17.2    767   .66    57.02    40.8    90.8   105834.5
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
   947      7.51   28.5    640   .68    53.69    37.5    97.7    92475.6
 ---------------------------------------------------------------------
 ALL GROUPS:
  7380    477.89  233.1  13733  1.86  1228.69    11.8   182.8  1348834.0
 ---------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:43 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 T      1   58  68    0   0    681  948  .718   21.8   .68   17.9  113
  2 T      1   58  68    0   0    681  948  .718   21.8   .68   17.9  113
  3 T      1   58  68    0   0    681  948  .718   21.8   .68   17.9  113
  4 TR     1,  58  68    0   0    679  946  .718   21.8   .68   17.9  113
```

```
           2
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
  1 LT     3,  76  50    0   0    869  657 1.323  634.0  4.12  139.2  933
           4
  2 T      4   76  50    0   0    884  668 1.323  633.8  4.12  141.5  933
  3 TR     4,  76  50    0   0    791  598 1.323  635.6  4.13  127.0  935
           5
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 LT     6,  58  68    0   0    386  930  .415   17.2   .53    8.0   52
           7
  2 T      7   58  68    0   0    386  931  .415   17.2   .53    8.0   52
  3 TR     7,  51   1    6  68    394  948  .415   17.1   .90    8.1   52
           8
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
  1 LT     9,  76  50    0   0    294  688  .428   27.6   .65    7.5   48
          10
  2 T     10   76  50    0   0    295  689  .428   27.6   .65    7.5   48
  3 R     11   76  50    0   0    358  599  .598   30.1   .71    9.9   73
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:43 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       1     0  681    0  681 1850 1757     0    0  948  .718  100
          *

          *
 ***********       1     0  681    0  681 1850 1757     0    0  948  .718  100
          *

          *
 ***********       1     0  681    0  681 1850 1757     0    0  948  .718  100
          *
          *
 ****** ****       1,    0  661   18  679 1850 1752     0    0  946  .718  100
       *  *        2
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,  636  233    0  869 1850 1656     0    0  657 1.323  100
          *        4

          *
 ***********       4     0  884    0  884 1850 1684     0    0  668 1.323  100
          *
          *
 ****** ****       4,    0  340  451  791 1850 1508     0    0  598 1.323  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,   64  322    0  386 1850 1723     0    0  930  .415  100
          *        7

          *
 ***********       7     0  386    0  386 1850 1724     0    0  931  .415  100
          *
          *    Slip Lane
 ****** ****       7,    0  375   19  394 1850  180  1754   57* 948  .415  100
       *  *        8
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
```

```
       *  *
 ****** ****       9,     2  292    0  294 1850 1733     0    0  688  .428  100
          *       10

          *
 ***********      10     0  295    0  295 1850 1738     0    0  689  .428  100
          *

 ******           11     0    0  358  358 1850 1509     0    0  599  .598  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:43 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 T        2705  3765   100   .718   68        21.8   .68    17.9  151.83
    2 R          18    25   100   .725   68*       21.8   .68    17.9    1.01
 ---------------------------------------------------------------------------
 EAST: Av. Departamental (ori)
    3 L         636   481   100  1.322   50       634.0  4.12   139.2  241.16
    4 T        1457  1102   100  1.323*  50       634.2  4.12   141.5  552.62
    5 R         451   341   100  1.323*  50*      635.6  4.13   127.0  171.37
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    6 L          64   154   100   .415   68        17.2   .53     8.0    2.89
    7 T        1083  2608   100   .415   68        17.2   .66     8.1   53.23
    8 R  (Und)   19    46   100   .410   68    3   17.1   .90     8.1     .89
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L           2     5   100   .420   50        27.6   .65     7.5     .11
   10 T         587  1372   100   .428   50        27.6   .65     7.5   33.30
   11 R         358   599   100   .598   50        30.1   .71     9.9   20.28
 ---------------------------------------------------------------------------
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:43 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)								
1	T	94.5	256	857	925	22582	639	62912
2	R	94.5	2	6	6	150	4	419
ALL MOVS:		94.5	257	863	931	22733	643	63330
EAST: Av. Departamental (ori)								
3	L	350.9	223	1059	521	14295	558	88264
4	T	351.0	511	2427	1195	32753	1279	202255
5	R	351.5	159	753	370	10147	396	62715
ALL MOVS:		351.1	893	4240	2086	57195	2233	353234
NORTH: Av. La Florida (norte)								
6	L	92.4	6	19	25	507	15	1313
7	T	90.7	98	322	352	8356	246	23628
8	R	89.3	2	5	7	149	4	362
ALL MOVS:		90.8	106	346	384	9012	265	25304
WEST: Av. Departamental (pon)								
9	L	96.8	0	1	1	17	0	49
10	T	96.8	57	193	201	4898	142	14316
11	R	99.0	35	119	149	3263	89	8240
ALL MOVS:		97.7	92	312	351	8178	231	22605
INTERSECTION:		182.8	1349	5760	3751	97117	3372	464473

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:43 PM, 28 Dec 2007
INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Ratio (g/C) 1st grn	2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	T	.540		2705	3765	.718	1.00	21.8	C
2	R	.540*		18	25	.725	1.00	21.8	C
ALL MOVS:				2723	3790	.725		21.8	C
EAST: Av. Departamental (ori)									

```
   3 L         .397           636    481   1.322   1.00   634.0    F
   4 T         .397          1457   1102   1.323*  1.00   634.2    F
   5 R         .397*          451    341   1.323*  1.00   635.6    F
               ------------------------------------------------------
     ALL MOVS:               2544   1923   1.323          634.4    F
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
   6 L         .540            64    154    .415   1.00    17.2    B
   7 T         .540          1083   2608    .415   1.00    17.2    B
   8 R  (Und)  .540   .024     19     46    .410   1.00    17.1    B
               ------------------------------------------------------
     ALL MOVS:               1166   2809    .415           17.2    B
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
   9 L         .397             2      5    .420   1.00    27.6    C
  10 T         .397           587   1372    .428   1.00    27.6    C
  11 R         .397           358    599    .598   1.00    30.1    C
               ------------------------------------------------------
     ALL MOVS:                947   1976    .598           28.5    C
               ------------------------------------------------------
     INTERSECTION:           7380  10498   1.323          233.1    F
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:43 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                 Cycle Time = 126


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis   11:22 AM, 29 Dec 2007

INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
SITUACION BASE 2008 - HORA PUNTA MANANA
Intersection No.:     2
                 Cycle Time = 122


Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
-------------------------------------------------------------------------
       Mov              Left       Through       Right     Flow   Peak
       No.           ---------    ---------    ---------   Scale  Hour
                      LV    HV     LV    HV     LV    HV          Factor
-------------------------------------------------------------------------
SOUTH: Av. La Florida (sur)
         1           250     4      0     0      0     0   1.00   1.00
         2             0     0   2229   200      0     0   1.00   1.00
         3             0     0      0     0     78    18   1.00   1.00
-------------------------------------------------------------------------
EAST: Rojas Magallanes
         4           124    15      0     0      0     0   1.00   1.00
         5             0     0    462     7      0     0   1.00   1.00
         6             0     0      0     0    105     2   1.00   1.00
-------------------------------------------------------------------------
NORTH: Av. La Florida (norte)
         7            78     5      0     0      0     0   1.00   1.00
         8             0     0   1338   175      0     0   1.00   1.00
         9             0     0      0     0     42     4   1.00   1.00
-------------------------------------------------------------------------
WEST: Rojas Magallanes
        10            59     1      0     0      0     0   1.00   1.00
        11             0     0    336     6      0     0   1.00   1.00
        12             0     0      0     0     45     1   1.00   1.00
-------------------------------------------------------------------------
Based on unit time =  60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.


Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
-----------------------------------------------------------------------------
 Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
 No.     Typ  First Green   Second Green  --------  ------------     --------
              ------------  ------------  1st  2nd  1st      2nd     1st  2nd
              Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
-----------------------------------------------------------------------------
SOUTH: Av. La Florida (sur)
   1 L        *1  2                        4        91.0Max           87
   2 T         1  2                        4        79.4              87
   3 R         1  2                        4        79.5              87
-----------------------------------------------------------------------------
EAST: Rojas Magallanes
   4 L         2  1                        4        34.5              27
   5 T        *2  1                        4        34.5              27
   6 R         2  1                        4        34.4              27
```

```
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         1  2                        4        37.0              87
    8 T         1  2                        4        51.8              87
    9 R         1  2                        4        51.7              87
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         2  1                        4        22.8              27
   11 T         2  1                        4        22.8              27
   12 R         2  1                        4        22.8              27
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     254    399<         .637           285    .80    -10    100   .893
    2 T    2429   4915          .494          3505    .80     15    100   .693
    3 R      96    194          .495           138    .80     15    100   .694
 ---------------------------------------------------------------------------
-
 EAST: Rojas Magallanes
    4 L     139    696          .200           154    .80    -11    100   .902
    5 T     469   2348          .200           520    .80    -11    100
.903*
    6 R     107    536          .200           119    .80    -11    100   .902
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L      83    383<         .217           273    .80    163    100   .304
    8 T    1513   4832          .313          3446    .80     82    100   .439
    9 R      46    147          .313           105    .80     82    100   .439
 ---------------------------------------------------------------------------
-
 WEST: Rojas Magallanes
   10 L      60    487          .123           108    .80     44    100   .557
   11 T     342   2775          .123           614    .80     44    100   .557
   12 R      46    373          .123            83    .80     44    100   .557
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
```

```
 Intersection No.:     2
                  Cycle Time = 122


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      91           -          -        91.0Max
      5 T            2   1       4         .200       .250       34.5
                                ----       ------     ------     ------
                       Total:   95         .200       .250      125.5
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22       122        122        122

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .903
    Practical Spare Capacity (Lowest)  =     -11 %
    Total Vehicle Flow                 =    5584
    Total Vehicle Capacity (all lanes) =    9348
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        86      91   .746
      2        91      96        26      31   .254
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
```

```
SOUTH: Av. La Florida (sur)
    1 L     1.45   20.5    229   .90    3.3    20   11.08   38.9   94.6
    2 T     6.70    9.9   1240   .51   16.2   105  108.86   43.9   88.7
    3 R      .26    9.9     49   .51   16.1   105    4.30   43.9   88.7
---------------------------------------------------------------------
EAST: Rojas Magallanes
    4 L     2.79   72.3    151  1.09   14.4    91   12.11   25.0  116.9
    5 T     9.36   71.8    509  1.08   14.8    90   40.72   25.0  116.7
    6 R     2.12   71.4    116  1.08   14.8    90    9.26   25.1  116.5
---------------------------------------------------------------------
NORTH: Av. La Florida (norte)
    7 L      .12    5.3     23   .27     .8     5    2.75   46.6   85.6
    8 T     3.07    7.3    569   .38    7.4    49   57.91   45.4   87.0
    9 R      .09    7.3     17   .38    7.4    49    1.76   45.4   87.0
---------------------------------------------------------------------
WEST: Rojas Magallanes
   10 L      .70   42.2     48   .80    6.7    41    3.98   31.5  103.6
   11 T     4.01   42.2    273   .80    6.7    41   22.66   31.5  103.6
   12 R      .54   42.2     37   .80    6.7    41    3.05   31.5  103.6
---------------------------------------------------------------------


Table S.6 - INTERSECTION PERFORMANCE
---------------------------------------------------------------------
 Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
 Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
(veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
---------------------------------------------------------------------
SOUTH: Av. La Florida (sur)
 2779      8.41   10.9   1518   .55   124.24    43.4    89.3   248130.3
---------------------------------------------------------------------
EAST: Rojas Magallanes
  715     14.27   71.8    776  1.09    62.10    25.0   116.7    83440.6
---------------------------------------------------------------------
NORTH: Av. La Florida (norte)
 1642      3.29    7.2    609   .37    62.42    45.5    86.9   142731.8
---------------------------------------------------------------------
WEST: Rojas Magallanes
  448      5.25   42.2    358   .80    29.68    31.5   103.6    46418.8
---------------------------------------------------------------------
ALL GROUPS:
 5584     31.22   20.1   3260   .58   278.44    39.1    93.3   520721.5
---------------------------------------------------------------------
1
ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
SITUACION BASE 2008 - HORA PUNTA MANANA
Intersection No.:     2
                 Cycle Time = 122


Table S.7 - LANE PERFORMANCE
-----------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
```

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   35  87    0   0    254  285  .892   20.5   .90    3.3   20   20
  2 T      2   35  87    0   0    845 1219  .693    9.9   .51   16.2  105
  3 T      2   35  87    0   0    845 1219  .693    9.9   .51   16.2  105
  4 TR     2,  35  87    0   0    835 1205  .693    9.9   .51   16.1  105
           3
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
  1 LT     4,  95  27    0   0    351  389  .902   72.3  1.09   14.4   91
           5
  2 TR     5,  95  27    0   0    364  403  .902   71.4  1.08   14.8   90
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   35  87    0   0     83  273  .304    5.3   .27     .8    5   20
  2 T      8   35  87    0   0    519 1182  .439    7.3   .38    7.4   49
  3 T      8   35  87    0   0    519 1182  .439    7.3   .38    7.4   49
  4 TR     8,  35  87    0   0    520 1185  .439    7.3   .38    7.4   49
           9
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
  1 LT    10,  95  27    0   0    224  402  .557   42.2   .80    6.7   41
          11
  2 TR    11,  95  27    0   0    224  402  .557   42.2   .80    6.7   41
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   254    0    0  254 1850  399<    0    0  285  .892  100


           *
```

```
 ***********       2     0  845    0  845 1850 1709     0    0 1219  .693  100
          *

          *
 ***********       2     0  845    0  845 1850 1709     0    0 1219  .693  100
          *
          *
 ****** ****       2,    0  739   96  835 1850 1690     0    0 1205  .693  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,  139  212    0  351 1850 1759     0    0  389  .902  100
          *        5
          *
 ****** ****       5,    0  257  107  364 1850 1821     0    0  403  .902  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7    83    0    0   83 1850  383<    0    0  273  .304  100


          *
 ***********       8     0  519    0  519 1850 1658     0    0 1182  .439  100
          *

          *
 ***********       8     0  519    0  519 1850 1658     0    0 1182  .439  100
          *
          *
 ****** ****       8,    0  474   46  520 1850 1662     0    0 1185  .439  100
       *  *        9
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
                                                Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)       ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****      10,   60  164    0  224 1850 1819     0    0  402  .557  100
          *       11
          *
 ****** ****      11,    0  178   46  224 1850 1817     0    0  402  .557  100
       *  *       12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         254   285<  100   .893   87*       20.5   .90     3.3   11.08
    2 T        2429  3505   100   .693   87         9.9   .51    16.2  108.86
    3 R          96   138   100   .694   87         9.9   .51    16.1    4.30
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         139   154   100   .902   27        72.3  1.09    14.4   12.11
    5 T         469   520   100   .903*  27*       71.8  1.08    14.8   40.72
    6 R         107   119   100   .902   27        71.4  1.08    14.8    9.26
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L          83   273<  100   .304   87         5.3   .27      .8    2.75
    8 T        1513  3446   100   .439   87         7.3   .38     7.4   57.91
    9 R          46   105   100   .439   87         7.3   .38     7.4    1.76
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L          60   108   100   .557   27        42.2   .80     6.7    3.98
   11 T         342   614   100   .557   27        42.2   .80     6.7   22.66
   12 R          46    83   100   .557   27        42.2   .80     6.7    3.05
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
```

```
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           94.6       24        80      90    2242      60    5844
     2 T           88.7      216       696     778   18382     539   50923
     3 R           88.7        9        28      31     727      21    2013
                 -------------------------------------------------------
      ALL MOVS:    89.3      248       804     898   21351     620   58780
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L          116.9       16        60      55    1393      41    4599
     5 T          116.7       55       203     184    4695     137   15474
     6 R          116.5       12        46      42    1070      31    3522
                 -------------------------------------------------------
      ALL MOVS:   116.7       83       310     281    7158     209   23596
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L           85.6        7        22      25     549      18    1667
     8 T           87.0      132       420     464   10641     329   30970
     9 R           87.0        4        13      14     324      10     942
                 -------------------------------------------------------
      ALL MOVS:    86.9      143       455     502   11513     357   33578
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L          103.6        6        22      22     545      16    1633
    11 T          103.6       35       125     125    3107      89    9306
    12 R          103.6        5        17      17     418      12    1252
                 -------------------------------------------------------
      ALL MOVS:   103.6       46       163     163    4071     116   12190
                 -------------------------------------------------------
  INTERSECTION:    93.3      521      1733    1845   44093    1302  128143
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
```

```
                 grn   grn
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .713*          254    285<   .893   1.00    20.5    C
    2 T         .713          2429   3505    .693   1.00     9.9    B
    3 R         .713            96    138    .694   1.00     9.9    B
                ------------------------------------------------------
      ALL MOVS:               2779   3928    .893           10.9    B
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         .221           139    154    .902   1.00    72.3    E
    5 T         .221*          469    520    .903*  1.00    71.8    E
    6 R         .221           107    119    .902   1.00    71.4    E
                ------------------------------------------------------
      ALL MOVS:                715    792    .903           71.8    E
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .713            83    273<   .304   1.00     5.3    A
    8 T         .713          1513   3446    .439   1.00     7.3    B
    9 R         .713            46    105    .439   1.00     7.3    B
                ------------------------------------------------------
      ALL MOVS:               1642   3824    .439            7.2    B
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         .221            60    108    .557   1.00    42.2    D
   11 T         .221           342    614    .557   1.00    42.2    D
   12 R         .221            46     83    .557   1.00    42.2    D
                ------------------------------------------------------
      ALL MOVS:                448    804    .557           42.2    D
                ------------------------------------------------------
      INTERSECTION:           5584   9348    .903           20.1    C
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:22 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BPM *
 SITUACION BASE 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  2
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
```

```
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 4:55 PM, 28 Dec 2007

INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	293	17	0	0	0	0	1.00	1.00
2	0	0	2415	155	0	0	1.00	1.00
3	0	0	0	0	9	1	1.00	1.00
EAST: Trinidad Oriente (ori)								
4	17	1	222	1	0	0	1.00	1.00
6	0	0	0	0	146	1	1.00	1.00
NORTH: Av. La Florida (norte)								
7	224	29	0	0	0	0	1.00	1.00
8	0	0	1281	169	0	0	1.00	1.00
9	0	0	0	0	188	1	1.00	1.00
WEST: Trinidad Oriente (pon)								
10	158	5	0	0	0	0	1.00	1.00
11	0	0	94	2	0	0	1.00	1.00
12	0	0	0	0	82	16	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr To Op Pr	PHASE MATRIX Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	L	*1 2		4		62.0	Max	58	
2	T	1 2		4		57.0		58	
3	R	1 2		4		57.8		58	
EAST: Trinidad Oriente (ori)									
4	LT	*2 1		4		26.7		20	
6	R	2 1		4		26.7		20	

NORTH: Av. La Florida (norte)

```
    7 L         1  2                        4        62.0Max           58
    8 T         1  2                        4        39.0              58
    9 R         1  2                        4        39.0              58
 ------------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         2  1                        4        15.0              20
   11 T         2  1                        4        15.0              20
   12 R         2  1                        4        15.0              20
 ------------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ------------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ------------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     310    489<         .634           330    .80    -15    100
.940*
    2 T    2570   5213          .493          3516    .80      9    100   .731
    3 R      10     20          .500            13    .80      8    100   .741
 ------------------------------------------------------------------------------
-
 EAST: Trinidad Oriente (ori)
    4 LT    241   1140          .211           265    .80    -12    100   .909
    6 R     147    696          .211           162    .80    -12    100   .908
 ------------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L     253    463<         .546           312    .80     -1    100   .810
    8 T    1450   4449          .326          3000    .80     66    100   .483
    9 R     189    580          .326           391    .80     66    100   .483
 ------------------------------------------------------------------------------
-
 WEST: Trinidad Oriente (pon)
   10 L     163   1587          .103           369    .80     81    100   .442
   11 T      96    935          .103           217    .80     81    100   .441
   12 R      98    954          .103           222    .80     81    100   .442
 ------------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86
```

```
Table S.3 - INTERSECTION PARAMETERS
----------------------------------------------------------------------
   Crit    Green   Phases   Adjusted    Adjusted   Required   Required
   Mov     Period  ------     Lost        Flow     Grn Time   Movement
   No.             Fr  To     Time        Ratio     Ratio       Time
----------------------------------------------------------------------
     1 L            1   2      62           -          -        62.0Max
     4 LT           2   1       4         .211       .264       26.7
                                ----      ------     ------     ------
                      Total:   66         .211       .264       88.7
----------------------------------------------------------------------
  -  Flow ratio not used for cycle time calculations and
     the adjusted lost time equals the required movement time
     (=Min or Max as shown in Table S.1)

   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        22        86         86         86

     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =    .940
   Practical Spare Capacity (Lowest)  =     -15 %
   Total Vehicle Flow                 =    5527
   Total Vehicle Capacity (all lanes) =    8798
----------------------------------------------------------------------


Table S.4 - PHASE INFORMATION
--------------------------------------------------
   Phase    Change   Green  Displayed  Grn+Intgrn
    No.      Time    Start    Green    Secs  Prop.
--------------------------------------------------
     1         0       5        57      62   .721
     2        62      67        19      24   .279
--------------------------------------------------
  Current Phase Sequence No.: 1   Phases: A  B
1
ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.:     3
                 Cycle Time =  86


Table S.5 - MOVEMENT PERFORMANCE
----------------------------------------------------------------------
  Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
  No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
----------------------------------------------------------------------
SOUTH: Av. La Florida (sur)
    1 L     1.33   15.5    279   .90    3.2    20   12.24   41.1   92.7
    2 T     6.59    9.2   1494   .58   13.3    84  105.95   44.3   88.8
```

```
     3 R      .03    9.2      6   .58   13.3    84     .41   44.3   88.8
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
     4 LT    3.92   58.6    285  1.18   12.2    74   17.88   27.6  111.2
     6 R     2.39   58.6    174  1.18   12.2    74   10.90   27.6  111.2
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L     1.31   18.6    228   .90    3.0    20   10.62   39.7   93.5
     8 T     2.72    6.8    630   .43    6.4    42   51.96   45.7   87.1
     9 R      .36    6.8     82   .43    6.4    42    6.77   45.7   87.1
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
    10 L     1.28   28.2    125   .77    3.8    23    8.57   35.9   97.6
    11 T      .75   28.2     74   .77    3.8    23    5.04   35.9   97.6
    12 R      .77   28.2     75   .77    3.5    23    5.15   35.9   97.6
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2890      7.95    9.9   1779   .62   118.61    44.0    89.2   257861.8
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
   388      6.32   58.6    458  1.18    28.78    27.6   111.2    43143.9
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1892      4.38    8.3    940   .50    69.35    44.8    87.9   166333.9
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   357      2.80   28.2    275   .77    18.76    35.9    97.6    34861.0
 ---------------------------------------------------------------------------
 ALL GROUPS:
  5527     21.45   14.0   3452   .62   235.50    41.9    90.9   502200.7
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
```

```
  1 L      1   28  58    0   0    310  330  .940   15.5   .90    3.2   20   20
  2 T      2   28  58    0   0    860 1177  .731    9.2   .58   13.3   84
  3 T      2   28  58    0   0    860 1177  .731    9.2   .58   13.3   84
  4 TR     2,  28  58    0   0    860 1176  .731    9.2   .58   13.3   84
           3
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
  1 LTR    4,  66  20    0   0    388  427  .909   58.6  1.18   12.2   74
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   28  58    0   0    253  312  .810   18.6   .90    3.0   20   20
  2 T      8   28  58    0   0    540 1117  .483    6.8   .43    6.2   42
  3 T      8   28  58    0   0    540 1117  .483    6.8   .43    6.2   42
  4 TR     8,  28  58    0   0    559 1156  .483    6.8   .43    6.4   42
           9
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
  1 LT    10,  66  20    0   0    185  418  .442   28.2   .77    3.8   23
          11
  2 TR    11,  66  20    0   0    172  390  .442   28.2   .77    3.5   23
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   310    0    0  310 1850  489<    0    0  330  .940  100


          *
 ***********       2     0  860    0  860 1850 1745     0    0 1177  .731  100
          *

          *
 ***********       2     0  860    0  860 1850 1745     0    0 1177  .731  100
          *
```

```
          *
 ****** ****       2,    0  850   10  860 1850 1744     0    0 1176  .731  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   18  223  147  388 1850 1836     0    0  427  .909  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   253    0    0  253 1850  463<    0    0  312  .810  100


          *
 ***********       8     0  540    0  540 1850 1657     0    0 1117  .483  100
          *

          *
 ***********       8     0  540    0  540 1850 1657     0    0 1117  .483  100
          *
          *
 ****** ****       8,    0  370  189  559 1850 1715     0    0 1156  .483  100
       *  *        9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *  *
****** ****      10,  163   22    0  185 1850 1797     0    0  418  .442  100
         *       11
         *
****** ****      11,    0   74   98  172 1850 1679     0    0  390  .442  100
       *  *      12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         310   330<  100   .940*  58*       15.5   .90     3.2   12.24
    2 T        2570  3516   100   .731   58         9.2   .58    13.3  105.95
    3 R          10    13   100   .741   58         9.2   .58    13.3     .41
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        241   265   100   .909   20*       58.6  1.18    12.2   17.88
    6 R         147   162   100   .908   20        58.6  1.18    12.2   10.90
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         253   312<  100   .810   58        18.6   .90     3.0   10.62
    8 T        1450  3000   100   .483   58         6.8   .43     6.4   51.96
    9 R         189   391   100   .483   58         6.8   .43     6.4    6.77
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         163   369   100   .442   20        28.2   .77     3.8    8.57
   11 T          96   217   100   .441   20        28.2   .77     3.8    5.04
   12 R          98   222   100   .442   20        28.2   .77     3.5    5.15
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
```

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)								
1	L	92.7	29	95	110	2755	72	6827
2	T	88.8	228	737	838	20088	571	53518
3	R	88.8	1	3	3	78	2	208
ALL MOVS:		89.2	258	835	951	22921	645	60553
EAST: Trinidad Oriente (ori)								
4	LT	111.2	27	97	93	2373	67	7333
6	R	111.2	16	59	57	1447	41	4473
ALL MOVS:		111.2	43	157	150	3820	108	11806
NORTH: Av. La Florida (norte)								
7	L	93.5	24	79	87	2155	59	5730
8	T	87.1	126	403	452	10503	316	29518
9	R	87.1	16	53	59	1369	41	3847
ALL MOVS:		87.9	166	534	598	14026	416	39095
WEST: Trinidad Oriente (pon)								
10	L	97.6	16	54	58	1432	40	3993
11	T	97.6	9	32	34	843	23	2352
12	R	97.6	10	33	35	861	24	2401
ALL MOVS:		97.6	35	119	126	3135	87	8745
INTERSECTION:		90.9	502	1645	1825	43902	1256	120199

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:55 PM, 28 Dec 2007
INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	L	.674*		310	330<	.940*	1.00	15.5	B
2	T	.674		2570	3516	.731	1.00	9.2	B
3	R	.674		10	13	.741	1.00	9.2	B
ALL MOVS:				2890	3859	.940		9.9	B
EAST: Trinidad Oriente (ori)									
4	LT	.233*		241	265	.909	1.00	58.6	E
6	R	.233		147	162	.908	1.00	58.6	E

```
                 ----------------------------------------------------
     ALL MOVS:                388    427    .909           58.6    E
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .674           253    312<   .810   1.00    18.6    B
    8 T         .674          1450   3000    .483   1.00     6.8    B
    9 R         .674           189    391    .483   1.00     6.8    B
                 ----------------------------------------------------
     ALL MOVS:               1892   3704    .810            8.3    B
 ---------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         .233           163    369    .442   1.00    28.2    C
   11 T         .233            96    217    .441   1.00    28.2    C
   12 R         .233            98    222    .442   1.00    28.2    C
                 ----------------------------------------------------
     ALL MOVS:                357    808    .442           28.2    C
                 ----------------------------------------------------
     INTERSECTION:           5527   8798    .940           14.0    B
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 28 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  2
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis   11:33 AM, 29 Dec 2007

 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                 Cycle Time =  86


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
          1           153     6      0     0      0     0   1.00   1.00
          2             0     0   1882   180      0     0   1.00   1.00
 ------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
          3             0     0    882   194      0     0   1.00   1.00
          4             0     0      0     0    112     6   1.00   1.00
 ------------------------------------------------------------------------
 WEST: San Jose de La Estrella
          5           251     4      0     0      0     0   1.00   1.00
          6             0     0      0     0     50    11   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         1  2  L                    13        65.0Max           47
    2 LT       *1  2                        4        65.0Max           56
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         1  2                        4        30.9              56
    4 R  (Und)  1  2          2  1          4    4   25.6     29.7     56   22
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L        *2  1                        4        19.1              22
    6 R         2  1                        4        11.0Min           22
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
```

```
 Intersection No.:     4
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     152    278<         .546           152    .80    -20    100
1.000*
    2 LT   2069E  3404          .608          2217    .80    -14    100   .933
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    3 T    1076   4307          .250          2805    .80    109    100   .384
    4 R     118    447    63    .226   .269    307    .90    134    100   .384
 ---------------------------------------------------------------------------
-
 WEST: San Jose de La Estrella
    5 L     255   1821          .140           466    .80     46    100   .547
    6 R      61   1567          .039           401    .80    426    100   .152
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      2 LT           1   2      65           -          -        65.0Max
      5 L            2   1       4         .140       .175       19.1
                                ----       ------     ------     ------
                       Total:   69         .140       .175       84.1
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         84         86
```

```
     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.000
   Practical Spare Capacity (Lowest)  =     -20 %
   Total Vehicle Flow                 =    3731
   Total Vehicle Capacity (all lanes) =    6347
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        55      60   .698
      2        60      65        21      26   .302
 ---------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L      .82   19.5    137   .90    2.4    15    7.03   39.3   94.7
     2 LT   15.93   27.7   1990   .96   26.4   172  121.19   36.1   98.2
 ------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T     1.97    6.6    452   .42    4.4    31   37.59   45.8   87.0
     4 R      .18    5.6     50   .42    4.0    28    3.98   46.4   86.8
 ------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L     1.96   27.7    199   .78    5.3    32   13.44   36.1   97.5
     6 R      .42   24.8     43   .70    1.1     8    3.00   37.2   95.9
 ------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2221     16.75   27.2   2127   .96   128.22    36.3    98.0   217638.0
```

```
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1194      2.15    6.5    502   .42    41.57    45.9    87.0   103832.0
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
   316      2.38   27.1    241   .76    16.44    36.3    97.2    30702.5
 ----------------------------------------------------------------------
 ALL GROUPS:
  3731     21.29   20.5   2870   .77   186.23    38.9    94.4   352172.5
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   39  47    0   0    152  152 1.000   19.5   .90    2.4   15<  15
  2 LT     2   30  56    0   0   1035 1108  .934   27.7   .96   26.4  172
  3 T      2   30  56    0   0   1034 1108  .934   27.7   .96   26.4  172
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 T      3   30  56    0   0    392 1021  .384    7.0   .42    4.4   31
  2 T      3   30  56    0   0    392 1021  .384    7.0   .42    4.4   31
  3 TR     3,  25  56    4   1    411 1071  .384    5.6   .42    4.0   28
           4
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
  1 L      5   64  22    0   0    255  466  .547   27.7   .78    5.3   32
  2 R      6   64  22    0   0     61  401  .152   24.8   .70    1.1    8
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
```

```
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   152    0    0  152 1850  278<    0   75  152 1.000  100

       *
      ***
       *  *
 ****** ****       2     7E1028    0 1035 1850 1702     0    0 1108  .934  100
          *

          *
 ***********       2     0 1034    0 1034 1850 1701     0    0 1108  .934  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  392    0  392 1850 1567     0    0 1021  .384  100
          *

          *
 ***********       3     0  392    0  392 1850 1567     0    0 1021  .384  100
          *
          *    Slip Lane
 ****** ****       3,    0  293  118  411 1850 1618  1451    0 1071  .384  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
```

```
 ******            5   255    0    0  255 1850 1821     0    0  466  .547  100


 ******            6     0    0   61   61 1850 1567     0    0  401  .152  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         152   152<  100  1.000*  47        19.5   .90     2.4    7.03
    2 LT       2069E 2217   100   .933   56*       27.7   .96    26.4  121.19
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T        1076  2805   100   .384   56         6.6   .42     4.4   37.59
    4 R  (Und)  118   307   100   .384   56   22    5.6   .42     4.0    3.98
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         255   466   100   .547   22*       27.7   .78     5.3   13.44
    6 R          61   401   100   .152   22        24.8   .70     1.1    3.00
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                 Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           94.7       14        48      55    1389      36    3461
```

```
     2 LT          98.2      203       693     757   19162     508   50599
                 ----------------------------------------------------------
      ALL MOVS:    98.0      218       742     811   20551     544   54061
 ----------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T           87.0       94       299     333    7719     234   21916
     4 R           86.8       10        33      36     843      26    2393
                 ----------------------------------------------------------
      ALL MOVS:    87.0      104       331     370    8561     260   24310
 ----------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L           97.5       25        85      90    2246      62    6220
     6 R           95.9        6        20      21     516      15    1454
                 ----------------------------------------------------------
      ALL MOVS:    97.2       31       104     111    2763      77    7674
                 ----------------------------------------------------------
  INTERSECTION:    94.4      352      1177    1293   31874     880   86044
 ----------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .547           152    152<  1.000*  1.00    19.5    C
    2 LT        .651*         2069E  2217    .933   1.00    27.7    C
                ----------------------------------------------------
      ALL MOVS:               2221   2368   1.000           27.2    C
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         .651          1076   2805    .384   1.00     6.6    B
    4 R  (Und)  .651   .256    118    307    .384   1.00     5.6    A
                ----------------------------------------------------
      ALL MOVS:               1194   3112    .384            6.5    A
 ---------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         .256*          255    466    .547   1.00    27.7    C
    6 R         .256            61    401    .152   1.00    24.8    C
                ----------------------------------------------------
      ALL MOVS:                316    867    .547           27.1    C
                ----------------------------------------------------
      INTERSECTION:           3731   6347   1.000           20.5    C
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
```

```
ARRB SIDRA 4.07 -  Time and Date of Analysis   11:33 AM, 29 Dec 2007
INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.:     4
                 Cycle Time =  86


DIAGNOSTIC REPORT
-------------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
-------------------------------------------------------------------------------
-

END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    5:20 PM, 28 Dec 2007

INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES           * AM5BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.:     5
                 Cycle Time =  86
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. Camilo Henriquez								
1	129	26	0	0	0	0	1.00	1.00
2	0	0	2129	165	0	0	1.00	1.00
3	0	0	0	0	32	2	1.00	1.00
EAST: Av. Diego Portales (ori)								
4	64	3	137	3	0	0	1.00	1.00
6	0	0	0	0	304	1	1.00	1.00
NORTH: Av. La Florida								
7	144	3	0	0	0	0	1.00	1.00
8	0	0	1215	178	0	0	1.00	1.00
9	0	0	0	0	66	37	1.00	1.00
WEST: Av. Diego Portales (pon)								
10	142	35	111	3	0	0	1.00	1.00
12	0	0	0	0	44	14	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr	To	Op	Pr	Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. Camilo Henriquez															
1	L	1	2							4		34.5		48	
2	T	1	2							4		51.9		48	
3	R	*1	2			2	1	R		4	8	51.9	34.1	48	26
EAST: Av. Diego Portales (ori)															
4	LT	2	1							4		34.2		30	
6	R	*2	1							4		34.2		30	
NORTH: Av. La Florida															
7	L	1	2							4		29.2		48	

```
    8 T         1  2                        4        36.6              48
    9 R         1  2          2  1  R       4    9   44.0     11.0Min  48   25
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        2  1                        4        27.3              30
   12 R         2  1                        4        27.3              30
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez
    1 L     155    547<         .283           305    .80     58    100   .508
    2 T    2294   5146          .446          2872    .80      0    100   .799
    3 R      34     48    52    .446   .242     43    .80      0    100   .800
 ---------------------------------------------------------------------------
-
 EAST: Av. Diego Portales (ori)
    4 LT    207    738          .280           257    .80     -1    100
.804*
    6 R     305   1087          .281           379    .80     -1    100
.804*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida
    7 L     147    627<         .234           350    .80     90    100   .420
    8 T    1393   4599          .303          2567    .80     47    100   .543
    9 R     103    270   135    .381   .000    190    .80     48    100   .542
 ---------------------------------------------------------------------------
-
 WEST: Av. Diego Portales (pon)
   10 LT    291   1343          .217           468    .80     29    100   .621
   12 R      58    268          .216            93    .80     29    100   .620
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
```

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
3 R	1st	1	2	4	.446	.557	51.9
6 R		2	1	4	.281	.351	34.2
			Total:	8	.726	.908	86.1

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	86	86	86

(Cycle time specified by the user)

Cycle time is at maximum and short lanes exist.
A shorter cycle time may give better results.

Degree of Saturation (Highest) = .804
Practical Spare Capacity (Lowest) = -1 %
Total Vehicle Flow = 4987
Total Vehicle Capacity (all lanes) = 7525

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	47	52	.605
2	52	57	29	34	.395

Current Phase Sequence No.: 1 Phases: A B

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:20 PM, 28 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES * AM5BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 5
Cycle Time = 86

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	Longest Que per Lane (m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. Camilo Henriquez									
1 L	.40	9.3	68	.44	1.8	13	5.69	44.3	88.1
2 T	10.89	17.1	1763	.77	15.3	99	111.49	40.4	92.9
3 R	.15	16.0	27	.81	14.9	96	1.63	40.9	92.5
EAST: Av. Diego Portales (ori)									
4 LT	1.72	30.0	181	.88	11.9	72	11.68	35.3	98.7
6 R	2.54	30.0	267	.88	11.9	72	17.21	35.3	98.7

```
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
     7 L      .37    9.1     64   .43    1.7    10    5.36   44.4   88.0
     8 T     4.23   10.9    792   .57    7.5    51   56.42   43.4   89.5
     9 R      .23    8.2     58   .56    6.1    43    3.88   44.9   88.6
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT    1.88   23.3    218   .75    6.9    48   14.69   37.8   95.5
    12 R      .38   23.3     43   .75    6.9    48    2.93   37.8   95.5
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
  2483     11.45   16.6   1859   .75   118.81    40.6    92.6   229876.5
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
   512      4.27   30.0    448   .88    28.89    35.3    98.7    50546.8
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
  1643      4.84   10.6    914   .56    65.65    43.6    89.3   146787.2
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   349      2.26   23.3    261   .75    17.62    37.8    95.5    33323.5
 ---------------------------------------------------------------------------
 ALL GROUPS:
  4987     22.81   16.5   3483   .70   230.97    40.7    92.3   460534.0
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
  1 L      1   38  48    0   0    155  306  .507    9.3   .44    1.8   13   28
  2 T      2   38  48    0   0    769  963  .799   17.6   .75   15.3   99
  3 T      2   38  48    0   0    769  963  .799   17.6   .75   15.3   99
  4 TR     2,  29  48    8   1    789  988  .799   16.0   .81   14.9   96
           3
```

```
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
  1 LTR    4,  56  30    0   0    512  637  .804   30.0   .88   11.9   72
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
  1 L      7   38  48    0   0    147  350  .420    9.1   .43    1.7   10   28
  2 T      8   38  48    0   0    497  916  .543   12.0   .57    7.5   51
  3 T      8   38  48    0   0    497  916  .543   12.0   .57    7.5   51
  4 TR     8,  28  48    9   1    502  926  .543    8.2   .56    6.1   43
           9
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
  1 LTR   10,  56  30    0   0    349  562  .621   23.3   .75    6.9   48
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   155    0    0  155 1850  547<    0    0  306  .507  100


          *
 ***********       2     0  769    0  769 1850 1726     0    0  963  .799  100
          *

          *
 ***********       2     0  769    0  769 1850 1726     0    0  963  .799  100
          *
          *
 ****** ****       2,    0  755   34  789 1850 1727  2120   84* 988  .799  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
```

```
  EAST: Av. Diego Portales (ori)
                                                   Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)          ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   67  140  305  512 1850 1825     0    0  637  .804  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
                                                   Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)          ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
******            7   147    0    0  147 1850  627<    0    0  350  .420  100


          *
***********       8     0  497    0  497 1850 1640     0    0  916  .543  100
          *

          *
***********       8     0  497    0  497 1850 1640     0    0  916  .543  100
          *
          *
****** ****       8,    0  399  103  502 1850 1574  4045   84* 926  .543  100
       *  *        9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
                                                   Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)          ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
****** ****      10,  177  114   58  349 1850 1610     0    0  562  .621  100
       *  *       12
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         155   305<  100   .508   48         9.3   .44     1.8    5.69
    2 T        2294  2872   100   .799   48        17.1   .77    15.3  111.49
    3 R          34    43   100   .800   48*  26   16.0   .81    14.9    1.63
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        207   257   100   .804*  30        30.0   .88    11.9   11.68
    6 R         305   379   100   .804*  30*       30.0   .88    11.9   17.21
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         147   350<  100   .420   48         9.1   .43     1.7    5.36
    8 T        1393  2567   100   .543   48        10.9   .57     7.5   56.42
    9 R         103   190   100   .542   48   25    8.2   .56     6.1    3.88
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        291   468   100   .621   30        23.3   .75     6.9   14.69
   12 R          58    93   100   .620   30        23.3   .75     6.9    2.93
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
     1 L           88.1       14        44      49    1132      34    3232
     2 T           92.9      213       706     790   19474     533   51303
     3 R           92.5        3        10      12     287       8     754
```

```
                 ----------------------------------------------------------
     ALL MOVS:    92.6      230       760     850   20893     575   55289
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT          98.7       20        70      75    1873      51    5144
    6 R           98.7       30       103     110    2759      75    7579
                 ----------------------------------------------------------
     ALL MOVS:    98.7       51       173     185    4632     126   12722
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L           88.0       13        42      46    1069      32    3060
    8 T           89.5      125       405     454   10839     312   29540
    9 R           88.6        9        29      33     791      23    2142
                 ----------------------------------------------------------
     ALL MOVS:    89.3      147       476     533   12699     367   34743
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT          95.5       28        94     102    2513      69    6849
   12 R           95.5        6        19      20     501      14    1365
                 ----------------------------------------------------------
     ALL MOVS:    95.5       33       112     122    3013      83    8215
                 ----------------------------------------------------------
  INTERSECTION:   92.3      461      1522    1689   41237    1151  110968
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         .558           155    305<   .508   1.00     9.3    B
    2 T         .558          2294   2872    .799   1.00    17.1    B
    3 R         .558*  .302     34     43    .800   1.00    16.0    B
                ----------------------------------------------------
     ALL MOVS:               2483   3220    .800           16.6    B
 ---------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        .349           207    257    .804*  1.00    30.0    C
    6 R         .349*          305    379    .804*  1.00    30.0    C
                ----------------------------------------------------
     ALL MOVS:                512    637    .804           30.0    C
 ---------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         .558           147    350<   .420   1.00     9.1    B
    8 T         .558          1393   2567    .543   1.00    10.9    B
    9 R         .558   .291    103    190    .542   1.00     8.2    B
                ----------------------------------------------------
     ALL MOVS:               1643   3107    .543           10.6    B
```

```
 ----------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        .349           291    468    .621   1.00    23.3    C
   12 R         .349            58     93    .620   1.00    23.3    C
                ------------------------------------------------------
      ALL MOVS:                349    562    .621           23.3    C
                ------------------------------------------------------
      INTERSECTION:           4987   7525    .804           16.5    B
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:20 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis   11:54 AM, 29 Dec 2007

 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
          1            82    36      0     0      0     0   1.00   1.00
          2             0     0    574   157      0     0   1.00   1.00
 ------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
          3             0     0    362   453      0     0   1.00   1.00
          4             0     0      0     0    316   282   1.00   1.00
 ------------------------------------------------------------------------
 WEST: El Penon
          5           433   103      0     0      0     0   1.00   1.00
          6             0     0      0     0    236    60   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L        *1  2  L                    36        64.8              23
    2 LT        1  2                        4        22.5              55
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         1  2                        4        43.0              55
    4 R         1  2                        4        58.1              55
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L        *2  1                        4        40.0Max           28
    6 R         2  1                        4        23.5              28
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
```

```
 Intersection No.:     6
                  Cycle Time =  91


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez (S)
    1 L     107    422<         .253           107    .80    -20    100  1.000
    2 LT    742E  4564          .163          2758    .80    197    100   .269
 ---------------------------------------------------------------------------
-
 NORTH: Av. Camilo Henriquez (N)
    3 T     815   2378          .343          1437    .80     41     72   .567
    4 R     598   1257          .476           760    .80      2    100   .787
 ---------------------------------------------------------------------------
-
 WEST: El Penon
    5 L     536   1552          .345           478    .80    -29    100
1.122*
    6 R     296   1538          .192           473    .90     44    100   .625
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect

   Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                       * AM6BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      36         .253       .316       64.8
      5 L            2   1      40           -          -        40.0Max
                               ----       ------     ------     ------
                      Total:   76         .253       .316      104.8
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)
```

```
   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        22        91         91         91

     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.122
   Practical Spare Capacity (Lowest)  =     -29 %
   Total Vehicle Flow                 =    3094
   Total Vehicle Capacity (all lanes) =    6013
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 --------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 --------------------------------------------------
      1         0       5        54      59   .648
      2        59      64        27      32   .352
 --------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.5 - MOVEMENT PERFORMANCE
 ---------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
     1 L     1.01   34.0     96   .90    2.6    20    6.23   34.0  100.7
     2 LT    1.75    8.5    316   .43    3.0    22   27.22   44.7   87.7
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
     3 T     2.45   10.8    441   .54    6.2    58   33.60   43.5   89.3
     4 R     2.72   16.4    427   .71   12.0   106   29.06   40.7   92.4
 ---------------------------------------------------------------------------
 WEST: El Penon
     5 L    42.68  286.6   1687  3.15   47.4   339  110.16   10.0  208.5
     6 R     2.22   27.0    228   .77    6.4    46   15.82   36.4   97.2
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
```

```
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
   849      2.76   11.7    412   .48    33.45    43.0    89.4    75870.3
 ----------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
  1413      5.18   13.2    869   .61    62.66    42.3    90.6   128026.1
 ----------------------------------------------------------------------
 WEST: El Penon
   832     44.90  194.3   1916  2.30   125.98    13.5   168.9   140494.8
 ----------------------------------------------------------------------
 ALL GROUPS:
  3094     52.83   61.5   3196  1.03   222.09    27.0   111.3   344391.2
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                             Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
  1 L      1   68  23    0   0    107  107 1.000   34.0   .90    2.6   20<  20
  2 LT     2   36  55    0   0    247  917  .269    8.5   .43    2.9   22
  3 T      2   36  55    0   0    248  920  .269    8.5   .43    3.0   22
  4 T      2   36  55    0   0    248  920  .269    8.5   .43    3.0   22
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
  1 T      3   36  55    0   0    408  719  .567   10.8   .54    6.2   58
  2 T      3   36  55    0   0    408  719  .567   10.8   .54    6.2   58
  3 R      3,  36  55    0   0    598  760  .787   16.4   .71   12.0  106
           4
 ---------------------------------------------------------------------------
-
  WEST: El Penon
  1 L      5   63  28    0   0    536  477 1.123  286.6  3.15   47.4  339
  2 R      6   63  28    0   0    296  473  .625   27.0   .77    6.4   46
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BPM *
```

```
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   107    0    0  107 1850  422<    0   71  107 1.000  100

       *
      ***
       *  *
 ****** ****       2    11E 236    0  247 1850 1518     0    0  917  .269  100
          *

          *
 ***********       2     0  248    0  248 1850 1523     0    0  920  .269  100
          *

          *
 ***********       2     0  248    0  248 1850 1523     0    0  920  .269  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  408    0  408 1850 1189     0    0  719  .567   72
          *
Prog

          *
 ***********       3     0  408    0  408 1850 1189     0    0  719  .567   72
          *
Prog

 ******            3,    0    0  598  598 1850 1257     0    0  760  .787  100
       *           4
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: El Penon
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   536    0    0  536 1850 1552     0    0  477 1.123  100


