

V.3.1 Obtención de: los tiempos de recorrido total o global, tiempos de recorrido en movimiento o restante y las demoras para los años 1999, 2000 y 2001

Como primer paso de la evaluación, es necesario conocer los resultados obtenidos de los Estudios de Tiempos de Recorrido y Demoras, realizados en las 15 trayectorias estipuladas en la Zona Metropolitana.

Según la metodología del vehículo flotante se realizaron los recorridos por la mañana (7:00 a 9:30), mediodía (12:00 a 14:30) y por la tarde (17:30 a 20:00); realizando viajes de ida y regreso, consecutivamente, hasta agotar el periodo señalado, obteniendo así en las rutas el número necesario de muestras por día, los días utilizados para dichos estudios fueron los días: Martes, Miércoles y Jueves, los cuales se consideran que son los días más representativos de la semana para la realización de estos estudios.

Algunos de los estudios fueron realizados antes del inicio de operación del Sistema, en Junio de 1999 y Febrero del 2000; y los estudios recientes son de: Febrero del 2001, Junio del 2001 y Octubre del 2001.

En una serie de formatos de tiempos de recorrido y demoras, se vació la información de cada estudio, así como su re-captura en los equipos de cómputo; posteriormente, su revisión y comprobación de posibles errores en el proceso de captura y re-captura de los tiempos.

En las hojas siguientes se muestra un resumen de los tiempos capturados de los estudios realizados en las diferentes fechas de estudio, así como un promedio de ellos, los cuales serán aplicables al Sistema de Medición propuesto; se encuentran separados en los formatos los tiempos de recorrido en movimiento (tiempo en marcha del vehículo) y las demoras (tiempos de espera) promedio ocurridas en los estudios, las cuales se debieron principalmente a la espera de tiempos de cruce en las intersecciones semaforizadas.



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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS DE RECORRIDO 1999						TOTAL
			1	2	3	4	5	6	
1	MAÑANA	IDA	00:35:36	00:39:44	00:40:23				00:38:34
		REGRESO	01:00:14	00:47:08	01:03:17				00:56:53
	MEDIODIA	IDA	00:42:51	00:52:28	00:46:32	00:46:52			00:47:11
		REGRESO	00:45:01	00:47:47	00:51:07				00:47:58
	TARDE	IDA	00:45:30	01:04:14	00:44:10				00:51:18
		REGRESO	00:48:17	00:40:18	00:47:37				00:45:24
2	MAÑANA	IDA	00:20:29	00:20:48	00:20:38	00:24:55	00:22:53	00:26:21	00:22:41
		REGRESO	00:23:37	00:20:54	00:19:53	00:22:40	00:22:10	00:22:37	00:21:59
	MEDIODIA	IDA	00:22:54	00:23:06	00:25:32	00:26:31	00:25:41		00:24:45
		REGRESO	00:27:24	00:24:01	00:22:39	00:25:33	00:25:36		00:25:03
	TARDE	IDA	00:36:18	00:30:04	00:30:06	00:26:15	00:25:19		00:29:36
		REGRESO	00:25:06	00:23:11	00:26:13	00:30:32	00:31:22		00:27:17
3	MAÑANA	IDA	00:20:52	00:27:04	00:24:34	00:24:59	00:21:16	00:26:11	00:24:09
		REGRESO	00:27:57	00:25:48	00:33:05	00:22:29	00:26:36		00:27:11
	MEDIODIA	IDA	00:31:56	00:23:48	00:21:48	00:30:25	00:32:35	00:25:18	00:27:38
		REGRESO	00:25:51	00:26:04	00:34:46	00:24:44			00:27:51
	TARDE	IDA	00:32:58	00:36:55	00:37:13	00:27:04	00:33:19		00:33:30
		REGRESO	00:26:34	00:25:59	00:29:39	00:25:21			00:26:53
4	MAÑANA	IDA	00:30:03	00:23:15	00:24:21	00:33:02	00:29:56	00:31:11	00:28:38
		REGRESO	00:30:04	00:29:02	00:26:44	00:32:45	00:31:52	00:28:33	00:29:50
	MEDIODIA	IDA	00:26:20	00:26:44	00:25:30	00:31:24	00:29:47	00:27:51	00:27:56
		REGRESO	00:31:53	00:33:12	00:31:23	00:28:08	00:29:16	00:26:21	00:30:02
	TARDE	IDA	00:27:29	00:29:41	00:28:44	00:30:15	00:41:26	00:33:54	00:31:55
		REGRESO	00:30:15	00:35:34	00:32:57	00:29:47	00:27:52	00:29:50	00:31:03
5	MAÑANA	IDA	00:42:31	00:47:44	00:39:00	00:45:47	00:45:34		00:44:07
		REGRESO	00:40:34	00:36:20	00:42:17				00:39:44
	MEDIODIA	IDA	00:43:10	00:45:50	00:46:30				00:45:10
		REGRESO	