 ******            6     0    0  296  296 1850 1538     0    0  473  .625  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
   Prog  Lane under-utilisation found by the "Program"
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L         107   107<  100  1.000   23*       34.0   .90     2.6    6.23
    2 LT        742E 2758   100   .269   55         8.5   .43     3.0   27.22
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         815  1437    72   .567   55        10.8   .54     6.2   33.60
    4 R         598   760   100   .787   55        16.4   .71    12.0   29.06
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L         536   478   100  1.122*  28*      286.6  3.15    47.4  110.16
    6 R         296   473   100   .625   28        27.0   .77     6.4   15.82
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
```

INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Fuel Consumption Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. Camilo Henriquez (S)							
1 L	100.7	11	37	39	997	27	2732
2 LT	87.7	65	209	231	5368	163	15363
ALL MOVS:	89.4	76	246	271	6366	190	18095
NORTH: Av. Camilo Henriquez (N)							
3 T	89.3	73	236	264	6272	182	17227
4 R	92.4	55	183	204	5001	138	13287
ALL MOVS:	90.6	128	418	468	11273	320	30514
WEST: El Penon							
5 L	208.5	112	492	305	8235	279	39888
6 R	97.2	29	98	105	2597	72	7181
ALL MOVS:	168.9	140	589	409	10832	351	47069
INTERSECTION:	111.3	344	1254	1147	28470	861	95679

1
ARRB SIDRA 4.07 - Time and Date of Analysis 11:54 AM, 29 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	Green Time Ratio (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. Camilo Henriquez (S)									
1	L	.253*		107	107<	1.000	1.00	34.0	D
2	LT	.604		742E	2758	.269	1.00	8.5	B
ALL MOVS:				849	2865	1.000		11.7	B
NORTH: Av. Camilo Henriquez (N)									
3	T	.604		815	1437	.567	1.00	10.8	B
4	R	.604		598	760	.787	1.00	16.4	B
ALL MOVS:				1413	2197	.787		13.2	B

```
 ----------------------------------------------------------------------
 WEST: El Penon
    5 L         .308*          536    478   1.122*  1.00   286.6    F
    6 R         .308           296    473    .625   1.00    27.0    C
                ------------------------------------------------------
      ALL MOVS:                832    951   1.122          194.3    F
                ------------------------------------------------------
      INTERSECTION:           3094   6013   1.122           61.5    E
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   11:54 AM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                       * AM6BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 1:46 PM, 28 Dec 2007

INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25								
1	89	28	0	0	0	0	1.00	1.00
2	0	0	513	56	0	0	1.00	1.00
NORTH WEST: Av. Camilo Henriquez								
3	0	0	254	75	0	0	1.00	1.00
4	0	0	0	0	416	83	1.00	1.00
SOUTH WEST: Eyzaguirre								
5	281	62	0	0	0	0	1.00	1.00
6	0	0	0	0	122	23	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:46 PM, 28 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25							
1 L	117	329	494	.80	238	100	.237
2 T	569	0	2403	.80	238	100	.237
NORTH WEST: Av. Camilo Henriquez							
3 T	329	0	3013	.80	633	100	.109
4 R	499	0	1586	.98	211	100	.315
SOUTH WEST: Eyzaguirre							
5 L	343	1265+	160	.80	-63	100	2.144*
6 R	145	579+	664	.80	266	100	.218

```
 ------------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:46 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =   2.144
    Practical Spare Capacity (Lowest)  =     -63 %
    Total Vehicle Flow                 =    2002
    Total Vehicle Capacity (all lanes) =    8320
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
     1 L      .00     .0      9   .07     .0     0    2.65   45.0   85.6
     2 T      .00     .0     12   .02     .0     0   12.71   45.0   84.4
 ----------------------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
     3 T      .00     .0      0   .00     .0     0    7.31   45.0   83.9
     4 R      .00     .0                12.8#        11.09   45.0   83.9
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L   200.77 2107.2    343  1.00   93.9   665  304.16    1.6  898.5
     6 R      .14    3.5     81   .56     .6     4    4.45   43.1   90.7
 ----------------------------------------------------------------------
   #  Largest density/concentration (number of passenger car space equivalents
      (pcse) per km or per mile if US units) for any lane

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:46 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
   686       .00     .0     21   .03    15.36    45.0    84.6    58014.8
 ----------------------------------------------------------------------
```

```
 NORTH WEST: Av. Camilo Henriquez
   828       .00     .0      0   .00    18.40    45.0    83.9    69435.5
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
   488    200.91 1482.1    424   .87   308.61     2.3   658.5   321330.4
 ----------------------------------------------------------------------
 ALL GROUPS:
  2002    200.90  361.3    445   .22   342.37     8.2   224.2   448780.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:46 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                             Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25
  1 LT      1,   287  1212  .237     .0   .07     .0    0
            2
  2 T       2    399  1684  .237     .0   .00     .0    0
 ---------------------------------------------------------------
  NORTH WEST: Av. Camilo Henriquez
  1 T       3    165  1507  .109     .0   .00     .0    0
  2 T       3    165  1507  .109     .0   .00     .0    0
  3 R       4    499  1586  .315     .0         12.8#
 ---------------------------------------------------------------
  SOUTH WEST: Eyzaguirre
  1 L       5    343   160 2.139 2107.2  1.00   93.9  665
  2 R       6    145   664  .218    3.5   .56     .6    4
 ---------------------------------------------------------------
   #  Concentration/density (pcse per km, or per mile if US units)

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:46 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,  117  170    0  287 1850 1212     0   60 1212  .237  100
          *        2

          *
 ***********       2     0  399    0  399 1850 1684     0    0 1684  .237  100
          *
 ---------------------------------------------------------------------------
-
  NORTH WEST: Av. Camilo Henriquez
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  165    0  165 1850 1507     0    0 1507  .109  100
          *

          *
 ***********       3     0  165    0  165 1850 1507     0    0 1507  .109  100
          *
               Continuous Lane
 ******            4     0    0  499  499 1850 1586     0    0 1586  .315  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Eyzaguirre
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   343    0    0  343 1850  160     0   60  160 2.139  100

               Slip Lane
 ******            6     0    0  145  145 1850  664     0   60  664  .218  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
1
```

ARRB SIDRA 4.07 - Time and Date of Analysis 1:46 PM, 28 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25									
1	L	117	494	100	.237	.0	.07	.0	2.65
2	T	569	2403	100	.237	.0	.02	.0	12.71
NORTH WEST: Av. Camilo Henriquez									
3	T	329	3013	100	.109	.0	.00	.0	7.31
4	R (Con)	499	1586	100	.315	.0		12.8#	11.09
SOUTH WEST: Eyzaguirre									
5	L	343	160	100	2.144*	2107.2	1.00	93.9	304.16
6	R	145	664	100	.218	3.5	.56	.6	4.45

* Maximum degree of saturation
\# Largest density/concentration (number of passenger car space equivalents (pcse) per km or per mile if US units) for any lane

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:46 PM, 28 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
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Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25							
1 L	85.6	10	32	31	740	25	2470
2 T	84.4	48	153	146	3493	120	11765
ALL MOVS:	84.6	58	185	177	4232	145	14235
NORTH WEST: Av. Camilo Henriquez							
3 T	83.9	28	87	84	1994	69	6742
4 R	83.9	42	133	127	3024	105	10225
ALL MOVS:	83.9	69	220	211	5017	174	16967

```
 ---------------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L          898.5      308      1573     526   14008     770  135496
     6 R           90.7       13        43      44    1143      33    3238
                 -------------------------------------------------------
      ALL MOVS:   658.5      321      1616     570   15151     803  138734
                 -------------------------------------------------------
  INTERSECTION:   224.2      449      2021     957   24401    1122  169936
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:46 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 EAST: Ruta G-25
    1 L            117    494    .237   1.00      .0    A
    2 T            569   2403    .237   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    686   2897    .237             .0    A
 -------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
    3 T            329   3013    .109   1.00      .0    A
    4 R  (Con)     499   1586    .315   1.00      .0    C#
                 ----------------------------------------
      ALL MOVS:    828   4599    .315             .0    A
 -------------------------------------------------------
 SOUTH WEST: Eyzaguirre
    5 L            343    160   2.144*  1.00  2107.2    F
    6 R            145    664    .218   1.00     3.5    A
                 ----------------------------------------
      ALL MOVS:    488    824   2.144         1482.1    F
                 ----------------------------------------
  INTERSECTION:   2002   8320   2.144          361.3    F
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   #  Level Of Service for continuous movements based on density/concentration
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:46 PM, 28 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
```

```
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
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1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 1:47 PM, 28 Dec 2007

INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Acceso a Ruta G-421								
1	51	8	0	0	0	0	1.00	1.00
2	0	0	0	0	14	1	1.00	1.00
EAST: Ruta G-25 (ori)								
3	8	1	0	0	0	0	1.00	1.00
4	0	0	255	45	0	0	1.00	1.00
WEST: Ruta G-25 (pon)								
5	0	0	161	32	0	0	1.00	1.00
6	0	0	0	0	14	5	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:47 PM, 28 Dec 2007
INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Acceso a Ruta G-421							
1 L	59	512+	417	.80	465	100	.141
2 R	15	10+	106	.80	465	100	.142
EAST: Ruta G-25 (ori)							
3 L	9	271	46	.80	309	100	.196*
4 T	300	0	1528	.80	307	100	.196*
WEST: Ruta G-25 (pon)							
5 T	193	0	1434	.80	494	100	.135
6 R	19	0	141	.80	494	100	.135

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .196
    Practical Spare Capacity (Lowest)  =     307 %
    Total Vehicle Flow                 =     595
    Total Vehicle Capacity (all lanes) =    3672
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L      .05    3.3     30   .51     .5     3    1.78   47.8   98.9
     2 R      .01    3.3      8   .51     .5     3     .45   47.8   98.9
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L      .01    2.2      0   .00    1.0     7     .21   48.5   83.3
     4 T      .19    2.2      1   .00    1.0     7    7.15   48.5   83.3
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T      .00     .0      0   .00     .0     0    3.86   50.0   82.1
     6 R      .00     .0      0   .00     .0     0     .38   50.0   82.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    74       .07    3.3     38   .51     2.23    47.8    98.9     7318.9
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   309       .19    2.2      1   .00     7.36    48.5    83.3    25730.2
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   212       .00     .0      0   .00     4.24    50.0    82.1    17404.5
 ----------------------------------------------------------------------
 ALL GROUPS:
   595       .26    1.6     39   .07    13.84    48.9    84.8    50453.6
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Acceso a Ruta G-421
  1 LR      1,    74   523  .142    3.3   .51     .5    3
            2
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 LT      3,   309  1574  .196    2.2   .00    1.0    7
            4
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 TR      5,   212  1575  .135     .0   .00     .0    0
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Acceso a Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *
 ******            1,   59    0   15   74 1850  523     0   15  523  .142  100
       *           2
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    9  300    0  309 1850 1574     0   60 1574  .196  100
          *        4
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       5,    0  193   19  212 1850 1575     0    0 1575  .135  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ----------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    1 L          59   417   100   .141    3.3   .51      .5    1.78
    2 R          15   106   100   .142    3.3   .51      .5     .45
 ----------------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L           9    46   100   .196*   2.2   .00     1.0     .21
    4 T         300  1528   100   .196*   2.2   .00     1.0    7.15
```

```
 ----------------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T         193  1434   100   .135     .0   .00      .0    3.86
    6 R          19   141   100   .135     .0   .00      .0     .38
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L           98.9        6        17      25     544      15    1286
     2 R           98.9        1         4       6     138       4     327
                 -------------------------------------------------------
      ALL MOVS:    98.9        7        21      32     683      18    1613
 ---------------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L           83.3        1         2       2      50       2     177
     4 T           83.3       25        78      81    1678      62    5886
                 -------------------------------------------------------
      ALL MOVS:    83.3       26        80      84    1729      64    6062
 ---------------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T           82.1       16        49      52    1069      40    3683
     6 R           82.1        2         5       5     105       4     363
                 -------------------------------------------------------
      ALL MOVS:    82.1       17        54      57    1174      44    4046
                 -------------------------------------------------------
  INTERSECTION:    84.8       50       155     172    3585     126   11722
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
```

```
 SOUTH: Acceso a Ruta G-421
    1 L             59    417    .141   1.00     3.3    A
    2 R             15    106    .142   1.00     3.3    A
                 ----------------------------------------
      ALL MOVS:     74    523    .142            3.3    A
 -------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L              9     46    .196*  1.00     2.2    A
    4 T            300   1528    .196*  1.00     2.2    A
                 ----------------------------------------
      ALL MOVS:    309   1574    .196            2.2    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T            193   1434    .135   1.00      .0    A
    6 R             19    141    .135   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    212   1575    .135             .0    A
                 ----------------------------------------
  INTERSECTION:    595   3672    .196            1.6    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 1:47 PM, 28 Dec 2007

INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25 (ori)								
1	0	0	87	23	0	0	1.00	1.00
2	0	0	0	0	6	1	1.00	1.00
NORTH: Ruta G-345								
3	2	1	0	0	0	0	1.00	1.00
4	0	0	0	0	4	1	1.00	1.00
WEST: Ruta G-25 (pon)								
5	11	2	0	0	0	0	1.00	1.00
6	0	0	92	50	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:47 PM, 28 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25 (ori)							
1 T	110	0	1530	.80	1013	100	.072
2 R	7	0	1619	.80	****	100	.004
NORTH: Ruta G-345							
3 L	3	265+	641	.80	****	100	.005
4 R	5	110+	1076	.80	****	100	.005
WEST: Ruta G-25 (pon)							
5 L	13	120	1065	.80	6454	100	.012
6 T	142	0	1368	.80	671	100	.104*

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .104
    Practical Spare Capacity (Lowest)  =     671 %
    Total Vehicle Flow                 =     280
    Total Vehicle Capacity (all lanes) =    7299
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    3.14   35.0   91.8
     2 R      .00     .0      0   .00     .0     0     .20   35.0   91.8
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     3 L      .00    1.8      1   .38     .3     3     .42   34.4   95.5
     4 R      .00     .4      1   .14     .1     1     .27   34.9   93.7
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .00     .4      2   .16     .1     1     .52   34.8   93.8
     6 T      .00     .0      0   .00     .0     0    4.06   35.0   91.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   117       .00     .0      0   .00     3.34    35.0    91.8    10739.5
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     8       .00     .9      2   .23      .69    34.7    94.4      755.1
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   155       .00     .0      2   .01     4.57    35.0    92.0    14253.3
 ----------------------------------------------------------------------
 ALL GROUPS:
   280       .00     .0      4   .01     8.61    35.0    92.0    25747.9
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 T       1    110  1530  .072     .0   .00     .0    0
  2 R       2      7  1619  .004     .0   .00     .0    0    80
 ---------------------------------------------------------------
  NORTH: Ruta G-345
  1 L       3      3   641  .005    1.8   .38     .3    3
  2 R       4      5  1076  .005     .4   .14     .1    1
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 L       5     13  1065  .012     .4   .16     .1    1    50
  2 T       6    142  1368  .104     .0   .00     .0    0
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
          *
 ***********       1     0  110    0  110 1850 1530     0    0 1530  .072  100
          *

 ******            2     0    0    7    7 1850 1619     0    0 1619  .004  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Ruta G-345
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            3     3    0    0    3 1850  641     0    5  641  .005  100


 ******            4     0    0    5    5 1850 1076     0   11 1076  .005  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5    13    0    0   13 1850 1065     0   13 1065  .012  100


          *
 ***********       6     0  142    0  142 1850 1368     0    0 1368  .104  100
          *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
```

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25 (ori)									
1	T	110	1530	100	.072	.0	.00	.0	3.14
2	R	7	1619	100	.004	.0	.00	.0	.20
NORTH: Ruta G-345									
3	L	3	641	100	.005	1.8	.38	.3	.42
4	R	5	1076	100	.005	.4	.14	.1	.27
WEST: Ruta G-25 (pon)									
5	L	13	1065	100	.012	.4	.16	.1	.52
6	T	142	1368	100	.104*	.0	.00	.0	4.06

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1
ARRB SIDRA 4.07 - Time and Date of Analysis 1:47 PM, 28 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25 (ori)								
1	T	91.8	10	34	27	809	25	2726
2	R	91.8	1	2	2	51	2	173
ALL MOVS:		91.8	11	36	29	860	27	2900
NORTH: Ruta G-345								
3	L	95.5	0	1	1	24	1	78
4	R	93.7	0	2	1	38	1	127
ALL MOVS:		94.4	1	3	2	62	2	205
WEST: Ruta G-25 (pon)								
5	L	93.8	1	4	3	100	3	331
6	T	91.8	13	44	35	1044	33	3519
ALL MOVS:		92.0	14	48	38	1144	36	3851
INTERSECTION:		92.0	26	87	69	2067	64	6956

1
ARRB SIDRA 4.07 - Time and Date of Analysis 1:47 PM, 28 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BPM *

```
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 EAST: Ruta G-25 (ori)
    1 T            110   1530    .072   1.00      .0    A
    2 R              7   1619    .004   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    117   3149    .072             .0    A
 ---------------------------------------------------------
 NORTH: Ruta G-345
    3 L              3    641    .005   1.00     1.8    A
    4 R              5   1076    .005   1.00      .4    A
                 ----------------------------------------
      ALL MOVS:      8   1717    .005             .9    A
 ---------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L             13   1065    .012   1.00      .4    A
    6 T            142   1368    .104*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    155   2433    .104             .0    A
                 ----------------------------------------
  INTERSECTION:    280   7299    .104             .0    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:47 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 1:48 PM, 28 Dec 2007

INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Canada Norte (ori)								
1	23	1	0	0	0	0	1.00	1.00
2	0	0	6	1	0	0	1.00	1.00
NORTH: Camino El Volcan (norte)								
3	4	1	0	0	0	0	1.00	1.00
4	0	0	109	21	0	0	1.00	1.00
5	0	0	0	0	3	22	1.00	1.00
WEST: Canada Norte (pon)								
6	0	0	1	1	0	0	1.00	1.00
7	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:48 PM, 28 Dec 2007
INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10BPM *
SITUACION BASE ANO 2008 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Canada Norte (ori)							
1 L	24	139	770	.80	2467	100	.031
2 T	7	160	224	.80	2460	100	.031
NORTH: Camino El Volcan (norte)							
3 L	5	0	91	.80	1356	100	.055*
4 T	130	0	2358	.80	1351	100	.055*
5 R	25	0	453	.80	1350	100	.055*
WEST: Canada Norte (pon)							

```
    6 T       2    172+     459   .80   ****    100   .004
    7 R       2    167+     459   .80   ****    100   .004
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .055
    Practical Spare Capacity (Lowest)  =    1350 %
    Total Vehicle Flow                 =     195
    Total Vehicle Capacity (all lanes) =    4815
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L      .00     .6      5   .19     .2     1     .63   49.6   85.1
     2 T      .00     .6      1   .19     .2     1     .18   49.6   85.1
 ------------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L      .00     .0      0   .00     .0     0     .10   50.0   82.1
     4 T      .00     .0      0   .00     .0     0    2.60   50.0   82.1
     5 R      .00     .0      0   .00     .0     0     .50   50.0   82.1
 ------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T      .00     .7      0   .23     .2     2     .14   49.5   85.5
     7 R      .00     .7      0   .23     .2     2     .14   49.5   85.5
 ------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    31       .00     .6      6   .19      .82    49.6    85.1     2637.9
```

```
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
   160       .00     .0      0   .00     3.20    50.0    82.1    13135.5
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     4       .00     .7      1   .23      .27    49.5    85.5      342.1
 ----------------------------------------------------------------------
 ALL GROUPS:
   195       .01     .1      7   .03     4.29    49.9    82.6    16115.4
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 LT      1,    31   994  .031     .6   .19     .2    1
            2
 ---------------------------------------------------------------
  NORTH: Camino El Volcan (norte)
  1 LT      3,    88  1590  .055     .0   .00     .0    0
            4
  2 TR      4,    72  1312  .055     .0   .00     .0    0
            5
 ---------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 TR      6,     4   919  .004     .7   .23     .2    2
            7
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   24    7    0   31 1850  994     0    7  994  .031  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH: Camino El Volcan (norte)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    5   83    0   88 1850 1590     0    0 1590  .055  100
          *        4
          *
 ****** ****       4,    0   47   25   72 1850 1312     0    0 1312  .055  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       6,    0    2    2    4 1850  919     0   11  919  .004  100
       *  *        7
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
```

```
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L          24   770   100   .031     .6   .19      .2     .63
    2 T           7   224   100   .031     .6   .19      .2     .18
 ----------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L           5    91   100   .055*    .0   .00      .0     .10
    4 T         130  2358   100   .055*    .0   .00      .0    2.60
    5 R          25   453   100   .055*    .0   .00      .0     .50
 ----------------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T           2   459   100   .004     .7   .23      .2     .14
    7 R           2   459   100   .004     .7   .23      .2     .14
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L           85.1        2         6       7     152       5     478
     2 T           85.1        1         2       2      44       1     140
                 -------------------------------------------------------
      ALL MOVS:    85.1        3         8       9     196       7     618
 ---------------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L           82.1        0         1       1      28       1      95
     4 T           82.1       11        33      35     720      27    2481
     5 R           82.1        2         6       7     138       5     477
                 -------------------------------------------------------
      ALL MOVS:    82.1       13        40      43     886      33    3054
 ---------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T           85.5        0         1       1      13       0      40
     7 R           85.5        0         1       1      13       0      40
                 -------------------------------------------------------
      ALL MOVS:    85.5        0         1       1      26       1      80
                 -------------------------------------------------------
  INTERSECTION:    82.6       16        50      53    1108      40    3751
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
```

```
 Intersection No.:    10
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L             24    770    .031   1.00      .6    A
    2 T              7    224    .031   1.00      .6    A
                 ----------------------------------------
      ALL MOVS:     31    994    .031             .6    A
 ---------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L              5     91    .055*  1.00      .0    A
    4 T            130   2358    .055*  1.00      .0    A
    5 R             25    453    .055*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    160   2902    .055             .0    A
 ---------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T              2    459    .004   1.00      .7    A
    7 R              2    459    .004   1.00      .7    A
                 ----------------------------------------
      ALL MOVS:      4    918    .004             .7    A
                 ----------------------------------------
  INTERSECTION:    195   4815    .055             .1    A
 ---------------------------------------------------------
   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:48 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BPM *
 SITUACION BASE ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 1:49 PM, 28 Dec 2007

INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11BPT *
SITUACION BASE ANO 2008 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Comercio (sur)								
1	12	1	0	0	0	0	1.00	1.00
2	0	0	110	15	0	0	1.00	1.00
3	0	0	0	0	25	1	1.00	1.00
EAST: Canada Norte (ori)								
4	0	0	22	4	0	0	1.00	1.00
5	0	0	0	0	14	14	1.00	1.00
WEST: Canada Norte (pon)								
6	6	1	0	0	0	0	1.00	1.00
7	0	0	11	1	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:49 PM, 28 Dec 2007
INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11BPT *
SITUACION BASE ANO 2008 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Comercio (sur)							
1 L	13	0	266	.80	1537	100	.049
2 T	125	0	2555	.80	1535	100	.049
3 R	26	0	531	.80	1534	100	.049
EAST: Canada Norte (ori)							
4 T	26	158+	453	.80	1294	100	.057*
5 R	28	145+	487	.80	1291	100	.057*
WEST: Canada Norte (pon)							

```
    6 L        7    192      329   .80   3660    100   .021
    7 T       12    164      565   .80   3667    100   .021
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .057
    Practical Spare Capacity (Lowest)  =    1291 %
    Total Vehicle Flow                 =     237
    Total Vehicle Capacity (all lanes) =    5186
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L      .00     .0      0   .00     .0     0     .26   50.0   82.1
     2 T      .00     .0      0   .00     .0     0    2.50   50.0   82.1
     3 R      .00     .0      0   .00     .0     0     .52   50.0   82.1
 ------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T      .00     .7      5   .21     .2     1     .64   49.5   85.3
     5 R      .01     .7      6   .21     .2     1     .69   49.5   85.3
 ------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L      .00     .8      2   .24     .2     1     .23   49.4   85.7
     7 T      .00     .8      3   .24     .2     1     .39   49.4   85.7
 ------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Comercio (sur)
   164       .00     .0      0   .00     3.28    50.0    82.1    13463.8
```

```
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    54       .01     .7     11   .21     1.33    49.5    85.3     4607.5
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
    19       .00     .8      5   .24      .61    49.4    85.7     1627.5
 ----------------------------------------------------------------------
 ALL GROUPS:
   237       .01     .2     16   .07     5.23    49.8    83.1    19698.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ----------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ----------------------------------------------------------------
  SOUTH: Comercio (sur)
  1 LT      1,    81  1662  .049     .0   .00     .0    0
            2
  2 TR      2,    83  1690  .049     .0   .00     .0    0
            3
 ----------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 TR      4,    54   940  .057     .7   .21     .2    1
            5
 ----------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 LT      6,    19   894  .021     .8   .24     .2    1
            7
 ----------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Comercio (sur)
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   13   68    0   81 1850 1662     0    0 1662  .049  100
         *         2
         *
 ****** ****       2,    0   57   26   83 1850 1690     0    0 1690  .049  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
         *
 ****** ****       4,    0   26   28   54 1850  940     0   28  940  .057  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,    7   12    0   19 1850  894     0   12  894  .021  100
         *         7
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
```

```
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L          13   266   100   .049     .0   .00      .0     .26
    2 T         125  2555   100   .049     .0   .00      .0    2.50
    3 R          26   531   100   .049     .0   .00      .0     .52
 ----------------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T          26   453   100   .057*    .7   .21      .2     .64
    5 R          28   487   100   .057*    .7   .21      .2     .69
 ----------------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L           7   329   100   .021     .8   .24      .2     .23
    7 T          12   565   100   .021     .8   .24      .2     .39
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L           82.1        1         3       3      72       3     248
     2 T           82.1       10        32      34     692      26    2386
     3 R           82.1        2         7       7     144       5     496
                 -------------------------------------------------------
      ALL MOVS:    82.1       13        41      44     908      34    3130
 ---------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T           85.3        2         7       8     166       6     520
     5 R           85.3        2         8       8     179       6     560
                 -------------------------------------------------------
      ALL MOVS:    85.3        5        14      16     345      12    1079
 ---------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L           85.7        1         2       2      46       1     140
     7 T           85.7        1         3       4      78       3     241
                 -------------------------------------------------------
      ALL MOVS:    85.7        2         5       6     124       4     381
                 -------------------------------------------------------
  INTERSECTION:    83.1       20        61      65    1378      49    4590
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
```

```
 Intersection No.:    11
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ----------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L             13    266    .049   1.00      .0    A
    2 T            125   2555    .049   1.00      .0    A
    3 R             26    531    .049   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    164   3352    .049             .0    A
 ----------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T             26    453    .057*  1.00      .7    A
    5 R             28    487    .057*  1.00      .7    A
                 ----------------------------------------
      ALL MOVS:     54    940    .057             .7    A
 ----------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L              7    329    .021   1.00      .8    A
    7 T             12    565    .021   1.00      .8    A
                 ----------------------------------------
      ALL MOVS:     19    894    .021             .8    A
                 ----------------------------------------
  INTERSECTION:    237   5186    .057             .2    A
 ----------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BPT *
 SITUACION BASE ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 1:49 PM, 28 Dec 2007

INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * AM12BPMD
*

SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH EAST: Ruta G-25 (suroriente)								
1	1	1	0	0	0	0	1.00	1.00
2	0	0	55	15	0	0	1.00	1.00
NORTH WEST: Ruta G-25 (norponiente)								
3	0	0	68	19	0	0	1.00	1.00
4	0	0	0	0	8	1	1.00	1.00
SOUTH WEST: Ruta G-421								
5	8	1	0	0	0	0	1.00	1.00
6	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 1:49 PM, 28 Dec 2007
INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * AM12BPMD
*

SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH EAST: Ruta G-25 (suroriente)							
1 L	2	105	42	.80	1580	100	.048
2 T	70	0	1465	.80	1574	100	.048
NORTH WEST: Ruta G-25 (norponiente)							
3 T	87	0	1388	.80	1176	100	.063*
4 R	9	0	144	.80	1180	100	.063*
SOUTH WEST: Ruta G-421							

```
    5 L        9    168+     633   .80   5527    100   .014
    6 R        2     96+     141   .80   5540    100   .014
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12BPMD
*
 SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .063
    Practical Spare Capacity (Lowest)  =    1176 %
    Total Vehicle Flow                 =     179
    Total Vehicle Capacity (all lanes) =    3811
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L      .00    1.9      0   .00     .8     6     .06   48.7   83.1
     2 T      .04    1.9      0   .00     .8     6    2.23   48.7   83.1
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T      .00     .0      0   .00     .0     0    1.74   50.0   82.1
     4 R      .00     .0      0   .00     .0     0     .18   50.0   82.1
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L      .00     .9      2   .24     .2     1     .35   49.4   85.9
     6 R      .00     .9      0   .24     .2     1     .08   49.4   85.9
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12BPMD
*
 SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
```

```
    72       .04    1.9      0   .00     2.29    48.7    83.1     5986.3
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    96       .00     .0      0   .00     1.92    50.0    82.1     7881.3
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
    11       .00     .9      3   .24      .43    49.4    85.9      944.8
 ----------------------------------------------------------------------
 ALL GROUPS:
   179       .04     .8      3   .02     4.65    49.4    82.8    14812.4
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12BPMD
*
 SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH EAST: Ruta G-25 (suroriente)
  1 LT      1,    72  1506  .048    1.9   .00     .8    6
            2
 ---------------------------------------------------------------
  NORTH WEST: Ruta G-25 (norponiente)
  1 TR      3,    96  1531  .063     .0   .00     .0    0
            4
 ---------------------------------------------------------------
  SOUTH WEST: Ruta G-421
  1 LR      5,    11   774  .014     .9   .24     .2    1
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12BPMD
*
 SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH EAST: Ruta G-25 (suroriente)
                                          Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,    2   70    0   72 1850 1506     0   60 1506  .048  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH WEST: Ruta G-25 (norponiente)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       3,    0   87    9   96 1850 1531     0    0 1531  .063  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            5,    9    0    2   11 1850  774     0    2  774  .014  100
       *           6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12BPMD
*
 SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ------------------------------------------------------------------
```

```
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L           2    42   100   .048    1.9   .00      .8     .06
    2 T          70  1465   100   .048    1.9   .00      .8    2.23
 ----------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T          87  1388   100   .063*    .0   .00      .0    1.74
    4 R           9   144   100   .063*    .0   .00      .0     .18
 ----------------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L           9   633   100   .014     .9   .24      .2     .35
    6 R           2   141   100   .014     .9   .24      .2     .08
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12BPMD
*
 SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L           83.1        0         1       1      11       0      39
     2 T           83.1        6        18      19     391      15    1370
                 ----------------------------------------------------------
      ALL MOVS:    83.1        6        19      19     402      15    1409
 ---------------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T           82.1        7        22      23     482      18    1660
     4 R           82.1        1         2       2      50       2     172
                 ----------------------------------------------------------
      ALL MOVS:    82.1        8        24      26     532      20    1832
 ---------------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L           85.9        1         2       3      59       2     181
     6 R           85.9        0         1       1      13       0      40
                 ----------------------------------------------------------
      ALL MOVS:    85.9        1         3       3      72       2     222
                 ----------------------------------------------------------
  INTERSECTION:    82.8       15        46      48    1005      37    3463
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    1:49 PM, 28 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12BPMD
*
 SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection
```

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH EAST: Ruta G-25 (suroriente)							
1	L	2	42	.048	1.00	1.9	A
2	T	70	1465	.048	1.00	1.9	A
ALL MOVS:		72	1507	.048		1.9	A
NORTH WEST: Ruta G-25 (norponiente)							
3	T	87	1388	.063*	1.00	.0	A
4	R	9	144	.063*	1.00	.0	A
ALL MOVS:		96	1532	.063		.0	A
SOUTH WEST: Ruta G-421							
5	L	9	633	.014	1.00	.9	A
6	R	2	141	.014	1.00	.9	A
ALL MOVS:		11	774	.014		.9	A
INTERSECTION:		179	3811	.063		.8	A

Level of Service calculations are based on overall delay.
* Maximum v/c ratio, or critical green periods

1
ARRB SIDRA 4.07 - Time and Date of Analysis 1:49 PM, 28 Dec 2007
INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * AM12BPMD
*
SITUACION BASE ANO 2008 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

DIAGNOSTIC REPORT

-
* Information about this run:
Intersection Type: Unsignalised - Give Way
Driving on the right-hand side of the road
Input data specified in Metric units
User level: Advanced
Default Values File No. 30
Flow period (for performance): 60 minutes
Unit time (for volumes): 60 minutes

* Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

-

END OF OUTPUT LISTING

SITUACIÓN CON PROYECTO AÑO 2008 (CONSTRUCCIÓN)

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 8:08 PM, 2 Jan 2008

INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	0	0	2576	163	0	0	1.00	1.00
2	0	0	0	0	15	3	1.00	1.00
EAST: Av. Departamental (ori)								
3	557	79	0	0	0	0	1.00	1.00
4	0	0	1313	144	0	0	1.00	1.00
5	0	0	0	0	305	146	1.00	1.00
NORTH: Av. La Florida (norte)								
6	59	5	0	0	0	0	1.00	1.00
7	0	0	1018	99	0	0	1.00	1.00
8	0	0	0	0	18	1	1.00	1.00
WEST: Av. Departamental (pon)								
9	1	1	0	0	0	0	1.00	1.00
10	0	0	549	38	0	0	1.00	1.00
11	0	0	0	0	277	81	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr To Op Pr	PHASE MATRIX Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	T	*1 2		4		66.2		68	
2	R	1 2		4		65.6		68	
EAST: Av. Departamental (ori)									
3	L	2 1		4		54.0Max		50	
4	T	2 1		4		54.0Max		50	
5	R	*2 1		4		54.0Max		50	
NORTH: Av. La Florida (norte)									

```
    6 L         1  2                        4        36.7              68
    7 T         1  2                        4        40.8              68
    8 R  (Und)  1  2          2  1  R       4   51   37.7     52.4     68    3
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L         2  1                        4        30.3              50
   10 T         2  1                        4        30.7              50
   11 R         2  1                        4        37.2              50
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:08 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 T    2739   6934          .395          3742    .80      9    100   .732
    2 R      18     46          .391            25    .80     10    100   .725
 ---------------------------------------------------------------------------
-
 EAST: Av. Departamental (ori)
    3 L     636   1212          .525           481    .80    -40    100  1.322
    4 T    1457   2776          .525          1102    .80    -40    100
1.323*
    5 R     451    859          .525           341    .80    -40    100
1.323*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    6 L      64    274          .234           148    .90    108    100   .433
    7 T    1117   4779          .234          2579    .80     85    100   .433
    8 R      19      0  1843    .241   .010     44    .90    110    100   .428
 ---------------------------------------------------------------------------
-
 WEST: Av. Departamental (pon)
    9 L       2     12          .167             5    .80     90    100   .420
   10 T     587   3458          .170          1372    .80     87    100   .428
   11 R     358   1509          .237           599    .90     51    100   .598
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:08 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
1 T		1	2	4	.395	.494	66.2
5 R		2	1	54	-	-	54.0Max
			Total:	58	.395	.494	120.2

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	126	115	126

(Cycle time specified by the user)

Degree of Saturation (Highest) = 1.323
Practical Spare Capacity (Lowest) = -40 %
Total Vehicle Flow = 7448
Total Vehicle Capacity (all lanes) = 10437

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	67	72	.571
2	72	77	49	54	.429

Current Phase Sequence No.: 1 Phases: A B

1
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INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	(m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)									
1 T	16.90	22.2	1880	.69	18.4	117	155.22	38.2	94.7
2 R	.11	22.2	12	.69	18.4	117	1.02	38.2	94.7
EAST: Av. Departamental (ori)									
3 L	112.01	634.0	2620	4.12	139.2	933	241.16	5.1	350.9
4 T	256.69	634.2	6003	4.12	141.5	933	552.62	5.1	351.0

```
     5 R    79.62  635.6   1861  4.13  127.0   935  171.37    5.1  351.5
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     6 L      .31   17.4     35   .54    8.4    55    2.91   46.5   92.6
     7 T     5.40   17.4    746   .67    8.5    55   55.31   40.3   90.8
     8 R      .09   17.3     17   .91    8.5    55     .90   46.5   89.4
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
     9 L      .02   27.6      1   .65    7.5    48     .11   36.1   96.8
    10 T     4.50   27.6    384   .65    7.5    48   33.30   36.1   96.8
    11 R     2.99   30.1    255   .71    9.9    73   20.28   40.0   99.0
 ---------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2757     17.01   22.2   1892   .69   156.24    38.2    94.7   261181.8
 ---------------------------------------------------------------------
 EAST: Av. Departamental (ori)
  2544    448.33  634.4  10484  4.12   965.15     5.1   351.1   893159.8
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1200      5.80   17.4    798   .66    59.12    40.6    90.9   109049.1
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
   947      7.51   28.5    640   .68    53.69    37.5    97.7    92475.6
 ---------------------------------------------------------------------
 ALL GROUPS:
  7448    478.64  231.4  13813  1.85  1234.20    11.9   182.0  1355866.0
 ---------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:08 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 T      1   58  68    0   0    690  942  .732   22.2   .69   18.4  117
  2 T      1   58  68    0   0    690  942  .732   22.2   .69   18.4  117
  3 T      1   58  68    0   0    690  942  .732   22.2   .69   18.4  117
  4 TR     1,  58  68    0   0    688  940  .732   22.2   .69   18.4  117
```

```
           2
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
  1 LT     3,  76  50    0   0    869  657 1.323  634.0  4.12  139.2  933
           4
  2 T      4   76  50    0   0    884  668 1.323  633.8  4.12  141.5  933
  3 TR     4,  76  50    0   0    791  598 1.323  635.6  4.13  127.0  935
           5
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 LT     6,  58  68    0   0    398  919  .433   17.4   .54    8.4   55
           7
  2 T      7   58  68    0   0    397  917  .433   17.4   .54    8.4   55
  3 TR     7,  51   1    6  68    405  935  .433   17.3   .91    8.5   55
           8
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
  1 LT     9,  76  50    0   0    294  688  .428   27.6   .65    7.5   48
          10
  2 T     10   76  50    0   0    295  689  .428   27.6   .65    7.5   48
  3 R     11   76  50    0   0    358  599  .598   30.1   .71    9.9   73
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:08 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                    * AM1CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       1     0  690    0  690 1850 1746     0    0  942  .732  100
          *

          *
 ***********       1     0  690    0  690 1850 1746     0    0  942  .732  100
          *

          *
 ***********       1     0  690    0  690 1850 1746     0    0  942  .732  100
          *
          *
 ****** ****       1,    0  670   18  688 1850 1741     0    0  940  .732  100
       *  *        2
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,  636  233    0  869 1850 1656     0    0  657 1.323  100
          *        4

          *
 ***********       4     0  884    0  884 1850 1684     0    0  668 1.323  100
          *
          *
 ****** ****       4,    0  340  451  791 1850 1508     0    0  598 1.323  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,   64  334    0  398 1850 1702     0    0  919  .433  100
          *        7

          *
 ***********       7     0  397    0  397 1850 1699     0    0  917  .433  100
          *
          *    Slip Lane
 ****** ****       7,    0  386   19  405 1850  175  1730   57* 935  .433  100
       *  *        8
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
```

```
       *  *
 ****** ****       9,     2  292    0  294 1850 1733     0    0  688  .428  100
          *       10

          *
 ***********      10     0  295    0  295 1850 1738     0    0  689  .428  100
          *

 ******           11     0    0  358  358 1850 1509     0    0  599  .598  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:08 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 T        2739  3742   100   .732   68*       22.2   .69    18.4  155.22
    2 R          18    25   100   .725   68        22.2   .69    18.4    1.02
 ---------------------------------------------------------------------------
 EAST: Av. Departamental (ori)
    3 L         636   481   100  1.322   50       634.0  4.12   139.2  241.16
    4 T        1457  1102   100  1.323*  50       634.2  4.12   141.5  552.62
    5 R         451   341   100  1.323*  50*      635.6  4.13   127.0  171.37
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    6 L          64   148   100   .433   68        17.4   .54     8.4    2.91
    7 T        1117  2579   100   .433   68        17.4   .67     8.5   55.31
    8 R  (Und)   19    44   100   .428   68    3   17.3   .91     8.5     .90
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L           2     5   100   .420   50        27.6   .65     7.5     .11
   10 T         587  1372   100   .428   50        27.6   .65     7.5   33.30
   11 R         358   599   100   .598   50        30.1   .71     9.9   20.28
 ---------------------------------------------------------------------------
   *  Maximum degree of saturation, or critical green periods
1
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 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)								
1	T	94.7	259	871	939	22976	649	63921
2	R	94.7	2	6	6	151	4	420
ALL MOVS:		94.7	261	877	945	23127	653	64341
EAST: Av. Departamental (ori)								
3	L	350.9	223	1059	521	14295	558	88264
4	T	351.0	511	2427	1195	32753	1279	202255
5	R	351.5	159	753	370	10147	396	62715
ALL MOVS:		351.1	893	4240	2086	57195	2233	353234
NORTH: Av. La Florida (norte)								
6	L	92.6	6	19	25	510	15	1316
7	T	90.8	101	332	364	8649	254	24408
8	R	89.4	2	5	7	149	4	363
ALL MOVS:		90.9	109	357	396	9308	273	26087
WEST: Av. Departamental (pon)								
9	L	96.8	0	1	1	17	0	49
10	T	96.8	57	193	201	4898	142	14316
11	R	99.0	35	119	149	3263	89	8240
ALL MOVS:		97.7	92	312	351	8178	231	22605
INTERSECTION:		182.0	1356	5785	3778	97808	3390	466267

1

ARRB SIDRA 4.07 - Time and Date of Analysis 8:08 PM, 2 Jan 2008
INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Ratio (g/C) 1st grn	2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	T	.540*		2739	3742	.732	1.00	22.2	C
2	R	.540		18	25	.725	1.00	22.2	C
ALL MOVS:				2757	3767	.732		22.2	C
EAST: Av. Departamental (ori)									

```
   3 L         .397           636    481   1.322   1.00   634.0    F
   4 T         .397          1457   1102   1.323*  1.00   634.2    F
   5 R         .397*          451    341   1.323*  1.00   635.6    F
               -----------------------------------------------------
     ALL MOVS:               2544   1923   1.323          634.4    F
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
   6 L         .540            64    148    .433   1.00    17.4    B
   7 T         .540          1117   2579    .433   1.00    17.4    B
   8 R  (Und)  .540   .024     19     44    .428   1.00    17.3    B
               -----------------------------------------------------
     ALL MOVS:               1200   2771    .433           17.4    B
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
   9 L         .397             2      5    .420   1.00    27.6    C
  10 T         .397           587   1372    .428   1.00    27.6    C
  11 R         .397           358    599    .598   1.00    30.1    C
               -----------------------------------------------------
     ALL MOVS:                947   1976    .598           28.5    C
               -----------------------------------------------------
     INTERSECTION:           7448  10437   1.323          231.4    F
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
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 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     1
                 Cycle Time = 126


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    8:10 PM,  2 Jan 2008

INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.:     2
                 Cycle Time = 122
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	250	4	0	0	0	0	1.00	1.00
2	0	0	2243	220	0	0	1.00	1.00
3	0	0	0	0	78	18	1.00	1.00
EAST: Rojas Magallanes								
4	124	15	0	0	0	0	1.00	1.00
5	0	0	462	7	0	0	1.00	1.00
6	0	0	0	0	105	2	1.00	1.00
NORTH: Av. La Florida (norte)								
7	78	5	0	0	0	0	1.00	1.00
8	0	0	1352	195	0	0	1.00	1.00
9	0	0	0	0	42	4	1.00	1.00
WEST: Rojas Magallanes								
10	59	1	0	0	0	0	1.00	1.00
11	0	0	336	6	0	0	1.00	1.00
12	0	0	0	0	45	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr	To	Op	Pr	Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)															
1	L	*1	2							4		91.0Max		87	
2	T	1	2							4		80.9		87	
3	R	1	2							4		81.1		87	
EAST: Rojas Magallanes															
4	L	2	1							4		34.5		27	
5	T	*2	1							4		34.5		27	
6	R	2	1							4		34.4		27	

```
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         1  2                        4        37.0              87
    8 T         1  2                        4        53.2              87
    9 R         1  2                        4        53.4              87
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         2  1                        4        22.8              27
   11 T         2  1                        4        22.8              27
   12 R         2  1                        4        22.8              27
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
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 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     254    399<         .637           285    .80    -10    100   .893
    2 T    2463   4887          .504          3485    .80     13    100   .707
    3 R      96    190          .505           135    .80     13    100   .709
 ---------------------------------------------------------------------------
-
 EAST: Rojas Magallanes
    4 L     139    696          .200           154    .80    -11    100   .902
    5 T     469   2348          .200           520    .80    -11    100
.903*
    6 R     107    536          .200           119    .80    -11    100   .902
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L      83    383<         .217           273    .80    163    100   .304
    8 T    1547   4791          .323          3417    .80     77    100   .453
    9 R      46    142          .324           101    .80     76    100   .454
 ---------------------------------------------------------------------------
-
 WEST: Rojas Magallanes
   10 L      60    487          .123           108    .80     44    100   .557
   11 T     342   2775          .123           614    .80     44    100   .557
   12 R      46    373          .123            83    .80     44    100   .557
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:10 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
```

```
 Intersection No.:     2
                  Cycle Time = 122


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      91           -          -        91.0Max
      5 T            2   1       4         .200       .250       34.5
                                ----       ------     ------     ------
                       Total:   95         .200       .250      125.5
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22       122        122        122

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .903
    Practical Spare Capacity (Lowest)  =     -11 %
    Total Vehicle Flow                 =    5652
    Total Vehicle Capacity (all lanes) =    9294
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        86      91   .746
      2        91      96        26      31   .254
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:10 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
```

```
 SOUTH: Av. La Florida (sur)
     1 L     1.45   20.5    229   .90    3.3    20   11.08   38.9   94.6
     2 T     6.92   10.1   1282   .52   16.8   110  111.58   43.8   88.9
     3 R      .27   10.1     50   .52   16.6   110    4.35   43.8   88.9
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L     2.79   72.3    151  1.09   14.4    91   12.11   25.0  116.9
     5 T     9.36   71.8    509  1.08   14.8    90   40.72   25.0  116.7
     6 R     2.12   71.4    116  1.08   14.8    90    9.26   25.1  116.5
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L      .12    5.3     23   .27     .8     5    2.75   46.6   85.6
     8 T     3.19    7.4    590   .38    7.6    51   59.62   45.3   87.1
     9 R      .09    7.4     18   .38    7.6    51    1.77   45.3   87.1
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L      .70   42.2     48   .80    6.7    41    3.98   31.5  103.6
    11 T     4.01   42.2    273   .80    6.7    41   22.66   31.5  103.6
    12 R      .54   42.2     37   .80    6.7    41    3.05   31.5  103.6
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2813      8.64   11.1   1561   .55   127.01    43.3    89.4   251481.6
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
   715     14.27   71.8    776  1.09    62.10    25.0   116.7    83440.6
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1676      3.40    7.3    630   .38    64.14    45.4    87.0   145801.7
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
   448      5.25   42.2    358   .80    29.68    31.5   103.6    46418.8
 ----------------------------------------------------------------------
 ALL GROUPS:
  5652     31.56   20.1   3325   .59   282.93    39.1    93.3   527142.7
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:10 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                 Cycle Time = 122


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
```

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   35  87    0   0    254  285  .892   20.5   .90    3.3   20   20
  2 T      2   35  87    0   0    856 1211  .707   10.1   .52   16.8  110
  3 T      2   35  87    0   0    856 1211  .707   10.1   .52   16.8  110
  4 TR     2,  35  87    0   0    847 1199  .707   10.1   .52   16.6  110
           3
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
  1 LT     4,  95  27    0   0    351  389  .902   72.3  1.09   14.4   91
           5
  2 TR     5,  95  27    0   0    364  403  .902   71.4  1.08   14.8   90
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   35  87    0   0     83  273  .304    5.3   .27     .8    5   20
  2 T      8   35  87    0   0    530 1172  .453    7.4   .38    7.6   51
  3 T      8   35  87    0   0    530 1172  .453    7.4   .38    7.6   51
  4 TR     8,  35  87    0   0    532 1175  .453    7.4   .38    7.6   51
           9
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
  1 LT    10,  95  27    0   0    224  402  .557   42.2   .80    6.7   41
          11
  2 TR    11,  95  27    0   0    224  402  .557   42.2   .80    6.7   41
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:10 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   254    0    0  254 1850  399<    0    0  285  .892  100


           *
```

```
 ***********       2     0  856    0  856 1850 1698     0    0 1211  .707  100
          *

          *
 ***********       2     0  856    0  856 1850 1698     0    0 1211  .707  100
          *
          *
 ****** ****       2,    0  751   96  847 1850 1681     0    0 1199  .707  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,  139  212    0  351 1850 1759     0    0  389  .902  100
          *        5
          *
 ****** ****       5,    0  257  107  364 1850 1821     0    0  403  .902  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7    83    0    0   83 1850  383<    0    0  273  .304  100


          *
 ***********       8     0  530    0  530 1850 1643     0    0 1172  .453  100
          *

          *
 ***********       8     0  530    0  530 1850 1643     0    0 1172  .453  100
          *
          *
 ****** ****       8,    0  486   46  532 1850 1648     0    0 1175  .453  100
       *  *        9
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****      10,   60  164    0  224 1850 1819     0    0  402  .557  100
          *       11
          *
 ****** ****      11,    0  178   46  224 1850 1817     0    0  402  .557  100
       *  *       12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:10 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         254   285<  100   .893   87*       20.5   .90     3.3   11.08
    2 T        2463  3485   100   .707   87        10.1   .52    16.8  111.58
    3 R          96   135   100   .709   87        10.1   .52    16.6    4.35
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         139   154   100   .902   27        72.3  1.09    14.4   12.11
    5 T         469   520   100   .903*  27*       71.8  1.08    14.8   40.72
    6 R         107   119   100   .902   27        71.4  1.08    14.8    9.26
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L          83   273<  100   .304   87         5.3   .27      .8    2.75
    8 T        1547  3417   100   .453   87         7.4   .38     7.6   59.62
    9 R          46   101   100   .454   87         7.4   .38     7.6    1.77
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L          60   108   100   .557   27        42.2   .80     6.7    3.98
   11 T         342   614   100   .557   27        42.2   .80     6.7   22.66
   12 R          46    83   100   .557   27        42.2   .80     6.7    3.05
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
```

```
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:10 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           94.6       24        80      90    2242      60    5844
     2 T           88.9      219       708     791   18738     547   51727
     3 R           88.9        9        28      31     730      21    2016
                 -------------------------------------------------------
      ALL MOVS:    89.4      251       816     912   21710     629   59587
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L          116.9       16        60      55    1393      41    4599
     5 T          116.7       55       203     184    4695     137   15474
     6 R          116.5       12        46      42    1070      31    3522
                 -------------------------------------------------------
      ALL MOVS:   116.7       83       310     281    7158     209   23596
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L           85.6        7        22      25     549      18    1667
     8 T           87.1      135       430     475   10913     337   31696
     9 R           87.1        4        13      14     324      10     942
                 -------------------------------------------------------
      ALL MOVS:    87.0      146       465     514   11787     365   34306
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L          103.6        6        22      22     545      16    1633
    11 T          103.6       35       125     125    3107      89    9306
    12 R          103.6        5        17      17     418      12    1252
                 -------------------------------------------------------
      ALL MOVS:   103.6       46       163     163    4071     116   12190
                 -------------------------------------------------------
  INTERSECTION:    93.3      527      1755    1870   44725    1318  129678
 ---------------------------------------------------------------------------
1
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 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
```

```
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .713*          254    285<   .893   1.00    20.5    C
    2 T         .713          2463   3485    .707   1.00    10.1    B
    3 R         .713            96    135    .709   1.00    10.1    B
                ------------------------------------------------------
      ALL MOVS:               2813   3905    .893           11.1    B
 ---------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         .221           139    154    .902   1.00    72.3    E
    5 T         .221*          469    520    .903*  1.00    71.8    E
    6 R         .221           107    119    .902   1.00    71.4    E
                ------------------------------------------------------
      ALL MOVS:                715    792    .903           71.8    E
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .713            83    273<   .304   1.00     5.3    A
    8 T         .713          1547   3417    .453   1.00     7.4    B
    9 R         .713            46    101    .454   1.00     7.4    B
                ------------------------------------------------------
      ALL MOVS:               1676   3791    .454            7.3    B
 ---------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         .221            60    108    .557   1.00    42.2    D
   11 T         .221           342    614    .557   1.00    42.2    D
   12 R         .221            46     83    .557   1.00    42.2    D
                ------------------------------------------------------
      ALL MOVS:                448    804    .557           42.2    D
                ------------------------------------------------------
      INTERSECTION:           5652   9294    .903           20.1    C
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:10 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  2
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
```

```
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 8:12 PM, 2 Jan 2008

INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	293	17	0	0	0	0	1.00	1.00
2	0	0	2429	175	0	0	1.00	1.00
3	0	0	0	0	9	1	1.00	1.00
EAST: Trinidad Oriente (ori)								
4	17	1	222	1	0	0	1.00	1.00
6	0	0	0	0	146	1	1.00	1.00
NORTH: Av. La Florida (norte)								
7	224	29	0	0	0	0	1.00	1.00
8	0	0	1295	189	0	0	1.00	1.00
9	0	0	0	0	188	1	1.00	1.00
WEST: Trinidad Oriente (pon)								
10	158	5	0	0	0	0	1.00	1.00
11	0	0	94	2	0	0	1.00	1.00
12	0	0	0	0	82	16	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr To Op Pr	PHASE MATRIX Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	L	*1 2		4		62.0	Max	58	
2	T	1 2		4		58.0		58	
3	R	1 2		4		57.8		58	
EAST: Trinidad Oriente (ori)									
4	LT	*2 1		4		26.7		20	
6	R	2 1		4		26.7		20	

NORTH: Av. La Florida (norte)

```
    7 L         1  2                        4        62.0Max           58
    8 T         1  2                        4        40.1              58
    9 R         1  2                        4        40.1              58
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         2  1                        4        15.0              20
   11 T         2  1                        4        15.0              20
   12 R         2  1                        4        15.0              20
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:12 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     310    489<         .634           330    .80    -15    100
.940*
    2 T    2604   5180          .503          3493    .80      7    100   .745
    3 R      10     20          .500            13    .80      8    100   .741
 ---------------------------------------------------------------------------
-
 EAST: Trinidad Oriente (ori)
    4 LT    241   1140          .211           265    .80    -12    100   .909
    6 R     147    696          .211           162    .80    -12    100   .908
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L     253    463<         .546           312    .80     -1    100   .810
    8 T    1484   4421          .336          2982    .80     61    100   .498
    9 R     189    563          .336           380    .80     61    100   .498
 ---------------------------------------------------------------------------
-
 WEST: Trinidad Oriente (pon)
   10 L     163   1587          .103           369    .80     81    100   .442
   11 T      96    935          .103           217    .80     81    100   .441
   12 R      98    954          .103           222    .80     81    100   .442
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:12 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
1 L		1	2	62	-	-	62.0Max
4 LT		2	1	4	.211	.264	26.7
			Total:	66	.211	.264	88.7

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	86	86	86

(Cycle time specified by the user)

Cycle time is at maximum and short lanes exist.
A shorter cycle time may give better results.

Degree of Saturation (Highest) = .940
Practical Spare Capacity (Lowest) = -15 %
Total Vehicle Flow = 5595
Total Vehicle Capacity (all lanes) = 8746

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	57	62	.721
2	62	67	19	24	.279

Current Phase Sequence No.: 1 Phases: A B

1

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INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	Que (m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)									
1 L	1.33	15.5	279	.90	3.2	20	12.24	41.1	92.7
2 T	7.01	9.7	1553	.60	13.8	88	108.95	44.1	89.1

```
     3 R      .03    9.7      6   .60   13.8    88     .42   44.1   89.1
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
     4 LT    3.92   58.6    285  1.18   12.2    74   17.88   27.6  111.2
     6 R     2.39   58.6    174  1.18   12.2    74   10.90   27.6  111.2
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L     1.31   18.6    228   .90    3.0    20   10.62   39.7   93.5
     8 T     2.83    6.9    655   .44    6.7    44   53.52   45.6   87.1
     9 R      .36    6.9     83   .44    6.7    44    6.82   45.6   87.1
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
    10 L     1.28   28.2    125   .77    3.8    23    8.57   35.9   97.6
    11 T      .75   28.2     74   .77    3.8    23    5.04   35.9   97.6
    12 R      .77   28.2     75   .77    3.5    23    5.15   35.9   97.6
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2924      8.37   10.3   1838   .63   121.62    43.7    89.5   261568.1
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
   388      6.32   58.6    458  1.18    28.78    27.6   111.2    43143.9
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1926      4.49    8.4    966   .50    70.96    44.8    88.0   169415.4
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   357      2.80   28.2    275   .77    18.76    35.9    97.6    34861.0
 ---------------------------------------------------------------------------
 ALL GROUPS:
  5595     21.98   14.1   3537   .63   240.11    41.8    91.0   508988.3
 ---------------------------------------------------------------------------
1
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 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
```

```
  1 L      1   28  58    0   0    310  330  .940   15.5   .90    3.2   20   20
  2 T      2   28  58    0   0    871 1169  .745    9.7   .60   13.8   88
  3 T      2   28  58    0   0    871 1169  .745    9.7   .60   13.8   88
  4 TR     2,  28  58    0   0    871 1169  .745    9.7   .60   13.8   88
           3
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
  1 LTR    4,  66  20    0   0    388  427  .909   58.6  1.18   12.2   74
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   28  58    0   0    253  312  .810   18.6   .90    3.0   20   20
  2 T      8   28  58    0   0    551 1107  .498    6.9   .44    6.4   44
  3 T      8   28  58    0   0    551 1107  .498    6.9   .44    6.4   44
  4 TR     8,  28  58    0   0    571 1148  .498    6.9   .44    6.7   44
           9
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
  1 LT    10,  66  20    0   0    185  418  .442   28.2   .77    3.8   23
          11
  2 TR    11,  66  20    0   0    172  390  .442   28.2   .77    3.5   23
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:12 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   310    0    0  310 1850  489<    0    0  330  .940  100


          *
 ***********       2     0  871    0  871 1850 1734     0    0 1169  .745  100
          *

          *
 ***********       2     0  871    0  871 1850 1734     0    0 1169  .745  100
          *
```

```
          *
 ****** ****       2,    0  861   10  871 1850 1733     0    0 1169  .745  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   18  223  147  388 1850 1836     0    0  427  .909  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   253    0    0  253 1850  463<    0    0  312  .810  100


          *
 ***********       8     0  551    0  551 1850 1641     0    0 1107  .498  100
          *

          *
 ***********       8     0  551    0  551 1850 1641     0    0 1107  .498  100
          *
          *
 ****** ****       8,    0  382  189  571 1850 1702     0    0 1148  .498  100
       *  *        9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *  *
****** ****      10,  163   22    0  185 1850 1797     0    0  418  .442  100
         *       11
         *
****** ****      11,    0   74   98  172 1850 1679     0    0  390  .442  100
       *  *      12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:12 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         310   330<  100   .940*  58*       15.5   .90     3.2   12.24
    2 T        2604  3493   100   .745   58         9.7   .60    13.8  108.95
    3 R          10    13   100   .741   58         9.7   .60    13.8     .42
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        241   265   100   .909   20*       58.6  1.18    12.2   17.88
    6 R         147   162   100   .908   20        58.6  1.18    12.2   10.90
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         253   312<  100   .810   58        18.6   .90     3.0   10.62
    8 T        1484  2982   100   .498   58         6.9   .44     6.7   53.52
    9 R         189   380   100   .498   58         6.9   .44     6.7    6.82
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         163   369   100   .442   20        28.2   .77     3.8    8.57
   11 T          96   217   100   .441   20        28.2   .77     3.8    5.04
   12 R          98   222   100   .442   20        28.2   .77     3.5    5.15
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:12 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
```

Mov No.	Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)							
1 L	92.7	29	95	110	2755	72	6827
2 T	89.1	232	750	853	20503	580	54459
3 R	89.1	1	3	3	79	2	209
ALL MOVS:	89.5	262	848	966	23337	654	61495
EAST: Trinidad Oriente (ori)							
4 LT	111.2	27	97	93	2373	67	7333
6 R	111.2	16	59	57	1447	41	4473
ALL MOVS:	111.2	43	157	150	3820	108	11806
NORTH: Av. La Florida (norte)							
7 L	93.5	24	79	87	2155	59	5730
8 T	87.1	129	413	463	10786	323	30237
9 R	87.1	16	53	59	1374	41	3851
ALL MOVS:	88.0	169	544	610	14314	424	39818
WEST: Trinidad Oriente (pon)							
10 L	97.6	16	54	58	1432	40	3993
11 T	97.6	9	32	34	843	23	2352
12 R	97.6	10	33	35	861	24	2401
ALL MOVS:	97.6	35	119	126	3135	87	8745
INTERSECTION:	91.0	509	1668	1852	44607	1272	121864

1

ARRB SIDRA 4.07 - Time and Date of Analysis 8:12 PM, 2 Jan 2008
INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	L	.674*		310	330<	.940*	1.00	15.5	B
2	T	.674		2604	3493	.745	1.00	9.7	B
3	R	.674		10	13	.741	1.00	9.7	B
ALL MOVS:				2924	3837	.940		10.3	B
EAST: Trinidad Oriente (ori)									
4	LT	.233*		241	265	.909	1.00	58.6	E
6	R	.233		147	162	.908	1.00	58.6	E

```
                 ----------------------------------------------------
     ALL MOVS:                388    427    .909           58.6    E
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .674           253    312<   .810   1.00    18.6    B
    8 T         .674          1484   2982    .498   1.00     6.9    B
    9 R         .674           189    380    .498   1.00     6.9    B
                 ----------------------------------------------------
     ALL MOVS:               1926   3674    .810            8.4    B
 ---------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         .233           163    369    .442   1.00    28.2    C
   11 T         .233            96    217    .441   1.00    28.2    C
   12 R         .233            98    222    .442   1.00    28.2    C
                 ----------------------------------------------------
     ALL MOVS:                357    808    .442           28.2    C
                 ----------------------------------------------------
     INTERSECTION:           5595   8746    .940           14.1    B
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:12 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  2
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    8:42 PM,  2 Jan 2008

 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                 Cycle Time =  86


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
          1           161     6      0     0      0     0   1.00    .95
          2             0     0   1996   211      0     0   1.00    .95
 ------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
          3             0     0    896   214      0     0   1.00   1.00
          4             0     0      0     0    112     6   1.00   1.00
 ------------------------------------------------------------------------
 WEST: San Jose de La Estrella
          5           251     4      0     0      0     0   1.00   1.00
          6             0     0      0     0     50    11   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         1  2  L                    14        65.0Max           46
    2 LT       *1  2                        4        65.0Max           56
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         1  2                        4        31.9              56
    4 R  (Und)  1  2          2  1          4    4   26.5     30.2     56   22
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L        *2  1                        4        19.1              22
    6 R         2  1                        4        11.0Min           22
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
```

```
 Intersection No.:     4
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     149    278<         .534           149    .80    -20    100   .999
    2 LT   2225E  3379          .659          2200    .80    -21    100
1.011*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    3 T    1110   4276          .260          2784    .80    101    100   .399
    4 R     118    431    61    .235   .274    296    .90    126    100   .398
 ---------------------------------------------------------------------------
-
 WEST: San Jose de La Estrella
    5 L     255   1821          .140           466    .80     46    100   .547
    6 R      61   1567          .039           401    .80    426    100   .152
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      2 LT           1   2      65           -          -        65.0Max
      5 L            2   1       4         .140       .175       19.1
                                ----       ------     ------     ------
                       Total:   69         .140       .175       84.1
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         84         86
```

```
     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.011
   Practical Spare Capacity (Lowest)  =     -21 %
   Total Vehicle Flow                 =    3918
   Total Vehicle Capacity (all lanes) =    6296
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        55      60   .698
      2        60      65        21      26   .302
 ---------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L      .83   20.0    134   .90    2.4    15    6.95   39.1   94.9
     2 LT   48.06   77.7   3447  1.55   45.8   301  203.22   24.0  121.4
 ----------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T     2.07    6.7    473   .43    4.5    32   39.03   45.7   87.0
     4 R      .19    5.7     51   .43    4.3    29    4.02   46.3   86.8
 ----------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L     1.96   27.7    199   .78    5.3    32   13.44   36.1   97.5
     6 R      .42   24.8     43   .70    1.1     8    3.00   37.2   95.9
 ----------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2374     48.88   74.1   3581  1.51   210.17    24.6   119.8   284363.0
```

```
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1228      2.25    6.6    524   .43    43.05    45.8    87.0   106870.8
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
   316      2.38   27.1    241   .76    16.44    36.3    97.2    30702.5
 ----------------------------------------------------------------------
 ALL GROUPS:
  3918     53.52   49.2   4346  1.11   269.66    29.7   107.7   421936.3
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   40  46    0   0    149  149 1.000   20.0   .90    2.4   15<  15
  2 LT     2   30  56    0   0   1113 1101 1.012   77.7  1.55   45.8  301
  3 T      2   30  56    0   0   1112 1100 1.012   77.7  1.55   45.7  301
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 T      3   30  56    0   0    403 1010  .399    7.1   .42    4.5   32
  2 T      3   30  56    0   0    403 1010  .399    7.1   .42    4.5   32
  3 TR     3,  25  56    4   1    423 1061  .399    5.7   .43    4.3   29
           4
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
  1 L      5   64  22    0   0    255  466  .547   27.7   .78    5.3   32
  2 R      6   64  22    0   0     61  401  .152   24.8   .70    1.1    8
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
```

```
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   149    0    0  149 1850  278<    0   75  149 1.000  100

       *
      ***
       *  *
 ****** ****       2    18E1095    0 1113 1850 1690     0    0 1101 1.012  100
          *

          *
 ***********       2     0 1112    0 1112 1850 1689     0    0 1100 1.012  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  403    0  403 1850 1551     0    0 1010  .399  100
          *

          *
 ***********       3     0  403    0  403 1850 1551     0    0 1010  .399  100
          *
          *    Slip Lane
 ****** ****       3,    0  305  118  423 1850 1604  1393    0 1061  .399  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
```

```
 ******            5   255    0    0  255 1850 1821     0    0  466  .547  100


 ******            6     0    0   61   61 1850 1567     0    0  401  .152  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         149   149<  100   .999   46        20.0   .90     2.4    6.95
    2 LT       2225E 2200   100  1.011*  56*       77.7  1.55    45.8  203.22
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T        1110  2784   100   .399   56         6.7   .43     4.5   39.03
    4 R  (Und)  118   296   100   .398   56   22    5.7   .43     4.3    4.02
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         255   466   100   .547   22*       27.7   .78     5.3   13.44
    6 R          61   401   100   .152   22        24.8   .70     1.1    3.00
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           94.9       14        47      54    1359      35    3399
```

```
     2 LT         121.4      270      1013     958   25466     676   76369
                 ------------------------------------------------------------
      ALL MOVS:   119.8      284      1061    1012   26825     711   79768
 ----------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T           87.0       97       308     345    7987     242   22628
     4 R           86.8       10        33      37     845      26    2396
                 ------------------------------------------------------------
      ALL MOVS:    87.0      107       341     381    8832     267   25024
 ----------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L           97.5       25        85      90    2246      62    6220
     6 R           95.9        6        20      21     516      15    1454
                 ------------------------------------------------------------
      ALL MOVS:    97.2       31       104     111    2763      77    7674
                 ------------------------------------------------------------
  INTERSECTION:   107.7      422      1506    1505   38419    1055  112465
 ----------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .535           149    149<   .999   1.00    20.0    C
    2 LT        .651*         2225E  2200   1.011*  1.00    77.7    E
                ------------------------------------------------------
      ALL MOVS:               2374   2349   1.011           74.1    E
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         .651          1110   2784    .399   1.00     6.7    B
    4 R  (Und)  .651   .256    118    296    .398   1.00     5.7    A
                ------------------------------------------------------
      ALL MOVS:               1228   3081    .399            6.6    B
 ---------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         .256*          255    466    .547   1.00    27.7    C
    6 R         .256            61    401    .152   1.00    24.8    C
                ------------------------------------------------------
      ALL MOVS:                316    867    .547           27.1    C
                ------------------------------------------------------
      INTERSECTION:           3918   6296   1.011           49.2    D
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
```

```
ARRB SIDRA 4.07 -  Time and Date of Analysis    8:42 PM,  2 Jan 2008
INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.:     4
                 Cycle Time =  86


DIAGNOSTIC REPORT
-------------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
-------------------------------------------------------------------------------
-

END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 8:15 PM, 2 Jan 2008

INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES * AM5CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 5
Cycle Time = 86

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. Camilo Henriquez								
1	129	26	0	0	0	0	1.00	1.00
2	0	0	2143	185	0	0	1.00	1.00
3	0	0	0	0	32	2	1.00	1.00
EAST: Av. Diego Portales (ori)								
4	64	3	137	3	0	0	1.00	1.00
6	0	0	0	0	304	1	1.00	1.00
NORTH: Av. La Florida								
7	144	3	0	0	0	0	1.00	1.00
8	0	0	1229	198	0	0	1.00	1.00
9	0	0	0	0	66	37	1.00	1.00
WEST: Av. Diego Portales (pon)								
10	142	35	111	3	0	0	1.00	1.00
12	0	0	0	0	44	14	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr	To	Op	Pr	Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. Camilo Henriquez															
1	L	1	2							4		34.5		48	
2	T	1	2							4		53.0		48	
3	R	*1	2			2	1	R		4	8	53.9	34.2	48	26
EAST: Av. Diego Portales (ori)															
4	LT	2	1							4		34.2		30	
6	R	*2	1							4		34.2		30	
NORTH: Av. La Florida															
7	L	1	2							4		29.2		48	

```
    8 T         1  2                        4        37.6              48
    9 R         1  2          2  1  R       4    9   45.6     11.0Min  48   25
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        2  1                        4        27.3              30
   12 R         2  1                        4        27.3              30
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez
    1 L     155    547<         .283           305    .80     58    100   .508
    2 T    2328   5112          .455          2853    .80     -2    100   .816
    3 R      34     46    52    .464   .243     41    .80     -3    100
.821*
 ---------------------------------------------------------------------------
-
 EAST: Av. Diego Portales (ori)
    4 LT    207    738          .280           257    .80     -1    100   .804
    6 R     305   1087          .281           379    .80     -1    100   .804
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida
    7 L     147    627<         .234           350    .80     90    100   .420
    8 T    1427   4567          .312          2549    .80     43    100   .560
    9 R     103    260   134    .396   .000    184    .80     43    100   .560
 ---------------------------------------------------------------------------
-
 WEST: Av. Diego Portales (pon)
   10 LT    291   1343          .217           468    .80     29    100   .621
   12 R      58    268          .216            93    .80     29    100   .620
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect

   Opposed turn in movement    3 has high x.
   Its capacity is mainly due to end departures. Consider increasing
   the number of end departures, and/or specifying this as an undetected
   movement, since it may be affecting the timing results adversely.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
```

```
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      3 R    1st     1   2       4         .464       .580       53.9
      6 R            2   1       4         .281       .351       34.2
                                ----       ------     ------     ------
                       Total:    8         .745       .931       88.0
 ----------------------------------------------------------------------

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         86         86

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .821
    Practical Spare Capacity (Lowest)  =      -3 %
    Total Vehicle Flow                 =    5055
    Total Vehicle Capacity (all lanes) =    7482
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        47      52   .605
      2        52      57        29      34   .395
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
     1 L      .40    9.3     68   .44    1.8    13    5.69   44.3   88.1
     2 T    11.73   18.1   1841   .79   16.0   104  115.47   39.9   93.4
     3 R      .16   17.0     28   .83   15.6   101    1.66   40.4   93.0
```

```
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
     4 LT    1.72   30.0    181   .88   11.9    72   11.68   35.3   98.7
     6 R     2.54   30.0    267   .88   11.9    72   17.21   35.3   98.7
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
     7 L      .37    9.1     64   .43    1.7    10    5.36   44.4   88.0
     8 T     4.41   11.1    824   .58    7.8    53   58.26   43.3   89.6
     9 R      .24    8.4     59   .58    6.4    46    3.92   44.8   88.7
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT    1.88   23.3    218   .75    6.9    48   14.69   37.8   95.5
    12 R      .38   23.3     43   .75    6.9    48    2.93   37.8   95.5
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
  2517     12.29   17.6   1938   .77   122.83    40.2    93.1   234268.7
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
   512      4.27   30.0    448   .88    28.89    35.3    98.7    50546.8
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
  1677      5.02   10.8    947   .56    67.53    43.5    89.4   150005.8
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   349      2.26   23.3    261   .75    17.62    37.8    95.5    33323.5
 ---------------------------------------------------------------------------
 ALL GROUPS:
  5055     23.83   17.0   3594   .71   236.87    40.5    92.6   468144.7
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
  1 L      1   38  48    0   0    155  306  .507    9.3   .44    1.8   13   28
  2 T      2   38  48    0   0    780  957  .816   18.7   .77   16.0  104
```

```
  3 T      2   38  48    0   0    780  957  .816   18.7   .77   16.0  104
  4 TR     2,  29  48    8   1    801  982  .816   17.0   .83   15.6  101
           3
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
  1 LTR    4,  56  30    0   0    512  637  .804   30.0   .88   11.9   72
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
  1 L      7   38  48    0   0    147  350  .420    9.1   .43    1.7   10   28
  2 T      8   38  48    0   0    508  907  .560   12.2   .58    7.8   53
  3 T      8   38  48    0   0    508  907  .560   12.2   .58    7.8   53
  4 TR     8,  28  48    9   1    515  920  .560    8.4   .58    6.4   46
           9
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
  1 LTR   10,  56  30    0   0    349  562  .621   23.3   .75    6.9   48
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   155    0    0  155 1850  547<    0    0  306  .507  100


          *
 ***********       2     0  780    0  780 1850 1714     0    0  957  .816  100
          *

          *
 ***********       2     0  780    0  780 1850 1714     0    0  957  .816  100
          *
          *
 ****** ****       2,    0  767   34  801 1850 1715  2118   84* 982  .816  100
       *  *        3
      ***
```

```
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   67  140  305  512 1850 1825     0    0  637  .804  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   147    0    0  147 1850  627<    0    0  350  .420  100


          *
 ***********       8     0  508    0  508 1850 1625     0    0  907  .560  100
          *

          *
 ***********       8     0  508    0  508 1850 1625     0    0  907  .560  100
          *
          *
 ****** ****       8,    0  412  103  515 1850 1564  4017   84* 920  .560  100
       *  *        9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****      10,  177  114   58  349 1850 1610     0    0  562  .621  100
       *  *       12
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         155   305<  100   .508   48         9.3   .44     1.8    5.69
    2 T        2328  2853   100   .816   48        18.1   .79    16.0  115.47
    3 R          34    41   100   .821*  48*  26   17.0   .83    15.6    1.66
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        207   257   100   .804   30        30.0   .88    11.9   11.68
    6 R         305   379   100   .804   30*       30.0   .88    11.9   17.21
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         147   350<  100   .420   48         9.1   .43     1.7    5.36
    8 T        1427  2549   100   .560   48        11.1   .58     7.8   58.26
    9 R         103   184   100   .560   48   25    8.4   .58     6.4    3.92
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        291   468   100   .621   30        23.3   .75     6.9   14.69
   12 R          58    93   100   .620   30        23.3   .75     6.9    2.93
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
     1 L           88.1       14        44      49    1132      34    3232
```

```
     2 T           93.4      217       723     807   19948     544   52533
     3 R           93.0        3        10      12     290       8     761
                 ------------------------------------------------------------
      ALL MOVS:    93.1      234       777     867   21369     586   56526
 ----------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
     4 LT          98.7       20        70      75    1873      51    5144
     6 R           98.7       30       103     110    2759      75    7579
                 ------------------------------------------------------------
      ALL MOVS:    98.7       51       173     185    4632     126   12722
 ----------------------------------------------------------------------------
 NORTH: Av. La Florida
     7 L           88.0       13        42      46    1069      32    3060
     8 T           89.6      128       416     466   11149     320   30309
     9 R           88.7        9        29      33     795      23    2146
                 ------------------------------------------------------------
      ALL MOVS:    89.4      150       487     545   13012     375   35516
 ----------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT          95.5       28        94     102    2513      69    6849
    12 R           95.5        6        19      20     501      14    1365
                 ------------------------------------------------------------
      ALL MOVS:    95.5       33       112     122    3013      83    8215
                 ------------------------------------------------------------
  INTERSECTION:    92.6      468      1549    1719   42027    1170  112978
 ----------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ----------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         .558           155    305<   .508   1.00     9.3    B
    2 T         .558          2328   2853    .816   1.00    18.1    B
    3 R         .558*  .302     34     41    .821*  1.00    17.0    B
                ------------------------------------------------------
      ALL MOVS:               2517   3200    .821           17.6    B
 ----------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        .349           207    257    .804   1.00    30.0    C
    6 R         .349*          305    379    .804   1.00    30.0    C
                ------------------------------------------------------
      ALL MOVS:                512    637    .804           30.0    C
 ----------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         .558           147    350<   .420   1.00     9.1    B
    8 T         .558          1427   2549    .560   1.00    11.1    B
    9 R         .558   .291    103    184    .560   1.00     8.4    B
```

```
                 ----------------------------------------------------
     ALL MOVS:                1677   3083    .560           10.8    B
 ---------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        .349           291    468    .621   1.00    23.3    C
   12 R         .349            58     93    .620   1.00    23.3    C
                 ----------------------------------------------------
     ALL MOVS:                349    562    .621           23.3    C
                 ----------------------------------------------------
     INTERSECTION:            5055   7482    .821           17.0    B
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:15 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Opposed turn in movement    3 has high x.
   Its capacity is mainly due to end departures. Consider increasing
   the number of end departures, and/or specifying this as an undetected
   movement, since it may be affecting the timing results adversely.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    8:16 PM,  2 Jan 2008

 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
          1            82    36      0     0      0     0   1.00   1.00
          2             0     0    588   177      0     0   1.00   1.00
 ------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
          3             0     0    376   473      0     0   1.00   1.00
          4             0     0      0     0    316   282   1.00   1.00
 ------------------------------------------------------------------------
 WEST: El Penon
          5           433   103      0     0      0     0   1.00   1.00
          6             0     0      0     0    236    60   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L        *1  2  L                    36        64.8              23
    2 LT        1  2                        4        23.6              55
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         1  2                        4        44.6              55
    4 R         1  2                        4        58.1              55
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L        *2  1                        4        40.0Max           28
    6 R         2  1                        4        23.5              28
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:16 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
```

```
 Intersection No.:     6
                  Cycle Time =  91


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez (S)
    1 L     106    420<         .253           106    .80    -20    100  1.001
    2 LT    777E  4503          .173          2722    .80    180    100   .285
 ---------------------------------------------------------------------------
-
 NORTH: Av. Camilo Henriquez (N)
    3 T     849   2376          .357          1436    .80     35     75   .591
    4 R     598   1257          .476           760    .80      2    100   .787
 ---------------------------------------------------------------------------
-
 WEST: El Penon
    5 L     536   1552          .345           478    .80    -29    100
1.122*
    6 R     296   1538          .192           473    .90     44    100   .625
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect

   Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:16 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      36         .253       .316       64.8
      5 L            2   1      40           -          -        40.0Max
                                ----       ------     ------     ------
                       Total:   76         .253       .316      104.8
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)
```

```
   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        22        91         91         91

     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.122
   Practical Spare Capacity (Lowest)  =     -29 %
   Total Vehicle Flow                 =    3162
   Total Vehicle Capacity (all lanes) =    5975
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 --------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 --------------------------------------------------
      1         0       5        54      59   .648
      2        59      64        27      32   .352
 --------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
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 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.5 - MOVEMENT PERFORMANCE
 ---------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
     1 L     1.00   34.0     96   .90    2.6    20    6.21   34.0  100.7
     2 LT    1.86    8.6    334   .43    3.1    23   28.64   44.7   87.8
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
     3 T     2.61   11.1    470   .55    6.6    62   35.42   43.3   89.4
     4 R     2.72   16.4    427   .71   12.0   106   29.06   40.7   92.4
 ---------------------------------------------------------------------------
 WEST: El Penon
     5 L    42.68  286.6   1687  3.15   47.4   339  110.16   10.0  208.5
     6 R     2.22   27.0    228   .77    6.4    46   15.82   36.4   97.2
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
```

```
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
   883      2.86   11.7    430   .49    34.85    43.0    89.4    78899.2
 ----------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
  1447      5.34   13.3    898   .62    64.47    42.2    90.7   131200.1
 ----------------------------------------------------------------------
 WEST: El Penon
   832     44.90  194.3   1916  2.30   125.98    13.5   168.9   140494.8
 ----------------------------------------------------------------------
 ALL GROUPS:
  3162     53.09   60.4   3243  1.03   225.30    27.2   110.9   350594.1
 ----------------------------------------------------------------------
1
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 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                     * AM6CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                             Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
  1 L      1   68  23    0   0    106  106 1.000   34.0   .90    2.6   20<  20
  2 LT     2   36  55    0   0    258  906  .285    8.6   .43    3.1   23
  3 T      2   36  55    0   0    259  908  .285    8.6   .43    3.1   23
  4 T      2   36  55    0   0    259  908  .285    8.6   .43    3.1   23
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
  1 T      3   36  55    0   0    425  718  .591   11.1   .55    6.6   62
  2 T      3   36  55    0   0    425  718  .591   11.1   .55    6.6   62
  3 R      3,  36  55    0   0    598  760  .787   16.4   .71   12.0  106
           4
 ---------------------------------------------------------------------------
-
  WEST: El Penon
  1 L      5   63  28    0   0    536  477 1.123  286.6  3.15   47.4  339
  2 R      6   63  28    0   0    296  473  .625   27.0   .77    6.4   46
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:16 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                     * AM6CPM *
```

```
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   106    0    0  106 1850  420<    0   71  106 1.000  100

       *
      ***
       *  *
 ****** ****       2    12E 247    0  258 1850 1498     0    0  906  .285  100
          *

          *
 ***********       2     0  259    0  259 1850 1502     0    0  908  .285  100
          *

          *
 ***********       2     0  259    0  259 1850 1502     0    0  908  .285  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  425    0  425 1850 1188     0    0  718  .591   75
          *
Prog

          *
 ***********       3     0  425    0  425 1850 1188     0    0  718  .591   75
          *
Prog

 ******            3,    0    0  598  598 1850 1257     0    0  760  .787  100
       *           4
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: El Penon
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   536    0    0  536 1850 1552     0    0  477 1.123  100


 ******            6     0    0  296  296 1850 1538     0    0  473  .625  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
   Prog  Lane under-utilisation found by the "Program"
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:16 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L         106   106<  100  1.001   23*       34.0   .90     2.6    6.21
    2 LT        777E 2722   100   .285   55         8.6   .43     3.1   28.64
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         849  1436    75   .591   55        11.1   .55     6.6   35.42
    4 R         598   760   100   .787   55        16.4   .71    12.0   29.06
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L         536   478   100  1.122*  28*      286.6  3.15    47.4  110.16
    6 R         296   473   100   .625   28        27.0   .77     6.4   15.82
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
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```

INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Fuel Consumption Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. Camilo Henriquez (S)							
1 L	100.7	11	37	39	993	27	2720
2 LT	87.8	68	219	242	5633	171	16092
ALL MOVS:	89.4	79	256	282	6626	197	18812
NORTH: Av. Camilo Henriquez (N)							
3 T	89.4	76	246	276	6576	190	17986
4 R	92.4	55	183	204	5001	138	13287
ALL MOVS:	90.7	131	429	480	11576	328	31273
WEST: El Penon							
5 L	208.5	112	492	305	8235	279	39888
6 R	97.2	29	98	105	2597	72	7181
ALL MOVS:	168.9	140	589	409	10832	351	47069
INTERSECTION:	110.9	351	1274	1170	29034	876	97153

1
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SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	Green Time Ratio (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. Camilo Henriquez (S)									
1 L		.253*		106	106<	1.001	1.00	34.0	D
2 LT		.604		777E	2722	.285	1.00	8.6	B
ALL MOVS:				883	2828	1.001		11.7	B
NORTH: Av. Camilo Henriquez (N)									
3 T		.604		849	1436	.591	1.00	11.1	B
4 R		.604		598	760	.787	1.00	16.4	B
ALL MOVS:				1447	2196	.787		13.3	B

```
 ----------------------------------------------------------------------
 WEST: El Penon
    5 L         .308*          536    478   1.122*  1.00   286.6    F
    6 R         .308           296    473    .625   1.00    27.0    C
                ------------------------------------------------------
      ALL MOVS:                832    951   1.122          194.3    F
                ------------------------------------------------------
      INTERSECTION:           3162   5975   1.122           60.4    E
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
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 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 8:20 PM, 2 Jan 2008

INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25								
1	89	28	0	0	0	0	1.00	1.00
2	0	0	527	76	0	0	1.00	1.00
NORTH WEST: Av. Camilo Henriquez								
3	0	0	268	95	0	0	1.00	1.00
4	0	0	0	0	416	83	1.00	1.00
SOUTH WEST: Eyzaguirre								
5	281	62	0	0	0	0	1.00	1.00
6	0	0	0	0	122	23	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

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INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25							
1 L	117	363	461	.80	215	100	.254
2 T	603	0	2375	.80	215	100	.254
NORTH WEST: Av. Camilo Henriquez							
3 T	363	0	2933	.80	546	100	.124
4 R	499	0	1586	.98	211	100	.315
SOUTH WEST: Eyzaguirre							
5 L	343	1333+	145	.80	-66	100	2.366*
6 R	145	613+	640	.80	253	100	.227

```
 ------------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:20 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =   2.366
    Practical Spare Capacity (Lowest)  =     -66 %
    Total Vehicle Flow                 =    2070
    Total Vehicle Capacity (all lanes) =    8140
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
     1 L      .00     .1      9   .07     .0     0    2.66   45.0   85.6
     2 T      .00     .0     14   .02     .0     0   13.49   45.0   84.4
 ----------------------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
     3 T      .00     .0      0   .00     .0     0    8.07   45.0   83.9
     4 R      .00     .0                12.8#        11.09   45.0   83.9
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L   239.93 2518.2    343  1.00  101.4   719  350.90    1.4 1052.1
     6 R      .15    3.8     84   .58     .7     5    4.52   43.0   90.9
 ----------------------------------------------------------------------
   #  Largest density/concentration (number of passenger car space equivalents
      (pcse) per km or per mile if US units) for any lane

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
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 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
   720       .01     .0     23   .03    16.15    45.0    84.6    60905.1
 ----------------------------------------------------------------------
```

```
 NORTH WEST: Av. Camilo Henriquez
   862       .00     .0      0   .00    19.16    45.0    83.9    72286.7
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
   488    240.08 1771.1    427   .88   355.42     1.9   766.5   374067.3
 ----------------------------------------------------------------------
 ALL GROUPS:
  2070    240.09  417.5    450   .22   390.73     7.2   245.1   507259.0
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:20 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                             Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25
  1 LT      1,   303  1193  .254     .1   .07     .0    0
            2
  2 T       2    417  1643  .254     .0   .00     .0    0
 ---------------------------------------------------------------
  NORTH WEST: Av. Camilo Henriquez
  1 T       3    182  1466  .124     .0   .00     .0    0
  2 T       3    182  1466  .124     .0   .00     .0    0
  3 R       4    499  1586  .315     .0         12.8#
 ---------------------------------------------------------------
  SOUTH WEST: Eyzaguirre
  1 L       5    343   145 2.365 2518.2  1.00  101.4  719
  2 R       6    145   640  .227    3.8   .58     .7    5
 ---------------------------------------------------------------
   #  Concentration/density (pcse per km, or per mile if US units)

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:20 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,  117  186    0  303 1850 1193     0   60 1193  .254  100
          *        2

          *
 ***********       2     0  417    0  417 1850 1643     0    0 1643  .254  100
          *
 ---------------------------------------------------------------------------
-
  NORTH WEST: Av. Camilo Henriquez
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  182    0  182 1850 1466     0    0 1466  .124  100
          *

          *
 ***********       3     0  182    0  182 1850 1466     0    0 1466  .124  100
          *
               Continuous Lane
 ******            4     0    0  499  499 1850 1586     0    0 1586  .315  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Eyzaguirre
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   343    0    0  343 1850  145     0   60  145 2.365  100

               Slip Lane
 ******            6     0    0  145  145 1850  640     0   60  640  .227  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
1
```

```
ARRB SIDRA 4.07 -  Time and Date of Analysis    8:20 PM,  2 Jan 2008
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.:     7
            Unsignalised Intersection


Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
-------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
 Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
 No.     Typ  Flow   Cap.  Util  Satn
              (veh  (veh               (sec)         (veh)
               /h)   /h)   (%)     x
-------------------------------------------------------------------
EAST: Ruta G-25
   1 L         117   461   100   .254     .1   .07      .0    2.66
   2 T         603  2375   100   .254     .0   .02      .0   13.49
-------------------------------------------------------------------
NORTH WEST: Av. Camilo Henriquez
   3 T         363  2933   100   .124     .0   .00      .0    8.07
   4 R  (Con)  499  1586   100   .315     .0          12.8#  11.09
-------------------------------------------------------------------
SOUTH WEST: Eyzaguirre
   5 L         343   145   100  2.366*2518.2  1.00   101.4  350.90
   6 R         145   640   100   .227    3.8   .58      .7    4.52
-------------------------------------------------------------------

  *  Maximum degree of saturation
  #  Largest density/concentration (number of passenger car space equivalents
     (pcse) per km or per mile if US units) for any lane

  Stop Rate is proportion of stopped vehicles including queueing effects.
  Geometric delays not included.
1
ARRB SIDRA 4.07 -  Time and Date of Analysis    8:20 PM,  2 Jan 2008
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.:     7
            Unsignalised Intersection


Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
-----------------------------------------------------------------------
  Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
  No.             Rate    Total     Total   Total   Total   Total   Total
                  mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
-----------------------------------------------------------------------
EAST: Ruta G-25
    1 L           85.6       10        32      31     741      25    2472
    2 T           84.4       51       162     155    3704     127   12474
                ---------------------------------------------------------
     ALL MOVS:    84.6       61       194     185    4445     152   14946
-----------------------------------------------------------------------
NORTH WEST: Av. Camilo Henriquez
    3 T           83.9       30        97      92    2200      76    7438
    4 R           83.9       42       133     127    3024     105   10225
                ---------------------------------------------------------
     ALL MOVS:    83.9       72       229     219    5223     181   17663
```

```
 ---------------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L         1052.1      361      1854     597   15785     902  160058
     6 R           90.9       13        43      44    1153      33    3250
                 -------------------------------------------------------
      ALL MOVS:   766.5      374      1897     641   16938     935  163307
                 -------------------------------------------------------
  INTERSECTION:   245.1      507      2321    1046   26606    1268  195916
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:20 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 EAST: Ruta G-25
    1 L            117    461    .254   1.00      .1    A
    2 T            603   2375    .254   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    720   2836    .254             .0    A
 ---------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
    3 T            363   2933    .124   1.00      .0    A
    4 R  (Con)     499   1586    .315   1.00      .0    C#
                 ----------------------------------------
      ALL MOVS:    862   4519    .315             .0    A
 ---------------------------------------------------------
 SOUTH WEST: Eyzaguirre
    5 L            343    145   2.366*  1.00  2518.2    F
    6 R            145    640    .227   1.00     3.8    A
                 ----------------------------------------
      ALL MOVS:    488    785   2.366         1771.1    F
                 ----------------------------------------
  INTERSECTION:   2070   8140   2.366          417.5    F
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   #  Level Of Service for continuous movements based on density/concentration
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:20 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
```

```
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 12:07 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Acceso a Ruta G-421								
1	51	8	0	0	0	0	1.00	1.00
2	0	0	0	0	14	1	1.00	1.00
EAST: Ruta G-25 (ori)								
3	8	1	0	0	0	0	1.00	1.00
4	0	0	269	71	0	0	1.00	1.00
WEST: Ruta G-25 (pon)								
5	0	0	175	58	0	0	1.00	1.00
6	0	0	0	0	14	5	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 12:07 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Acceso a Ruta G-421							
1 L	59	592+	376	.80	410	100	.157
2 R	15	10+	96	.80	412	100	.156
EAST: Ruta G-25 (ori)							
3 L	9	311	39	.80	247	100	.231
4 T	340	0	1463	.80	244	100	.232*
WEST: Ruta G-25 (pon)							
5 T	233	0	1368	.80	370	100	.170
6 R	19	0	112	.80	372	100	.170

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .232
    Practical Spare Capacity (Lowest)  =     244 %
    Total Vehicle Flow                 =     675
    Total Vehicle Capacity (all lanes) =    3453
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L      .07    4.0     33   .56     .5     4    1.85   47.3   99.7
     2 R      .02    4.0      8   .56     .5     4     .47   47.3   99.7
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L      .01    2.4      0   .01    1.0     7     .21   48.4   83.4
     4 T      .22    2.4      2   .01    1.0     7    8.00   48.4   83.4
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T      .00     .0      0   .00     .0     0    4.66   50.0   82.1
     6 R      .00     .0      0   .00     .0     0     .38   50.0   82.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    74       .08    4.0     42   .56     2.32    47.3    99.7     7375.1
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   349       .23    2.4      2   .01     8.21    48.4    83.4    29094.3
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   252       .00     .0      0   .00     5.04    50.0    82.1    20688.3
 ----------------------------------------------------------------------
 ALL GROUPS:
   675       .31    1.7     43   .06    15.57    48.9    84.7    57157.7
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Acceso a Ruta G-421
  1 LR      1,    74   472  .157    4.0   .56     .5    4
            2
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 LT      3,   349  1501  .232    2.4   .01    1.0    7
            4
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 TR      5,   252  1480  .170     .0   .00     .0    0
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Acceso a Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *
 ******            1,   59    0   15   74 1850  472     0   15  472  .157  100
       *           2
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    9  340    0  349 1850 1501     0   60 1501  .232  100
          *        4
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       5,    0  233   19  252 1850 1480     0    0 1480  .170  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    1 L          59   376   100   .157    4.0   .56      .5    1.85
    2 R          15    96   100   .156    4.0   .56      .5     .47
 ---------------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L           9    39   100   .231    2.4   .01     1.0     .21
    4 T         340  1463   100   .232*   2.4   .01     1.0    8.00
```

```
 ----------------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T         233  1368   100   .170     .0   .00      .0    4.66
    6 R          19   112   100   .170     .0   .00      .0     .38
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L           99.7        6        17      26     557      15    1299
     2 R           99.7        1         4       7     142       4     330
                 -------------------------------------------------------
      ALL MOVS:    99.7        7        21      32     698      18    1629
 ---------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L           83.4        1         2       2      50       2     177
     4 T           83.4       28        88      92    1904      71    6685
                 -------------------------------------------------------
      ALL MOVS:    83.4       29        91      94    1954      73    6862
 ---------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T           82.1       19        59      63    1290      48    4447
     6 R           82.1        2         5       5     105       4     363
                 -------------------------------------------------------
      ALL MOVS:    82.1       21        64      68    1396      52    4809
                 -------------------------------------------------------
  INTERSECTION:    84.7       57       176     194    4048     143   13301
 ---------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
```

```
 SOUTH: Acceso a Ruta G-421
    1 L             59    376    .157   1.00     4.0    A
    2 R             15     96    .156   1.00     4.0    A
                 ----------------------------------------
      ALL MOVS:     74    472    .157            4.0    A
 -------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L              9     39    .231   1.00     2.4    A
    4 T            340   1463    .232*  1.00     2.4    A
                 ----------------------------------------
      ALL MOVS:    349   1502    .232            2.4    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T            233   1368    .170   1.00      .0    A
    6 R             19    112    .170   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    252   1480    .170             .0    A
                 ----------------------------------------
  INTERSECTION:    675   3453    .232            1.7    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:07 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 6:01 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25 (ori)								
1	0	0	91	31	0	0	1.00	1.00
2	0	0	0	0	6	1	1.00	1.00
NORTH: Ruta G-345								
3	1	1	0	0	0	0	1.00	1.50
4	0	0	0	0	8	11	1.00	1.50
WEST: Ruta G-25 (pon)								
5	19	18	0	0	0	0	1.00	1.00
6	0	0	96	58	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 6:01 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25 (ori)							
1 T	122	0	1475	.80	867	100	.083
2 R	7	0	1619	.80	****	100	.004
NORTH: Ruta G-345							
3 L	2	313+	602	.80	****	100	.003
4 R	19	122+	1063	.80	4376	100	.018
WEST: Ruta G-25 (pon)							
5 L	37	131	1053	.80	2177	100	.035
6 T	154	0	1344	.80	598	100	.115*

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .115
    Practical Spare Capacity (Lowest)  =     598 %
    Total Vehicle Flow                 =     341
    Total Vehicle Capacity (all lanes) =    7156
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    3.49   35.0   91.8
     2 R      .00     .0      0   .00     .0     0     .20   35.0   91.8
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     3 L      .00    2.2      1   .44     .4     3     .43   34.3   95.9
     4 R      .00     .5      3   .16     .1     1     .70   34.8   93.8
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .01     .5      6   .17     .1     1    1.25   34.8   93.8
     6 T      .00     .0      0   .00     .0     0    4.40   35.0   91.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   129       .00     .0      0   .00     3.69    35.0    91.8    11841.0
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
    21       .00     .6      4   .18     1.14    34.8    94.0     1973.6
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   191       .01     .1      6   .03     5.65    35.0    92.2    17607.7
 ----------------------------------------------------------------------
 ALL GROUPS:
   341       .01     .1     10   .03    10.47    35.0    92.1    31422.3
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                             Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 T       1    122  1475  .083     .0   .00     .0    0
  2 R       2      7  1619  .004     .0   .00     .0    0    80
 ---------------------------------------------------------------
  NORTH: Ruta G-345
  1 L       3      2   602  .003    2.2   .44     .4    3
  2 R       4     19  1063  .018     .5   .16     .1    1
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 L       5     37  1053  .035     .5   .17     .1    1    50
  2 T       6    154  1344  .115     .0   .00     .0    0
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
          *
 ***********       1     0  122    0  122 1850 1475     0    0 1475  .083  100
          *

 ******            2     0    0    7    7 1850 1619     0    0 1619  .004  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Ruta G-345
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            3     2    0    0    2 1850  602     0    5  602  .003  100


 ******            4     0    0   19   19 1850 1063     0   19 1063  .018  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5    37    0    0   37 1850 1053     0   37 1053  .035  100


          *
 ***********       6     0  154    0  154 1850 1344     0    0 1344  .115  100
          *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
```

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25 (ori)									
1	T	122	1475	100	.083	.0	.00	.0	3.49
2	R	7	1619	100	.004	.0	.00	.0	.20
NORTH: Ruta G-345									
3	L	2	602	100	.003	2.2	.44	.4	.43
4	R	19	1063	100	.018	.5	.16	.1	.70
WEST: Ruta G-25 (pon)									
5	L	37	1053	100	.035	.5	.17	.1	1.25
6	T	154	1344	100	.115*	.0	.00	.0	4.40

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1
ARRB SIDRA 4.07 - Time and Date of Analysis 6:01 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25 (ori)							
1 T	91.8	11	38	30	897	28	3024
2 R	91.8	1	2	2	51	2	173
ALL MOVS:	91.8	12	40	32	949	30	3197
NORTH: Ruta G-345							
3 L	95.9	0	1	1	16	0	52
4 R	93.8	2	6	5	146	4	484
ALL MOVS:	94.0	2	7	5	162	5	537
WEST: Ruta G-25 (pon)							
5 L	93.8	3	12	10	284	9	944
6 T	91.8	14	48	38	1133	35	3817
ALL MOVS:	92.2	18	60	48	1417	44	4761
INTERSECTION:	92.1	31	107	85	2528	79	8494

1
ARRB SIDRA 4.07 - Time and Date of Analysis 6:01 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CPM *

```
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 EAST: Ruta G-25 (ori)
    1 T            122   1475    .083   1.00      .0    A
    2 R              7   1619    .004   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    129   3094    .083             .0    A
 -------------------------------------------------------
 NORTH: Ruta G-345
    3 L              2    602    .003   1.00     2.2    A
    4 R             19   1063    .018   1.00      .5    A
                 ----------------------------------------
      ALL MOVS:     21   1665    .018             .6    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L             37   1053    .035   1.00      .5    A
    6 T            154   1344    .115*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    191   2397    .115             .1    A
                 ----------------------------------------
  INTERSECTION:    341   7156    .115             .1    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

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A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 12:12 PM, 29 Dec 2007

INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Canada Norte (ori)								
1	23	1	0	0	0	0	1.00	1.00
2	0	0	6	1	0	0	1.00	1.00
NORTH: Camino El Volcan (norte)								
3	4	1	0	0	0	0	1.00	1.00
4	0	0	113	29	0	0	1.00	1.00
5	0	0	0	0	3	22	1.00	1.00
WEST: Canada Norte (pon)								
6	0	0	1	1	0	0	1.00	1.00
7	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 12:12 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10CPM *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Canada Norte (ori)							
1 L	24	151	760	.80	2433	100	.032
2 T	7	172	222	.80	2437	100	.032
NORTH: Camino El Volcan (norte)							
3 L	5	0	83	.80	1228	100	.060
4 T	142	0	2346	.80	1222	100	.061*
5 R	25	0	413	.80	1222	100	.061*
WEST: Canada Norte (pon)							

```
    6 T       2    184+     453   .80   ****    100   .004
    7 R       2    179+     453   .80   ****    100   .004
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .061
    Practical Spare Capacity (Lowest)  =    1222 %
    Total Vehicle Flow                 =     207
    Total Vehicle Capacity (all lanes) =    4729
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L      .00     .6      5   .20     .2     1     .64   49.6   85.2
     2 T      .00     .6      1   .20     .2     1     .19   49.6   85.2
 ------------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L      .00     .0      0   .00     .0     0     .10   50.0   82.1
     4 T      .00     .0      0   .00     .0     0    2.84   50.0   82.1
     5 R      .00     .0      0   .00     .0     0     .50   50.0   82.1
 ------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T      .00     .8      0   .24     .2     2     .14   49.5   85.7
     7 R      .00     .8      0   .24     .2     2     .14   49.5   85.7
 ------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    31       .01     .6      6   .20      .83    49.6    85.2     2642.0
```

```
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
   172       .00     .0      0   .00     3.44    50.0    82.1    14120.6
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     4       .00     .8      1   .24      .29    49.5    85.7      342.6
 ----------------------------------------------------------------------
 ALL GROUPS:
   207       .01     .1      7   .04     4.56    49.9    82.6    17105.2
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ----------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ----------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 LT      1,    31   981  .032     .6   .20     .2    1
            2
 ----------------------------------------------------------------
  NORTH: Camino El Volcan (norte)
  1 LT      3,    93  1537  .061     .0   .00     .0    0
            4
  2 TR      4,    79  1305  .061     .0   .00     .0    0
            5
 ----------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 TR      6,     4   906  .004     .8   .24     .2    2
            7
 ----------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   24    7    0   31 1850  981     0    7  981  .032  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH: Camino El Volcan (norte)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    5   88    0   93 1850 1537     0    0 1537  .061  100
          *        4
          *
 ****** ****       4,    0   54   25   79 1850 1305     0    0 1305  .061  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       6,    0    2    2    4 1850  906     0   11  906  .004  100
       *  *        7
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
```

```
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L          24   760   100   .032     .6   .20      .2     .64
    2 T           7   222   100   .032     .6   .20      .2     .19
 ----------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L           5    83   100   .060     .0   .00      .0     .10
    4 T         142  2346   100   .061*    .0   .00      .0    2.84
    5 R          25   413   100   .061*    .0   .00      .0     .50
 ----------------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T           2   453   100   .004     .8   .24      .2     .14
    7 R           2   453   100   .004     .8   .24      .2     .14
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ----------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L           85.2        2         6       7     153       5     479
     2 T           85.2        1         2       2      45       1     140
                 -------------------------------------------------------
      ALL MOVS:    85.2        3         8       9     198       7     618
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L           82.1        0         1       1      28       1      95
     4 T           82.1       12        36      38     786      29    2710
     5 R           82.1        2         6       7     138       5     477
                 -------------------------------------------------------
      ALL MOVS:    82.1       14        44      46     953      35    3283
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T           85.7        0         1       1      13       0      40
     7 R           85.7        0         1       1      13       0      40
                 -------------------------------------------------------
      ALL MOVS:    85.7        0         1       1      26       1      80
                 -------------------------------------------------------
  INTERSECTION:    82.6       17        53      56    1177      43    3981
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
```

```
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ----------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L             24    760    .032   1.00      .6    A
    2 T              7    222    .032   1.00      .6    A
                 ----------------------------------------
      ALL MOVS:     31    982    .032             .6    A
 ----------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L              5     83    .060   1.00      .0    A
    4 T            142   2346    .061*  1.00      .0    A
    5 R             25    413    .061*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    172   2842    .061             .0    A
 ----------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T              2    453    .004   1.00      .8    A
    7 R              2    453    .004   1.00      .8    A
                 ----------------------------------------
      ALL MOVS:      4    906    .004             .8    A
                 ----------------------------------------
  INTERSECTION:    207   4729    .061             .1    A
 ----------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:12 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CPM *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection

 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

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A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 12:14 PM, 29 Dec 2007

INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11CPT *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Comercio (sur)								
1	12	1	0	0	0	0	1.00	1.00
2	0	0	114	23	0	0	1.00	1.00
3	0	0	0	0	25	1	1.00	1.00
EAST: Canada Norte (ori)								
4	0	0	22	4	0	0	1.00	1.00
5	0	0	0	0	14	14	1.00	1.00
WEST: Canada Norte (pon)								
6	6	1	0	0	0	0	1.00	1.00
7	0	0	11	1	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 12:14 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11CPT *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Comercio (sur)							
1 L	13	0	239	.80	1371	100	.054
2 T	137	0	2522	.80	1373	100	.054
3 R	26	0	479	.80	1374	100	.054
EAST: Canada Norte (ori)							
4 T	26	170+	446	.80	1272	100	.058*
5 R	28	157+	481	.80	1274	100	.058*
WEST: Canada Norte (pon)							

```
    6 L        7    204      325   .80   3614    100   .022
    7 T       12    176      557   .80   3613    100   .022
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .058
    Practical Spare Capacity (Lowest)  =    1272 %
    Total Vehicle Flow                 =     249
    Total Vehicle Capacity (all lanes) =    5049
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L      .00     .0      0   .00     .0     0     .26   50.0   82.1
     2 T      .00     .0      0   .00     .0     0    2.74   50.0   82.1
     3 R      .00     .0      0   .00     .0     0     .52   50.0   82.1
 ------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T      .01     .7      6   .22     .2     2     .65   49.5   85.5
     5 R      .01     .7      6   .22     .2     2     .70   49.5   85.5
 ------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L      .00     .9      2   .25     .2     1     .23   49.4   85.8
     7 T      .00     .9      3   .25     .2     1     .40   49.4   85.8
 ------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
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 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Comercio (sur)
   176       .00     .0      0   .00     3.52    50.0    82.1    14449.0
```

```
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    54       .01     .7     12   .22     1.35    49.5    85.5     4614.9
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
    19       .00     .9      5   .25      .63    49.4    85.8     1630.1
 ----------------------------------------------------------------------
 ALL GROUPS:
   249       .02     .2     17   .07     5.50    49.8    83.1    20693.9
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
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             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Comercio (sur)
  1 LT      1,    87  1603  .054     .0   .00     .0    0
            2
  2 TR      2,    89  1637  .054     .0   .00     .0    0
            3
 ---------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 TR      4,    54   927  .058     .7   .22     .2    2
            5
 ---------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 LT      6,    19   882  .022     .9   .25     .2    1
            7
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Comercio (sur)
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   13   74    0   87 1850 1603     0    0 1603  .054  100
         *         2
         *
 ****** ****       2,    0   63   26   89 1850 1637     0    0 1637  .054  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
         *
 ****** ****       4,    0   26   28   54 1850  927     0   28  927  .058  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,    7   12    0   19 1850  882     0   12  882  .022  100
         *         7
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
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             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
```

```
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L          13   239   100   .054     .0   .00      .0     .26
    2 T         137  2522   100   .054     .0   .00      .0    2.74
    3 R          26   479   100   .054     .0   .00      .0     .52
 ----------------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T          26   446   100   .058*    .7   .22      .2     .65
    5 R          28   481   100   .058*    .7   .22      .2     .70
 ----------------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L           7   325   100   .022     .9   .25      .2     .23
    7 T          12   557   100   .022     .9   .25      .2     .40
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L           82.1        1         3       3      72       3     248
     2 T           82.1       11        35      37     759      28    2615
     3 R           82.1        2         7       7     144       5     496
                 -------------------------------------------------------
      ALL MOVS:    82.1       14        45      47     975      36    3359
 ---------------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T           85.5        2         7       8     168       6     520
     5 R           85.5        2         8       8     181       6     560
                 -------------------------------------------------------
      ALL MOVS:    85.5        5        15      16     348      12    1080
 ---------------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L           85.8        1         2       2      46       2     140
     7 T           85.8        1         3       4      79       3     241
                 -------------------------------------------------------
      ALL MOVS:    85.8        2         5       6     125       4     381
                 -------------------------------------------------------
  INTERSECTION:    83.1       21        64      69    1448      52    4821
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
```

```
 Intersection No.:    11
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L             13    239    .054   1.00      .0    A
    2 T            137   2522    .054   1.00      .0    A
    3 R             26    479    .054   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    176   3240    .054             .0    A
 ---------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T             26    446    .058*  1.00      .7    A
    5 R             28    481    .058*  1.00      .7    A
                 ----------------------------------------
      ALL MOVS:     54    927    .058             .7    A
 ---------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L              7    325    .022   1.00      .9    A
    7 T             12    557    .022   1.00      .9    A
                 ----------------------------------------
      ALL MOVS:     19    882    .022             .9    A
                 ----------------------------------------
  INTERSECTION:    249   5049    .058             .2    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:14 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CPT *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 12:17 PM, 29 Dec 2007

INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * AM12CPMD
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH EAST: Ruta G-25 (suroriente)								
1	1	1	0	0	0	0	1.00	1.00
2	0	0	59	23	0	0	1.00	1.00
NORTH WEST: Ruta G-25 (norponiente)								
3	0	0	72	27	0	0	1.00	1.00
4	0	0	0	0	8	1	1.00	1.00
SOUTH WEST: Ruta G-421								
5	8	1	0	0	0	0	1.00	1.00
6	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 12:17 PM, 29 Dec 2007
INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * AM12CPMD
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH EAST: Ruta G-25 (suroriente)							
1 L	2	117	34	.80	1260	100	.059
2 T	82	0	1399	.80	1265	100	.059
NORTH WEST: Ruta G-25 (norponiente)							
3 T	99	0	1347	.80	988	100	.073
4 R	9	0	122	.80	984	100	.074*
SOUTH WEST: Ruta G-421							

```
    5 L       9    192+     615   .80   5367    100   .015
    6 R       2    108+     137   .80   5380    100   .015
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .074
    Practical Spare Capacity (Lowest)  =     984 %
    Total Vehicle Flow                 =     203
    Total Vehicle Capacity (all lanes) =    3654
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L      .00    2.0      0   .00     .8     6     .06   48.7   83.2
     2 T      .05    2.0      0   .00     .8     6    2.46   48.7   83.2
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T      .00     .0      0   .00     .0     0    1.98   50.0   82.1
     4 R      .00     .0      0   .00     .0     0     .18   50.0   82.1
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L      .00    1.1      2   .27     .2     2     .38   49.3   86.2
     6 R      .00    1.1      1   .27     .2     2     .08   49.3   86.2
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
```

```
   84       .05    2.0      0   .00     2.52    48.7    83.2     6989.2
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
  108       .00     .0      0   .00     2.16    50.0    82.1     8866.4
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
   11       .00    1.1      3   .27      .46    49.3    86.2      947.9
 ----------------------------------------------------------------------
 ALL GROUPS:
  203       .05     .9      3   .02     5.14    49.4    82.8    16803.4
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH EAST: Ruta G-25 (suroriente)
  1 LT      1,    84  1433  .059    2.0   .00     .8    6
            2
 ---------------------------------------------------------------
  NORTH WEST: Ruta G-25 (norponiente)
  1 TR      3,   108  1469  .074     .0   .00     .0    0
            4
 ---------------------------------------------------------------
  SOUTH WEST: Ruta G-421
  1 LR      5,    11   752  .015    1.1   .27     .2    2
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH EAST: Ruta G-25 (suroriente)
                                          Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,    2   82    0   84 1850 1433     0   60 1433  .059  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH WEST: Ruta G-25 (norponiente)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       3,    0   99    9  108 1850 1469     0    0 1469  .074  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            5,    9    0    2   11 1850  752     0    2  752  .015  100
       *           6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ------------------------------------------------------------------
```

```
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L           2    34   100   .059    2.0   .00      .8     .06
    2 T          82  1399   100   .059    2.0   .00      .8    2.46
 ----------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T          99  1347   100   .073     .0   .00      .0    1.98
    4 R           9   122   100   .074*    .0   .00      .0     .18
 ----------------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L           9   615   100   .015    1.1   .27      .2     .38
    6 R           2   137   100   .015    1.1   .27      .2     .08
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L           83.2        0         1       1      11       0      39
     2 T           83.2        7        21      22     458      17    1607
                 ----------------------------------------------------------
      ALL MOVS:    83.2        7        22      23     469      17    1646
 ---------------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T           82.1        8        25      27     548      20    1889
     4 R           82.1        1         2       2      50       2     172
                 ----------------------------------------------------------
      ALL MOVS:    82.1        9        27      29     598      22    2061
 ---------------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L           86.2        1         2       3      60       2     182
     6 R           86.2        0         1       1      13       0      40
                 ----------------------------------------------------------
      ALL MOVS:    86.2        1         3       3      73       2     222
                 ----------------------------------------------------------
  INTERSECTION:    82.8       17        52      55    1140      42    3930
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection
```

```
 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L              2     34    .059   1.00     2.0    A
    2 T             82   1399    .059   1.00     2.0    A
                 ----------------------------------------
      ALL MOVS:     84   1433    .059            2.0    A
 ---------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T             99   1347    .073   1.00      .0    A
    4 R              9    122    .074*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    108   1469    .074             .0    A
 ---------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L              9    615    .015   1.00     1.1    A
    6 R              2    137    .015   1.00     1.1    A
                 ----------------------------------------
      ALL MOVS:     11    752    .015            1.1    A
                 ----------------------------------------
  INTERSECTION:    203   3654    .074             .9    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis   12:17 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * AM12CPMD
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 6:22 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO) * AMEM7C *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
Intersection No.: EMP7
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25 (ori)								
1	0	0	189	59	0	0	1.00	1.00
2	0	0	0	0	1	1	1.00	1.00
NORTH: Nuevo Camino								
3	1	1	0	0	0	0	1.00	1.00
4	0	0	0	0	2	2	1.00	1.00
WEST: Ruta G-25 (pon)								
5	2	2	0	0	0	0	1.00	1.00
6	0	0	151	67	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 6:22 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO) * AMEM7C *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
Intersection No.: EMP7
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25 (ori)							
1 T	248	0	1480	.80	377	100	.168*
2 R	2	0	12	.80	380	100	.167
NORTH: Nuevo Camino							
3 L	2	224+	317	.80	****	100	.006
4 R	4	2+	634	.80	****	100	.006
WEST: Ruta G-25 (pon)							
5 L	4	252	25	.80	400	100	.160
6 T	218	0	1377	.80	405	100	.158

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .168
    Practical Spare Capacity (Lowest)  =     377 %
    Total Vehicle Flow                 =     478
    Total Vehicle Capacity (all lanes) =    3844
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    4.96   50.0   82.1
     2 R      .00     .0      0   .00     .0     0     .04   50.0   82.1
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L      .00     .4      0   .11     .1     1     .07   49.7   84.5
     4 R      .00     .4      0   .11     .1     1     .15   49.7   84.5
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .00    2.3      0   .00     .9     7     .10   48.5   83.3
     6 T      .14    2.3      1   .00     .9     7    5.37   48.5   83.3
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   250       .00     .0      0   .00     5.00    50.0    82.1    20524.2
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
     6       .00     .4      1   .11      .22    49.7    84.5      507.2
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   222       .14    2.3      1   .00     5.47    48.5    83.3    18500.8
 ----------------------------------------------------------------------
 ALL GROUPS:
   478       .14    1.1      1   .00    10.69    49.3    82.7    39532.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 TR      1,   250  1492  .168     .0   .00     .0    0
            2
 ---------------------------------------------------------------
  NORTH: Nuevo Camino
  1 LR      3,     6   951  .006     .4   .11     .1    1
            4
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 LT      5,   222  1402  .158    2.3   .00     .9    7
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
```

```
 ****** ****        1,    0  248    2  250 1850 1492     0    0 1492  .168  100
       *  *         2
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Nuevo Camino
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            3,    2    0    4    6 1850  951     0    7  951  .006  100
       *           4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****        5,    4  218    0  222 1850 1402     0   60 1402  .158  100
          *        6
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ----------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 EAST: Ruta G-25 (ori)
    1 T         248  1480   100   .168*    .0   .00      .0    4.96
    2 R           2    12   100   .167     .0   .00      .0     .04
 ----------------------------------------------------------------
 NORTH: Nuevo Camino
    3 L           2   317   100   .006     .4   .11      .1     .07
    4 R           4   634   100   .006     .4   .11      .1     .15
```

```
 ----------------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L           4    25   100   .160    2.3   .00      .9     .10
    6 T         218  1377   100   .158    2.3   .00      .9    5.37
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T           82.1       20        63      67    1374      51    4733
     2 R           82.1        0         1       1      11       0      38
                 ----------------------------------------------------------
      ALL MOVS:    82.1       21        63      67    1385      51    4771
 ---------------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L           84.5        0         1       1      12       0      40
     4 R           84.5        0         1       1      24       1      80
                 ----------------------------------------------------------
      ALL MOVS:    84.5        1         2       2      36       1     119
 ---------------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L           83.3        0         1       1      22       1      79
     6 T           83.3       18        57      59    1218      45    4285
                 ----------------------------------------------------------
      ALL MOVS:    83.3       19        58      60    1241      46    4364
                 ----------------------------------------------------------
  INTERSECTION:    82.7       40       122     129    2661      99    9254
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
```

```
 EAST: Ruta G-25 (ori)
    1 T            248   1480    .168*  1.00      .0    A
    2 R              2     12    .167   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    250   1492    .168             .0    A
 -------------------------------------------------------
 NORTH: Nuevo Camino
    3 L              2    317    .006   1.00      .4    A
    4 R              4    634    .006   1.00      .4    A
                 ----------------------------------------
      ALL MOVS:      6    951    .006             .4    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L              4     25    .160   1.00     2.3    A
    6 T            218   1377    .158   1.00     2.3    A
                 ----------------------------------------
      ALL MOVS:    222   1402    .160            2.3    A
                 ----------------------------------------
  INTERSECTION:    478   3844    .168            1.1    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:22 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.:  EMP7
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Stop
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 7:23 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES) * AMEMTC *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
Intersection No.: EMTIP
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-345 (ori)								
1	0	0	12	12	0	0	1.00	1.00
2	0	0	0	0	1	1	1.00	1.00
NORTH: Nuevo Camino								
3	1	1	0	0	0	0	1.00	1.00
4	0	0	0	0	2	6	1.00	1.00
WEST: Ruta G-345 (pon)								
5	2	6	0	0	0	0	1.00	1.00
6	0	0	23	13	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 7:23 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES) * AMEMTC *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
Intersection No.: EMTIP
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-345 (ori)							
1 T	24	0	1138	.80	3693	100	.021
2 R	2	0	95	.80	3700	100	.021
NORTH: Nuevo Camino							
3 L	2	46+	221	.80	8740	100	.009
4 R	8	2+	886	.80	8760	100	.009
WEST: Ruta G-345 (pon)							
5 L	8	28	240	.80	2300	100	.033*
6 T	36	0	1080	.80	2300	100	.033*

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .033
    Practical Spare Capacity (Lowest)  =    2300 %
    Total Vehicle Flow                 =      80
    Total Vehicle Capacity (all lanes) =    3660
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-345 (ori)
     1 T      .00     .0      0   .00     .0     0     .48   50.0   82.1
     2 R      .00     .0      0   .00     .0     0     .04   50.0   82.1
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L      .00     .4      0   .01     .1     1     .06   49.7   83.6
     4 R      .00     .4      0   .01     .1     1     .26   49.7   83.6
 ----------------------------------------------------------------------
 WEST: Ruta G-345 (pon)
     5 L      .00    1.1      0   .00     .4     4     .24   49.2   83.3
     6 T      .01    1.1      0   .00     .4     4    1.07   49.2   83.3
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-345 (ori)
    26       .00     .0      0   .00      .52    50.0    82.1     2134.5
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
    10       .00     .4      0   .01      .32    49.7    83.6      835.7
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-345 (pon)
    44       .01    1.1      0   .00     1.31    49.2    83.3     3663.9
 ----------------------------------------------------------------------
 ALL GROUPS:
    80       .01     .7      0   .00     2.15    49.5    82.9     6634.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-345 (ori)
  1 TR      1,    26  1233  .021     .0   .00     .0    0
            2
 ---------------------------------------------------------------
  NORTH: Nuevo Camino
  1 LR      3,    10  1107  .009     .4   .01     .1    1
            4
 ---------------------------------------------------------------
  WEST: Ruta G-345 (pon)
  1 LT      5,    44  1320  .033    1.1   .00     .4    4
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-345 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
```

```
 ****** ****        1,    0   24    2   26 1850 1233     0    0 1233  .021  100
       *  *         2
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Nuevo Camino
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******             3,    2    0    8   10 1850 1107     0   10*1107  .009  100
       *            4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-345 (pon)
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****        5,    8   36    0   44 1850 1320     0   36*1320  .033  100
          *         6
 ---------------------------------------------------------------------------
-
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                         Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ------------------------------------------------------------------
 EAST: Ruta G-345 (ori)
    1 T          24  1138   100   .021     .0   .00      .0     .48
    2 R           2    95   100   .021     .0   .00      .0     .04
 ------------------------------------------------------------------
 NORTH: Nuevo Camino
```

```
   3 L           2   221   100   .009     .4   .01      .1     .06
   4 R           8   886   100   .009     .4   .01      .1     .26
 ----------------------------------------------------------------
 WEST: Ruta G-345 (pon)
   5 L           8   240   100   .033*   1.1   .00      .4     .24
   6 T          36  1080   100   .033*   1.1   .00      .4    1.07
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 EAST: Ruta G-345 (ori)
     1 T           82.1        2         6       6     133       5     458
     2 R           82.1        0         1       1      11       0      38
                 -------------------------------------------------------
      ALL MOVS:    82.1        2         7       7     144       5     496
 ---------------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L           83.6        0         1       1      11       0      39
     4 R           83.6        1         2       2      45       2     158
                 -------------------------------------------------------
      ALL MOVS:    83.6        1         3       3      56       2     197
 ---------------------------------------------------------------------------
 WEST: Ruta G-345 (pon)
     5 L           83.3        1         2       2      45       2     157
     6 T           83.3        3         9      10     201       7     706
                 -------------------------------------------------------
      ALL MOVS:    83.3        4        11      12     246       9     863
                 -------------------------------------------------------
  INTERSECTION:    82.9        7        21      22     446      17    1557
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
```

```
                    /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 EAST: Ruta G-345 (ori)
    1 T             24   1138    .021   1.00      .0    A
    2 R              2     95    .021   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:     26   1233    .021             .0    A
 -------------------------------------------------------
 NORTH: Nuevo Camino
    3 L              2    221    .009   1.00      .4    A
    4 R              8    886    .009   1.00      .4    A
                 ----------------------------------------
      ALL MOVS:     10   1107    .009             .4    A
 -------------------------------------------------------
 WEST: Ruta G-345 (pon)
    5 L              8    240    .033*  1.00     1.1    A
    6 T             36   1080    .033*  1.00     1.1    A
                 ----------------------------------------
      ALL MOVS:     44   1320    .033            1.1    A
                 ----------------------------------------
  INTERSECTION:     80   3660    .033             .7    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:23 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2008
 Intersection No.: EMTIP
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Stop
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

SITUACIÓN BASE AÑO 2010

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:32 PM, 29 Dec 2007

INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.:     1
                 Cycle Time = 126
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	0	0	2771	148	0	0	1.00	1.00
2	0	0	0	0	16	3	1.00	1.00
EAST: Av. Departamental (ori)								
3	602	82	0	0	0	0	1.00	1.00
4	0	0	1420	149	0	0	1.00	1.00
5	0	0	0	0	330	152	1.00	1.00
NORTH: Av. La Florida (norte)								
6	64	5	0	0	0	0	1.00	1.00
7	0	0	1086	82	0	0	1.00	1.00
8	0	0	0	0	20	1	1.00	1.00
WEST: Av. Departamental (pon)								
9	1	1	0	0	0	0	1.00	1.00
10	0	0	594	40	0	0	1.00	1.00
11	0	0	0	0	299	84	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr	To	Op	Pr	Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)															
1	T	*1	2							4		69.7		68	
2	R	1	2							4		69.1		68	
EAST: Av. Departamental (ori)															
3	L	2	1							4		54.0Max		50	
4	T	2	1							4		54.0Max		50	
5	R	*2	1							4		54.0Max		50	

NORTH: Av. La Florida (norte)

```
    6 L         1  2                        4        37.8              68
    7 T         1  2                        4        42.0              68
    8 R  (Und)  1  2          2  1  R       4   51   38.8     52.5     68    3
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L         2  1                        4        32.6              50
   10 T         2  1                        4        32.8              50
   11 R         2  1                        4        39.3              50
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:32 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 T    2919   6993          .417          3774    .80      3    100   .773
    2 R      19     46          .413            25    .80      5    100   .765
 ---------------------------------------------------------------------------
-
 EAST: Av. Departamental (ori)
    3 L     684   1218          .562           483    .80    -43    100  1.415
    4 T    1569   2793          .562          1108    .80    -43    100
1.416*
    5 R     482    858          .562           340    .80    -43    100
1.416*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    6 L      69    286          .241           154    .90    101    100   .447
    7 T    1168   4845          .241          2615    .80     79    100   .447
    8 R      21      0  1974    .249   .011     48    .90    104    100   .442
 ---------------------------------------------------------------------------
-
 WEST: Av. Departamental (pon)
    9 L       2     11          .182             4    .80     75    100   .458
   10 T     634   3465          .183          1375    .80     74    100   .461
   11 R     383   1517          .252           602    .90     41    100   .636
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:32 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
1 T		1	2	4	.417	.522	69.7
5 R		2	1	54	-	-	54.0Max
			Total:	58	.417	.522	123.7

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	126	121	126

(Cycle time specified by the user)

Degree of Saturation (Highest) = 1.416
Practical Spare Capacity (Lowest) = -43 %
Total Vehicle Flow = 7950
Total Vehicle Capacity (all lanes) = 10528

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	67	72	.571
2	72	77	49	54	.429

Current Phase Sequence No.: 1 Phases: A B

1
ARRB SIDRA 4.07 - Time and Date of Analysis 4:32 PM, 29 Dec 2007
INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	(m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)									
1 T	19.56	24.1	2108	.72	20.6	130	171.64	37.5	95.7
2 R	.13	24.1	14	.72	20.6	130	1.12	37.5	95.7
EAST: Av. Departamental (ori)									
3 L	152.00	800.0	3245	4.74	172.3	1151	309.92	4.1	416.3
4 T	348.75	800.2	7446	4.75	175.1	1150	711.05	4.1	416.3

```
     5 R   107.29  801.4   2290  4.75  157.5  1152  218.72    4.1  416.8
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     6 L      .34   17.6     38   .55    8.8    57    3.16   46.4   92.7
     7 T     5.70   17.6    786   .67    9.0    57   58.16   40.2   90.9
     8 R      .10   17.5     19   .91    9.0    57    1.00   46.4   89.5
 ----------------------------------------------------------------------
 WEST: Av. Departamental (pon)
     9 L      .02   28.1      1   .66    8.2    52     .11   36.0   97.1
    10 T     4.94   28.1    421   .66    8.2    52   36.34   36.0   97.1
    11 R     3.26   30.7    278   .73   10.8    79   22.01   39.7   99.4
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2938     19.68   24.1   2122   .72   172.75    37.5    95.7   281185.7
 ----------------------------------------------------------------------
 EAST: Av. Departamental (ori)
  2735    608.05  800.4  12981  4.75  1239.69     4.1   416.4  1138854.0
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1258      6.14   17.6    843   .67    62.32    40.6    91.0   114430.5
 ----------------------------------------------------------------------
 WEST: Av. Departamental (pon)
  1019      8.22   29.0    701   .69    58.46    37.3    97.9    99789.3
 ----------------------------------------------------------------------
 ALL GROUPS:
  7950    642.09  290.8  16647  2.09  1533.23     9.9   205.6  1634260.0
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:32 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 T      1   58  68    0   0    735  950  .773   24.1   .72   20.6  130
  2 T      1   58  68    0   0    735  950  .773   24.1   .72   20.6  130
  3 T      1   58  68    0   0    735  950  .773   24.1   .72   20.6  130
  4 TR     1,  58  68    0   0    733  948  .773   24.1   .72   20.6  130
```

```
           2
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
  1 LT     3,  76  50    0   0    934  659 1.416  800.0  4.74  172.3 1151
           4
  2 T      4   76  50    0   0    949  670 1.416  799.8  4.74  175.1 1150
  3 TR     4,  76  50    0   0    852  602 1.416  801.4  4.75  157.5 1152
           5
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 LT     6,  58  68    0   0    417  933  .447   17.6   .55    8.8   57
           7
  2 T      7   58  68    0   0    417  933  .447   17.6   .55    8.8   57
  3 TR     7,  51   1    6  68    425  950  .447   17.5   .91    9.0   57
           8
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
  1 LT     9,  76  50    0   0    318  689  .461   28.1   .66    8.2   52
          10
  2 T     10   76  50    0   0    318  691  .461   28.1   .66    8.2   52
  3 R     11   76  50    0   0    383  602  .636   30.7   .73   10.8   79
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:32 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       1     0  735    0  735 1850 1761     0    0  950  .773  100
          *

          *
 ***********       1     0  735    0  735 1850 1761     0    0  950  .773  100
          *

          *
 ***********       1     0  735    0  735 1850 1761     0    0  950  .773  100
          *
          *
 ****** ****       1,    0  714   19  733 1850 1756     0    0  948  .773  100
       *  *        2
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,  684  250    0  934 1850 1662     0    0  659 1.416  100
          *        4

          *
 ***********       4     0  949    0  949 1850 1690     0    0  670 1.416  100
          *
          *
 ****** ****       4,    0  370  482  852 1850 1517     0    0  602 1.416  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,   69  348    0  417 1850 1728     0    0  933  .447  100
          *        7

          *
 ***********       7     0  417    0  417 1850 1729     0    0  933  .447  100
          *
          *    Slip Lane
 ****** ****       7,    0  404   21  425 1850  185  1758   57* 950  .447  100
       *  *        8
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
```

```
       *  *
 ****** ****       9,     2  316    0  318 1850 1736     0    0  689  .461  100
          *       10

          *
 ***********      10     0  318    0  318 1850 1740     0    0  691  .461  100
          *

 ******           11     0    0  383  383 1850 1517     0    0  602  .636  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:32 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 T        2919  3774   100   .773   68*       24.1   .72    20.6  171.64
    2 R          19    25   100   .765   68        24.1   .72    20.6    1.12
 ---------------------------------------------------------------------------
 EAST: Av. Departamental (ori)
    3 L         684   483   100  1.415   50       800.0  4.74   172.3  309.92
    4 T        1569  1108   100  1.416*  50       800.2  4.75   175.1  711.05
    5 R         482   340   100  1.416*  50*      801.4  4.75   157.5  218.72
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    6 L          69   154   100   .447   68        17.6   .55     8.8    3.16
    7 T        1168  2615   100   .447   68        17.6   .67     9.0   58.16
    8 R  (Und)   21    48   100   .442   68    3   17.5   .91     9.0    1.00
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L           2     4   100   .458   50        28.1   .66     8.2     .11
   10 T         634  1375   100   .461   50        28.1   .66     8.2   36.34
   11 R         383   602   100   .636   50        30.7   .73    10.8   22.01
 ---------------------------------------------------------------------------
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:32 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)								
1	T	95.7	279	943	1013	24927	698	69208
2	R	95.7	2	6	7	162	5	451
ALL MOVS:		95.7	281	949	1020	25089	703	69659
EAST: Av. Departamental (ori)								
3	L	416.3	285	1376	624	16981	712	115593
4	T	416.3	653	3157	1431	38955	1633	265204
5	R	416.8	201	971	440	11975	502	81573
ALL MOVS:		416.4	1139	5505	2495	67911	2847	462370
NORTH: Av. La Florida (norte)								
6	L	92.7	6	21	27	552	16	1421
7	T	90.9	106	348	381	9069	265	25555
8	R	89.5	2	6	8	166	5	401
ALL MOVS:		91.0	114	374	416	9787	286	27377
WEST: Av. Departamental (pon)								
9	L	97.1	0	1	1	17	0	49
10	T	97.1	62	209	218	5319	154	15517
11	R	99.4	38	127	160	3526	95	8861
ALL MOVS:		97.9	100	338	379	8862	249	24426
INTERSECTION:		205.6	1634	7166	4309	111649	4086	583832

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:32 PM, 29 Dec 2007
INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Ratio 1st grn	Time (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	T	.540*		2919	3774	.773	1.00	24.1	C
2	R	.540		19	25	.765	1.00	24.1	C
ALL MOVS:				2938	3799	.773		24.1	C
EAST: Av. Departamental (ori)									

```
   3 L         .397           684    483   1.415   1.00   800.0    F
   4 T         .397          1569   1108   1.416*  1.00   800.2    F
   5 R         .397*          482    340   1.416*  1.00   801.4    F
               ------------------------------------------------------
     ALL MOVS:               2735   1932   1.416          800.4    F
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
   6 L         .540            69    154    .447   1.00    17.6    B
   7 T         .540          1168   2615    .447   1.00    17.6    B
   8 R  (Und)  .540   .024     21     48    .442   1.00    17.5    B
               ------------------------------------------------------
     ALL MOVS:               1258   2817    .447           17.6    B
 ---------------------------------------------------------------------
 WEST: Av. Departamental (pon)
   9 L         .397             2      4    .458   1.00    28.1    C
  10 T         .397           634   1375    .461   1.00    28.1    C
  11 R         .397           383    602    .636   1.00    30.7    C
               ------------------------------------------------------
     ALL MOVS:               1019   1981    .636           29.0    C
               ------------------------------------------------------
     INTERSECTION:           7950  10528   1.416          290.8    F
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:32 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                 Cycle Time = 126


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:36 PM, 29 Dec 2007

INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
SITUACION BASE 2010 - HORA PUNTA MANANA
Intersection No.:     2
                 Cycle Time = 122
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	270	4	0	0	0	0	1.00	1.00
2	0	0	2411	208	0	0	1.00	1.00
3	0	0	0	0	84	18	1.00	1.00
EAST: Rojas Magallanes								
4	135	15	0	0	0	0	1.00	1.00
5	0	0	500	8	0	0	1.00	1.00
6	0	0	0	0	113	2	1.00	1.00
NORTH: Av. La Florida (norte)								
7	84	5	0	0	0	0	1.00	1.00
8	0	0	1447	182	0	0	1.00	1.00
9	0	0	0	0	46	4	1.00	1.00
WEST: Rojas Magallanes								
10	64	1	0	0	0	0	1.00	1.00
11	0	0	364	6	0	0	1.00	1.00
12	0	0	0	0	49	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr To Op Pr	PHASE MATRIX Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	L	*1 2		4		91.0	Max	86	
2	T	1 2		4		85.0		86	
3	R	1 2		4		85.0		86	
EAST: Rojas Magallanes									
4	L	*2 1		4		36.9		28	
5	T	2 1		4		36.9		28	
6	R	2 1		4		36.9		28	

```
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         1  2                        4        39.8              86
    8 T         1  2                        4        55.2              86
    9 R         1  2                        4        55.2              86
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         2  1                        4        24.3              28
   11 T         2  1                        4        24.3              28
   12 R         2  1                        4        24.3              28
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     274    395<         .694           278    .80    -19    100
.984*
    2 T    2619   4932          .531          3477    .80      6    100   .753
    3 R     102    192          .531           135    .80      6    100   .754
 ---------------------------------------------------------------------------
-
 EAST: Rojas Magallanes
    4 L     150    695          .216           160    .80    -15    100   .940
    5 T     508   2355          .216           540    .80    -15    100   .940
    6 R     115    533          .216           122    .80    -15    100   .940
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L      89    379<         .235           267    .80    140    100   .333
    8 T    1629   4848          .336          3417    .80     68    100   .477
    9 R      50    149          .336           105    .80     68    100   .476
 ---------------------------------------------------------------------------
-
 WEST: Rojas Magallanes
   10 L      65    488          .133           112    .80     38    100   .580
   11 T     370   2777          .133           637    .80     38    100   .581
   12 R      50    375          .133            86    .80     38    100   .581
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
```

```
 Intersection No.:     2
                  Cycle Time = 122


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      91           -          -        91.0Max
      4 L            2   1       4         .216       .270       36.9
                                ----       ------     ------     ------
                       Total:   95         .216       .270      127.9
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22       122        122        122

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .984
    Practical Spare Capacity (Lowest)  =     -19 %
    Total Vehicle Flow                 =    6021
    Total Vehicle Capacity (all lanes) =    9338
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        85      90   .738
      2        90      95        27      32   .262
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
```

```
 SOUTH: Av. La Florida (sur)
     1 L     1.40   18.5    247   .90    3.3    20   11.54   39.8   94.2
     2 T     8.44   11.6   1490   .57   19.5   126  125.21   43.1   89.7
     3 R      .33   11.6     58   .57   19.3   126    4.88   43.1   89.7
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L     3.59   86.1    180  1.20   17.2   108   14.35   22.8  122.9
     5 T    12.07   85.5    606  1.19   17.6   107   48.42   22.9  122.6
     6 R     2.72   85.0    137  1.19   17.6   107   10.93   22.9  122.4
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L      .14    5.6     25   .28     .9     6    2.99   46.4   85.8
     8 T     3.62    8.0    652   .40    8.4    56   64.35   45.0   87.4
     9 R      .11    8.0     20   .40    8.4    56    1.98   45.0   87.4
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L      .75   41.8     52   .80    7.3    45    4.30   31.6  103.4
    11 T     4.29   41.8    296   .80    7.3    45   24.48   31.6  103.4
    12 R      .58   41.8     40   .80    7.3    45    3.31   31.6  103.4
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2995     10.17   12.2   1795   .60   141.62    42.7    90.1   269980.5
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
   773     18.37   85.6    922  1.19    73.69    22.8   122.6    94805.7
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1768      3.87    7.9    696   .39    69.32    45.1    87.3   154382.7
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
   485      5.63   41.8    388   .80    32.10    31.6   103.4    50171.9
 ----------------------------------------------------------------------
 ALL GROUPS:
  6021     38.04   22.7   3802   .63   316.73    38.0    94.6   569340.8
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
```

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   36  86    0   0    274  278  .984   18.5   .90    3.3   20   20
  2 T      2   36  86    0   0    910 1208  .753   11.6   .57   19.5  126
  3 T      2   36  86    0   0    910 1208  .753   11.6   .57   19.5  126
  4 TR     2,  36  86    0   0    901 1196  .753   11.6   .57   19.3  126
           3
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
  1 LT     4,  94  28    0   0    380  405  .940   86.1  1.20   17.2  108
           5
  2 TR     5,  94  28    0   0    393  418  .940   85.0  1.19   17.6  107
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   36  86    0   0     89  267  .333    5.6   .28     .9    6   20
  2 T      8   36  86    0   0    559 1173  .477    8.0   .40    8.4   56
  3 T      8   36  86    0   0    559 1173  .477    8.0   .40    8.4   56
  4 TR     8,  36  86    0   0    561 1176  .477    8.0   .40    8.4   56
           9
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
  1 LT    10,  94  28    0   0    243  418  .581   41.8   .80    7.3   45
          11
  2 TR    11,  94  28    0   0    242  417  .581   41.8   .80    7.3   45
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   274    0    0  274 1850  395<    0    0  278  .984  100


           *
```

```
 ***********        2     0  910    0  910 1850 1714     0    0 1208  .753  100
          *

          *
 ***********        2     0  910    0  910 1850 1714     0    0 1208  .753  100
          *
          *
 ****** ****        2,    0  799  102  901 1850 1697     0    0 1196  .753  100
       *  *         3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****        4,  150  230    0  380 1850 1764     0    0  405  .940  100
          *         5
          *
 ****** ****        5,    0  278  115  393 1850 1820     0    0  418  .940  100
       *  *         6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******             7    89    0    0   89 1850  379<    0    0  267  .333  100


          *
 ***********        8     0  559    0  559 1850 1664     0    0 1173  .477  100
          *

          *
 ***********        8     0  559    0  559 1850 1664     0    0 1173  .477  100
          *
          *
 ****** ****        8,    0  511   50  561 1850 1668     0    0 1176  .477  100
       *  *         9
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
                                                Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)       ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****      10,   65  178    0  243 1850 1821     0    0  418  .581  100
         *        11
         *
 ****** ****      11,    0  192   50  242 1850 1819     0    0  417  .581  100
       *  *       12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         274   278<  100   .984*  86*       18.5   .90     3.3   11.54
    2 T        2619  3477   100   .753   86        11.6   .57    19.5  125.21
    3 R         102   135   100   .754   86        11.6   .57    19.3    4.88
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         150   160   100   .940   28*       86.1  1.20    17.2   14.35
    5 T         508   540   100   .940   28        85.5  1.19    17.6   48.42
    6 R         115   122   100   .940   28        85.0  1.19    17.6   10.93
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L          89   267<  100   .333   86         5.6   .28      .9    2.99
    8 T        1629  3417   100   .477   86         8.0   .40     8.4   64.35
    9 R          50   105   100   .476   86         8.0   .40     8.4    1.98
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L          65   112   100   .580   28        41.8   .80     7.3    4.30
   11 T         370   637   100   .581   28        41.8   .80     7.3   24.48
   12 R          50    86   100   .581   28        41.8   .80     7.3    3.31
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
```

```
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           94.2       26        86      98    2488      64    6189
     2 T           89.7      235       764     855   20448     588   55750
     3 R           89.7        9        30      33     796      23    2171
                 -------------------------------------------------------
      ALL MOVS:    90.1      270       880     987   23732     675   64110
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L          122.9       18        70      61    1555      46    5369
     5 T          122.6       62       236     205    5260     156   18123
     6 R          122.4       14        53      46    1189      35    4092
                 -------------------------------------------------------
      ALL MOVS:   122.6       95       360     313    8004     237   27584
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L           85.8        8        24      26     592      19    1793
     8 T           87.4      142       456     504   11617     356   33559
     9 R           87.4        4        14      15     357      11    1030
                 -------------------------------------------------------
      ALL MOVS:    87.3      154       494     545   12566     386   36382
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L          103.4        7        24      24     590      17    1763
    11 T          103.4       38       135     135    3361      96   10038
    12 R          103.4        5        18      18     454      13    1357
                 -------------------------------------------------------
      ALL MOVS:   103.4       50       177     177    4405     125   13158
                 -------------------------------------------------------
  INTERSECTION:    94.6      569      1910    2021   48708    1423  141234
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
```

```
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .705*          274    278<   .984*  1.00    18.5    B
    2 T         .705          2619   3477    .753   1.00    11.6    B
    3 R         .705           102    135    .754   1.00    11.6    B
                ------------------------------------------------------
      ALL MOVS:               2995   3890    .984           12.2    B
 ---------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         .230*          150    160    .940   1.00    86.1    F
    5 T         .230           508    540    .940   1.00    85.5    F
    6 R         .230           115    122    .940   1.00    85.0    F
                ------------------------------------------------------
      ALL MOVS:                773    822    .940           85.6    F
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .705            89    267<   .333   1.00     5.6    A
    8 T         .705          1629   3417    .477   1.00     8.0    B
    9 R         .705            50    105    .476   1.00     8.0    B
                ------------------------------------------------------
      ALL MOVS:               1768   3790    .477            7.9    B
 ---------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         .230            65    112    .580   1.00    41.8    D
   11 T         .230           370    637    .581   1.00    41.8    D
   12 R         .230            50     86    .581   1.00    41.8    D
                ------------------------------------------------------
      ALL MOVS:                485    835    .581           41.8    D
                ------------------------------------------------------
      INTERSECTION:           6021   9338    .984           22.7    C
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:36 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2BM10 *
 SITUACION BASE 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  3
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .9 %
```

```
     Difference in total vehicle capacity      =   .4 %
     Largest difference in eff. green times =  1 secs
     (max. value for stopping = 1 secs)
   Information on Previous Iteration:
     Cycle Time = 122
     Phase Times: 0,  91
     Critical Movements: 1, 4

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 4:40 PM, 29 Dec 2007

INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	317	17	0	0	0	0	1.00	1.00
2	0	0	2612	161	0	0	1.00	1.00
3	0	0	0	0	9	1	1.00	1.00
EAST: Trinidad Oriente (ori)								
4	19	1	240	1	0	0	1.00	1.00
6	0	0	0	0	158	1	1.00	1.00
NORTH: Av. La Florida (norte)								
7	242	30	0	0	0	0	1.00	1.00
8	0	0	1385	175	0	0	1.00	1.00
9	0	0	0	0	204	1	1.00	1.00
WEST: Trinidad Oriente (pon)								
10	171	5	0	0	0	0	1.00	1.00
11	0	0	102	2	0	0	1.00	1.00
12	0	0	0	0	89	16	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	P H A S E M A T R I X First Green Fr To Op Pr	Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	L	*1 2		4		62.0	Max	58	
2	LT	1 2		4		61.1		58	
3	R	1 2		4		60.6		58	
EAST: Trinidad Oriente (ori)									
4	LT	2 1		4		28.6		20	
6	R	*2 1		4		28.6		20	
NORTH: Av. La Florida (norte)									

```
    7 L         1  2                        4        62.0Max           58
    8 T         1  2                        4        41.6              58
    9 R         1  2                        4        41.6              58
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         2  1                        4        15.9              20
   11 T         2  1                        4        15.9              20
   12 R         2  1                        4        15.9              20
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     331    491<         .674           331    .80    -20    100
1.000*
    2 LT   2776E  5226          .531          3525    .80      2    100   .788
    3 R      10     19          .526            13    .80      3    100   .780
 ---------------------------------------------------------------------------
-
 EAST: Trinidad Oriente (ori)
    4 LT    261   1141          .229           265    .80    -19    100   .984
    6 R     159    695          .229           162    .80    -19    100   .984
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L     272    465<         .585           314    .80     -8    100   .867
    8 T    1560   4461          .350          3009    .80     54    100   .519
    9 R     205    586          .350           395    .80     54    100   .519
 ---------------------------------------------------------------------------
-
 WEST: Trinidad Oriente (pon)
   10 L     176   1596          .110           371    .80     69    100   .474
   11 T     104    943          .110           219    .80     69    100   .474
   12 R     105    952          .110           221    .80     69    100   .474
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect

   Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.
```

```
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      62           -          -        62.0Max
      6 R            2   1       4         .229       .286       28.6
                                ----       ------     ------     ------
                       Total:   66         .229       .286       90.6
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         86         86

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =   1.000
    Practical Spare Capacity (Lowest)  =     -20 %
    Total Vehicle Flow                 =    5959
    Total Vehicle Capacity (all lanes) =    8824
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        57      62   .721
      2        62      67        19      24   .279
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
```

Mov No.		Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	(m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)										
1	L	1.29	14.0	298	.90	3.2	20	12.74	41.9	92.4
2	LT	8.67	11.2	1791	.65	15.9	101	121.67	43.2	89.9
3	R	.03	11.2	6	.65	15.9	101	.44	43.2	89.9
EAST: Trinidad Oriente (ori)										
4	LT	7.34	101.2	424	1.62	18.1	109	26.15	20.8	129.5
6	R	4.47	101.2	258	1.62	18.1	109	15.93	20.8	129.5
NORTH: Av. La Florida (norte)										
7	L	1.30	17.2	245	.90	3.0	20	11.10	40.3	93.1
8	T	3.04	7.0	703	.45	7.2	46	56.80	45.6	87.2
9	R	.40	7.0	92	.45	7.2	46	7.46	45.6	87.2
WEST: Trinidad Oriente (pon)										
10	L	1.39	28.5	137	.78	4.1	25	9.30	35.8	97.8
11	T	.82	28.5	81	.78	4.1	25	5.49	35.8	97.8
12	R	.83	28.5	82	.78	3.8	25	5.55	35.8	97.8

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Perf. Index	Aver. Speed (km/h)	FUEL Rate (mL/km)	FUEL Total (mL/h)
SOUTH: Av. La Florida (sur)								
3117	9.99	11.5	2095	.67	134.85	43.1	90.2	281157.1
EAST: Trinidad Oriente (ori)								
420	11.80	101.2	682	1.62	42.08	20.8	129.5	54406.0
NORTH: Av. La Florida (norte)								
2037	4.74	8.4	1040	.51	75.37	44.8	88.0	179310.5
WEST: Trinidad Oriente (pon)								
385	3.04	28.5	299	.78	20.34	35.8	97.8	37646.1
ALL GROUPS:								
5959	29.57	17.9	4116	.69	272.64	40.1	92.7	552519.8

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:40 PM, 29 Dec 2007
INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.7 - LANE PERFORMANCE

Effective Red and Arv Back of

```
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   28  58    0   0    331  331 1.000   14.0   .90    3.2   20<  20
  2 LT     2   28  58    0   0    929 1179  .788   11.2   .65   15.9  101
  3 T      2   28  58    0   0    929 1179  .788   11.2   .65   15.9  101
  4 TR     2,  28  58    0   0    928 1179  .788   11.2   .65   15.9  101
           3
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
  1 LTR    4,  66  20    0   0    420  427  .983  101.2  1.62   18.1  109
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   28  58    0   0    272  313  .868   17.2   .90    3.0   20   20
  2 T      8   28  58    0   0    582 1122  .519    7.0   .45    7.0   46
  3 T      8   28  58    0   0    582 1122  .519    7.0   .45    7.0   46
  4 TR     8,  28  58    0   0    602 1160  .519    7.0   .45    7.2   46
           9
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
  1 LT    10,  66  20    0   0    199  419  .474   28.5   .78    4.1   25
          11
  2 TR    11,  66  20    0   0    186  393  .474   28.5   .78    3.8   25
          12
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
```

```
       *
 ******            1   331    0    0  331 1850  491<    0    0  331 1.000  100

       *
      ***
       *  *
 ****** ****       2     3E 926    0  929 1850 1749     0    0 1179  .788  100
          *

          *
 ***********       2     0  929    0  929 1850 1748     0    0 1179  .788  100
          *
          *
 ****** ****       2,    0  918   10  928 1850 1748     0    0 1179  .788  100
       *  *        3
      ***
       *
 ------------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   20  241  159  420 1850 1837     0    0  427  .983  100
       *  *        6
      ***
       *
 ------------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   272    0    0  272 1850  465<    0    0  313  .868  100


          *
 ***********       8     0  582    0  582 1850 1663     0    0 1122  .519  100
          *

          *
 ***********       8     0  582    0  582 1850 1663     0    0 1122  .519  100
          *
          *
 ****** ****       8,    0  397  205  602 1850 1720     0    0 1160  .519  100
       *  *        9
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****      10,  176   23    0  199 1850 1801     0    0  419  .474  100
          *       11
          *
 ****** ****      11,    0   81  105  186 1850 1691     0    0  393  .474  100
       *  *       12
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         331   331<  100  1.000*  58*       14.0   .90     3.2   12.74
    2 LT       2776E 3525   100   .788   58        11.2   .65    15.9  121.67
    3 R          10E   13   100   .780   58        11.2   .65    15.9     .44
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        261   265   100   .984   20       101.2  1.62    18.1   26.15
    6 R         159   162   100   .984   20*      101.2  1.62    18.1   15.93
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         272   314<  100   .867   58        17.2   .90     3.0   11.10
    8 T        1560  3009   100   .519   58         7.0   .45     7.2   56.80
    9 R         205   395   100   .519   58         7.0   .45     7.2    7.46
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         176   371   100   .474   20        28.5   .78     4.1    9.30
   11 T         104   219   100   .474   20        28.5   .78     4.1    5.49
   12 R         105   221   100   .474   20        28.5   .78     3.8    5.55
```

```
 ----------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           92.4       31       101     118    3002      76    7191
     2 LT          89.9      250       812     923   22370     624   58895
     3 R           89.9        1         3       3      81       2     212
                 -------------------------------------------------------
      ALL MOVS:    90.2      281       916    1045   25453     703   66298
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
     4 LT         129.5       34       131     109    2832      85   10114
     6 R          129.5       21        80      67    1725      51    6161
                 -------------------------------------------------------
      ALL MOVS:   129.5       54       211     176    4557     136   16275
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L           93.1       25        84      95    2361      63    6086
     8 T           87.2      136       435     488   11397     340   31829
     9 R           87.2       18        57      64    1498      45    4183
                 -------------------------------------------------------
      ALL MOVS:    88.0      179       576     648   15255     448   42098
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
    10 L           97.8       17        59      62    1551      43    4320
    11 T           97.8       10        35      37     916      25    2552
    12 R           97.8       10        35      37     925      26    2577
                 -------------------------------------------------------
      ALL MOVS:    97.8       38       129     136    3392      94    9449
                 -------------------------------------------------------
  INTERSECTION:    92.7      553      1831    2005   48657    1381  134120
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
```

```
 No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
               ------------ (veh   (veh     Satn
                1st   2nd     /h)    /h)    (v/c)         (sec)
                grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .674*          331    331<  1.000*  1.00    14.0    B
    2 LT        .674          2776E  3525    .788   1.00    11.2    B
    3 R         .674            10E    13    .780   1.00    11.2    B
                ------------------------------------------------------
      ALL MOVS:               3117   3868   1.000           11.5    B
 ---------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        .233           261    265    .984   1.00   101.2    F
    6 R         .233*          159    162    .984   1.00   101.2    F
                ------------------------------------------------------
      ALL MOVS:                420    427    .984          101.2    F
 ---------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .674           272    314<   .867   1.00    17.2    B
    8 T         .674          1560   3009    .519   1.00     7.0    B
    9 R         .674           205    395    .519   1.00     7.0    B
                ------------------------------------------------------
      ALL MOVS:               2037   3717    .867            8.4    B
 ---------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         .233           176    371    .474   1.00    28.5    C
   11 T         .233           104    219    .474   1.00    28.5    C
   12 R         .233           105    221    .474   1.00    28.5    C
                ------------------------------------------------------
      ALL MOVS:                385    812    .474           28.5    C
                ------------------------------------------------------
      INTERSECTION:           5959   8824   1.000           17.9    B
 ---------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:40 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  3
```

```
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:47 PM, 29 Dec 2007

 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                 Cycle Time =  86


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
          1           165     6      0     0      0     0   1.00   1.00
          2             0     0   2036   187      0     0   1.00   1.00
 ------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
          3             0     0    953   201      0     0   1.00   1.00
          4             0     0      0     0    122     6   1.00   1.00
 ------------------------------------------------------------------------
 WEST: San Jose de La Estrella
          5           271     4      0     0      0     0   1.00   1.00
          6             0     0      0     0     54    12   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         1  2  L                    14        65.0Max           46
    2 LT       *1  2                        4        65.0Max           56
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         1  2                        4        32.7              56
    4 R  (Und)  1  2          2  1          4    4   27.2     30.6     56   22
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L        *2  1                        4        20.2              22
    6 R         2  1                        4        11.0Min           22
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
```

```
 Intersection No.:     4
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     146    273<         .534           146    .80    -20    100   .998
    2 LT   2248E  3415          .658          2224    .80    -21    100
1.011*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    3 T    1154   4325          .267          2816    .80     95    100   .410
    4 R     128    454    64    .243   .278    312    .90    119    100   .410
 ---------------------------------------------------------------------------
-
 WEST: San Jose de La Estrella
    5 L     275   1823          .151           466    .80     36    100   .590
    6 R      66   1565          .042           400    .80    385    100   .165
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------
      2 LT           1   2      65           -          -        65.0Max
      5 L            2   1       4         .151       .189       20.2
                                ----       ------     ------     ------
                       Total:   69         .151       .189       85.2
 ---------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         85         86
```

```
     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.011
   Practical Spare Capacity (Lowest)  =     -21 %
   Total Vehicle Flow                 =    4017
   Total Vehicle Capacity (all lanes) =    6365
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        55      60   .698
      2        60      65        21      26   .302
 ---------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
         (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L      .81   20.0    131   .90    2.4    15    6.87   39.1   94.9
     2 LT   48.02   76.9   3464  1.54   46.0   299  204.16   24.2  121.1
 ------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T     2.17    6.8    496   .43    4.8    34   40.75   45.7   87.1
     4 R      .21    5.8     56   .44    4.5    31    4.38   46.3   86.9
 ------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L     2.14   28.0    217   .79    5.8    35   14.60   36.0   97.7
     6 R      .46   24.9     46   .70    1.2     9    3.26   37.2   95.9
 ------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2394     48.83   73.4   3595  1.50   211.03    24.8   119.5   286004.0
```

```
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1282      2.38    6.7    552   .43    45.12    45.8    87.1   111631.4
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
   341      2.60   27.4    263   .77    17.86    36.2    97.3    33188.1
 ----------------------------------------------------------------------
 ALL GROUPS:
  4017     53.80   48.2   4410  1.10   274.02    29.9   107.3   430823.6
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   40  46    0   0    146  146 1.000   20.0   .90    2.4   15<  15
  2 LT     2   30  56    0   0   1125 1112 1.011   76.9  1.54   46.0  299
  3 T      2   30  56    0   0   1124 1111 1.011   76.9  1.54   45.9  299
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 T      3   30  56    0   0    420 1026  .410    7.1   .43    4.8   34
  2 T      3   30  56    0   0    420 1026  .410    7.1   .43    4.8   34
  3 TR     3,  25  56    4   1    441 1076  .410    5.8   .44    4.5   31
           4
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
  1 L      5   64  22    0   0    275  466  .590   28.0   .79    5.8   35
  2 R      6   64  22    0   0     66  400  .165   24.9   .70    1.2    9
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
```

```
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   146    0    0  146 1850  273<    0   75  146 1.000  100

       *
      ***
       *  *
 ****** ****       2    25E1099    0 1125 1850 1708     0    0 1112 1.011  100
          *

          *
 ***********       2     0 1124    0 1124 1850 1706     0    0 1111 1.011  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  420    0  420 1850 1576     0    0 1026  .410  100
          *

          *
 ***********       3     0  420    0  420 1850 1576     0    0 1026  .410  100
          *
          *    Slip Lane
 ****** ****       3,    0  313  128  441 1850 1627  1472    0 1076  .410  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
```

```
 ******            5   275    0    0  275 1850 1823     0    0  466  .590  100


 ******            6     0    0   66   66 1850 1565     0    0  400  .165  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         146   146<  100   .998   46        20.0   .90     2.4    6.87
    2 LT       2248E 2224   100  1.011*  56*       76.9  1.54    46.0  204.16
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T        1154  2816   100   .410   56         6.8   .43     4.8   40.75
    4 R  (Und)  128   312   100   .410   56   22    5.8   .44     4.5    4.38
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         275   466   100   .590   22*       28.0   .79     5.8   14.60
    6 R          66   400   100   .165   22        24.9   .70     1.2    3.26
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           94.9       14        46      53    1334      35    3336
```

```
     2 LT         121.1      272      1019     966   25656     680   76776
                 ------------------------------------------------------------
      ALL MOVS:   119.5      286      1066    1019   26990     715   80112
 ----------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T           87.1      101       321     359    8322     251   23540
     4 R           86.9       11        35      40     919      28    2600
                 ------------------------------------------------------------
      ALL MOVS:    87.1      112       356     398    9241     279   26140
 ----------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L           97.7       27        92      98    2434      67    6727
     6 R           95.9        6        21      23     559      16    1574
                 ------------------------------------------------------------
      ALL MOVS:    97.3       33       113     121    2993      83    8301
                 ------------------------------------------------------------
  INTERSECTION:   107.3      431      1535    1538   39224    1077  114553
 ----------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .535           146    146<   .998   1.00    20.0    C
    2 LT        .651*         2248E  2224   1.011*  1.00    76.9    E
                ------------------------------------------------------
      ALL MOVS:               2394   2370   1.011           73.4    E
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         .651          1154   2816    .410   1.00     6.8    B
    4 R  (Und)  .651   .256    128    312    .410   1.00     5.8    A
                ------------------------------------------------------
      ALL MOVS:               1282   3128    .410            6.7    B
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         .256*          275    466    .590   1.00    28.0    C
    6 R         .256            66    400    .165   1.00    24.9    C
                ------------------------------------------------------
      ALL MOVS:                341    867    .590           27.4    C
                ------------------------------------------------------
      INTERSECTION:           4017   6365   1.011           48.2    D
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
```

```
ARRB SIDRA 4.07 -  Time and Date of Analysis    4:47 PM, 29 Dec 2007
INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.:     4
                 Cycle Time =  86


DIAGNOSTIC REPORT
-------------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
-------------------------------------------------------------------------------
-

END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:50 PM, 29 Dec 2007

INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES           * AM5BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.:     5
                 Cycle Time =  86
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. Camilo Henriquez								
1	139	27	0	0	0	0	1.00	1.00
2	0	0	2302	172	0	0	1.00	1.00
3	0	0	0	0	35	2	1.00	1.00
EAST: Av. Diego Portales (ori)								
4	69	3	149	3	0	0	1.00	1.00
6	0	0	0	0	329	1	1.00	1.00
NORTH: Av. La Florida								
7	156	3	0	0	0	0	1.00	1.00
8	0	0	1314	185	0	0	1.00	1.00
9	0	0	0	0	71	39	1.00	1.00
WEST: Av. Diego Portales (pon)								
10	153	37	120	3	0	0	1.00	1.00
12	0	0	0	0	48	14	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE First Green Fr	To	Op	Pr	MATRIX Second Green Fr	To	Op	Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. Camilo Henriquez															
1	L	1	2							4		36.4		48	
2	T	1	2							4		55.6		48	
3	R	*1	2			2	1	R		4	8	56.5	35.0	48	26
EAST: Av. Diego Portales (ori)															
4	LT	2	1							4		35.0Max		30	
6	R	*2	1							4		35.0Max		30	
NORTH: Av. La Florida															
7	L	1	2							4		31.3		48	

```
    8 T         1  2                        4        38.9              48
    9 R         1  2          2  1  R       4   10   47.4     11.0Min  48   24
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        2  1                        4        28.9              30
   12 R         2  1                        4        29.0              30
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez
    1 L     166    550<         .302           307    .80     48    100   .541
    2 T    2474   5157          .480          2878    .80     -7    100   .860
    3 R      37     49    52    .489   .251     43    .80     -7    100   .859
 ---------------------------------------------------------------------------
-
 EAST: Av. Diego Portales (ori)
    4 LT    224    739          .303           258    .80     -8    100
.869*
    6 R     330   1088          .303           380    .80     -8    100
.869*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida
    7 L     159    627<         .254           350    .80     76    100   .454
    8 T    1499   4619          .325          2578    .80     38    100   .581
    9 R     110    269   140    .409   .000    189    .80     38    100   .581
 ---------------------------------------------------------------------------
-
 WEST: Av. Diego Portales (pon)
   10 LT    313   1350          .232           471    .80     20    100   .665
   12 R      62    267          .232            93    .80     20    100   .666
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect

   Opposed turn in movement    3 has high x.
   Its capacity is mainly due to end departures. Consider increasing
   the number of end departures, and/or specifying this as an undetected
   movement, since it may be affecting the timing results adversely.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
```

```
 Intersection No.:     5
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      3 R    1st     1   2       4         .489       .611       56.5
      6 R            2   1      35          -          -        35.0Max
                                ----       ------     ------     ------
                       Total:   39         .489       .611       91.5
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         86         86

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .869
    Practical Spare Capacity (Lowest)  =      -8 %
    Total Vehicle Flow                 =    5374
    Total Vehicle Capacity (all lanes) =    7547
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        47      52   .605
      2        52      57        29      34   .395
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
```

```
 SOUTH: Av. Camilo Henriquez
     1 L      .43    9.4     74   .44    2.0    14    6.12   44.2   88.2
     2 T    14.75   21.5   2117   .86   18.4   118  130.14   38.5   95.0
     3 R      .21   20.4     33   .90   18.1   116    1.92   39.0   94.6
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
     4 LT    2.30   36.9    217   .97   14.3    87   13.76   33.0  101.9
     6 R     3.39   36.9    320   .97   14.3    87   20.27   33.0  101.9
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
     7 L      .41    9.2     69   .44    1.8    11    5.81   44.3   88.1
     8 T     4.75   11.4    888   .59    8.4    56   61.91   43.2   89.8
     9 R      .27    8.8     66   .60    7.0    49    4.26   44.5   88.9
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT    2.06   23.7    239   .76    7.6    52   15.99   37.6   95.7
    12 R      .41   23.7     47   .76    7.6    52    3.17   37.6   95.7
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
  2677     15.40   20.7   2223   .83   138.18    38.8    94.6   253287.0
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
   554      5.69   36.9    538   .97    34.03    33.0   101.9    56443.1
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
  1768      5.42   11.0   1023   .58    71.97    43.4    89.6   158405.9
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   375      2.47   23.7    286   .76    19.16    37.6    95.7    35905.0
 ---------------------------------------------------------------------------
 ALL GROUPS:
  5374     28.98   19.4   4071   .76   263.34    39.4    93.8   504041.0
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
```

```
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
  1 L      1   38  48    0   0    166  307  .541    9.4   .44    2.0   14   28
  2 T      2   38  48    0   0    830  965  .860   22.0   .84   18.4  118
  3 T      2   38  48    0   0    830  965  .860   22.0   .84   18.4  118
  4 TR     2,  29  48    8   1    851  990  .860   20.4   .90   18.1  116
           3
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
  1 LTR    4,  56  30    0   0    554  637  .869   36.9   .97   14.3   87
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
  1 L      7   38  48    0   0    159  350  .454    9.2   .44    1.8   11   28
  2 T      8   38  48    0   0    534  919  .581   12.4   .59    8.4   56
  3 T      8   38  48    0   0    534  919  .581   12.4   .59    8.4   56
  4 TR     8,  27  48   10   1    540  929  .581    8.8   .60    7.0   49
           9
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
  1 LTR   10,  56  30    0   0    375  564  .665   23.7   .76    7.6   52
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   166    0    0  166 1850  550<    0    0  307  .541  100


          *
 ***********        2     0  830    0  830 1850 1730     0    0  965  .860  100
          *

          *
 ***********        2     0  830    0  830 1850 1730     0    0  965  .860  100
```

```
          *
          *
 ****** ****       2,    0  814   37  851 1850 1731  2098   84* 990  .860  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   72  152  330  554 1850 1827     0    0  637  .869  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   159    0    0  159 1850  627<    0    0  350  .454  100


          *
 ***********       8     0  534    0  534 1850 1647     0    0  919  .581  100
          *

          *
 ***********       8     0  534    0  534 1850 1647     0    0  919  .581  100
          *
          *
 ****** ****       8,    0  430  110  540 1850 1581  4023   84* 929  .581  100
       *  *        9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
       *
      ***
       *  *
****** ****      10,  190  123   62  375 1850 1617     0    0  564  .665  100
       *  *      12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         166   307<  100   .541   48         9.4   .44     2.0    6.12
    2 T        2474  2878   100   .860   48        21.5   .86    18.4  130.14
    3 R          37    43   100   .859   48*  26   20.4   .90    18.1    1.92
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        224   258   100   .869*  30        36.9   .97    14.3   13.76
    6 R         330   380   100   .869*  30*       36.9   .97    14.3   20.27
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         159   350<  100   .454   48         9.2   .44     1.8    5.81
    8 T        1499  2578   100   .581   48        11.4   .59     8.4   61.91
    9 R         110   189   100   .581   48   24    8.8   .60     7.0    4.26
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        313   471   100   .665   30        23.7   .76     7.6   15.99
   12 R          62    93   100   .666   30        23.7   .76     7.6    3.17
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                 Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
```

No.		Rate mL/km	Total L/h	Total g/h	Total g/h	Total g/h	Total kg/h	Total c/h
SOUTH: Av. Camilo Henriquez								
1	L	88.2	15	47	52	1214	37	3463
2	T	95.0	235	789	873	21772	588	57430
3	R	94.6	3	12	13	324	9	851
ALL MOVS:		94.6	253	848	938	23310	633	61745
EAST: Av. Diego Portales (ori)								
4	LT	101.9	23	80	83	2089	57	5871
6	R	101.9	34	117	122	3078	84	8649
ALL MOVS:		101.9	56	197	204	5167	141	14520
NORTH: Av. La Florida								
7	L	88.1	14	45	50	1158	35	3312
8	T	89.8	135	438	491	11776	337	31912
9	R	88.9	10	32	36	854	24	2299
ALL MOVS:		89.6	158	514	577	13788	396	37523
WEST: Av. Diego Portales (pon)								
10	LT	95.7	30	101	110	2722	75	7395
12	R	95.7	6	20	22	539	15	1465
ALL MOVS:		95.7	36	121	132	3261	90	8859
INTERSECTION:		93.8	504	1680	1850	45526	1260	122647

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:50 PM, 29 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES * AM5BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 5
Cycle Time = 86

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Ratio (g/C) 1st grn	Green Ratio (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. Camilo Henriquez									
1	L	.558		166	307<	.541	1.00	9.4	B
2	T	.558		2474	2878	.860	1.00	21.5	C
3	R	.558*	.302	37	43	.859	1.00	20.4	C
ALL MOVS:				2677	3228	.860		20.7	C
EAST: Av. Diego Portales (ori)									
4	LT	.349		224	258	.869*	1.00	36.9	D
6	R	.349*		330	380	.869*	1.00	36.9	D
ALL MOVS:				554	637	.869		36.9	D

```
 ----------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         .558           159    350<   .454   1.00     9.2    B
    8 T         .558          1499   2578    .581   1.00    11.4    B
    9 R         .558   .279    110    189    .581   1.00     8.8    B
                ------------------------------------------------------
      ALL MOVS:               1768   3117    .581           11.0    B
 ----------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        .349           313    471    .665   1.00    23.7    C
   12 R         .349            62     93    .666   1.00    23.7    C
                ------------------------------------------------------
      ALL MOVS:                375    564    .666           23.7    C
                ------------------------------------------------------
      INTERSECTION:           5374   7547    .869           19.4    B
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:50 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Opposed turn in movement    3 has high x.
   Its capacity is mainly due to end departures. Consider increasing
   the number of end departures, and/or specifying this as an undetected
   movement, since it may be affecting the timing results adversely.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    4:53 PM, 29 Dec 2007

 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
          1            89    38      0     0      0     0   1.00   1.00
          2             0     0    621   163      0     0   1.00   1.00
 ------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
          3             0     0    392   471      0     0   1.00   1.00
          4             0     0      0     0    342   293   1.00   1.00
 ------------------------------------------------------------------------
 WEST: El Penon
          5           468   107      0     0      0     0   1.00   1.00
          6             0     0      0     0    255    63   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L        *1  2  L                    40        63.8              19
    2 LT        1  2                        4        24.0              55
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         1  2                        4        45.0              55
    4 R         1  2                        4        61.1              55
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L        *2  1                        4        40.0Max           28
    6 R         2  1                        4        24.8              28
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
```

```
 Intersection No.:     6
                  Cycle Time =  91


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez (S)
    1 L     103    495<         .209           103    .80    -20    100  1.001
    2 LT    808E  4585          .176          2771    .80    175    100   .291
 ---------------------------------------------------------------------------
-
 NORTH: Av. Camilo Henriquez (N)
    3 T     863   2394          .360          1447    .80     34     72   .596
    4 R     635   1266          .502           765    .80     -4    100   .830
 ---------------------------------------------------------------------------
-
 WEST: El Penon
    5 L     575   1560          .369           480    .80    -33    100
1.198*
    6 R     318   1544          .206           475    .90     34    100   .669
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect

   Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                       * AM6BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      40         .209       .261       63.8
      5 L            2   1      40           -          -        40.0Max
                               ----       ------     ------     ------
                      Total:   80         .209       .261      103.8
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)
```

```
   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        22        91         91         91

     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.198
   Practical Spare Capacity (Lowest)  =     -33 %
   Total Vehicle Flow                 =    3302
   Total Vehicle Capacity (all lanes) =    6041
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        54      59   .648
      2        59      64        27      32   .352
 ---------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                       * AM6BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
     1 L     1.03   36.0     93   .90    2.6    20    6.19   33.3  101.5
     2 LT    1.94    8.6    349   .43    3.3    24   29.83   44.6   87.8
 ------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
     3 T     2.67   11.1    481   .56    6.7    63   36.09   43.3   89.5
     4 R     3.44   19.5    493   .78   13.8   121   32.73   39.3   94.0
 ------------------------------------------------------------------------
 WEST: El Penon
     5 L    66.27  414.9   2337  4.07   65.6   467  156.41    7.4  262.8
     6 R     2.43   27.5    250   .78    7.0    50   17.18   36.2   97.4
 ------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
```

```
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
   911      2.97   11.7    442   .49    36.02    43.0    89.4    81428.4
 ----------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
  1498      6.11   14.7    974   .65    68.82    41.5    91.4   136901.8
 ----------------------------------------------------------------------
 WEST: El Penon
   893     68.70  276.9   2587  2.90   173.59    10.3   203.9   182082.0
 ----------------------------------------------------------------------
 ALL GROUPS:
  3302     77.78   84.8   4003  1.21   278.43    23.0   121.3   400412.2
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                     * AM6BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                             Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
  1 L      1   72  19    0   0    103  103 1.000   36.0   .90    2.6   20<  20
  2 LT     2   36  55    0   0    268  920  .291    8.6   .43    3.3   24
  3 T      2   36  55    0   0    270  926  .291    8.6   .43    3.3   24
  4 T      2   36  55    0   0    270  926  .291    8.6   .43    3.3   24
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
  1 T      3   36  55    0   0    432  723  .597   11.1   .56    6.7   63
  2 T      3   36  55    0   0    432  723  .597   11.1   .56    6.7   63
  3 R      3,  36  55    0   0    635  765  .830   19.5   .78   13.8  121
           4
 ---------------------------------------------------------------------------
-
  WEST: El Penon
  1 L      5   63  28    0   0    575  480 1.198  414.9  4.07   65.6  467
  2 R      6   63  28    0   0    318  475  .669   27.5   .78    7.0   50
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                     * AM6BM10 *
```

```
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   103    0    0  103 1850  495<    0   71  103 1.000  100

       *
      ***
       *  *
 ****** ****       2    24E 244    0  268 1850 1521     0    0  920  .291  100
          *

          *
 ***********       2     0  270    0  270 1850 1532     0    0  926  .291  100
          *

          *
 ***********       2     0  270    0  270 1850 1532     0    0  926  .291  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  432    0  432 1850 1197     0    0  723  .597   72
          *
Prog

          *
 ***********       3     0  432    0  432 1850 1197     0    0  723  .597   72
          *
Prog

 ******            3,    0    0  635  635 1850 1266     0    0  765  .830  100
       *           4
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: El Penon
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   575    0    0  575 1850 1560     0    0  480 1.198  100


 ******            6     0    0  318  318 1850 1544     0    0  475  .669  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
   Prog  Lane under-utilisation found by the "Program"
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L         103   103<  100  1.001   19*       36.0   .90     2.6    6.19
    2 LT        808E 2771   100   .291   55         8.6   .43     3.3   29.83
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         863  1447    72   .596   55        11.1   .56     6.7   36.09
    4 R         635   765   100   .830   55        19.5   .78    13.8   32.73
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L         575   480   100  1.198*  28*      414.9  4.07    65.6  156.41
    6 R         318   475   100   .669   28        27.5   .78     7.0   17.18
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
```

INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Fuel Consumption Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. Camilo Henriquez (S)							
1 L	101.5	11	37	38	970	26	2689
2 LT	87.8	71	228	252	5863	177	16735
ALL MOVS:	89.4	81	264	291	6832	204	19424
NORTH: Av. Camilo Henriquez (N)							
3 T	89.5	77	251	281	6694	193	18292
4 R	94.0	60	199	221	5459	149	14496
ALL MOVS:	91.4	137	450	501	12152	342	32788
WEST: El Penon							
5 L	262.8	151	692	381	10445	378	57021
6 R	97.4	31	106	113	2807	77	7743
ALL MOVS:	203.9	182	798	494	13252	455	64763
INTERSECTION:	121.3	400	1512	1286	32237	1001	116975

1
ARRB SIDRA 4.07 - Time and Date of Analysis 4:53 PM, 29 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	Green Time Ratio (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. Camilo Henriquez (S)									
1	L	.209*		103	103<	1.001	1.00	36.0	D
2	LT	.604		808E	2771	.291	1.00	8.6	B
ALL MOVS:				911	2875	1.001		11.7	B
NORTH: Av. Camilo Henriquez (N)									
3	T	.604		863	1447	.596	1.00	11.1	B
4	R	.604		635	765	.830	1.00	19.5	C
ALL MOVS:				1498	2212	.830		14.7	B

```
 ----------------------------------------------------------------------
 WEST: El Penon
    5 L         .308*          575    480   1.198*  1.00   414.9    F
    6 R         .308           318    475    .669   1.00    27.5    C
                ------------------------------------------------------
      ALL MOVS:                893    955   1.198          276.9    F
                ------------------------------------------------------
      INTERSECTION:           3302   6041   1.198           84.8    F
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:53 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                       * AM6BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
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A R R B - S I D R A 4.07

AMBITRANS

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Time and Date of Analysis 4:55 PM, 29 Dec 2007

INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25								
1	96	29	0	0	0	0	1.00	1.00
2	0	0	555	58	0	0	1.00	1.00
NORTH WEST: Av. Camilo Henriquez								
3	0	0	275	78	0	0	1.00	1.00
4	0	0	0	0	450	87	1.00	1.00
SOUTH WEST: Eyzaguirre								
5	304	65	0	0	0	0	1.00	1.00
6	0	0	0	0	132	24	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:55 PM, 29 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25							
1 L	125	353	489	.80	213	100	.256
2 T	613	0	2397	.80	213	100	.256
NORTH WEST: Av. Camilo Henriquez							
3 T	353	0	3030	.80	587	100	.117
4 R	537	0	1592	.98	191	100	.337
SOUTH WEST: Eyzaguirre							
5 L	369	1360+	139	.80	-70	100	2.655*
6 R	156	622+	634	.80	225	100	.246

```
 ------------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =   2.655
    Practical Spare Capacity (Lowest)  =     -70 %
    Total Vehicle Flow                 =    2153
    Total Vehicle Capacity (all lanes) =    8281
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
     1 L      .00     .0     10   .08     .0     0    2.83   45.0   85.6
     2 T      .00     .0     14   .02     .0     0   13.70   45.0   84.4
 ----------------------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
     3 T      .00     .0      0   .00     .0     0    7.84   45.0   83.9
     4 R      .00     .0               13.7#        11.93   45.0   83.9
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L   311.07 3034.8    369  1.00  117.3   828  438.62    1.2 1230.0
     6 R      .17    4.0     92   .59     .7     5    4.85   42.9   91.0
 ----------------------------------------------------------------------
   #  Largest density/concentration (number of passenger car space equivalents
      (pcse) per km or per mile if US units) for any lane

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
   738       .00     .0     24   .03    16.53    45.0    84.6    62423.7
 ----------------------------------------------------------------------
```

```
 NORTH WEST: Av. Camilo Henriquez
   890       .00     .0      0   .00    19.78    45.0    83.9    74634.8
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
   525    311.24 2134.2    461   .88   443.47     1.6   891.6   468073.2
 ----------------------------------------------------------------------
 ALL GROUPS:
  2153    311.24  520.4    485   .23   479.78     6.0   281.1   605131.6
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                            Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25
  1 LT      1,   306  1195  .256     .0   .08     .0    0
            2
  2 T       2    432  1690  .256     .0   .00     .0    0
 ---------------------------------------------------------------
  NORTH WEST: Av. Camilo Henriquez
  1 T       3    177  1515  .116     .0   .00     .0    0
  2 T       3    177  1515  .116     .0   .00     .0    0
  3 R       4    537  1592  .337     .0         13.7#
 ---------------------------------------------------------------
  SOUTH WEST: Eyzaguirre
  1 L       5    369   139 2.652 3034.8  1.00  117.3  828
  2 R       6    156   634  .246    4.0   .59     .7    5
 ---------------------------------------------------------------
   #  Concentration/density (pcse per km, or per mile if US units)

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,  125  181    0  306 1850 1195     0   60 1195  .256  100
          *        2

          *
 ***********       2     0  432    0  432 1850 1690     0    0 1690  .256  100
          *
 ---------------------------------------------------------------------------
-
  NORTH WEST: Av. Camilo Henriquez
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  177    0  177 1850 1515     0    0 1515  .116  100
          *

          *
 ***********       3     0  177    0  177 1850 1515     0    0 1515  .116  100
          *
               Continuous Lane
 ******            4     0    0  537  537 1850 1592     0    0 1592  .337  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Eyzaguirre
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   369    0    0  369 1850  139     0   60  139 2.652  100

               Slip Lane
 ******            6     0    0  156  156 1850  634     0   60  634  .246  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
1
```

ARRB SIDRA 4.07 - Time and Date of Analysis 4:55 PM, 29 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25									
1	L	125	489	100	.256	.0	.08	.0	2.83
2	T	613	2397	100	.256	.0	.02	.0	13.70
NORTH WEST: Av. Camilo Henriquez									
3	T	353	3030	100	.117	.0	.00	.0	7.84
4	R (Con)	537	1592	100	.337	.0		13.7#	11.93
SOUTH WEST: Eyzaguirre									
5	L	369	139	100	2.655*	3034.8	1.00	117.3	438.62
6	R	156	634	100	.246	4.0	.59	.7	4.85

* Maximum degree of saturation
\# Largest density/concentration (number of passenger car space equivalents (pcse) per km or per mile if US units) for any lane

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 4:55 PM, 29 Dec 2007
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25							
1 L	85.6	11	34	33	793	27	2640
2 T	84.4	52	165	157	3765	129	12675
ALL MOVS:	84.6	62	199	190	4558	156	15315
NORTH WEST: Av. Camilo Henriquez							
3 T	83.9	30	94	90	2139	74	7233
4 R	83.9	45	143	137	3254	113	11004
ALL MOVS:	83.9	75	237	226	5393	187	18237

```
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L         1230.0      454      2344     730   19206    1135  202764
     6 R           91.0       14        47      48    1244      36    3501
                 ------------------------------------------------------
      ALL MOVS:   891.6      468      2391     778   20450    1170  206266
                 ------------------------------------------------------
  INTERSECTION:   281.1      605      2827    1195   30401    1513  239818
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 EAST: Ruta G-25
    1 L            125    489    .256   1.00      .0    A
    2 T            613   2397    .256   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    738   2886    .256             .0    A
 ---------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
    3 T            353   3030    .117   1.00      .0    A
    4 R  (Con)     537   1592    .337   1.00      .0    C#
                 ----------------------------------------
      ALL MOVS:    890   4622    .337             .0    A
 ---------------------------------------------------------
 SOUTH WEST: Eyzaguirre
    5 L            369    139   2.655*  1.00  3034.8    F
    6 R            156    634    .246   1.00     4.0    A
                 ----------------------------------------
      ALL MOVS:    525    773   2.655         2134.2    F
                 ----------------------------------------
  INTERSECTION:   2153   8281   2.655          520.4    F
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   #  Level Of Service for continuous movements based on density/concentration
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:55 PM, 29 Dec 2007
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 DIAGNOSTIC REPORT
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-
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```
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
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A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 4:58 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Acceso a Ruta G-421								
1	55	9	0	0	0	0	1.00	1.00
2	0	0	0	0	15	1	1.00	1.00
EAST: Ruta G-25 (ori)								
3	8	1	0	0	0	0	1.00	1.00
4	0	0	276	47	0	0	1.00	1.00
WEST: Ruta G-25 (pon)								
5	0	0	174	34	0	0	1.00	1.00
6	0	0	0	0	15	5	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

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INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Acceso a Ruta G-421							
1 L	64	550+	398	.80	398	100	.161
2 R	16	10+	99	.80	395	100	.162
EAST: Ruta G-25 (ori)							
3 L	9	292	43	.80	282	100	.209
4 T	323	0	1538	.80	281	100	.210*
WEST: Ruta G-25 (pon)							
5 T	208	0	1441	.80	454	100	.144
6 R	20	0	139	.80	456	100	.144

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
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 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .210
    Practical Spare Capacity (Lowest)  =     281 %
    Total Vehicle Flow                 =     640
    Total Vehicle Capacity (all lanes) =    3657
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L      .07    3.7     34   .54     .5     3    1.95   47.6   99.3
     2 R      .02    3.7      9   .54     .5     3     .49   47.6   99.3
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L      .01    2.3      0   .00    1.0     7     .21   48.5   83.3
     4 T      .21    2.3      2   .00    1.0     7    7.65   48.5   83.3
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T      .00     .0      0   .00     .0     0    4.16   50.0   82.1
     6 R      .00     .0      0   .00     .0     0     .40   50.0   82.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    80       .08    3.7     43   .54     2.43    47.6    99.3     7944.3
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   332       .21    2.3      2   .00     7.87    48.5    83.3    27650.0
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   228       .00     .0      0   .00     4.56    50.0    82.1    18718.0
 ----------------------------------------------------------------------
 ALL GROUPS:
   640       .29    1.7     45   .07    14.86    48.9    84.9    54312.4
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
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 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
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 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Acceso a Ruta G-421
  1 LR      1,    80   497  .161    3.7   .54     .5    3
            2
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 LT      3,   332  1580  .210    2.3   .00    1.0    7
            4
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 TR      5,   228  1580  .144     .0   .00     .0    0
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
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 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Acceso a Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *
 ******            1,   64    0   16   80 1850  497     0   16  497  .161  100
       *           2
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    9  323    0  332 1850 1580     0   60 1580  .210  100
          *        4
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       5,    0  208   20  228 1850 1580     0    0 1580  .144  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
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 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ----------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    1 L          64   398   100   .161    3.7   .54      .5    1.95
    2 R          16    99   100   .162    3.7   .54      .5     .49
 ----------------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L           9    43   100   .209    2.3   .00     1.0     .21
    4 T         323  1538   100   .210*   2.3   .00     1.0    7.65
```

```
 ----------------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T         208  1441   100   .144     .0   .00      .0    4.16
    6 R          20   139   100   .144     .0   .00      .0     .40
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L           99.3        6        18      28     597      16    1403
     2 R           99.3        2         5       7     149       4     351
                 ----------------------------------------------------------
      ALL MOVS:    99.3        8        23      35     747      20    1753
 ---------------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L           83.3        1         2       2      50       2     177
     4 T           83.3       27        84      87    1807      67    6339
                 ----------------------------------------------------------
      ALL MOVS:    83.3       28        86      90    1858      69    6515
 ---------------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T           82.1       17        53      56    1152      43    3970
     6 R           82.1        2         5       5     111       4     382
                 ----------------------------------------------------------
      ALL MOVS:    82.1       19        58      61    1263      47    4351
                 ----------------------------------------------------------
  INTERSECTION:    84.9       54       167     186    3867     136   12620
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
```

```
 SOUTH: Acceso a Ruta G-421
    1 L             64    398    .161   1.00     3.7    A
    2 R             16     99    .162   1.00     3.7    A
                 ----------------------------------------
      ALL MOVS:     80    497    .162            3.7    A
 -------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L              9     43    .209   1.00     2.3    A
    4 T            323   1538    .210*  1.00     2.3    A
                 ----------------------------------------
      ALL MOVS:    332   1581    .210            2.3    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T            208   1441    .144   1.00      .0    A
    6 R             20    139    .144   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    228   1580    .144             .0    A
                 ----------------------------------------
  INTERSECTION:    640   3657    .210            1.7    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    4:58 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:01 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25 (ori)								
1	0	0	94	24	0	0	1.00	1.00
2	0	0	0	0	7	1	1.00	1.00
NORTH: Ruta G-345								
3	2	1	0	0	0	0	1.00	1.00
4	0	0	0	0	5	1	1.00	1.00
WEST: Ruta G-25 (pon)								
5	12	2	0	0	0	0	1.00	1.00
6	0	0	99	52	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:01 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25 (ori)							
1 T	118	0	1537	.80	942	100	.077
2 R	8	0	1644	.80	****	100	.005
NORTH: Ruta G-345							
3 L	3	283+	625	.80	****	100	.005
4 R	6	118+	1067	.80	****	100	.006
WEST: Ruta G-25 (pon)							
5 L	14	129	1056	.80	5934	100	.013
6 T	151	0	1376	.80	629	100	.110*

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .110
    Practical Spare Capacity (Lowest)  =     629 %
    Total Vehicle Flow                 =     300
    Total Vehicle Capacity (all lanes) =    7306
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    3.37   35.0   91.8
     2 R      .00     .0      0   .00     .0     0     .23   35.0   91.8
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     3 L      .00    2.0      1   .40     .3     3     .44   34.3   95.7
     4 R      .00     .5      1   .15     .1     1     .31   34.8   93.8
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .00     .5      2   .17     .1     1     .56   34.8   93.8
     6 T      .00     .0      0   .00     .0     0    4.31   35.0   91.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   126       .00     .0      0   .00     3.60    35.0    91.8    11565.6
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     9       .00    1.0      2   .24      .75    34.7    94.4      849.5
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   165       .00     .0      2   .01     4.87    35.0    92.0    15173.9
 ----------------------------------------------------------------------
 ALL GROUPS:
   300       .00     .1      4   .01     9.22    35.0    92.0    27589.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                             Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 T       1    118  1537  .077     .0   .00     .0    0
  2 R       2      8  1644  .005     .0   .00     .0    0    80
 ---------------------------------------------------------------
  NORTH: Ruta G-345
  1 L       3      3   625  .005    2.0   .40     .3    3
  2 R       4      6  1067  .006     .5   .15     .1    1
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 L       5     14  1056  .013     .5   .17     .1    1    50
  2 T       6    151  1376  .110     .0   .00     .0    0
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
          *
 ***********       1     0  118    0  118 1850 1537     0    0 1537  .077  100
          *

 ******            2     0    0    8    8 1850 1644     0    0 1644  .005  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Ruta G-345
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            3     3    0    0    3 1850  625     0    5  625  .005  100


 ******            4     0    0    6    6 1850 1067     0   11 1067  .006  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5    14    0    0   14 1850 1056     0   14 1056  .013  100


          *
 ***********       6     0  151    0  151 1850 1376     0    0 1376  .110  100
          *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
```

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25 (ori)									
1	T	118	1537	100	.077	.0	.00	.0	3.37
2	R	8	1644	100	.005	.0	.00	.0	.23
NORTH: Ruta G-345									
3	L	3	625	100	.005	2.0	.40	.3	.44
4	R	6	1067	100	.006	.5	.15	.1	.31
WEST: Ruta G-25 (pon)									
5	L	14	1056	100	.013	.5	.17	.1	.56
6	T	151	1376	100	.110*	.0	.00	.0	4.31

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:01 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BM10 *
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25 (ori)							
1 T	91.8	11	37	29	868	27	2925
2 R	91.8	1	2	2	59	2	198
ALL MOVS:	91.8	12	39	31	927	29	3123
NORTH: Ruta G-345							
3 L	95.7	0	1	1	24	1	78
4 R	93.8	1	2	2	46	1	153
ALL MOVS:	94.4	1	3	2	70	2	231
WEST: Ruta G-25 (pon)							
5 L	93.8	1	4	4	108	3	357
6 T	91.8	14	47	37	1110	35	3742
ALL MOVS:	92.0	15	51	41	1218	38	4099
INTERSECTION:	92.0	28	94	74	2215	69	7453

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:01 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9BM10 *

```
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 EAST: Ruta G-25 (ori)
    1 T            118   1537    .077   1.00      .0    A
    2 R              8   1644    .005   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    126   3181    .077             .0    A
 ---------------------------------------------------------
 NORTH: Ruta G-345
    3 L              3    625    .005   1.00     2.0    A
    4 R              6   1067    .006   1.00      .5    A
                 ----------------------------------------
      ALL MOVS:      9   1692    .006            1.0    A
 ---------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L             14   1056    .013   1.00      .5    A
    6 T            151   1376    .110*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    165   2432    .110             .0    A
                 ----------------------------------------
  INTERSECTION:    300   7306    .110             .1    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:01 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9BM10 *
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:03 PM, 29 Dec 2007

INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10BM10

*

SITUACION BASE ANO 2010 - HORA PUNTA MANANA

Intersection No.: 10

Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Canada Norte (ori)								
1	25	1	0	0	0	0	1.00	1.00
2	0	0	7	1	0	0	1.00	1.00
NORTH: Camino El Volcan (norte)								
3	5	1	0	0	0	0	1.00	1.00
4	0	0	118	22	0	0	1.00	1.00
5	0	0	0	0	4	23	1.00	1.00
WEST: Canada Norte (pon)								
6	0	0	1	1	0	0	1.00	1.00
7	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:03 PM, 29 Dec 2007

INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10BM10

*

SITUACION BASE ANO 2010 - HORA PUNTA MANANA

Intersection No.: 10

Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Canada Norte (ori)							
1 L	26	150	749	.80	2205	100	.035
2 T	8	173	231	.80	2210	100	.035
NORTH: Camino El Volcan (norte)							
3 L	6	0	101	.80	1247	100	.059*
4 T	140	0	2365	.80	1251	100	.059*
5 R	27	0	456	.80	1251	100	.059*

```
 ---------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T       2    186+     452   .80   ****    100   .004
    7 R       2    180+     452   .80   ****    100   .004
 ---------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:03 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BM10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .059
    Practical Spare Capacity (Lowest)  =    1247 %
    Total Vehicle Flow                 =     211
    Total Vehicle Capacity (all lanes) =    4807
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L      .00     .6      5   .20     .2     1     .69   49.6   85.2
     2 T      .00     .6      2   .20     .2     1     .21   49.6   85.2
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L      .00     .0      0   .00     .0     0     .12   50.0   82.1
     4 T      .00     .0      0   .00     .0     0    2.80   50.0   82.1
     5 R      .00     .0      0   .00     .0     0     .54   50.0   82.1
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T      .00     .8      0   .25     .2     2     .14   49.4   85.7
     7 R      .00     .8      0   .25     .2     2     .14   49.4   85.7
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:03 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BM10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
```

```
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    34       .01     .6      7   .20      .90    49.6    85.2     2897.8
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
   173       .00     .0      0   .00     3.46    50.0    82.1    14202.7
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     4       .00     .8      1   .25      .29    49.4    85.7      342.7
 ----------------------------------------------------------------------
 ALL GROUPS:
   211       .01     .1      8   .04     4.65    49.9    82.7    17443.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:03 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BM10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                            Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 LT      1,    34   980  .035     .6   .20     .2    1
            2
 ---------------------------------------------------------------
  NORTH: Camino El Volcan (norte)
  1 LT      3,    95  1598  .059     .0   .00     .0    0
            4
  2 TR      4,    78  1325  .059     .0   .00     .0    0
            5
 ---------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 TR      6,     4   905  .004     .8   .25     .2    2
            7
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:03 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BM10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection
```

```
 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   26    8    0   34 1850  980     0    8  980  .035  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH: Camino El Volcan (norte)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    6   89    0   95 1850 1598     0    0 1598  .059  100
          *        4
          *
 ****** ****       4,    0   51   27   78 1850 1325     0    0 1325  .059  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       6,    0    2    2    4 1850  905     0   11  905  .004  100
       *  *        7
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:03 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BM10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection
```

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Canada Norte (ori)									
1	L	26	749	100	.035	.6	.20	.2	.69
2	T	8	231	100	.035	.6	.20	.2	.21
NORTH: Camino El Volcan (norte)									
3	L	6	101	100	.059*	.0	.00	.0	.12
4	T	140	2365	100	.059*	.0	.00	.0	2.80
5	R	27	456	100	.059*	.0	.00	.0	.54
WEST: Canada Norte (pon)									
6	T	2	452	100	.004	.8	.25	.2	.14
7	R	2	452	100	.004	.8	.25	.2	.14

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:03 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10BM10
*
SITUACION BASE ANO 2010 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Fuel Consumption Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Canada Norte (ori)							
1 L	85.2	2	7	8	166	6	519
2 T	85.2	1	2	2	51	2	160
ALL MOVS:	85.2	3	9	10	217	7	678
NORTH: Camino El Volcan (norte)							
3 L	82.1	0	2	2	33	1	115
4 T	82.1	11	35	38	775	29	2672
5 R	82.1	2	7	7	150	6	515
ALL MOVS:	82.1	14	44	46	958	36	3302
WEST: Canada Norte (pon)							
6 T	85.7	0	1	1	13	0	40
7 R	85.7	0	1	1	13	0	40
ALL MOVS:	85.7	0	1	1	26	1	80

```
                 ---------------------------------------------------------
  INTERSECTION:    82.7       17        54      57    1201      44    4060
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:03 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BM10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L             26    749    .035   1.00      .6    A
    2 T              8    231    .035   1.00      .6    A
                 ----------------------------------------
      ALL MOVS:     34    980    .035             .6    A
 -------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L              6    101    .059*  1.00      .0    A
    4 T            140   2365    .059*  1.00      .0    A
    5 R             27    456    .059*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    173   2922    .059             .0    A
 -------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T              2    452    .004   1.00      .8    A
    7 R              2    452    .004   1.00      .8    A
                 ----------------------------------------
      ALL MOVS:      4    904    .004             .8    A
                 ----------------------------------------
  INTERSECTION:    211   4807    .059             .1    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:03 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10BM10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
```

```
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

```
1F
                         A R R B  -  S I D R A  4.07
               ------------------------------------------------
               AMBITRANS
                                          Registered User No. 115
               Time and Date of Analysis    5:05 PM, 29 Dec 2007

 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Comercio (sur)
          1            13     1      0     0      0     0   1.00   1.00
          2             0     0    119    15      0     0   1.00   1.00
          3             0     0      0     0     27     1   1.00   1.00
 ------------------------------------------------------------------------
 EAST: Canada Norte (ori)
          4             0     0     23     4      0     0   1.00   1.00
          5             0     0      0     0     15    14   1.00   1.00
 ------------------------------------------------------------------------
 WEST: Canada Norte (pon)
          6             7     1      0     0      0     0   1.00   1.00
          7             0     0     12     1      0     0   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------
  Mov      Arv    Total   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   Opng     Cap.  Deg.   Spare  Util   Satn
           (veh   Flow    (veh   Satn   Cap.
            /h)  (pcu/h)   /h)    xp     (%)    (%)     x
 ---------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L      14      0      268   .80   1431    100   .052
    2 T     134      0     2569   .80   1434    100   .052
    3 R      28      0      537   .80   1434    100   .052
 ---------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T      27    170+     447   .80   1224    100   .060*
    5 R      29    156+     480   .80   1224    100   .060*
```

```
 ----------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L       8    204      337   .80   3270    100   .024
    7 T      13    176      547   .80   3266    100   .024
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .060
    Practical Spare Capacity (Lowest)  =    1224 %
    Total Vehicle Flow                 =     253
    Total Vehicle Capacity (all lanes) =    5185
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L      .00     .0      0   .00     .0     0     .28   50.0   82.1
     2 T      .00     .0      0   .00     .0     0    2.68   50.0   82.1
     3 R      .00     .0      0   .00     .0     0     .56   50.0   82.1
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T      .01     .7      6   .22     .2     2     .67   49.5   85.5
     5 R      .01     .7      6   .22     .2     2     .72   49.5   85.5
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L      .00     .9      2   .25     .2     1     .26   49.4   85.8
     7 T      .00     .9      3   .25     .2     1     .42   49.4   85.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
```

```
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Comercio (sur)
   176       .00     .0      0   .00     3.52    50.0    82.1    14449.0
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    56       .01     .7     12   .22     1.39    49.5    85.5     4785.5
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
    21       .01     .9      5   .25      .67    49.4    85.8     1801.6
 ----------------------------------------------------------------------
 ALL GROUPS:
   253       .02     .2     18   .07     5.59    49.8    83.1    21036.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                            Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Comercio (sur)
  1 LT      1,    87  1674  .052     .0   .00     .0    0
            2
  2 TR      2,    89  1701  .052     .0   .00     .0    0
            3
 ---------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 TR      4,    56   928  .060     .7   .22     .2    2
            5
 ---------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 LT      6,    21   883  .024     .9   .25     .2    1
            7
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection
```

```
 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Comercio (sur)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   14   73    0   87 1850 1674     0    0 1674  .052  100
          *        2
          *
 ****** ****       2,    0   61   28   89 1850 1701     0    0 1701  .052  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       4,    0   27   29   56 1850  928     0   29  928  .060  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,    8   13    0   21 1850  883     0   13  883  .024  100
          *        7
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection
```

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
SOUTH: Comercio (sur)									
1	L	14	268	100	.052	.0	.00	.0	.28
2	T	134	2569	100	.052	.0	.00	.0	2.68
3	R	28	537	100	.052	.0	.00	.0	.56
EAST: Canada Norte (ori)									
4	T	27	447	100	.060*	.7	.22	.2	.67
5	R	29	480	100	.060*	.7	.22	.2	.72
WEST: Canada Norte (pon)									
6	L	8	337	100	.024	.9	.25	.2	.26
7	T	13	547	100	.024	.9	.25	.2	.42

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:05 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11BT10
*
SITUACION BASE ANO 2010 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Comercio (sur)								
1	L	82.1	1	4	4	78	3	267
2	T	82.1	11	34	36	742	28	2557
3	R	82.1	2	7	8	155	6	534
ALL MOVS:		82.1	14	45	47	975	36	3359
EAST: Canada Norte (ori)								
4	T	85.5	2	7	8	174	6	540
5	R	85.5	2	8	8	187	6	580
ALL MOVS:		85.5	5	15	16	361	12	1120
WEST: Canada Norte (pon)								
6	L	85.8	1	2	2	53	2	161
7	T	85.8	1	4	4	86	3	261
ALL MOVS:		85.8	2	6	6	138	5	421

```
                 ---------------------------------------------------------
  INTERSECTION:    83.1       21        65      70    1474      53    4901
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L             14    268    .052   1.00      .0    A
    2 T            134   2569    .052   1.00      .0    A
    3 R             28    537    .052   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    176   3374    .052             .0    A
 -------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T             27    447    .060*  1.00      .7    A
    5 R             29    480    .060*  1.00      .7    A
                 ----------------------------------------
      ALL MOVS:     56    927    .060             .7    A
 -------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L              8    337    .024   1.00      .9    A
    7 T             13    547    .024   1.00      .9    A
                 ----------------------------------------
      ALL MOVS:     21    884    .024             .9    A
                 ----------------------------------------
  INTERSECTION:    253   5185    .060             .2    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:05 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11BT10
*
 SITUACION BASE ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
```

```
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:06 PM, 29 Dec 2007

INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * A12BMD10

*

SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA

Intersection No.: 12

Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH EAST: Ruta G-25 (suroriente)								
1	1	1	0	0	0	0	1.00	1.00
2	0	0	60	15	0	0	1.00	1.00
NORTH WEST: Ruta G-25 (norponiente)								
3	0	0	74	19	0	0	1.00	1.00
4	0	0	0	0	8	1	1.00	1.00
SOUTH WEST: Ruta G-421								
5	8	1	0	0	0	0	1.00	1.00
6	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:06 PM, 29 Dec 2007

INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * A12BMD10

*

SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA

Intersection No.: 12

Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH EAST: Ruta G-25 (suroriente)							
1 L	2	111	40	.80	1500	100	.050
2 T	75	0	1485	.80	1484	100	.051
NORTH WEST: Ruta G-25 (norponiente)							
3 T	93	0	1410	.80	1113	100	.066*
4 R	9	0	136	.80	1109	100	.066*
SOUTH WEST: Ruta G-421							

```
    5 L        9    179+     625   .80   5456    100   .014
    6 R        2    102+     139   .80   5460    100   .014
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .066
    Practical Spare Capacity (Lowest)  =    1109 %
    Total Vehicle Flow                 =     190
    Total Vehicle Capacity (all lanes) =    3835
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L      .00    2.0      0   .00     .8     6     .06   48.7   83.1
     2 T      .04    2.0      0   .00     .8     6    2.35   48.7   83.1
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T      .00     .0      0   .00     .0     0    1.86   50.0   82.1
     4 R      .00     .0      0   .00     .0     0     .18   50.0   82.1
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L      .00    1.0      2   .25     .2     1     .36   49.3   86.0
     6 R      .00    1.0      1   .25     .2     1     .08   49.3   86.0
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
```

```
    77       .04    2.0      0   .00     2.41    48.7    83.1     6401.3
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
   102       .00     .0      0   .00     2.04    50.0    82.1     8373.9
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
    11       .00    1.0      3   .25      .44    49.3    86.0      946.2
 ----------------------------------------------------------------------
 ALL GROUPS:
   190       .04     .9      3   .02     4.90    49.4    82.7    15721.4
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH EAST: Ruta G-25 (suroriente)
  1 LT      1,    77  1524  .051    2.0   .00     .8    6
            2
 ---------------------------------------------------------------
  NORTH WEST: Ruta G-25 (norponiente)
  1 TR      3,   102  1547  .066     .0   .00     .0    0
            4
 ---------------------------------------------------------------
  SOUTH WEST: Ruta G-421
  1 LR      5,    11   764  .014    1.0   .25     .2    1
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH EAST: Ruta G-25 (suroriente)
                                          Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,    2   75    0   77 1850 1524     0   60 1524  .051  100
          *        2
 ------------------------------------------------------------------------------
-
  NORTH WEST: Ruta G-25 (norponiente)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       3,    0   93    9  102 1850 1547     0    0 1547  .066  100
       *  *        4
      ***
       *
 ------------------------------------------------------------------------------
-
  SOUTH WEST: Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            5,    9    0    2   11 1850  764     0    2  764  .014  100
       *           6
      ***
       *
 ------------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ------------------------------------------------------------------
```

```
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L           2    40   100   .050    2.0   .00      .8     .06
    2 T          75  1485   100   .051    2.0   .00      .8    2.35
 ----------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T          93  1410   100   .066*    .0   .00      .0    1.86
    4 R           9   136   100   .066*    .0   .00      .0     .18
 ----------------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L           9   625   100   .014    1.0   .25      .2     .36
    6 R           2   139   100   .014    1.0   .25      .2     .08
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L           83.1        0         1       1      11       0      39
     2 T           83.1        6        19      20     418      16    1467
                 -------------------------------------------------------
      ALL MOVS:    83.1        6        20      21     430      16    1506
 ---------------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T           82.1        8        24      25     515      19    1775
     4 R           82.1        1         2       2      50       2     172
                 -------------------------------------------------------
      ALL MOVS:    82.1        8        26      27     565      21    1947
 ---------------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L           86.0        1         2       3      59       2     182
     6 R           86.0        0         1       1      13       0      40
                 -------------------------------------------------------
      ALL MOVS:    86.0        1         3       3      72       2     222
                 -------------------------------------------------------
  INTERSECTION:    82.7       16        49      51    1067      39    3675
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection
```

```
 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L              2     40    .050   1.00     2.0    A
    2 T             75   1485    .051   1.00     2.0    A
                 ----------------------------------------
      ALL MOVS:     77   1525    .051            2.0    A
 ---------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T             93   1410    .066*  1.00      .0    A
    4 R              9    136    .066*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    102   1546    .066             .0    A
 ---------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L              9    625    .014   1.00     1.0    A
    6 R              2    139    .014   1.00     1.0    A
                 ----------------------------------------
      ALL MOVS:     11    764    .014            1.0    A
                 ----------------------------------------
  INTERSECTION:    190   3835    .066             .9    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:06 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12BMD10
*
 SITUACION BASE ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

SITUACIÓN CON PROYECTO AÑO 2010 (CONSTRUCCIÓN)

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 8:21 PM, 2 Jan 2008

INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL * AM1CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 1
Cycle Time = 126

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	0	0	2785	168	0	0	1.00	1.00
2	0	0	0	0	16	3	1.00	1.00
EAST: Av. Departamental (ori)								
3	602	82	0	0	0	0	1.00	1.00
4	0	0	1420	149	0	0	1.00	1.00
5	0	0	0	0	330	152	1.00	1.00
NORTH: Av. La Florida (norte)								
6	64	5	0	0	0	0	1.00	1.00
7	0	0	1100	102	0	0	1.00	1.00
8	0	0	0	0	20	1	1.00	1.00
WEST: Av. Departamental (pon)								
9	1	1	0	0	0	0	1.00	1.00
10	0	0	594	40	0	0	1.00	1.00
11	0	0	0	0	299	84	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr To Op Pr	PHASE MATRIX Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	T	*1 2		4		70.9		68	
2	R	1 2		4		70.5		68	
EAST: Av. Departamental (ori)									
3	L	2 1		4		54.0Max		50	
4	T	2 1		4		54.0Max		50	
5	R	*2 1		4		54.0Max		50	
NORTH: Av. La Florida (norte)									

```
    6 L         1  2                        4        39.1              68
    7 T         1  2                        4        43.5              68
    8 R  (Und)  1  2          2  1  R       4   51   40.2     52.5     68    3
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L         2  1                        4        32.6              50
   10 T         2  1                        4        32.8              50
   11 R         2  1                        4        39.3              50
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:21 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 T    2953   6953          .425          3752    .80      2    100   .787
    2 R      19     45          .422            24    .80      2    100   .782
 ---------------------------------------------------------------------------
-
 EAST: Av. Departamental (ori)
    3 L     684   1218          .562           483    .80    -43    100  1.415
    4 T    1569   2793          .562          1108    .80    -43    100
1.416*
    5 R     482    858          .562           340    .80    -43    100
1.416*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    6 L      69    275          .251           148    .90     94    100   .465
    7 T    1202   4794          .251          2587    .80     72    100   .465
    8 R      21      0  1898    .259   .011     46    .90     96    100   .459
 ---------------------------------------------------------------------------
-
 WEST: Av. Departamental (pon)
    9 L       2     11          .182             4    .80     75    100   .458
   10 T     634   3465          .183          1375    .80     74    100   .461
   11 R     383   1517          .252           602    .90     41    100   .636
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:21 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.3 - INTERSECTION PARAMETERS

Crit Mov No.	Green Period	Phases Fr	Phases To	Adjusted Lost Time	Adjusted Flow Ratio	Required Grn Time Ratio	Required Movement Time
1 T		1	2	4	.425	.531	70.9
5 R		2	1	54	-	-	54.0Max
				---	------	------	------
			Total:	58	.425	.531	124.9

- Flow ratio not used for cycle time calculations and the adjusted lost time equals the required movement time (=Min or Max as shown in Table S.1)

Cycle Time:

Minimum	Maximum	Practical	Chosen
22	126	124	126

(Cycle time specified by the user)

Degree of Saturation (Highest) = 1.416
Practical Spare Capacity (Lowest) = -43 %
Total Vehicle Flow = 8018
Total Vehicle Capacity (all lanes) = 10470

Table S.4 - PHASE INFORMATION

Phase No.	Change Time	Green Start	Displayed Green	Grn+Intgrn Secs	Prop.
1	0	5	67	72	.571
2	72	77	49	54	.429

Current Phase Sequence No.: 1 Phases: A B

1
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Intersection No.: 1
Cycle Time = 126

Table S.5 - MOVEMENT PERFORMANCE

Mov No.	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	Longest Que per Lane (m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)									
1 T	20.39	24.9	2171	.74	21.3	135	175.94	37.2	96.1
2 R	.13	24.9	14	.74	21.2	135	1.13	37.2	96.1
EAST: Av. Departamental (ori)									
3 L	152.00	800.0	3245	4.74	172.3	1151	309.92	4.1	416.3
4 T	348.75	800.2	7446	4.75	175.1	1150	711.05	4.1	416.3

```
     5 R   107.29  801.4   2290  4.75  157.5  1152  218.72    4.1  416.8
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     6 L      .34   17.8     38   .55    9.2    60    3.19   46.3   92.8
     7 T     5.94   17.8    817   .68    9.3    61   60.31   40.1   91.0
     8 R      .10   17.7     19   .92    9.3    61    1.01   46.3   89.6
 ----------------------------------------------------------------------
 WEST: Av. Departamental (pon)
     9 L      .02   28.1      1   .66    8.2    52     .11   36.0   97.1
    10 T     4.94   28.1    421   .66    8.2    52   36.34   36.0   97.1
    11 R     3.26   30.7    278   .73   10.8    79   22.01   39.7   99.4
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2972     20.52   24.9   2185   .74   177.07    37.2    96.1   285551.2
 ----------------------------------------------------------------------
 EAST: Av. Departamental (ori)
  2735    608.05  800.4  12981  4.75  1239.69     4.1   416.4  1138854.0
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1292      6.39   17.8    875   .68    64.50    40.5    91.1   117668.2
 ----------------------------------------------------------------------
 WEST: Av. Departamental (pon)
  1019      8.22   29.0    701   .69    58.46    37.3    97.9    99789.3
 ----------------------------------------------------------------------
 ALL GROUPS:
  8018    643.17  288.8  16742  2.09  1539.73    10.0   204.8  1641863.0
 ----------------------------------------------------------------------
1
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 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 T      1   58  68    0   0    743  945  .787   24.9   .74   21.3  135
  2 T      1   58  68    0   0    743  945  .787   24.9   .74   21.3  135
  3 T      1   58  68    0   0    743  945  .787   24.9   .74   21.3  135
  4 TR     1,  58  68    0   0    742  942  .787   24.9   .74   21.2  135
```

```
           2
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
  1 LT     3,  76  50    0   0    934  659 1.416  800.0  4.74  172.3 1151
           4
  2 T      4   76  50    0   0    949  670 1.416  799.8  4.74  175.1 1150
  3 TR     4,  76  50    0   0    852  602 1.416  801.4  4.75  157.5 1152
           5
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 LT     6,  58  68    0   0    428  922  .465   17.8   .55    9.2   60
           7
  2 T      7   58  68    0   0    428  920  .465   17.8   .55    9.2   60
  3 TR     7,  51   1    6  68    436  938  .465   17.7   .92    9.3   61
           8
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
  1 LT     9,  76  50    0   0    318  689  .461   28.1   .66    8.2   52
          10
  2 T     10   76  50    0   0    318  691  .461   28.1   .66    8.2   52
  3 R     11   76  50    0   0    383  602  .636   30.7   .73   10.8   79
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:21 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                   * AM1CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       1     0  743    0  743 1850 1750     0    0  945  .787  100
          *

          *
 ***********       1     0  743    0  743 1850 1750     0    0  945  .787  100
          *

          *
 ***********       1     0  743    0  743 1850 1750     0    0  945  .787  100
          *
          *
 ****** ****       1,    0  723   19  742 1850 1746     0    0  942  .787  100
       *  *        2
```

```
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Departamental (ori)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,  684  250    0  934 1850 1662     0    0  659 1.416  100
          *        4

          *
 ***********       4     0  949    0  949 1850 1690     0    0  670 1.416  100
          *
          *
 ****** ****       4,    0  370  482  852 1850 1517     0    0  602 1.416  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,   69  359    0  428 1850 1708     0    0  922  .465  100
          *        7

          *
 ***********       7     0  428    0  428 1850 1705     0    0  920  .465  100
          *
          *    Slip Lane
 ****** ****       7,    0  415   21  436 1850  180  1736   57* 938  .465  100
       *  *        8
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Departamental (pon)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
```

```
       *  *
 ****** ****       9,     2  316    0  318 1850 1736     0    0  689  .461  100
          *       10

          *
 ***********      10     0  318    0  318 1850 1740     0    0  691  .461  100
          *

 ******           11     0    0  383  383 1850 1517     0    0  602  .636  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
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 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 T        2953  3752   100   .787   68*       24.9   .74    21.3  175.94
    2 R          19    24   100   .782   68        24.9   .74    21.2    1.13
 ---------------------------------------------------------------------------
 EAST: Av. Departamental (ori)
    3 L         684   483   100  1.415   50       800.0  4.74   172.3  309.92
    4 T        1569  1108   100  1.416*  50       800.2  4.75   175.1  711.05
    5 R         482   340   100  1.416*  50*      801.4  4.75   157.5  218.72
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    6 L          69   148   100   .465   68        17.8   .55     9.2    3.19
    7 T        1202  2587   100   .465   68        17.8   .68     9.3   60.31
    8 R  (Und)   21    46   100   .459   68    3   17.7   .92     9.3    1.01
 ---------------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L           2     4   100   .458   50        28.1   .66     8.2     .11
   10 T         634  1375   100   .461   50        28.1   .66     8.2   36.34
   11 R         383   602   100   .636   50        30.7   .73    10.8   22.01
 ---------------------------------------------------------------------------
   *  Maximum degree of saturation, or critical green periods
1
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 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126
```

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. La Florida (sur)								
1	T	96.1	284	959	1029	25379	709	70444
2	R	96.1	2	6	7	163	5	453
ALL MOVS:		96.1	286	966	1036	25542	714	70897
EAST: Av. Departamental (ori)								
3	L	416.3	285	1376	624	16981	712	115593
4	T	416.3	653	3157	1431	38955	1633	265204
5	R	416.8	201	971	440	11975	502	81573
ALL MOVS:		416.4	1139	5505	2495	67911	2847	462370
NORTH: Av. La Florida (norte)								
6	L	92.8	6	21	27	555	16	1424
7	T	91.0	109	359	393	9367	273	26341
8	R	89.6	2	6	8	167	5	402
ALL MOVS:		91.1	118	385	428	10089	294	28167
WEST: Av. Departamental (pon)								
9	L	97.1	0	1	1	17	0	49
10	T	97.1	62	209	218	5319	154	15517
11	R	99.4	38	127	160	3526	95	8861
ALL MOVS:		97.9	100	338	379	8862	249	24426
INTERSECTION:		204.8	1642	7193	4337	112404	4105	585860

1
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Intersection No.: 1
Cycle Time = 126

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. La Florida (sur)									
1	T	.540*		2953	3752	.787	1.00	24.9	C
2	R	.540		19	24	.782	1.00	24.9	C
ALL MOVS:				2972	3777	.787		24.9	C
EAST: Av. Departamental (ori)									

```
    3 L          .397           684    483   1.415   1.00   800.0    F
    4 T          .397          1569   1108   1.416*  1.00   800.2    F
    5 R          .397*          482    340   1.416*  1.00   801.4    F
                 -----------------------------------------------------
      ALL MOVS:                2735   1932   1.416          800.4    F
 ------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    6 L          .540            69    148    .465   1.00    17.8    B
    7 T          .540          1202   2587    .465   1.00    17.8    B
    8 R  (Und)   .540   .024     21     46    .459   1.00    17.7    B
                 -----------------------------------------------------
      ALL MOVS:                1292   2781    .465           17.8    B
 ------------------------------------------------------------------
 WEST: Av. Departamental (pon)
    9 L          .397             2      4    .458   1.00    28.1    C
   10 T          .397           634   1375    .461   1.00    28.1    C
   11 R          .397           383    602    .636   1.00    30.7    C
                 -----------------------------------------------------
      ALL MOVS:                1019   1981    .636           29.0    C
                 -----------------------------------------------------
      INTERSECTION:            8018  10470   1.416          288.8    F
 ------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
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 INTERSECCION AV. LA FLORIDA / AV. DEPARTAMENTAL                  * AM1CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     1
                  Cycle Time = 126


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    8:23 PM,  2 Jan 2008

INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
Intersection No.:     2
                 Cycle Time = 122
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	270	4	0	0	0	0	1.00	1.00
2	0	0	2425	228	0	0	1.00	1.00
3	0	0	0	0	84	18	1.00	1.00
EAST: Rojas Magallanes								
4	135	15	0	0	0	0	1.00	1.00
5	0	0	500	8	0	0	1.00	1.00
6	0	0	0	0	113	2	1.00	1.00
NORTH: Av. La Florida (norte)								
7	84	5	0	0	0	0	1.00	1.00
8	0	0	1461	202	0	0	1.00	1.00
9	0	0	0	0	46	4	1.00	1.00
WEST: Rojas Magallanes								
10	64	1	0	0	0	0	1.00	1.00
11	0	0	364	6	0	0	1.00	1.00
12	0	0	0	0	49	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE MATRIX First Green Fr To Op Pr	PHASE MATRIX Second Green Fr To Op Pr	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
SOUTH: Av. La Florida (sur)									
1	L	*1 2		4		91.0Max		86	
2	T	1 2		4		86.5		86	
3	R	1 2		4		86.3		86	
EAST: Rojas Magallanes									
4	L	*2 1		4		36.9		28	
5	T	2 1		4		36.9		28	
6	R	2 1		4		36.9		28	

```
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         1  2                        4        39.8              86
    8 T         1  2                        4        56.7              86
    9 R         1  2                        4        56.6              86
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         2  1                        4        24.3              28
   11 T         2  1                        4        24.3              28
   12 R         2  1                        4        24.3              28
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
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 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     274    395<         .694           278    .80    -19    100
.984*
    2 T    2653   4906          .541          3458    .80      4    100   .767
    3 R     102    189          .540           133    .80      4    100   .766
 ---------------------------------------------------------------------------
-
 EAST: Rojas Magallanes
    4 L     150    695          .216           160    .80    -15    100   .940
    5 T     508   2355          .216           540    .80    -15    100   .940
    6 R     115    533          .216           122    .80    -15    100   .940
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L      89    379<         .235           267    .80    140    100   .333
    8 T    1663   4810          .346          3391    .80     63    100   .490
    9 R      50    145          .345           102    .80     64    100   .489
 ---------------------------------------------------------------------------
-
 WEST: Rojas Magallanes
   10 L      65    488          .133           112    .80     38    100   .580
   11 T     370   2777          .133           637    .80     38    100   .581
   12 R      50    375          .133            86    .80     38    100   .581
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
```

```
 Intersection No.:     2
                  Cycle Time = 122


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      91           -          -        91.0Max
      4 L            2   1       4         .216       .270       36.9
                                ----       ------     ------     ------
                       Total:   95         .216       .270      127.9
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22       122        122        122

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .984
    Practical Spare Capacity (Lowest)  =     -19 %
    Total Vehicle Flow                 =    6089
    Total Vehicle Capacity (all lanes) =    9288
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        85      90   .738
      2        90      95        27      32   .262
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
```

```
 SOUTH: Av. La Florida (sur)
     1 L     1.40   18.5    247   .90    3.3    20   11.54   39.8   94.2
     2 T     8.94   12.1   1549   .58   20.2   132  128.92   42.8   90.0
     3 R      .34   12.1     60   .58   20.1   132    4.96   42.8   90.0
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L     3.59   86.1    180  1.20   17.2   108   14.35   22.8  122.9
     5 T    12.07   85.5    606  1.19   17.6   107   48.42   22.9  122.6
     6 R     2.72   85.0    137  1.19   17.6   107   10.93   22.9  122.4
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L      .14    5.6     25   .28     .9     6    2.99   46.4   85.8
     8 T     3.75    8.1    675   .41    8.7    59   66.18   44.9   87.5
     9 R      .11    8.1     20   .41    8.7    59    1.99   44.9   87.5
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L      .75   41.8     52   .80    7.3    45    4.30   31.6  103.4
    11 T     4.29   41.8    296   .80    7.3    45   24.48   31.6  103.4
    12 R      .58   41.8     40   .80    7.3    45    3.31   31.6  103.4
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  3029     10.69   12.7   1855   .61   145.41    42.5    90.4   273858.0
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
   773     18.37   85.6    922  1.19    73.69    22.8   122.6    94805.7
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1802      4.00    8.0    720   .40    71.16    45.0    87.4   157489.4
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
   485      5.63   41.8    388   .80    32.10    31.6   103.4    50171.9
 ----------------------------------------------------------------------
 ALL GROUPS:
  6089     38.69   22.9   3885   .64   322.36    37.9    94.7   576325.1
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                           Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  -----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
```

```
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   36  86    0   0    274  278  .984   18.5   .90    3.3   20   20
  2 T      2   36  86    0   0    921 1201  .767   12.1   .58   20.2  132
  3 T      2   36  86    0   0    921 1201  .767   12.1   .58   20.2  132
  4 TR     2,  36  86    0   0    913 1190  .767   12.1   .58   20.1  132
           3
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
  1 LT     4,  94  28    0   0    380  405  .940   86.1  1.20   17.2  108
           5
  2 TR     5,  94  28    0   0    393  418  .940   85.0  1.19   17.6  107
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   36  86    0   0     89  267  .333    5.6   .28     .9    6   20
  2 T      8   36  86    0   0    570 1163  .491    8.1   .41    8.7   59
  3 T      8   36  86    0   0    570 1163  .491    8.1   .41    8.7   59
  4 TR     8,  36  86    0   0    572 1167  .491    8.1   .41    8.7   59
           9
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
  1 LT    10,  94  28    0   0    243  418  .581   41.8   .80    7.3   45
          11
  2 TR    11,  94  28    0   0    242  417  .581   41.8   .80    7.3   45
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   274    0    0  274 1850  395<    0    0  278  .984  100


           *
```

```
***********       2     0  921    0  921 1850 1704     0    0 1201  .767  100
          *

          *
***********       2     0  921    0  921 1850 1704     0    0 1201  .767  100
          *
          *
****** ****       2,    0  811  102  913 1850 1688     0    0 1190  .767  100
      *  *        3
     ***
      *
 ---------------------------------------------------------------------------
-
  EAST: Rojas Magallanes
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
      *
     ***
      *  *
****** ****       4,  150  230    0  380 1850 1764     0    0  405  .940  100
          *        5
          *
****** ****       5,    0  278  115  393 1850 1820     0    0  418  .940  100
      *  *        6
     ***
      *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

      *
     ***
      *
******            7    89    0    0   89 1850  379<    0    0  267  .333  100


          *
***********       8     0  570    0  570 1850 1650     0    0 1163  .491  100
          *

          *
***********       8     0  570    0  570 1850 1650     0    0 1163  .491  100
          *
          *
****** ****       8,    0  522   50  572 1850 1655     0    0 1167  .491  100
      *  *        9
     ***
      *
```

```
 ---------------------------------------------------------------------------
-
  WEST: Rojas Magallanes
                                                Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)       ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov    ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.    Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****      10,    65  178    0  243 1850 1821     0    0  418  .581  100
          *       11
          *
 ****** ****      11,     0  192   50  242 1850 1819     0    0  417  .581  100
       *  *       12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.   --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn   1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         274   278<  100   .984*  86*       18.5   .90     3.3   11.54
    2 T        2653  3458   100   .767   86        12.1   .58    20.2  128.92
    3 R         102   133   100   .766   86        12.1   .58    20.1    4.96
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         150   160   100   .940   28*       86.1  1.20    17.2   14.35
    5 T         508   540   100   .940   28        85.5  1.19    17.6   48.42
    6 R         115   122   100   .940   28        85.0  1.19    17.6   10.93
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L          89   267<  100   .333   86         5.6   .28      .9    2.99
    8 T        1663  3391   100   .490   86         8.1   .41     8.7   66.18
    9 R          50   102   100   .489   86         8.1   .41     8.7    1.99
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L          65   112   100   .580   28        41.8   .80     7.3    4.30
   11 T         370   637   100   .581   28        41.8   .80     7.3   24.48
   12 R          50    86   100   .581   28        41.8   .80     7.3    3.31
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
```

```
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           94.2       26        86      98    2488      64    6189
     2 T           90.0      239       778     870   20877     597   56750
     3 R           90.0        9        30      33     803      23    2182
                 -------------------------------------------------------
      ALL MOVS:    90.4      274       894    1002   24167     685   65121
 ---------------------------------------------------------------------------
 EAST: Rojas Magallanes
     4 L          122.9       18        70      61    1555      46    5369
     5 T          122.6       62       236     205    5260     156   18123
     6 R          122.4       14        53      46    1189      35    4092
                 -------------------------------------------------------
      ALL MOVS:   122.6       95       360     313    8004     237   27584
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L           85.8        8        24      26     592      19    1793
     8 T           87.5      145       466     515   11899     364   34297
     9 R           87.5        4        14      15     358      11    1031
                 -------------------------------------------------------
      ALL MOVS:    87.4      157       504     557   12849     394   37121
 ---------------------------------------------------------------------------
 WEST: Rojas Magallanes
    10 L          103.4        7        24      24     590      17    1763
    11 T          103.4       38       135     135    3361      96   10038
    12 R          103.4        5        18      18     454      13    1357
                 -------------------------------------------------------
      ALL MOVS:   103.4       50       177     177    4405     125   13158
                 -------------------------------------------------------
  INTERSECTION:    94.7      576      1934    2048   49426    1441  142984
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
```

```
                 grn   grn
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .705*          274    278<   .984*  1.00    18.5    B
    2 T         .705          2653   3458    .767   1.00    12.1    B
    3 R         .705           102    133    .766   1.00    12.1    B
                ------------------------------------------------------
      ALL MOVS:               3029   3870    .984           12.7    B
 ----------------------------------------------------------------------
 EAST: Rojas Magallanes
    4 L         .230*          150    160    .940   1.00    86.1    F
    5 T         .230           508    540    .940   1.00    85.5    F
    6 R         .230           115    122    .940   1.00    85.0    F
                ------------------------------------------------------
      ALL MOVS:                773    822    .940           85.6    F
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .705            89    267<   .333   1.00     5.6    A
    8 T         .705          1663   3391    .490   1.00     8.1    B
    9 R         .705            50    102    .489   1.00     8.1    B
                ------------------------------------------------------
      ALL MOVS:               1802   3760    .490            8.0    B
 ----------------------------------------------------------------------
 WEST: Rojas Magallanes
   10 L         .230            65    112    .580   1.00    41.8    D
   11 T         .230           370    637    .581   1.00    41.8    D
   12 R         .230            50     86    .581   1.00    41.8    D
                ------------------------------------------------------
      ALL MOVS:                485    835    .581           41.8    D
                ------------------------------------------------------
      INTERSECTION:           6089   9288    .984           22.9    C
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:23 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / ROJAS MAGALLANES                    * AM2CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) 2010 - HORA PUNTA MANANA
 Intersection No.:     2
                  Cycle Time = 122

 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  3
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .9 %
     Difference in total vehicle capacity      =   .4 %
```

```
    Largest difference in eff. green times =  1 secs
    (max. value for stopping = 1 secs)
  Information on Previous Iteration:
    Cycle Time = 122
    Phase Times: 0,  91
    Critical Movements: 1, 4

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING

1F
                         A R R B  -  S I D R A  4.07
               ------------------------------------------------
               AMBITRANS
                                          Registered User No. 115
               Time and Date of Analysis    8:24 PM,  2 Jan 2008

 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ---------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
          1           317    17      0     0      0     0   1.00   1.00
          2             0     0   2686   181      0     0   1.00   1.00
          3             0     0      0     0      9     1   1.00   1.00
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
          4            19     1    240     1      0     0   1.00   1.00
          6             0     0      0     0    158     1   1.00   1.00
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
          7           242    30      0     0      0     0   1.00   1.00
          8             0     0   1399   195      0     0   1.00   1.00
          9             0     0      0     0    204     1   1.00   1.00
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
         10           171     5      0     0      0     0   1.00   1.00
         11             0     0    102     2      0     0   1.00   1.00
         12             0     0      0     0     89    16   1.00   1.00
 ---------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
```

```
 No.     Typ  First Green   Second Green  --------  ------------     --------
              ------------  ------------  1st  2nd  1st      2nd     1st  2nd
              Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L        *1  2                       4        62.0Max           58
    2 LT        1  2                       4        62.0Max           58
    3 R         1  2                       4        62.0Max           58
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        2  1                       4        28.6              20
    6 R        *2  1                       4        28.6              20
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         1  2                       4        62.0Max           58
    8 T         1  2                       4        42.6              58
    9 R         1  2                       4        42.7              58
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         2  1                       4        15.9              20
   11 T         2  1                       4        15.9              20
   12 R         2  1                       4        15.9              20
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:24 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     331    491<         .674           331    .80    -20    100
1.000*
    2 LT   2870E  5202          .552          3508    .80     -2    100   .818
    3 R      10     18          .556            12    .80     -3    100   .824
 ---------------------------------------------------------------------------
-
 EAST: Trinidad Oriente (ori)
    4 LT    261   1141          .229           265    .80    -19    100   .984
    6 R     159    695          .229           162    .80    -19    100   .984
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    7 L     272    465<         .585           314    .80     -8    100   .867
    8 T    1594   4434          .359          2990    .80     50    100   .533
    9 R     205    570          .360           384    .80     50    100   .533
 ---------------------------------------------------------------------------
-
```

```
 WEST: Trinidad Oriente (pon)
   10 L     176   1596          .110           371    .80     69    100   .474
   11 T     104    943          .110           219    .80     69    100   .474
   12 R     105    952          .110           221    .80     69    100   .474
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:24 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ---------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ---------------------------------------------------------------------
      1 L            1   2      62           -          -        62.0Max
      6 R            2   1       4         .229       .286       28.6
                                ----       ------     ------     ------
                       Total:   66         .229       .286       90.6
 ---------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         86         86

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =   1.000
    Practical Spare Capacity (Lowest)  =     -20 %
    Total Vehicle Flow                 =    6087
    Total Vehicle Capacity (all lanes) =    8779
 ---------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        57      62   .721
      2        62      67        19      24   .279
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
```

ARRB SIDRA 4.07 - Time and Date of Analysis 8:24 PM, 2 Jan 2008
INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 3
Cycle Time = 86

Table S.5 - MOVEMENT PERFORMANCE

Mov No.		Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Longest Que per Lane (vehs)	(m)	Perf. Index	Aver. Speed (km/h)	FUEL (mL/km)
SOUTH: Av. La Florida (sur)										
1	L	1.29	14.0	298	.90	3.2	20	12.74	41.9	92.4
2	LT	10.13	12.7	1969	.69	17.5	112	130.74	42.5	90.7
3	R	.04	12.7	7	.69	17.5	112	.46	42.5	90.8
EAST: Trinidad Oriente (ori)										
4	LT	7.34	101.2	424	1.62	18.1	109	26.15	20.8	129.5
6	R	4.47	101.2	258	1.62	18.1	109	15.93	20.8	129.5
NORTH: Av. La Florida (norte)										
7	L	1.30	17.2	245	.90	3.0	20	11.10	40.3	93.1
8	T	3.15	7.1	729	.46	7.5	48	58.44	45.5	87.3
9	R	.41	7.1	94	.46	7.5	48	7.52	45.5	87.3
WEST: Trinidad Oriente (pon)										
10	L	1.39	28.5	137	.78	4.1	25	9.30	35.8	97.8
11	T	.82	28.5	81	.78	4.1	25	5.49	35.8	97.8
12	R	.83	28.5	82	.78	3.8	25	5.55	35.8	97.8

Table S.6 - INTERSECTION PERFORMANCE

Total Flow (veh/h)	Total Delay (veh-h/h)	Aver. Delay (sec)	Total Stops (veh/h)	Stop Rate	Perf. Index	Aver. Speed (km/h)	FUEL Rate (mL/km)	FUEL Total (mL/h)
SOUTH: Av. La Florida (sur)								
3211	11.46	12.8	2274	.71	143.94	42.4	90.9	291932.5
EAST: Trinidad Oriente (ori)								
420	11.80	101.2	682	1.62	42.08	20.8	129.5	54406.0
NORTH: Av. La Florida (norte)								
2071	4.86	8.4	1068	.52	77.06	44.8	88.1	182417.1
WEST: Trinidad Oriente (pon)								
385	3.04	28.5	299	.78	20.34	35.8	97.8	37646.1
ALL GROUPS:								
6087	31.16	18.4	4322	.71	283.41	39.8	93.1	566401.7

1

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INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE * AM3CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA

```
 Intersection No.:     3
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   28  58    0   0    331  331 1.000   14.0   .90    3.2   20<  20
  2 LT     2   28  58    0   0    960 1174  .818   12.7   .69   17.5  112
  3 T      2   28  58    0   0    960 1174  .818   12.7   .69   17.5  112
  4 TR     2,  28  58    0   0    960 1173  .818   12.7   .69   17.5  112
           3
 ---------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
  1 LTR    4,  66  20    0   0    420  427  .983  101.2  1.62   18.1  109
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 L      7   28  58    0   0    272  313  .868   17.2   .90    3.0   20   20
  2 T      8   28  58    0   0    593 1112  .533    7.1   .46    7.2   48
  3 T      8   28  58    0   0    593 1112  .533    7.1   .46    7.2   48
  4 TR     8,  28  58    0   0    614 1152  .533    7.1   .46    7.5   48
           9
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
  1 LT    10,  66  20    0   0    199  419  .474   28.5   .78    4.1   25
          11
  2 TR    11,  66  20    0   0    186  393  .474   28.5   .78    3.8   25
          12
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:24 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   331    0    0  331 1850  491<    0    0  331 1.000  100

       *
      ***
       *  *
 ****** ****       2     3E 957    0  960 1850 1740     0    0 1174  .818  100
          *

          *
 ***********       2     0  960    0  960 1850 1740     0    0 1174  .818  100
          *
          *
 ****** ****       2,    0  950   10  960 1850 1740     0    0 1173  .818  100
       *  *        3
      ***
       *
 ------------------------------------------------------------------------------
-
  EAST: Trinidad Oriente (ori)
                                         Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       4,   20  241  159  420 1850 1837     0    0  427  .983  100
       *  *        6
      ***
       *
 ------------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                         Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            7   272    0    0  272 1850  465<    0    0  313  .868  100


          *
 ***********       8     0  593    0  593 1850 1648     0    0 1112  .533  100
```

```
          *

          *
***********       8     0  593    0  593 1850 1648     0    0 1112  .533  100
          *
          *
****** ****       8,    0  409  205  614 1850 1708     0    0 1152  .533  100
      *  *        9
     ***
      *
 ---------------------------------------------------------------------------
-
  WEST: Trinidad Oriente (pon)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
      *
     ***
      *  *
****** ****      10,  176   23    0  199 1850 1801     0    0  419  .474  100
          *       11
          *
****** ****      11,    0   81  105  186 1850 1691     0    0  393  .474  100
      *  *       12
     ***
      *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:24 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         331   331<  100  1.000*  58*       14.0   .90     3.2   12.74
    2 LT       2870E 3508   100   .818   58        12.7   .69    17.5  130.74
    3 R          10E   12   100   .824   58        12.7   .69    17.5     .46
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        261   265   100   .984   20       101.2  1.62    18.1   26.15
    6 R         159   162   100   .984   20*      101.2  1.62    18.1   15.93
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
```

```
    7 L         272   314<  100   .867   58        17.2   .90     3.0   11.10
    8 T        1594  2990   100   .533   58         7.1   .46     7.5   58.44
    9 R         205   384   100   .533   58         7.1   .46     7.5    7.52
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         176   371   100   .474   20        28.5   .78     4.1    9.30
   11 T         104   219   100   .474   20        28.5   .78     4.1    5.49
   12 R         105   221   100   .474   20        28.5   .78     3.8    5.55
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
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 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           92.4       31       101     118    3002      76    7191
     2 LT          90.7      260       851     966   23575     651   61716
     3 R           90.8        1         3       3      82       2     215
                 -------------------------------------------------------
      ALL MOVS:    90.9      292       955    1088   26659     730   69122
 ---------------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
     4 LT         129.5       34       131     109    2832      85   10114
     6 R          129.5       21        80      67    1725      51    6161
                 -------------------------------------------------------
      ALL MOVS:   129.5       54       211     176    4557     136   16275
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     7 L           93.1       25        84      95    2361      63    6086
     8 T           87.3      139       445     500   11688     348   32555
     9 R           87.3       18        57      64    1503      45    4187
                 -------------------------------------------------------
      ALL MOVS:    88.1      182       586     659   15552     456   42827
 ---------------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
    10 L           97.8       17        59      62    1551      43    4320
    11 T           97.8       10        35      37     916      25    2552
    12 R           97.8       10        35      37     925      26    2577
                 -------------------------------------------------------
      ALL MOVS:    97.8       38       129     136    3392      94    9449
                 -------------------------------------------------------
  INTERSECTION:    93.1      566      1880    2060   50160    1416  137673
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:24 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
```

```
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .674*          331    331<  1.000*  1.00    14.0    B
    2 LT        .674          2870E  3508    .818   1.00    12.7    B
    3 R         .674            10E    12    .824   1.00    12.7    B
                ------------------------------------------------------
      ALL MOVS:               3211   3852   1.000           12.8    B
 ----------------------------------------------------------------------
 EAST: Trinidad Oriente (ori)
    4 LT        .233           261    265    .984   1.00   101.2    F
    6 R         .233*          159    162    .984   1.00   101.2    F
                ------------------------------------------------------
      ALL MOVS:                420    427    .984          101.2    F
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    7 L         .674           272    314<   .867   1.00    17.2    B
    8 T         .674          1594   2990    .533   1.00     7.1    B
    9 R         .674           205    384    .533   1.00     7.1    B
                ------------------------------------------------------
      ALL MOVS:               2071   3688    .867            8.4    B
 ----------------------------------------------------------------------
 WEST: Trinidad Oriente (pon)
   10 L         .233           176    371    .474   1.00    28.5    C
   11 T         .233           104    219    .474   1.00    28.5    C
   12 R         .233           105    221    .474   1.00    28.5    C
                ------------------------------------------------------
      ALL MOVS:                385    812    .474           28.5    C
                ------------------------------------------------------
      INTERSECTION:           6087   8779   1.000           18.4    B
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:24 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / TRINIDAD ORIENTE                    * AM3CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     3
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
```

```
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  3
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

```
1F
                        A R R B  -  S I D R A  4.07
               ------------------------------------------------
               AMBITRANS
                                        Registered User No. 115
               Time and Date of Analysis    8:25 PM,  2 Jan 2008

 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. La Florida (sur)								
1	165	6	0	0	0	0	1.00	1.00
2	0	0	2050	207	0	0	1.00	1.00
NORTH: Av. La Florida (norte)								
3	0	0	967	221	0	0	1.00	1.00
4	0	0	0	0	122	6	1.00	1.00
WEST: San Jose de La Estrella								
5	271	4	0	0	0	0	1.00	1.00
6	0	0	0	0	54	12	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

```
 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         1  2  L                    15        65.0Max           45
    2 LT       *1  2                        4        65.0Max           56
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         1  2                        4        33.7              56
    4 R  (Und)  1  2          2  1          4    4   28.1     31.0     56   22
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L        *2  1                        4        20.2              22
    6 R         2  1                        4        11.0Min           22
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. La Florida (sur)
    1 L     142    272<         .524           142    .80    -20    100  1.001
    2 LT   2286E  3391          .674          2208    .80    -23    100
1.035*
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida (norte)
    3 T    1188   4295          .277          2797    .80     88    100   .425
    4 R     128    438    62    .252   .283    301    .90    112    100   .425
 ---------------------------------------------------------------------------
-
 WEST: San Jose de La Estrella
    5 L     275   1823          .151           466    .80     36    100   .590
    6 R      66   1565          .042           400    .80    385    100   .165
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect
1
```

```
ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.:     4
                 Cycle Time =  86


Table S.3 - INTERSECTION PARAMETERS
----------------------------------------------------------------------
   Crit    Green   Phases   Adjusted    Adjusted   Required   Required
   Mov     Period  ------     Lost        Flow     Grn Time   Movement
   No.             Fr  To     Time        Ratio     Ratio       Time
----------------------------------------------------------------------
     2 LT           1   2      65           -          -        65.0Max
     5 L            2   1       4         .151       .189       20.2
                              ----       ------     ------     ------
                      Total:   69         .151       .189       85.2
----------------------------------------------------------------------
  -  Flow ratio not used for cycle time calculations and
     the adjusted lost time equals the required movement time
     (=Min or Max as shown in Table S.1)

   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        22        86         85         86

     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.035
   Practical Spare Capacity (Lowest)  =     -23 %
   Total Vehicle Flow                 =    4085
   Total Vehicle Capacity (all lanes) =    6316
----------------------------------------------------------------------


Table S.4 - PHASE INFORMATION
--------------------------------------------------
   Phase    Change   Green  Displayed  Grn+Intgrn
    No.      Time    Start    Green    Secs  Prop.
--------------------------------------------------
     1         0       5        55      60   .698
     2        60      65        21      26   .302
--------------------------------------------------
            (Phase change times specified by the user)
  Current Phase Sequence No.: 1   Phases: A  B
```

1

```
ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.:     4
                 Cycle Time =  86


Table S.5 - MOVEMENT PERFORMANCE
-------------------------------------------------------------------------
```

```
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L      .81   20.5    128   .90    2.4    15    6.79   38.9   95.1
     2 LT   68.72  108.2   4212  1.84   55.9   366  249.62   20.0  135.2
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T     2.27    6.9    519   .44    5.0    35   42.23   45.6   87.2
     4 R      .21    5.9     57   .44    4.7    32    4.42   46.2   86.9
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L     2.14   28.0    217   .79    5.8    35   14.60   36.0   97.7
     6 R      .46   24.9     46   .70    1.2     9    3.26   37.2   95.9
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
  2428     69.53  103.1   4340  1.79   256.41    20.6   132.8   322522.9
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
  1316      2.48    6.8    575   .44    46.64    45.7    87.1   114683.7
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
   341      2.60   27.4    263   .77    17.86    36.2    97.3    33188.1
 ----------------------------------------------------------------------
 ALL GROUPS:
  4085     74.61   65.8   5178  1.27   320.91    26.1   115.2   470394.8
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
  1 L      1   41  45    0   0    142  142 1.000   20.5   .90    2.4   15<  15
  2 LT     2   30  56    0   0   1144 1105 1.035  108.2  1.84   55.9  366
  3 T      2   30  56    0   0   1142 1103 1.035  108.3  1.84   55.9  366
```

```
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
  1 T      3   30  56    0   0    431 1016  .425    7.2   .43    5.0   35
  2 T      3   30  56    0   0    431 1016  .425    7.2   .43    5.0   35
  3 TR     3,  25  56    4   1    453 1067  .425    5.9   .44    4.7   32
           4
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
  1 L      5   64  22    0   0    275  466  .590   28.0   .79    5.8   35
  2 R      6   64  22    0   0     66  400  .165   24.9   .70    1.2    9
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. La Florida (sur)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   142    0    0  142 1850  272<    0   75  142 1.000  100

       *
      ***
       *  *
 ****** ****       2    29E1115    0 1144 1850 1697     0    0 1105 1.035  100
          *

          *
 ***********       2     0 1142    0 1142 1850 1695     0    0 1103 1.035  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida (norte)
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
          *
 ***********       3     0  431    0  431 1850 1560     0    0 1016  .425  100
          *

          *
 ***********       3     0  431    0  431 1850 1560     0    0 1016  .425  100
          *
          *    Slip Lane
 ****** ****       3,    0  325  128  453 1850 1613  1417    0 1067  .425  100
       *  *        4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: San Jose de La Estrella
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   275    0    0  275 1850 1823     0    0  466  .590  100


 ******            6     0    0   66   66 1850 1565     0    0  400  .165  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA            * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                 Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                        Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         142   142<  100  1.001   45        20.5   .90     2.4    6.79
    2 LT       2286E 2208   100  1.035*  56*      108.2  1.84    55.9  249.62
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T        1188  2797   100   .425   56         6.9   .44     5.0   42.23
```

```
   4 R  (Und)  128   301   100   .425   56   22    5.9   .44     4.7    4.42
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
   5 L         275   466   100   .590   22*       28.0   .79     5.8   14.60
   6 R          66   400   100   .165   22        24.9   .70     1.2    3.26
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
     1 L           95.1       14        45      51    1305      34    3274
     2 LT         135.2      309      1204    1062   28654     772   92081
                 ------------------------------------------------------------
      ALL MOVS:   132.8      323      1249    1113   29959     806   95355
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
     3 T           87.2      104       331     370    8595     259   24255
     4 R           86.9       11        35      40     922      28    2603
                 ------------------------------------------------------------
      ALL MOVS:    87.1      115       366     410    9516     287   26858
 ---------------------------------------------------------------------------
 WEST: San Jose de La Estrella
     5 L           97.7       27        92      98    2434      67    6727
     6 R           95.9        6        21      23     559      16    1574
                 ------------------------------------------------------------
      ALL MOVS:    97.3       33       113     121    2993      83    8301
                 ------------------------------------------------------------
  INTERSECTION:   115.2      470      1729    1643   42468    1176  130513
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
```

```
 ----------------------------------------------------------------------
 SOUTH: Av. La Florida (sur)
    1 L         .523           142    142<  1.001   1.00    20.5    C
    2 LT        .651*         2286E  2208   1.035*  1.00   108.2    F
                ------------------------------------------------------
      ALL MOVS:               2428   2350   1.035          103.1    F
 ----------------------------------------------------------------------
 NORTH: Av. La Florida (norte)
    3 T         .651          1188   2797    .425   1.00     6.9    B
    4 R  (Und)  .651   .256    128    301    .425   1.00     5.9    A
                ------------------------------------------------------
      ALL MOVS:               1316   3098    .425            6.8    B
 ----------------------------------------------------------------------
 WEST: San Jose de La Estrella
    5 L         .256*          275    466    .590   1.00    28.0    C
    6 R         .256            66    400    .165   1.00    24.9    C
                ------------------------------------------------------
      ALL MOVS:                341    867    .590           27.4    C
                ------------------------------------------------------
      INTERSECTION:           4085   6316   1.035           65.8    E
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:25 PM,  2 Jan 2008
 INTERSECCION AV. LA FLORIDA / SAN JOSE DE LA ESTRELLA             * AM4CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     4
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    8:28 PM,  2 Jan 2008

INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES           * AM5CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.:     5
                 Cycle Time =  86
```

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Av. Camilo Henriquez								
1	139	27	0	0	0	0	1.00	1.00
2	0	0	2316	192	0	0	1.00	1.00
3	0	0	0	0	35	2	1.00	1.00
EAST: Av. Diego Portales (ori)								
4	69	3	149	3	0	0	1.00	1.00
6	0	0	0	0	329	1	1.00	1.00
NORTH: Av. La Florida								
7	156	3	0	0	0	0	1.00	1.00
8	0	0	1328	205	0	0	1.00	1.00
9	0	0	0	0	71	39	1.00	1.00
WEST: Av. Diego Portales (pon)								
10	153	37	120	3	0	0	1.00	1.00
12	0	0	0	0	48	14	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS

Mov No.	Mov Typ	PHASE First Green			PHASE Second Green			MIX	Lost Tim 1st Grn	Lost Tim 2nd Grn	Req.Mov.Time 1st Grn	Req.Mov.Time 2nd Grn	Eff. Grn 1st Grn	Eff. Grn 2nd Grn
		Fr	To	Op Pr	Fr	To	Op Pr							
SOUTH: Av. Camilo Henriquez														
1	L	1	2						4		36.4		48	
2	T	1	2						4		56.6		48	
3	R	*1	2		2	1	R		4	8	58.8	35.0	48	26
EAST: Av. Diego Portales (ori)														
4	LT	2	1						4		35.0Max		30	
6	R	*2	1						4		35.0Max		30	
NORTH: Av. La Florida														
7	L	1	2						4		31.3		48	

```
    8 T         1  2                        4        39.9              48
    9 R         1  2          2  1  R       4   10   49.0     11.0Min  48   24
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        2  1                        4        28.9              30
   12 R         2  1                        4        29.0              30
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez
    1 L     166    550<         .302           307    .80     48    100   .541
    2 T    2508   5125          .489          2860    .80     -9    100   .877
    3 R      37     47    52    .509   .251     42    .80     -9    100
.882*
 ---------------------------------------------------------------------------
-
 EAST: Av. Diego Portales (ori)
    4 LT    224    739          .303           258    .80     -8    100   .869
    6 R     330   1088          .303           380    .80     -8    100   .869
 ---------------------------------------------------------------------------
-
 NORTH: Av. La Florida
    7 L     159    627<         .254           350    .80     76    100   .454
    8 T    1533   4588          .334          2561    .80     34    100   .599
    9 R     110    260   138    .423   .000    184    .80     34    100   .599
 ---------------------------------------------------------------------------
-
 WEST: Av. Diego Portales (pon)
   10 LT    313   1350          .232           471    .80     20    100   .665
   12 R      62    267          .232            93    .80     20    100   .666
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect

   Opposed turn in movement    3 has high x.
   Its capacity is mainly due to end departures. Consider increasing
   the number of end departures, and/or specifying this as an undetected
   movement, since it may be affecting the timing results adversely.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
```

```
                  Cycle Time =  86


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      3 R    1st     1   2       4         .509       .637       58.8
      6 R            2   1      35           -          -        35.0Max
                                ----       ------     ------     ------
                       Total:   39         .509       .637       93.8
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)

    Cycle Time:
      Minimum   Maximum   Practical   Chosen
         22        86         86         86

      (Cycle time specified by the user)


    Cycle time is at maximum and short lanes exist.
    A shorter cycle time may give better results.

    Degree of Saturation (Highest)     =    .882
    Practical Spare Capacity (Lowest)  =      -9 %
    Total Vehicle Flow                 =    5442
    Total Vehicle Capacity (all lanes) =    7506
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 ---------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 ---------------------------------------------------
      1         0       5        47      52   .605
      2        52      57        29      34   .395
 ---------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.5 - MOVEMENT PERFORMANCE
 ------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
```

```
     1 L      .43    9.4     74   .44    2.0    14    6.12   44.2   88.2
     2 T    16.26   23.3   2226   .89   19.4   125  135.80   37.8   95.9
     3 R      .23   22.2     34   .93   19.1   123    1.98   38.2   95.5
 ----------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
     4 LT    2.30   36.9    217   .97   14.3    87   13.76   33.0  101.9
     6 R     3.39   36.9    320   .97   14.3    87   20.27   33.0  101.9
 ----------------------------------------------------------------------
 NORTH: Av. La Florida
     7 L      .41    9.2     69   .44    1.8    11    5.81   44.3   88.1
     8 T     4.93   11.6    922   .60    8.6    59   63.84   43.1   89.9
     9 R      .28    9.1     67   .61    7.3    51    4.30   44.4   89.0
 ----------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT    2.06   23.7    239   .76    7.6    52   15.99   37.6   95.7
    12 R      .41   23.7     47   .76    7.6    52    3.17   37.6   95.7
 ----------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
  2711     16.92   22.5   2334   .86   143.89    38.1    95.5   258808.0
 ----------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
   554      5.69   36.9    538   .97    34.03    33.0   101.9    56443.1
 ----------------------------------------------------------------------
 NORTH: Av. La Florida
  1802      5.62   11.2   1059   .59    73.95    43.3    89.7   161656.8
 ----------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   375      2.47   23.7    286   .76    19.16    37.6    95.7    35905.0
 ----------------------------------------------------------------------
 ALL GROUPS:
  5442     30.69   20.3   4216   .77   271.03    39.0    94.2   512812.9
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                            Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
```

```
  SOUTH: Av. Camilo Henriquez
  1 L      1   38  48    0   0    166  307  .541    9.4   .44    2.0   14   28
  2 T      2   38  48    0   0    841  959  .877   23.9   .87   19.4  125
  3 T      2   38  48    0   0    841  959  .877   23.9   .87   19.4  125
  4 TR     2,  29  48    8   1    863  984  .877   22.2   .93   19.1  123
           3
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
  1 LTR    4,  56  30    0   0    554  637  .869   36.9   .97   14.3   87
           6
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
  1 L      7   38  48    0   0    159  350  .454    9.2   .44    1.8   11   28
  2 T      8   38  48    0   0    545  911  .599   12.6   .60    8.6   59
  3 T      8   38  48    0   0    545  911  .599   12.6   .60    8.6   59
  4 TR     8,  27  48   10   1    553  923  .599    9.1   .61    7.3   51
           9
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
  1 LTR   10,  56  30    0   0    375  564  .665   23.7   .76    7.6   52
          12
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   166    0    0  166 1850  550<    0    0  307  .541  100


          *
 ***********       2     0  841    0  841 1850 1718     0    0  959  .877  100
          *

          *
 ***********       2     0  841    0  841 1850 1718     0    0  959  .877  100
          *
          *
```

```
 ****** ****        2,     0  826   37  863 1850 1720  2096   84* 984  .877  100
       *  *         3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Av. Diego Portales (ori)
                                                Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)       ---------------  Cap  Cap  Deg.
Lane
  Lane Use        Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                  No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****        4,    72  152  330  554 1850 1827     0    0  637  .869  100
       *  *         6
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Av. La Florida
                                                Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)       ---------------  Cap  Cap  Deg.
Lane
  Lane Use        Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                  No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******             7   159    0    0  159 1850  627<    0    0  350  .454  100


          *
 ***********        8     0  545    0  545 1850 1632     0    0  911  .599  100
          *

          *
 ***********        8     0  545    0  545 1850 1632     0    0  911  .599  100
          *
          *
 ****** ****        8,    0  443  110  553 1850 1571  3997   84* 923  .599  100
       *  *         9
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Av. Diego Portales (pon)
                                                Saturation Flow  End  Tot
  Effective              Arv Flow (veh/h)       ---------------  Cap  Cap  Deg.
Lane
  Lane Use        Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                  No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
```

```
       *  *
****** ****      10,  190  123   62  375 1850 1617     0    0  564  .665  100
       *  *      12
      ***
       *
 ---------------------------------------------------------------------------
-
   <  Reduced saturation flow due to a short lane effect
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh               Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         166   307<  100   .541   48         9.4   .44     2.0    6.12
    2 T        2508  2860   100   .877   48        23.3   .89    19.4  135.80
    3 R          37    42   100   .882*  48*  26   22.2   .93    19.1    1.98
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        224   258   100   .869   30        36.9   .97    14.3   13.76
    6 R         330   380   100   .869   30*       36.9   .97    14.3   20.27
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
    7 L         159   350<  100   .454   48         9.2   .44     1.8    5.81
    8 T        1533  2561   100   .599   48        11.6   .60     8.6   63.84
    9 R         110   184   100   .599   48   24    9.1   .61     7.3    4.30
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        313   471   100   .665   30        23.7   .76     7.6   15.99
   12 R          62    93   100   .666   30        23.7   .76     7.6    3.17
 ---------------------------------------------------------------------------
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
```

```
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
     1 L           88.2       15        47      52    1214      37    3463
     2 T           95.9      241       812     893   22355     602   59131
     3 R           95.5        4        12      13     328       9     865
                 -------------------------------------------------------
      ALL MOVS:    95.5      259       871     958   23898     647   63459
 ---------------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
     4 LT         101.9       23        80      83    2089      57    5871
     6 R          101.9       34       117     122    3078      84    8649
                 -------------------------------------------------------
      ALL MOVS:   101.9       56       197     204    5167     141   14520
 ---------------------------------------------------------------------------
 NORTH: Av. La Florida
     7 L           88.1       14        45      50    1158      35    3312
     8 T           89.9      138       449     504   12095     345   32689
     9 R           89.0       10        32      36     858      24    2304
                 -------------------------------------------------------
      ALL MOVS:    89.7      162       525     589   14111     404   38306
 ---------------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
    10 LT          95.7       30       101     110    2722      75    7395
    12 R           95.7        6        20      22     539      15    1465
                 -------------------------------------------------------
      ALL MOVS:    95.7       36       121     132    3261      90    8859
                 -------------------------------------------------------
  INTERSECTION:    94.2      513      1714    1883   46437    1282  125144
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------------------
  Mov     Mov    Green Time  Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Ratio (g/C) Flow    Cap.     of   Factor  Delay
                ------------ (veh   (veh     Satn
                 1st   2nd     /h)    /h)    (v/c)         (sec)
                 grn   grn
 ---------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez
    1 L         .558           166    307<   .541   1.00     9.4    B
    2 T         .558          2508   2860    .877   1.00    23.3    C
    3 R         .558*  .302     37     42    .882*  1.00    22.2    C
                -------------------------------------------------------
      ALL MOVS:               2711   3209    .882           22.5    C
 ---------------------------------------------------------------------
 EAST: Av. Diego Portales (ori)
    4 LT        .349           224    258    .869   1.00    36.9    D
    6 R         .349*          330    380    .869   1.00    36.9    D
                -------------------------------------------------------
      ALL MOVS:                554    637    .869           36.9    D
 ---------------------------------------------------------------------
 NORTH: Av. La Florida
```

```
    7 L         .558           159    350<   .454   1.00     9.2    B
    8 T         .558          1533   2561    .599   1.00    11.6    B
    9 R         .558   .279    110    184    .599   1.00     9.1    B
                ----------------------------------------------------
      ALL MOVS:               1802   3094    .599           11.2    B
 ------------------------------------------------------------------
 WEST: Av. Diego Portales (pon)
   10 LT        .349           313    471    .665   1.00    23.7    C
   12 R         .349            62     93    .666   1.00    23.7    C
                ----------------------------------------------------
      ALL MOVS:                375    564    .666           23.7    C
                ----------------------------------------------------
      INTERSECTION:           5442   7506    .882           20.3    C
 ------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:28 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / AV. DIEGO PORTALES            * AM5CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     5
                  Cycle Time =  86


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Opposed turn in movement    3 has high x.
   Its capacity is mainly due to end departures. Consider increasing
   the number of end departures, and/or specifying this as an undetected
   movement, since it may be affecting the timing results adversely.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

```
                    A R R B  -  S I D R A  4.07
              ------------------------------------------------
              AMBITRANS
                                        Registered User No. 115
              Time and Date of Analysis    8:44 PM,  2 Jan 2008

 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)
 ------------------------------------------------------------------------
        Mov              Left       Through       Right     Flow   Peak
        No.           ---------    ---------    ---------   Scale  Hour
                       LV    HV     LV    HV     LV    HV          Factor
 ------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
          1            90    38      0     0      0     0   1.00    .99
          2             0     0    641   185      0     0   1.00    .99
 ------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
          3             0     0    406   491      0     0   1.00   1.00
          4             0     0      0     0    342   293   1.00   1.00
 ------------------------------------------------------------------------
 WEST: El Penon
          5           468   107      0     0      0     0   1.00   1.00
          6             0     0      0     0    255    63   1.00   1.00
 ------------------------------------------------------------------------
 Based on unit time =  60 minutes.
 Flow Scale and Peak Hour Factor effects included in flow values.


 Table S.1 - MOVEMENT PHASE AND TIMING PARAMETERS
 ---------------------------------------------------------------------------
  Mov     Mov    P H A S E  M A T R I X    Lost Tim  Req.Mov.Time     Eff. Grn
  No.     Typ  First Green   Second Green  --------  ------------     --------
               ------------  ------------  1st  2nd  1st      2nd     1st  2nd
               Fr To Op Pr   Fr To Op Pr   Grn  Grn  Grn      Grn     Grn  Grn
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L        *1  2  L                    40        63.8              19
    2 LT        1  2                        4        25.4              55
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         1  2                        4        46.7              55
    4 R         1  2                        4        61.1              55
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L        *2  1                        4        40.0Max           28
    6 R         2  1                        4        24.8              28
 ---------------------------------------------------------------------------
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
```

```
 Intersection No.:     6
                  Cycle Time =  91


 Table S.2 - MOVEMENT CAPACITY PARAMETERS
 ---------------------------------------------------------------------------
-
  Mov      Arv     Satn Flow     Flow Ratio   Total  Prac.  Prac.  Lane   Deg.
  No.      Flow   -----------    ----------    Cap.  Deg.   Spare  Util   Satn
           (veh    1st   2nd     1st    2nd   (veh   Satn   Cap.
            /h)    Grn   Grn     Grn    Grn    /h)    xp     (%)    (%)     x
 ---------------------------------------------------------------------------
-
 SOUTH: Av. Camilo Henriquez (S)
    1 L     103    494<         .209           103    .80    -20    100  1.001
    2 LT    851E  4527          .188          2736    .80    157    100   .311
 ---------------------------------------------------------------------------
-
 NORTH: Av. Camilo Henriquez (N)
    3 T     897   2391          .375          1445    .80     29     75   .621
    4 R     635   1266          .502           765    .80     -4    100   .830
 ---------------------------------------------------------------------------
-
 WEST: El Penon
    5 L     575   1560          .369           480    .80    -33    100
1.198*
    6 R     318   1544          .206           475    .90     34    100   .669
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced saturation flow due to a short lane effect

   Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Crit    Green   Phases   Adjusted    Adjusted   Required   Required
    Mov     Period  ------     Lost        Flow     Grn Time   Movement
    No.             Fr  To     Time        Ratio     Ratio       Time
 ----------------------------------------------------------------------
      1 L            1   2      40         .209       .261       63.8
      5 L            2   1      40           -          -        40.0Max
                                ----       ------     ------     ------
                       Total:   80         .209       .261      103.8
 ----------------------------------------------------------------------
   -  Flow ratio not used for cycle time calculations and
      the adjusted lost time equals the required movement time
      (=Min or Max as shown in Table S.1)
```

```
   Cycle Time:
     Minimum   Maximum   Practical   Chosen
        22        91         91         91

     (Cycle time specified by the user)


   Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.

   Degree of Saturation (Highest)     =   1.198
   Practical Spare Capacity (Lowest)  =     -33 %
   Total Vehicle Flow                 =    3379
   Total Vehicle Capacity (all lanes) =    6004
 ----------------------------------------------------------------------


 Table S.4 - PHASE INFORMATION
 --------------------------------------------------
    Phase    Change   Green  Displayed  Grn+Intgrn
     No.      Time    Start    Green    Secs  Prop.
 --------------------------------------------------
      1         0       5        54      59   .648
      2        59      64        27      32   .352
 --------------------------------------------------
             (Phase change times specified by the user)
   Current Phase Sequence No.: 1   Phases: A  B
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.5 - MOVEMENT PERFORMANCE
 ---------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
     1 L     1.03   36.0     93   .90    2.6    20    6.18   33.3  101.5
     2 LT    2.07    8.8    373   .44    3.5    26   31.64   44.6   87.9
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
     3 T     2.84   11.4    511   .57    7.2    67   37.97   43.2   89.7
     4 R     3.44   19.5    493   .78   13.8   121   32.73   39.3   94.0
 ---------------------------------------------------------------------------
 WEST: El Penon
     5 L    66.27  414.9   2337  4.07   65.6   467  156.41    7.4  262.8
     6 R     2.43   27.5    250   .78    7.0    50   17.18   36.2   97.4
 ---------------------------------------------------------------------------


 Table S.6 - INTERSECTION PERFORMANCE
 ---------------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
```

```
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
   954      3.10   11.7    466   .49    37.82    43.0    89.4    85273.0
 ----------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
  1532      6.28   14.8   1004   .66    70.70    41.5    91.4   140098.8
 ----------------------------------------------------------------------
 WEST: El Penon
   893     68.70  276.9   2587  2.90   173.59    10.3   203.9   182082.0
 ----------------------------------------------------------------------
 ALL GROUPS:
  3379     78.08   83.2   4057  1.20   282.11    23.2   120.6   407453.8
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                     * AM6CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------------------
-
              Effective Red and   Arv                             Back  of
              Green Times (sec)  Flow  Cap  Deg.  Aver.  Stop   Q u e u e
Shrt
  Lane   Mov  ----------------  (veh (veh  Satn  Delay  Rate  -----------
Lane
  No.    No.   R1  G1   R2  G2     /h)  /h)   x   (sec)        (vehs) (m)  (m)
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
  1 L      1   72  19    0   0    103  103 1.000   36.0   .90    2.6   20<  20
  2 LT     2   36  55    0   0    283  909  .311    8.8   .44    3.5   26
  3 T      2   36  55    0   0    284  914  .311    8.8   .44    3.5   26
  4 T      2   36  55    0   0    284  914  .311    8.8   .44    3.5   26
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
  1 T      3   36  55    0   0    449  723  .621   11.4   .57    7.2   67
  2 T      3   36  55    0   0    449  723  .621   11.4   .57    7.2   67
  3 R      3,  36  55    0   0    635  765  .830   19.5   .78   13.8  121
           4
 ---------------------------------------------------------------------------
-
  WEST: El Penon
  1 L      5   63  28    0   0    575  480 1.198  414.9  4.07   65.6  467
  2 R      6   63  28    0   0    318  475  .669   27.5   .78    7.0   50
 ---------------------------------------------------------------------------
-

   <  Short lane capacity is reached and there is excess flow
      into an adjacent lane
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                     * AM6CM10 *
```

```
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Av. Camilo Henriquez (S)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            1   103    0    0  103 1850  494<    0   71  103 1.000  100

       *
      ***
       *  *
 ****** ****       2    25E 258    0  283 1850 1504     0    0  909  .311  100
          *

          *
 ***********       2     0  284    0  284 1850 1511     0    0  914  .311  100
          *

          *
 ***********       2     0  284    0  284 1850 1511     0    0  914  .311  100
          *
 ---------------------------------------------------------------------------
-
  NORTH: Av. Camilo Henriquez (N)
                                                Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)        ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  449    0  449 1850 1196     0    0  723  .621   75
          *
Prog

          *
 ***********       3     0  449    0  449 1850 1196     0    0  723  .621   75
          *
Prog

 ******            3,    0    0  635  635 1850 1266     0    0  765  .830  100
       *           4
      ***
       *
```

```
 ---------------------------------------------------------------------------
-
  WEST: El Penon
                                          Saturation Flow  End  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   575    0    0  575 1850 1560     0    0  480 1.198  100


 ******            6     0    0  318  318 1850 1544     0    0  475  .669  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
   E  "Excess" flow from the short lane of an adjacent movement
   <  Reduced saturation flow due to a short lane effect
   Prog  Lane under-utilisation found by the "Program"
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                      * AM6CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                 Cycle Time =  91


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ---------------------------------------------------------------------------
                                          Eff. Grn  Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  --------  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn  1st  2nd
               (veh  (veh              Grn  Grn  (sec)         (veh)
                /h)   /h)   (%)     x
 ---------------------------------------------------------------------------
 SOUTH: Av. Camilo Henriquez (S)
    1 L         103   103<  100  1.001   19*       36.0   .90     2.6    6.18
    2 LT        851E 2736   100   .311   55         8.8   .44     3.5   31.64
 ---------------------------------------------------------------------------
 NORTH: Av. Camilo Henriquez (N)
    3 T         897  1445    75   .621   55        11.4   .57     7.2   37.97
    4 R         635   765   100   .830   55        19.5   .78    13.8   32.73
 ---------------------------------------------------------------------------
 WEST: El Penon
    5 L         575   480   100  1.198*  28*      414.9  4.07    65.6  156.41
    6 R         318   475   100   .669   28        27.5   .78     7.0   17.18
 ---------------------------------------------------------------------------
   E  "Excess" flow from the short lane of an adjacent movement
      added to normal flow
   <  Reduced capacity due to a short lane effect
   *  Maximum degree of saturation, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
```

INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.	Fuel Consumption Rate mL/km	Fuel Consumption Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Av. Camilo Henriquez (S)							
1 L	101.5	10	36	38	968	26	2683
2 LT	87.9	75	240	266	6198	187	17651
ALL MOVS:	89.4	85	277	304	7165	213	20334
NORTH: Av. Camilo Henriquez (N)							
3 T	89.7	80	261	293	7004	201	19056
4 R	94.0	60	199	221	5459	149	14496
ALL MOVS:	91.4	140	460	513	12463	350	33552
WEST: El Penon							
5 L	262.8	151	692	381	10445	378	57021
6 R	97.4	31	106	113	2807	77	7743
ALL MOVS:	203.9	182	798	494	13252	455	64763
INTERSECTION:	120.6	407	1535	1312	32880	1019	118650

1
ARRB SIDRA 4.07 - Time and Date of Analysis 8:44 PM, 2 Jan 2008
INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON * AM6CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 6
Cycle Time = 91

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Green Time Ratio (g/C) 1st grn	Green Time Ratio (g/C) 2nd grn	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
SOUTH: Av. Camilo Henriquez (S)									
1	L	.209*		103	103<	1.001	1.00	36.0	D
2	LT	.604		851E	2736	.311	1.00	8.8	B
ALL MOVS:				954	2839	1.001		11.7	B
NORTH: Av. Camilo Henriquez (N)									
3	T	.604		897	1445	.621	1.00	11.4	B
4	R	.604		635	765	.830	1.00	19.5	C
ALL MOVS:				1532	2210	.830		14.8	B

```
 ----------------------------------------------------------------------
 WEST: El Penon
    5 L         .308*          575    480   1.198*  1.00   414.9    F
    6 R         .308           318    475    .669   1.00    27.5    C
                ------------------------------------------------------
      ALL MOVS:                893    955   1.198          276.9    F
                ------------------------------------------------------
      INTERSECTION:           3379   6004   1.198           83.2    F
 ----------------------------------------------------------------------

   Level of Service calculations are based on overall delay.
   <  Reduced capacity due to a short lane effect
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:44 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EL PENON                       * AM6CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     6
                  Cycle Time =  91


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Signalised - Fixed Time
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * No. of Main Iterations =  1
   Comparison of last two iterations:
     Difference in intersection degree of satn =   .0 %
     Difference in total vehicle capacity      =   .0 %
     Largest difference in eff. green times =  0 secs
     (max. value for stopping = 0 secs)

 * Movement    1 has large x because of short lanes.
   The degree of saturation of adjacent movement    2 is less than xp,
   hence this solution may be satisfactory.
   See Table S.7 for queue length, delay etc.

 * Cycle time is at maximum and short lanes exist.
   A shorter cycle time may give better results.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 8:31 PM, 2 Jan 2008

INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25								
1	96	29	0	0	0	0	1.00	1.00
2	0	0	569	78	0	0	1.00	1.00
NORTH WEST: Av. Camilo Henriquez								
3	0	0	289	98	0	0	1.00	1.00
4	0	0	0	0	450	87	1.00	1.00
SOUTH WEST: Eyzaguirre								
5	304	65	0	0	0	0	1.00	1.00
6	0	0	0	0	132	24	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 8:31 PM, 2 Jan 2008
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE * AM7CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 7
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25							
1 L	125	387	458	.80	193	100	.273
2 T	647	0	2369	.80	193	100	.273
NORTH WEST: Av. Camilo Henriquez							
3 T	387	0	2952	.80	510	100	.131
4 R	537	0	1592	.98	191	100	.337
SOUTH WEST: Eyzaguirre							
5 L	369	1428+	126	.80	-73	100	2.929*
6 R	156	656+	611	.80	213	100	.255

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =   2.929
    Practical Spare Capacity (Lowest)  =     -73 %
    Total Vehicle Flow                 =    2221
    Total Vehicle Capacity (all lanes) =    8108
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
     1 L      .00     .0     10   .08     .0     0    2.84   45.0   85.6
     2 T      .00     .0     16   .02     .0     0   14.48   45.0   84.4
 ----------------------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
     3 T      .00     .0      0   .00     .0     0    8.60   45.0   83.9
     4 R      .00     .0               13.7#        11.93   45.0   83.9
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L   364.00 3551.2    369  1.00  124.0   875  498.23    1.0 1429.2
     6 R      .19    4.3     95   .61     .7     5    4.92   42.7   91.3
 ----------------------------------------------------------------------
   #  Largest density/concentration (number of passenger car space equivalents
      (pcse) per km or per mile if US units) for any lane

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25
   772       .00     .0     26   .03    17.32    45.0    84.6    65314.2
 ----------------------------------------------------------------------
```

```
 NORTH WEST: Av. Camilo Henriquez
   924       .00     .0      0   .00    20.53    45.0    83.9    77486.0
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
   525    364.18 2497.3    464   .88   503.15     1.4  1031.6   541606.2
 ----------------------------------------------------------------------
 ALL GROUPS:
  2221    364.19  590.3    490   .22   541.00     5.4   308.2   684406.4
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25
  1 LT      1,   321  1176  .273     .0   .08     .0    0
            2
  2 T       2    451  1651  .273     .0   .00     .0    0
 ---------------------------------------------------------------
  NORTH WEST: Av. Camilo Henriquez
  1 T       3    194  1476  .131     .0   .00     .0    0
  2 T       3    194  1476  .131     .0   .00     .0    0
  3 R       4    537  1592  .337     .0         13.7#
 ---------------------------------------------------------------
  SOUTH WEST: Eyzaguirre
  1 L       5    369   126 2.936 3551.2  1.00  124.0  875
  2 R       6    156   611  .255    4.3   .61     .7    5
 ---------------------------------------------------------------
   #  Concentration/density (pcse per km, or per mile if US units)

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25
                                            Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,  125  196    0  321 1850 1176     0   60 1176  .273  100
          *        2

          *
 ***********       2     0  451    0  451 1850 1651     0    0 1651  .273  100
          *
 ---------------------------------------------------------------------------
-
  NORTH WEST: Av. Camilo Henriquez
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

          *
 ***********       3     0  194    0  194 1850 1476     0    0 1476  .131  100
          *

          *
 ***********       3     0  194    0  194 1850 1476     0    0 1476  .131  100
          *
               Continuous Lane
 ******            4     0    0  537  537 1850 1592     0    0 1592  .337  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  SOUTH WEST: Eyzaguirre
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5   369    0    0  369 1850  126     0   60  126 2.936  100

               Slip Lane
 ******            6     0    0  156  156 1850  611     0   60  611  .255  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
1
```

```
ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.:     7
            Unsignalised Intersection


Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
-------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
 Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
 No.     Typ  Flow   Cap.  Util  Satn
              (veh  (veh               (sec)         (veh)
               /h)   /h)   (%)     x
-------------------------------------------------------------------
EAST: Ruta G-25
   1 L         125   458   100   .273     .0   .08      .0    2.84
   2 T         647  2369   100   .273     .0   .02      .0   14.48
-------------------------------------------------------------------
NORTH WEST: Av. Camilo Henriquez
   3 T         387  2952   100   .131     .0   .00      .0    8.60
   4 R  (Con)  537  1592   100   .337     .0          13.7#  11.93
-------------------------------------------------------------------
SOUTH WEST: Eyzaguirre
   5 L         369   126   100  2.929*3551.2  1.00   124.0  498.23
   6 R         156   611   100   .255    4.3   .61      .7    4.92
-------------------------------------------------------------------

  *  Maximum degree of saturation
  #  Largest density/concentration (number of passenger car space equivalents
     (pcse) per km or per mile if US units) for any lane

  Stop Rate is proportion of stopped vehicles including queueing effects.
  Geometric delays not included.
1
ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                    * AM7CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.:     7
            Unsignalised Intersection


Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
-----------------------------------------------------------------------
  Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
  No.             Rate    Total     Total   Total   Total   Total   Total
                  mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
-----------------------------------------------------------------------
EAST: Ruta G-25
    1 L           85.6       11        34      33     793      27    2642
    2 T           84.4       55       174     166    3977     137   13384
                ---------------------------------------------------------
     ALL MOVS:    84.6       65       208     199    4770     163   16026
-----------------------------------------------------------------------
NORTH WEST: Av. Camilo Henriquez
    3 T           83.9       32       103      98    2345      81    7930
    4 R           83.9       45       143     137    3254     113   11004
                ---------------------------------------------------------
     ALL MOVS:    83.9       77       246     235    5599     194   18934
```

```
 ----------------------------------------------------------------------
 SOUTH WEST: Eyzaguirre
     5 L         1429.2      527      2736     829   21669    1318  237041
     6 R           91.3       14        47      48    1254      36    3513
                 ----------------------------------------------------------
      ALL MOVS:  1031.6      542      2783     877   22923    1354  240554
                 ----------------------------------------------------------
  INTERSECTION:   308.2      684      3237    1311   33292    1711  275515
 ----------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                  * AM7CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 EAST: Ruta G-25
    1 L            125    458    .273   1.00      .0    A
    2 T            647   2369    .273   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    772   2827    .273             .0    A
 ---------------------------------------------------------
 NORTH WEST: Av. Camilo Henriquez
    3 T            387   2952    .131   1.00      .0    A
    4 R  (Con)     537   1592    .337   1.00      .0    C#
                 ----------------------------------------
      ALL MOVS:    924   4544    .337             .0    A
 ---------------------------------------------------------
 SOUTH WEST: Eyzaguirre
    5 L            369    126   2.929*  1.00  3551.2    F
    6 R            156    611    .255   1.00     4.3    A
                 ----------------------------------------
      ALL MOVS:    525    737   2.929         2497.3    F
                 ----------------------------------------
  INTERSECTION:   2221   8108   2.929          590.3    F
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   #  Level Of Service for continuous movements based on density/concentration
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    8:31 PM,  2 Jan 2008
 INTERSECCION AV. CAMILO HENRIQUEZ / EYZAGUIRRE                  * AM7CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     7
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
```

```
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:40 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Acceso a Ruta G-421								
1	55	9	0	0	0	0	1.00	1.00
2	0	0	0	0	15	1	1.00	1.00
EAST: Ruta G-25 (ori)								
3	8	1	0	0	0	0	1.00	1.00
4	0	0	290	73	0	0	1.00	1.00
WEST: Ruta G-25 (pon)								
5	0	0	188	60	0	0	1.00	1.00
6	0	0	0	0	15	5	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:40 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES) * AM8CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 8
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Acceso a Ruta G-421							
1 L	64	630+	358	.80	348	100	.179
2 R	16	10+	90	.80	350	100	.178
EAST: Ruta G-25 (ori)							
3 L	9	332	37	.80	229	100	.243
4 T	363	0	1474	.80	225	100	.246*
WEST: Ruta G-25 (pon)							
5 T	248	0	1378	.80	345	100	.180
6 R	20	0	111	.80	344	100	.180

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .246
    Practical Spare Capacity (Lowest)  =     225 %
    Total Vehicle Flow                 =     720
    Total Vehicle Capacity (all lanes) =    3448
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L      .08    4.5     38   .59     .6     4    2.02   47.0  100.1
     2 R      .02    4.5      9   .59     .6     4     .51   47.0  100.1
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L      .01    2.4      0   .01    1.0     7     .21   48.4   83.4
     4 T      .24    2.4      2   .01    1.0     7    8.51   48.4   83.4
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T      .00     .0      0   .00     .0     0    4.96   50.0   82.1
     6 R      .00     .0      0   .00     .0     0     .40   50.0   82.1
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    80       .10    4.5     47   .59     2.53    47.0   100.1     8006.9
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   372       .25    2.4      2   .01     8.72    48.4    83.4    31016.9
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   268       .00     .0      0   .00     5.36    50.0    82.1    22001.9
 ----------------------------------------------------------------------
 ALL GROUPS:
   720       .35    1.8     49   .07    16.61    48.8    84.8    61025.6
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Acceso a Ruta G-421
  1 LR      1,    80   448  .179    4.5   .59     .6    4
            2
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 LT      3,   372  1511  .246    2.4   .01    1.0    7
            4
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 TR      5,   268  1489  .180     .0   .00     .0    0
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Acceso a Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
```

```
      ***
       *
 ******            1,   64    0   16   80 1850  448     0   16  448  .179  100
       *           2
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    9  363    0  372 1850 1511     0   60 1511  .246  100
          *        4
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       5,    0  248   20  268 1850 1489     0    0 1489  .180  100
       *  *        6
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ----------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
    1 L          64   358   100   .179    4.5   .59      .6    2.02
    2 R          16    90   100   .178    4.5   .59      .6     .51
 ----------------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L           9    37   100   .243    2.4   .01     1.0     .21
    4 T         363  1474   100   .246*   2.4   .01     1.0    8.51
```

```
 ----------------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T         248  1378   100   .180     .0   .00      .0    4.96
    6 R          20   111   100   .180     .0   .00      .0     .40
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH: Acceso a Ruta G-421
     1 L          100.1        6        19      28     610      16    1417
     2 R          100.1        2         5       7     153       4     354
                 ----------------------------------------------------------
      ALL MOVS:   100.1        8        23      35     763      20    1772
 ---------------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     3 L           83.4        1         2       2      50       2     177
     4 T           83.4       30        94      98    2033      76    7139
                 ----------------------------------------------------------
      ALL MOVS:    83.4       31        97     101    2083      78    7316
 ---------------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 T           82.1       20        63      67    1374      51    4733
     6 R           82.1        2         5       5     111       4     382
                 ----------------------------------------------------------
      ALL MOVS:    82.1       22        68      72    1484      55    5115
                 ----------------------------------------------------------
  INTERSECTION:    84.8       61       188     208    4330     153   14203
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
```

```
 SOUTH: Acceso a Ruta G-421
    1 L             64    358    .179   1.00     4.5    A
    2 R             16     90    .178   1.00     4.5    A
                 ----------------------------------------
      ALL MOVS:     80    448    .179            4.5    A
 -------------------------------------------------------
 EAST: Ruta G-25 (ori)
    3 L              9     37    .243   1.00     2.4    A
    4 T            363   1474    .246*  1.00     2.4    A
                 ----------------------------------------
      ALL MOVS:    372   1511    .246            2.4    A
 -------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 T            248   1378    .180   1.00      .0    A
    6 R             20    111    .180   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    268   1489    .180             .0    A
                 ----------------------------------------
  INTERSECTION:    720   3448    .246            1.8    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:40 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / ACCESO A RUTA G-421 (LAS VERTIENTES)     * AM8CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     8
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:57 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25 (ori)								
1	0	0	98	32	0	0	1.00	1.00
2	0	0	0	0	7	1	1.00	1.00
NORTH: Ruta G-345								
3	2	1	0	0	0	0	1.00	1.00
4	0	0	0	0	13	7	1.00	1.00
WEST: Ruta G-25 (pon)								
5	20	18	0	0	0	0	1.00	1.00
6	0	0	103	60	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:57 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25 (ori)							
1 T	130	0	1485	.80	814	100	.088
2 R	8	0	1644	.80	****	100	.005
NORTH: Ruta G-345							
3 L	3	331+	587	.80	****	100	.005
4 R	20	130+	1054	.80	4116	100	.019
WEST: Ruta G-25 (pon)							
5 L	38	141	1043	.80	2096	100	.036
6 T	163	0	1352	.80	564	100	.121*

```
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:57 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .121
    Practical Spare Capacity (Lowest)  =     564 %
    Total Vehicle Flow                 =     362
    Total Vehicle Capacity (all lanes) =    7166
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    3.71   35.0   91.8
     2 R      .00     .0      0   .00     .0     0     .23   35.0   91.8
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
     3 L      .00    2.4      1   .45     .4     3     .49   34.2   96.0
     4 R      .00     .5      3   .17     .1     1     .74   34.8   93.8
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .01     .6      7   .18     .2     1    1.29   34.8   93.9
     6 T      .00     .0      0   .00     .0     0    4.66   35.0   91.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:57 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
   138       .00     .0      0   .00     3.94    35.0    91.8    12667.1
 ----------------------------------------------------------------------
 NORTH: Ruta G-345
    23       .00     .8      5   .20     1.23    34.7    94.1     2164.6
```

```
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   201       .01     .1      7   .03     5.95    35.0    92.2    18529.9
 ----------------------------------------------------------------------
 ALL GROUPS:
   362       .01     .1     12   .03    11.12    35.0    92.2    33361.6
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:57 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 T       1    130  1485  .088     .0   .00     .0    0
  2 R       2      8  1644  .005     .0   .00     .0    0    80
 ---------------------------------------------------------------
  NORTH: Ruta G-345
  1 L       3      3   587  .005    2.4   .45     .4    3
  2 R       4     20  1054  .019     .5   .17     .1    1
 ---------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 L       5     38  1043  .036     .6   .18     .2    1    50
  2 T       6    163  1352  .121     .0   .00     .0    0
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:57 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
```

```
          *
 ***********       1     0  130    0  130 1850 1485     0    0 1485  .088  100
          *

 ******            2     0    0    8    8 1850 1644     0    0 1644  .005  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Ruta G-345
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            3     3    0    0    3 1850  587     0    5  587  .005  100


 ******            4     0    0   20   20 1850 1054     0   20 1054  .019  100
       *
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %

       *
      ***
       *
 ******            5    38    0    0   38 1850 1043     0   38 1043  .036  100


          *
 ***********       6     0  163    0  163 1850 1352     0    0 1352  .121  100
          *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:57 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
```

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Ruta G-25 (ori)									
1	T	130	1485	100	.088	.0	.00	.0	3.71
2	R	8	1644	100	.005	.0	.00	.0	.23
NORTH: Ruta G-345									
3	L	3	587	100	.005	2.4	.45	.4	.49
4	R	20	1054	100	.019	.5	.17	.1	.74
WEST: Ruta G-25 (pon)									
5	L	38	1043	100	.036	.6	.18	.2	1.29
6	T	163	1352	100	.121*	.0	.00	.0	4.66

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:57 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CM10 *
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 9
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Ruta G-25 (ori)								
1	T	91.8	12	40	32	956	30	3222
2	R	91.8	1	2	2	59	2	198
ALL MOVS:		91.8	13	43	34	1015	32	3420
NORTH: Ruta G-345								
3	L	96.0	0	1	1	25	1	78
4	R	93.8	2	6	5	154	5	510
ALL MOVS:		94.1	2	7	6	178	5	589
WEST: Ruta G-25 (pon)								
5	L	93.9	4	12	10	293	9	970
6	T	91.8	15	51	40	1199	37	4040
ALL MOVS:		92.2	19	63	50	1492	46	5010
INTERSECTION:		92.2	33	113	90	2685	83	9018

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:57 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES) * AM9CM10 *

```
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 EAST: Ruta G-25 (ori)
    1 T            130   1485    .088   1.00      .0    A
    2 R              8   1644    .005   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    138   3129    .088             .0    A
 ---------------------------------------------------------
 NORTH: Ruta G-345
    3 L              3    587    .005   1.00     2.4    A
    4 R             20   1054    .019   1.00      .5    A
                 ----------------------------------------
      ALL MOVS:     23   1641    .019             .8    A
 ---------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L             38   1043    .036   1.00      .6    A
    6 T            163   1352    .121*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    201   2395    .121             .1    A
                 ----------------------------------------
  INTERSECTION:    362   7166    .121             .1    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:57 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / RUTA G-345 (ACCESO A LOS MAITENES)       * AM9CM10 *
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:     9
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:44 PM, 29 Dec 2007

INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10CM10
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Canada Norte (ori)								
1	25	1	0	0	0	0	1.00	1.00
2	0	0	7	1	0	0	1.00	1.00
NORTH: Camino El Volcan (norte)								
3	5	1	0	0	0	0	1.00	1.00
4	0	0	122	30	0	0	1.00	1.00
5	0	0	0	0	4	23	1.00	1.00
WEST: Canada Norte (pon)								
6	0	0	1	1	0	0	1.00	1.00
7	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:44 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10CM10
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Canada Norte (ori)							
1 L	26	162	740	.80	2177	100	.035
2 T	8	185	228	.80	2180	100	.035
NORTH: Camino El Volcan (norte)							
3 L	6	0	93	.80	1140	100	.065*
4 T	152	0	2353	.80	1138	100	.065*
5 R	27	0	418	.80	1139	100	.065*

```
 ----------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T       2    198+     446   .80   ****    100   .004
    7 R       2    192+     446   .80   ****    100   .004
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:44 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CM10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .065
    Practical Spare Capacity (Lowest)  =    1138 %
    Total Vehicle Flow                 =     223
    Total Vehicle Capacity (all lanes) =    4724
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
     1 L      .00     .7      6   .22     .2     1     .70   49.5   85.4
     2 T      .00     .7      2   .22     .2     1     .21   49.5   85.4
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
     3 L      .00     .0      0   .00     .0     0     .12   50.0   82.1
     4 T      .00     .0      0   .00     .0     0    3.04   50.0   82.1
     5 R      .00     .0      0   .00     .0     0     .54   50.0   82.1
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 T      .00     .9      1   .26     .2     2     .15   49.4   85.8
     7 R      .00     .9      1   .26     .2     2     .15   49.4   85.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:44 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CM10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
```

```
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    34       .01     .7      7   .22      .91    49.5    85.4     2902.2
 ----------------------------------------------------------------------
 NORTH: Camino El Volcan (norte)
   185       .00     .0      0   .00     3.70    50.0    82.1    15187.9
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     4       .00     .9      1   .26      .30    49.4    85.8      343.2
 ----------------------------------------------------------------------
 ALL GROUPS:
   223       .01     .1      8   .04     4.91    49.9    82.7    18433.3
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:44 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CM10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                            Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 LT      1,    34   967  .035     .7   .22     .2    1
            2
 ---------------------------------------------------------------
  NORTH: Camino El Volcan (norte)
  1 LT      3,   100  1547  .065     .0   .00     .0    0
            4
  2 TR      4,    85  1317  .065     .0   .00     .0    0
            5
 ---------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 TR      6,     4   893  .004     .9   .26     .2    2
            7
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:44 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CM10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection
```

```
 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   26    8    0   34 1850  967     0    8  967  .035  100
          *        2
 ---------------------------------------------------------------------------
-
  NORTH: Camino El Volcan (norte)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       3,    6   94    0  100 1850 1547     0    0 1547  .065  100
          *        4
          *
 ****** ****       4,    0   58   27   85 1850 1317     0    0 1317  .065  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       6,    0    2    2    4 1850  893     0   11  893  .004  100
       *  *        7
      ***
       *
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:44 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CM10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection
```

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
EAST: Canada Norte (ori)									
1	L	26	740	100	.035	.7	.22	.2	.70
2	T	8	228	100	.035	.7	.22	.2	.21
NORTH: Camino El Volcan (norte)									
3	L	6	93	100	.065*	.0	.00	.0	.12
4	T	152	2353	100	.065*	.0	.00	.0	3.04
5	R	27	418	100	.065*	.0	.00	.0	.54
WEST: Canada Norte (pon)									
6	T	2	446	100	.004	.9	.26	.2	.15
7	R	2	446	100	.004	.9	.26	.2	.15

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:44 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO) * AM10CM10
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
Intersection No.: 10
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
EAST: Canada Norte (ori)								
1	L	85.4	2	7	8	167	6	519
2	T	85.4	1	2	2	51	2	160
ALL MOVS:		85.4	3	9	10	219	7	679
NORTH: Camino El Volcan (norte)								
3	L	82.1	0	2	2	33	1	115
4	T	82.1	12	38	41	842	31	2901
5	R	82.1	2	7	7	150	6	515
ALL MOVS:		82.1	15	47	50	1025	38	3531
WEST: Canada Norte (pon)								
6	T	85.8	0	1	1	13	0	40
7	R	85.8	0	1	1	13	0	40
ALL MOVS:		85.8	0	1	1	26	1	80

```
                 ----------------------------------------------------------
  INTERSECTION:    82.7       18        57      61    1270      46    4290
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:44 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CM10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 EAST: Canada Norte (ori)
    1 L             26    740    .035   1.00      .7    A
    2 T              8    228    .035   1.00      .7    A
                 ----------------------------------------
      ALL MOVS:     34    968    .035             .7    A
 -------------------------------------------------------
 NORTH: Camino El Volcan (norte)
    3 L              6     93    .065*  1.00      .0    A
    4 T            152   2353    .065*  1.00      .0    A
    5 R             27    418    .065*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    185   2864    .065             .0    A
 -------------------------------------------------------
 WEST: Canada Norte (pon)
    6 T              2    446    .004   1.00      .9    A
    7 R              2    446    .004   1.00      .9    A
                 ----------------------------------------
      ALL MOVS:      4    892    .004             .9    A
                 ----------------------------------------
  INTERSECTION:    223   4724    .065             .1    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:44 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / EL VOLCAN (SAN JOSE DE MAIPO)         * AM10CM10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MANANA
 Intersection No.:    10
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
```

```
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:47 PM, 29 Dec 2007

INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11CT10
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH: Comercio (sur)								
1	13	1	0	0	0	0	1.00	1.00
2	0	0	123	23	0	0	1.00	1.00
3	0	0	0	0	27	1	1.00	1.00
EAST: Canada Norte (ori)								
4	0	0	23	4	0	0	1.00	1.00
5	0	0	0	0	15	14	1.00	1.00
WEST: Canada Norte (pon)								
6	7	1	0	0	0	0	1.00	1.00
7	0	0	12	1	0	0	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:47 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11CT10
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH: Comercio (sur)							
1 L	14	0	243	.80	1289	100	.058
2 T	146	0	2536	.80	1290	100	.058
3 R	28	0	486	.80	1289	100	.058
EAST: Canada Norte (ori)							
4 T	27	182+	441	.80	1207	100	.061*
5 R	29	168+	474	.80	1208	100	.061*

```
 ----------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L       8    216      332   .80   3220    100   .024
    7 T      13    188      539   .80   3217    100   .024
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:47 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CT10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .061
    Practical Spare Capacity (Lowest)  =    1207 %
    Total Vehicle Flow                 =     265
    Total Vehicle Capacity (all lanes) =    5052
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 SOUTH: Comercio (sur)
     1 L      .00     .0      0   .00     .0     0     .28   50.0   82.1
     2 T      .00     .0      0   .00     .0     0    2.92   50.0   82.1
     3 R      .00     .0      0   .00     .0     0     .56   50.0   82.1
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
     4 T      .01     .8      6   .24     .2     2     .68   49.4   85.6
     5 R      .01     .8      7   .24     .2     2     .73   49.4   85.6
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
     6 L      .00    1.0      2   .27     .2     2     .26   49.3   85.9
     7 T      .00    1.0      3   .27     .2     2     .43   49.3   85.9
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:47 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CT10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
```

```
 (veh/h) (veh-h/h)(sec) (veh/h)                 (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH: Comercio (sur)
   188       .00     .0      0   .00     3.76    50.0    82.1    15434.2
 ----------------------------------------------------------------------
 EAST: Canada Norte (ori)
    56       .01     .8     13   .24     1.41    49.4    85.6     4793.1
 ----------------------------------------------------------------------
 WEST: Canada Norte (pon)
    21       .01    1.0      6   .27      .69    49.3    85.9     1804.4
 ----------------------------------------------------------------------
 ALL GROUPS:
   265       .02     .2     19   .07     5.86    49.8    83.1    22031.7
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:47 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CT10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                            Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  SOUTH: Comercio (sur)
  1 LT      1,    93  1616  .058     .0   .00     .0    0
            2
  2 TR      2,    95  1649  .058     .0   .00     .0    0
            3
 ---------------------------------------------------------------
  EAST: Canada Norte (ori)
  1 TR      4,    56   915  .061     .8   .24     .2    2
            5
 ---------------------------------------------------------------
  WEST: Canada Norte (pon)
  1 LT      6,    21   871  .024    1.0   .27     .2    2
            7
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:47 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CT10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection
```

```
 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH: Comercio (sur)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,   14   79    0   93 1850 1616     0    0 1616  .058  100
          *        2
          *
 ****** ****       2,    0   67   28   95 1850 1649     0    0 1649  .058  100
       *  *        3
      ***
       *
 ---------------------------------------------------------------------------
-
  EAST: Canada Norte (ori)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       4,    0   27   29   56 1850  915     0   29  915  .061  100
       *  *        5
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Canada Norte (pon)
                                                Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       6,    8   13    0   21 1850  871     0   13  871  .024  100
          *        7
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:47 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CT10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection
```

Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY

Mov No.	Mov Typ	Arv Flow (veh /h)	Total Cap. (veh /h)	Lane Util (%)	Deg. Satn x	Aver. Delay (sec)	Stop Rate	Longest Queue (veh)	Perf. Index
SOUTH: Comercio (sur)									
1	L	14	243	100	.058	.0	.00	.0	.28
2	T	146	2536	100	.058	.0	.00	.0	2.92
3	R	28	486	100	.058	.0	.00	.0	.56
EAST: Canada Norte (ori)									
4	T	27	441	100	.061*	.8	.24	.2	.68
5	R	29	474	100	.061*	.8	.24	.2	.73
WEST: Canada Norte (pon)									
6	L	8	332	100	.024	1.0	.27	.2	.26
7	T	13	539	100	.024	1.0	.27	.2	.43

* Maximum degree of saturation

Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

1
ARRB SIDRA 4.07 - Time and Date of Analysis 5:47 PM, 29 Dec 2007
INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO) * AM11CT10
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
Intersection No.: 11
Unsignalised Intersection

Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST

Mov No.		Fuel Consumption Rate mL/km	Total L/h	HC Total g/h	NOX Total g/h	CO Total g/h	CO2 Total kg/h	COST Total c/h
SOUTH: Comercio (sur)								
1	L	82.1	1	4	4	78	3	267
2	T	82.1	12	37	39	809	30	2786
3	R	82.1	2	7	8	155	6	534
ALL MOVS:		82.1	15	48	50	1041	39	3588
EAST: Canada Norte (ori)								
4	T	85.6	2	7	8	176	6	541
5	R	85.6	2	8	9	189	6	581
ALL MOVS:		85.6	5	15	16	364	12	1122
WEST: Canada Norte (pon)								
6	L	85.9	1	2	2	53	2	161
7	T	85.9	1	4	4	86	3	261
ALL MOVS:		85.9	2	6	6	139	5	422

```
                 ----------------------------------------------------------
  INTERSECTION:    83.1       22        68      73    1545      55    5131
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:47 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CT10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection


 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 -------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 -------------------------------------------------------
 SOUTH: Comercio (sur)
    1 L             14    243    .058   1.00      .0    A
    2 T            146   2536    .058   1.00      .0    A
    3 R             28    486    .058   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    188   3265    .058             .0    A
 -------------------------------------------------------
 EAST: Canada Norte (ori)
    4 T             27    441    .061*  1.00      .8    A
    5 R             29    474    .061*  1.00      .8    A
                 ----------------------------------------
      ALL MOVS:     56    915    .061             .8    A
 -------------------------------------------------------
 WEST: Canada Norte (pon)
    6 L              8    332    .024   1.00     1.0    A
    7 T             13    539    .024   1.00     1.0    A
                 ----------------------------------------
      ALL MOVS:     21    871    .024            1.0    A
                 ----------------------------------------
  INTERSECTION:    265   5052    .061             .2    A
 -------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:47 PM, 29 Dec 2007
 INTERSECCION CANADA NORTE / COMERCIO (SAN JOSE DE MAIPO)          * AM11CT10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA TARDE
 Intersection No.:    11
             Unsignalised Intersection

 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
```

```
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ------------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 5:50 PM, 29 Dec 2007

INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * A12CMD10
*

SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
SOUTH EAST: Ruta G-25 (suroriente)								
1	1	1	0	0	0	0	1.00	1.00
2	0	0	64	23	0	0	1.00	1.00
NORTH WEST: Ruta G-25 (norponiente)								
3	0	0	78	27	0	0	1.00	1.00
4	0	0	0	0	8	1	1.00	1.00
SOUTH WEST: Ruta G-421								
5	8	1	0	0	0	0	1.00	1.00
6	0	0	0	0	1	1	1.00	1.00

Based on unit time = 60 minutes.
Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 5:50 PM, 29 Dec 2007
INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421 * A12CMD10
*

SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
Intersection No.: 12
Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
SOUTH EAST: Ruta G-25 (suroriente)							
1 L	2	123	33	.80	1220	100	.061
2 T	87	0	1418	.80	1204	100	.061
NORTH WEST: Ruta G-25 (norponiente)							
3 T	105	0	1368	.80	942	100	.077*
4 R	9	0	117	.80	940	100	.077*
SOUTH WEST: Ruta G-421							

```
    5 L        9    203+     607   .80   5296    100   .015
    6 R        2    114+     135   .80   5300    100   .015
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .077
    Practical Spare Capacity (Lowest)  =     940 %
    Total Vehicle Flow                 =     214
    Total Vehicle Capacity (all lanes) =    3678
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ---------------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ---------------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L      .00    2.0      0   .00     .8     6     .06   48.6   83.2
     2 T      .05    2.0      0   .00     .8     6    2.58   48.6   83.2
 ---------------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T      .00     .0      0   .00     .0     0    2.10   50.0   82.1
     4 R      .00     .0      0   .00     .0     0     .18   50.0   82.1
 ---------------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L      .00    1.1      3   .28     .2     2     .39   49.2   86.3
     6 R      .00    1.1      1   .28     .2     2     .09   49.2   86.3
 ---------------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
```

```
   89       .05    2.0      0   .00     2.64    48.6    83.2     7404.2
 ----------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
  114       .00     .0      0   .00     2.28    50.0    82.1     9359.0
 ----------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
   11       .00    1.1      3   .28      .47    49.2    86.3      949.3
 ----------------------------------------------------------------------
 ALL GROUPS:
  214       .05     .9      3   .01     5.39    49.4    82.8    17712.5
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ----------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ----------------------------------------------------------------
  SOUTH EAST: Ruta G-25 (suroriente)
  1 LT      1,    89  1451  .061    2.0   .00     .8    6
            2
 ----------------------------------------------------------------
  NORTH WEST: Ruta G-25 (norponiente)
  1 TR      3,   114  1485  .077     .0   .00     .0    0
            4
 ----------------------------------------------------------------
  SOUTH WEST: Ruta G-421
  1 LR      5,    11   742  .015    1.1   .28     .2    2
            6
 ----------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  SOUTH EAST: Ruta G-25 (suroriente)
                                          Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       1,    2   87    0   89 1850 1451     0   60 1451  .061  100
          *        2
 ------------------------------------------------------------------------------
-
  NORTH WEST: Ruta G-25 (norponiente)
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
          *
 ****** ****       3,    0  105    9  114 1850 1485     0    0 1485  .077  100
       *  *        4
      ***
       *
 ------------------------------------------------------------------------------
-
  SOUTH WEST: Ruta G-421
                                          Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            5,    9    0    2   11 1850  742     0    2  742  .015  100
       *           6
      ***
       *
 ------------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ------------------------------------------------------------------
```

```
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L           2    33   100   .061    2.0   .00      .8     .06
    2 T          87  1418   100   .061    2.0   .00      .8    2.58
 ----------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T         105  1368   100   .077*    .0   .00      .0    2.10
    4 R           9   117   100   .077*    .0   .00      .0     .18
 ----------------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L           9   607   100   .015    1.1   .28      .2     .39
    6 R           2   135   100   .015    1.1   .28      .2     .09
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
     1 L           83.2        0         1       1      11       0      39
     2 T           83.2        7        23      23     486      18    1705
                 ----------------------------------------------------------
      ALL MOVS:    83.2        7        23      24     497      19    1744
 ---------------------------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
     3 T           82.1        9        27      28     582      22    2004
     4 R           82.1        1         2       2      50       2     172
                 ----------------------------------------------------------
      ALL MOVS:    82.1        9        29      31     631      23    2176
 ---------------------------------------------------------------------------
 SOUTH WEST: Ruta G-421
     5 L           86.3        1         2       3      60       2     182
     6 R           86.3        0         1       1      13       0      40
                 ----------------------------------------------------------
      ALL MOVS:    86.3        1         3       3      74       2     223
                 ----------------------------------------------------------
  INTERSECTION:    82.8       18        55      58    1202      44    4142
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection
```

```
 Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ---------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ---------------------------------------------------------
 SOUTH EAST: Ruta G-25 (suroriente)
    1 L              2     33    .061   1.00     2.0    A
    2 T             87   1418    .061   1.00     2.0    A
                 ----------------------------------------
      ALL MOVS:     89   1451    .061            2.0    A
 ---------------------------------------------------------
 NORTH WEST: Ruta G-25 (norponiente)
    3 T            105   1368    .077*  1.00      .0    A
    4 R              9    117    .077*  1.00      .0    A
                 ----------------------------------------
      ALL MOVS:    114   1485    .077             .0    A
 ---------------------------------------------------------
 SOUTH WEST: Ruta G-421
    5 L              9    607    .015   1.00     1.1    A
    6 R              2    135    .015   1.00     1.1    A
                 ----------------------------------------
      ALL MOVS:     11    742    .015            1.1    A
                 ----------------------------------------
  INTERSECTION:    214   3678    .077             .9    A
 ---------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    5:50 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 (CAMINO A EL VOLCAN) / RUTA G-421          * A12CMD10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010 - HORA PUNTA MEDIODIA
 Intersection No.:    12
             Unsignalised Intersection


 DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Give Way
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

 END OF OUTPUT LISTING
```

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 6:25 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO) * AMEM7C10
*

SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010

Intersection No.: EMP7

Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-25 (ori)								
1	0	0	203	60	0	0	1.00	1.00
2	0	0	0	0	1	1	1.00	1.00
NORTH: Nuevo Camino								
3	1	1	0	0	0	0	1.00	1.00
4	0	0	0	0	2	2	1.00	1.00
WEST: Ruta G-25 (pon)								
5	2	2	0	0	0	0	1.00	1.00
6	0	0	162	68	0	0	1.00	1.00

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 6:25 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO) * AMEM7C10
*

SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010

Intersection No.: EMP7

Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-25 (ori)							
1 T	263	0	1492	.80	354	100	.176
2 R	2	0	11	.80	340	100	.182*
NORTH: Nuevo Camino							
3 L	2	236+	314	.80	****	100	.006
4 R	4	2+	629	.80	****	100	.006
WEST: Ruta G-25 (pon)							

```
    5 L       4    267       24   .80    380    100   .167
    6 T     230      0     1390   .80    383    100   .165
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .182
    Practical Spare Capacity (Lowest)  =     340 %
    Total Vehicle Flow                 =     505
    Total Vehicle Capacity (all lanes) =    3861
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T      .00     .0      0   .00     .0     0    5.26   50.0   82.1
     2 R      .00     .0      0   .00     .0     0     .04   50.0   82.1
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L      .00     .4      0   .11     .1     1     .08   49.7   84.6
     4 R      .00     .4      0   .11     .1     1     .15   49.7   84.6
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L      .00    2.3      0   .00     .9     7     .10   48.5   83.3
     6 T      .15    2.3      1   .00     .9     7    5.64   48.5   83.3
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
```

```
   265       .00     .0      0   .00     5.30    50.0    82.1    21755.6
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
     6       .00     .4      1   .11      .23    49.7    84.6      507.5
 ----------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
   234       .15    2.3      1   .00     5.73    48.5    83.3    19500.7
 ----------------------------------------------------------------------
 ALL GROUPS:
   505       .15    1.1      1   .00    11.26    49.3    82.7    41763.8
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ----------------------------------------------------------------
                 Arv                                Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ----------------------------------------------------------------
  EAST: Ruta G-25 (ori)
  1 TR      1,   265  1504  .176     .0   .00     .0    0
            2
 ----------------------------------------------------------------
  NORTH: Nuevo Camino
  1 LR      3,     6   943  .006     .4   .11     .1    1
            4
 ----------------------------------------------------------------
  WEST: Ruta G-25 (pon)
  1 LT      5,   234  1414  .165    2.3   .00     .9    7
            6
 ----------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-25 (ori)
                                          Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
         *
 ****** ****       1,    0  263    2  265 1850 1504     0    0 1504  .176  100
       *  *        2
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Nuevo Camino
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            3,    2    0    4    6 1850  943     0    7  943  .006  100
       *           4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-25 (pon)
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       5,    4  230    0  234 1850 1414     0   60 1414  .165  100
         *         6
 ---------------------------------------------------------------------------
-
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
                /h)   /h)   (%)     x
 ------------------------------------------------------------------
```

```
 EAST: Ruta G-25 (ori)
    1 T         263  1492   100   .176     .0   .00      .0    5.26
    2 R           2    11   100   .182*    .0   .00      .0     .04
 ----------------------------------------------------------------
 NORTH: Nuevo Camino
    3 L           2   314   100   .006     .4   .11      .1     .08
    4 R           4   629   100   .006     .4   .11      .1     .15
 ----------------------------------------------------------------
 WEST: Ruta G-25 (pon)
    5 L           4    24   100   .167    2.3   .00      .9     .10
    6 T         230  1390   100   .165    2.3   .00      .9    5.64
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.:  EMP7
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 EAST: Ruta G-25 (ori)
     1 T           82.1       22        67      71    1457      54    5019
     2 R           82.1        0         1       1      11       0      38
                 -------------------------------------------------------
      ALL MOVS:    82.1       22        67      71    1468      54    5057
 ---------------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L           84.6        0         1       1      12       0      40
     4 R           84.6        0         1       1      24       1      80
                 -------------------------------------------------------
      ALL MOVS:    84.6        1         2       2      36       1     119
 ---------------------------------------------------------------------------
 WEST: Ruta G-25 (pon)
     5 L           83.3        0         1       1      22       1      79
     6 T           83.3       19        60      62    1286      48    4521
                 -------------------------------------------------------
      ALL MOVS:    83.3       20        61      63    1308      49    4599
                 -------------------------------------------------------
  INTERSECTION:    82.7       42       129     136    2812     104    9776
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    6:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO)    * AMEM7C10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.:  EMP7
             Unsignalised Intersection
```

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)

Mov No.	Mov Typ	Total Flow (veh /h)	Total Cap. (veh /h)	Deg. of Satn (v/c)	Prog. Factor	Aver. Delay (sec)	LOS
EAST: Ruta G-25 (ori)							
1	T	263	1492	.176	1.00	.0	A
2	R	2	11	.182*	1.00	.0	A
	ALL MOVS:	265	1503	.182		.0	A
NORTH: Nuevo Camino							
3	L	2	314	.006	1.00	.4	A
4	R	4	629	.006	1.00	.4	A
	ALL MOVS:	6	943	.006		.4	A
WEST: Ruta G-25 (pon)							
5	L	4	24	.167	1.00	2.3	A
6	T	230	1390	.165	1.00	2.3	A
	ALL MOVS:	234	1414	.167		2.3	A
	INTERSECTION:	505	3861	.182		1.1	A

Level of Service calculations are based on overall delay.
* Maximum v/c ratio, or critical green periods

1
ARRB SIDRA 4.07 - Time and Date of Analysis 6:25 PM, 29 Dec 2007
INTERSECCION RUTA G-25 / NUEVO CAMINO (EMPALME 7 - EL MANZANO) * AMEM7C10
*
SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
Intersection No.: EMP7
Unsignalised Intersection

DIAGNOSTIC REPORT

-
* Information about this run:
Intersection Type: Unsignalised - Stop
Driving on the right-hand side of the road
Input data specified in Metric units
User level: Advanced
Default Values File No. 30
Flow period (for performance): 60 minutes
Unit time (for volumes): 60 minutes

* Stop Rate is proportion of stopped vehicles including queueing effects.
Geometric delays not included.

-

END OF OUTPUT LISTING

1F

A R R B - S I D R A 4.07

AMBITRANS

Registered User No. 115

Time and Date of Analysis 7:25 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES) * AMEMTC10
*

SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010

Intersection No.: EMTIP

Unsignalised Intersection

Table S.0 - TRAFFIC FLOW DATA (Flows in veh/hour as used by the program)

Mov No.	Left LV	Left HV	Through LV	Through HV	Right LV	Right HV	Flow Scale	Peak Hour Factor
EAST: Ruta G-345 (ori)								
1	0	0	13	12	0	0	1.00	1.00
2	0	0	0	0	1	1	1.00	1.00
NORTH: Nuevo Camino								
3	1	1	0	0	0	0	1.00	1.00
4	0	0	0	0	2	6	1.00	1.00
WEST: Ruta G-345 (pon)								
5	2	6	0	0	0	0	1.00	1.00
6	0	0	25	13	0	0	1.00	1.00

Based on unit time = 60 minutes.

Flow Scale and Peak Hour Factor effects included in flow values.

1

ARRB SIDRA 4.07 - Time and Date of Analysis 7:25 PM, 29 Dec 2007

INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES) * AMEMTC10
*

SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010

Intersection No.: EMTIP

Unsignalised Intersection

Table S.2 - MOVEMENT CAPACITY PARAMETERS

Mov No.	Arv Flow (veh /h)	Total Opng Flow (pcu/h)	Total Cap. (veh /h)	Prac. Deg. Satn xp	Prac. Spare Cap. (%)	Lane Util (%)	Deg. Satn x
EAST: Ruta G-345 (ori)							
1 T	25	0	1156	.80	3599	100	.022
2 R	2	0	93	.80	3620	100	.022
NORTH: Nuevo Camino							
3 L	2	48+	221	.80	8740	100	.009
4 R	8	2+	885	.80	8750	100	.009
WEST: Ruta G-345 (pon)							

```
    5 L       8     29      232   .80   2220    100   .034*
    6 T      38      0     1104   .80   2224    100   .034*
 ----------------------------------------------------------
   +  Percentage of exiting flow included in total opposing flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.3 - INTERSECTION PARAMETERS
 ----------------------------------------------------------------------
    Degree of Saturation (Highest)     =    .034
    Practical Spare Capacity (Lowest)  =    2220 %
    Total Vehicle Flow                 =      83
    Total Vehicle Capacity (all lanes) =    3691
 ----------------------------------------------------------------------


 Table S.5 - MOVEMENT PERFORMANCE
 ----------------------------------------------------------------------
   Mov      Total  Aver.  Total  Stop  Longest Que   Perf.  Aver. FUEL
   No.      Delay  Delay  Stops  Rate    per Lane    Index  Speed
          (veh-h/h)(sec) (veh/h)       (vehs)  (m)         (km/h) (mL/km)
 ----------------------------------------------------------------------
 EAST: Ruta G-345 (ori)
     1 T      .00     .0      0   .00     .0     0     .50   50.0   82.1
     2 R      .00     .0      0   .00     .0     0     .04   50.0   82.1
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L      .00     .4      0   .01     .1     1     .06   49.7   83.6
     4 R      .00     .4      0   .01     .1     1     .25   49.7   83.6
 ----------------------------------------------------------------------
 WEST: Ruta G-345 (pon)
     5 L      .00    1.2      0   .00     .4     4     .24   49.2   83.3
     6 T      .01    1.2      0   .00     .4     4    1.13   49.2   83.3
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.6 - INTERSECTION PERFORMANCE
 ----------------------------------------------------------------------
  Total    Total  Aver.  Total  Stop    Perf.   Aver.         FUEL
  Flow     Delay  Delay  Stops  Rate    Index   Speed   Rate       Total
 (veh/h) (veh-h/h)(sec) (veh/h)                  (km/h) (mL/km)    (mL/h)
 ----------------------------------------------------------------------
 EAST: Ruta G-345 (ori)
```

```
   27       .00     .0      0   .00      .54    50.0    82.1     2216.6
 ----------------------------------------------------------------------
 NORTH: Nuevo Camino
   10       .00     .4      0   .01      .32    49.7    83.6      835.7
 ----------------------------------------------------------------------
 WEST: Ruta G-345 (pon)
   46       .01    1.2      0   .00     1.37    49.2    83.3     3829.9
 ----------------------------------------------------------------------
 ALL GROUPS:
   83       .02     .7      0   .00     2.23    49.5    82.9     6882.2
 ----------------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.7 - LANE PERFORMANCE
 ---------------------------------------------------------------
                 Arv                              Back  of
                Flow   Cap  Deg.  Aver.  Stop   Q u e u e   Short
  Lane    Mov   (veh  (veh  Satn  Delay  Rate  -----------  Lane
  No.     No.     /h)   /h)   x   (sec)        (vehs) (m)   (m)
 ---------------------------------------------------------------
  EAST: Ruta G-345 (ori)
  1 TR      1,    27  1249  .022     .0   .00     .0    0
            2
 ---------------------------------------------------------------
  NORTH: Nuevo Camino
  1 LR      3,    10  1106  .009     .4   .01     .1    1
            4
 ---------------------------------------------------------------
  WEST: Ruta G-345 (pon)
  1 LT      5,    46  1336  .034    1.2   .00     .4    4
            6
 ---------------------------------------------------------------

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.8 - LANE FLOW AND CAPACITY INFORMATION
 ---------------------------------------------------------------------------
-
  EAST: Ruta G-345 (ori)
                                          Saturation Flow  Min  Tot
```

```
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
         *
 ****** ****       1,    0   25    2   27 1850 1249     0    0 1249  .022  100
       *  *        2
      ***
       *
 ---------------------------------------------------------------------------
-
  NORTH: Nuevo Camino
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *
 ******            3,    2    0    8   10 1850 1106     0   10*1106  .009  100
       *           4
      ***
       *
 ---------------------------------------------------------------------------
-
  WEST: Ruta G-345 (pon)
                                            Saturation Flow  Min  Tot
  Effective             Arv Flow (veh/h)  ---------------  Cap  Cap  Deg.
Lane
  Lane Use       Mov   ------------------ Basic Aver(veh) (veh (veh  Satn
Util
                 No.   Lef Thru  Rig  Tot (tcu) 1st   2nd   /h)  /h)   x     %
       *
      ***
       *  *
 ****** ****       5,    8   38    0   46 1850 1336     0   38*1336  .034  100
          *        6
 ---------------------------------------------------------------------------
-
   *  Large end capacity has resulted in a saturation flow which is
      larger than the full unopposed saturation flow
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.10 - MOVEMENT CAPACITY AND PERFORMANCE SUMMARY
 ------------------------------------------------------------------
                                        Aver.  Stop  Longest  Perf.
  Mov     Mov  Arv   Total  Lane  Deg.  Delay  Rate   Queue   Index
  No.     Typ  Flow   Cap.  Util  Satn
               (veh  (veh               (sec)         (veh)
```

```
                /h)   /h)   (%)     x
 ----------------------------------------------------------------
 EAST: Ruta G-345 (ori)
    1 T          25  1156   100   .022     .0   .00      .0     .50
    2 R           2    93   100   .022     .0   .00      .0     .04
 ----------------------------------------------------------------
 NORTH: Nuevo Camino
    3 L           2   221   100   .009     .4   .01      .1     .06
    4 R           8   885   100   .009     .4   .01      .1     .25
 ----------------------------------------------------------------
 WEST: Ruta G-345 (pon)
    5 L           8   232   100   .034*   1.2   .00      .4     .24
    6 T          38  1104   100   .034*   1.2   .00      .4    1.13
 ----------------------------------------------------------------

   *  Maximum degree of saturation

   Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.: EMTIP
             Unsignalised Intersection


 Table S.12 - FUEL CONSUMPTION, EMISSIONS AND COST
 ---------------------------------------------------------------------------
   Mov            Fuel Consumption    HC      NOX     CO      CO2    COST
   No.             Rate    Total     Total   Total   Total   Total   Total
                   mL/km    L/h       g/h     g/h     g/h     kg/h    c/h
 ---------------------------------------------------------------------------
 EAST: Ruta G-345 (ori)
     1 T           82.1        2         6       7     138       5     477
     2 R           82.1        0         1       1      11       0      38
                 -------------------------------------------------------
      ALL MOVS:    82.1        2         7       7     150       6     515
 ---------------------------------------------------------------------------
 NORTH: Nuevo Camino
     3 L           83.6        0         1       1      11       0      39
     4 R           83.6        1         2       2      45       2     158
                 -------------------------------------------------------
      ALL MOVS:    83.6        1         3       3      56       2     197
 ---------------------------------------------------------------------------
 WEST: Ruta G-345 (pon)
     5 L           83.3        1         2       2      45       2     157
     6 T           83.3        3        10      10     212       8     746
                 -------------------------------------------------------
      ALL MOVS:    83.3        4        12      12     257      10     902
                 -------------------------------------------------------
  INTERSECTION:    82.9        7        21      22     463      17    1615
 ---------------------------------------------------------------------------
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
```

```
 Intersection No.: EMTIP
             Unsignalised Intersection

Table S.15 - CAPACITY AND LEVEL OF SERVICE (HCM METHOD)
 ----------------------------------------------------------
  Mov     Mov    Total  Total    Deg.   Prog.  Aver.   LOS
  No.     Typ    Flow    Cap.     of   Factor  Delay
                 (veh   (veh     Satn
                   /h)    /h)    (v/c)         (sec)
 ----------------------------------------------------------
 EAST: Ruta G-345 (ori)
    1 T             25   1156    .022   1.00      .0    A
    2 R              2     93    .022   1.00      .0    A
                 ----------------------------------------
      ALL MOVS:     27   1249    .022             .0    A
 ----------------------------------------------------------
 NORTH: Nuevo Camino
    3 L              2    221    .009   1.00      .4    A
    4 R              8    885    .009   1.00      .4    A
                 ----------------------------------------
      ALL MOVS:     10   1106    .009             .4    A
 ----------------------------------------------------------
 WEST: Ruta G-345 (pon)
    5 L              8    232    .034*  1.00     1.2    A
    6 T             38   1104    .034*  1.00     1.2    A
                 ----------------------------------------
      ALL MOVS:     46   1336    .034            1.2    A
                 ----------------------------------------
  INTERSECTION:     83   3691    .034             .7    A
 ----------------------------------------------------------

   Level of Service calculations are based on overall delay.
   *  Maximum v/c ratio, or critical green periods
1
 ARRB SIDRA 4.07 -  Time and Date of Analysis    7:25 PM, 29 Dec 2007
 INTERSECCION RUTA G-25 / NUEVO CAMINO (EMP. TIPO - LOS MAITENES)  * AMEMTC10
*
 SITUACION CON PROYECTO (CONSTRUCCION) ANO 2010
 Intersection No.: EMTIP
             Unsignalised Intersection

DIAGNOSTIC REPORT
 ---------------------------------------------------------------------------
-
 * Information about this run:
   Intersection Type: Unsignalised - Stop
   Driving on the right-hand side of the road
   Input data specified in Metric units
   User level: Advanced
   Default Values File No. 30
   Flow period (for performance): 60 minutes
   Unit time (for volumes): 60 minutes

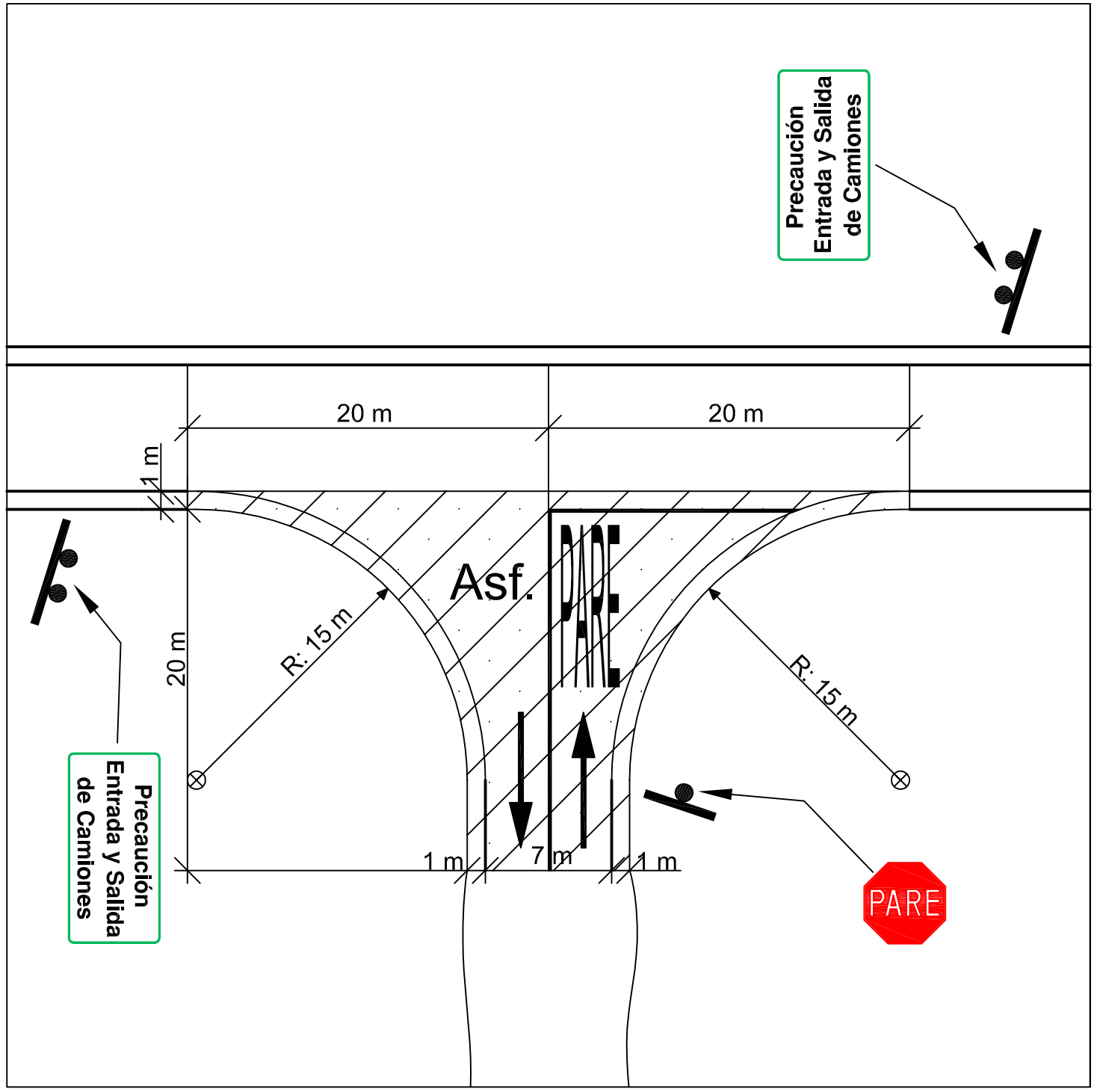
 * Stop Rate is proportion of stopped vehicles including queueing effects.
   Geometric delays not included.
 ---------------------------------------------------------------------------
-

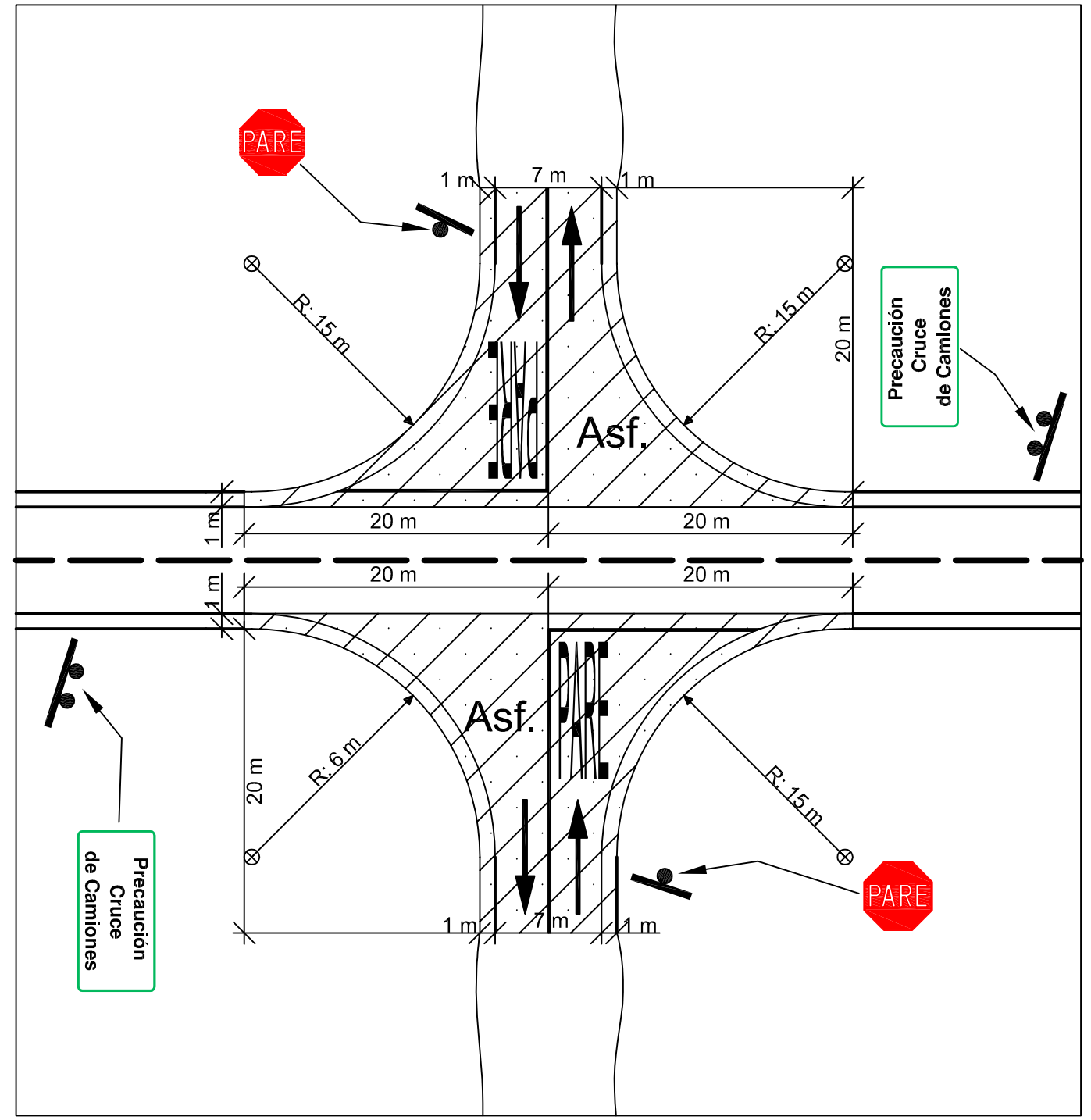
 END OF OUTPUT LISTING
```

AMBITRANS INGENIEROS CONSULTORES LTDA.

APÉNDICE 2

ESQUEMA DE EMPALME Y CRUCE

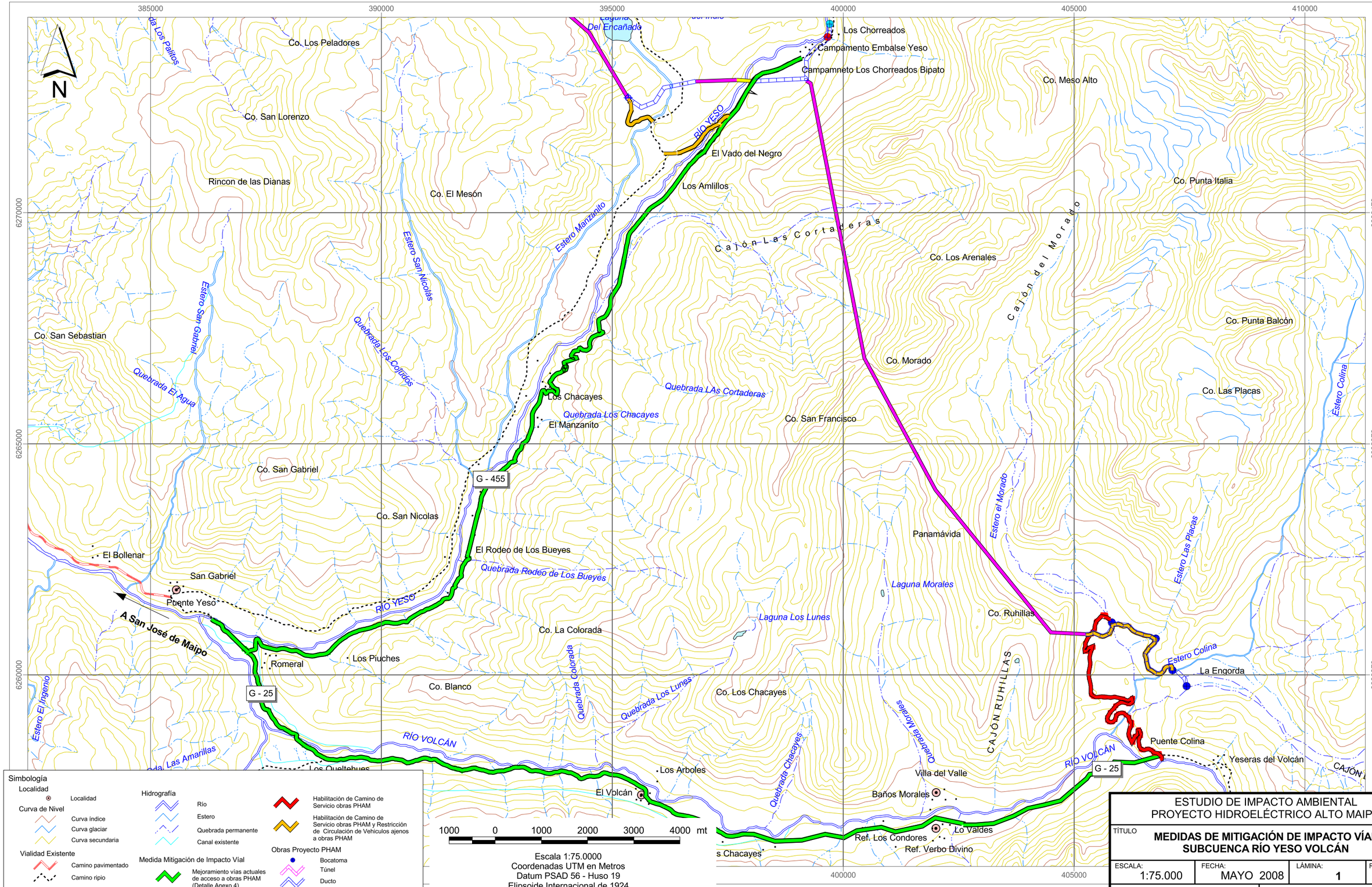




ESQUEMA DE CRUCES Y EMPALMES
CAMINO DE SERVICIOS Y VIALIDAD PUBLICA
LAMINA 1 - APENDICE 2

ARCADIS GEOTECNICA

ACAD AG: 165722.dwg



Escala 1:75.0000
Coordenadas UTM en Metros
Datum PSAD 56 - Huso 19
Elipsoide Internacional de 1924

FUENTE MAPA BASE: Cartografia Digital IGM, Escala 1:50.000,
"Farellones", "Volcán San José", "Rio Yeso", "El Ingenio", "Rio Olivares", "Embalse Yeso", "El Volcán"

ESTUDIO DE IMPACTO AMBIENTAL
PROYECTO HIDROELÉCTRICO ALTO MAIPO

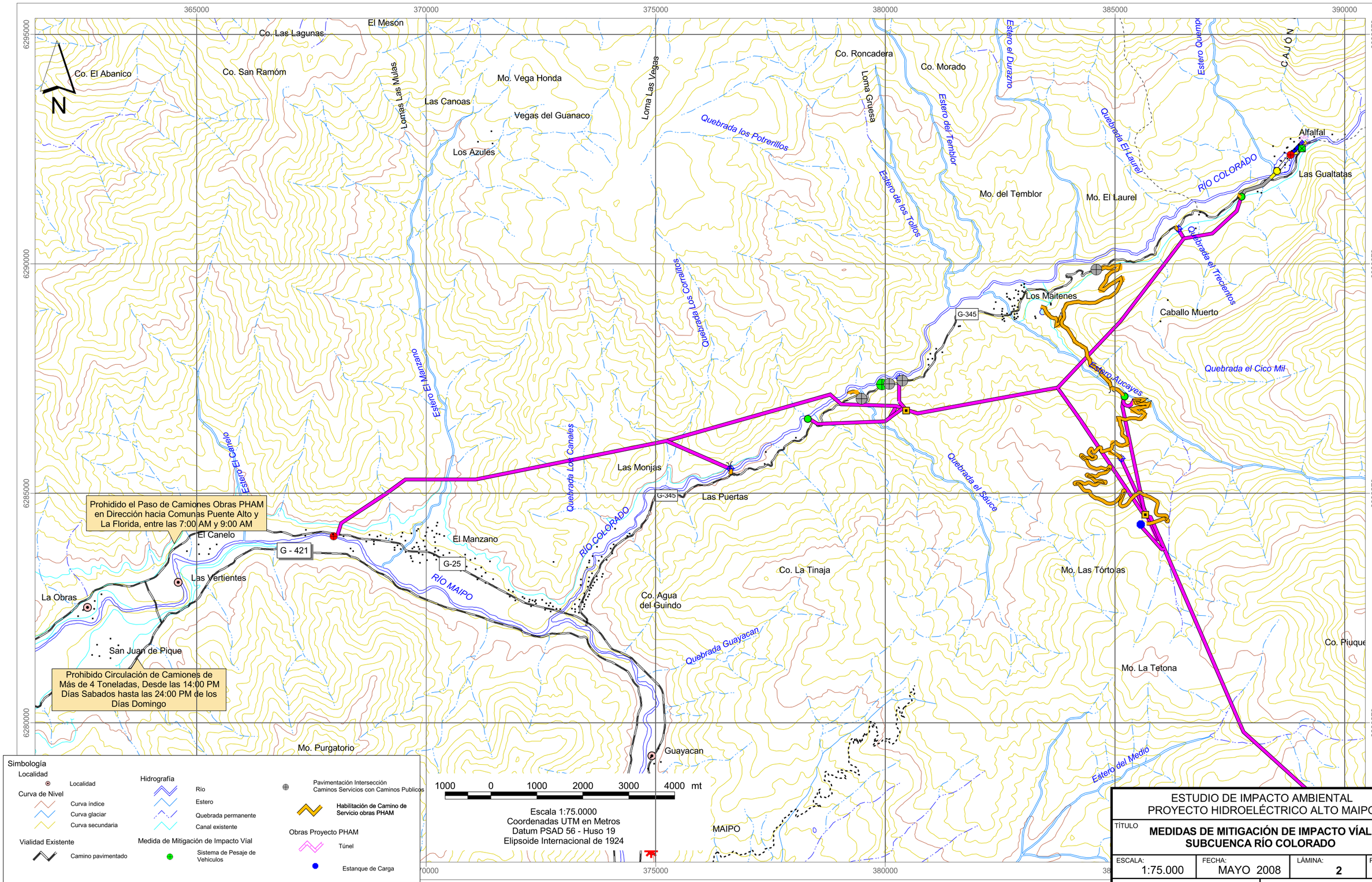
TÍTULO
MEDIDAS DE MITIGACIÓN DE IMPACTO VÍAL
SUBCUENCA RÍO YESO VOLCÁN

ESCALA:	FECHA:	LÁMINA:	REV:
1:75.000	MAYO 2008	1	0

PREPARADO POR: ARCADIS GEOTECNICA

PREPARADO PARA: Gener

3119/Adenda 2/apr/Medidas Compensación Emisiones/3119_4a.apr VCV Marzo 2008



FUENTE MAPA BASE: Cartografia Digital IGM, Escala 1:50.000,
"Farellones", "Volcán San José", "Río Yeso", "El Ingenio", "Río Olivares", "Embalse Yeso", "El Volcán"

ESTUDIO DE IMPACTO AMBIENTAL
PROYECTO HIDROELÉCTRICO ALTO MAIPO

TÍTULO
MEDIDAS DE MITIGACIÓN DE IMPACTO VÍAL SUBCUENCA RÍO COLORADO

ESCALA:	FECHA:	LÁMINA:	REV:
1:75.000	MAYO 2008	2	0

PREPARADO POR: ARCADIS GEOTECNICA

PREPARADO PARA: Gener una empresa AES

3119/Adenda 2/apr/Compensación Emisiones/3119_4b.apr VCV Marzo 2008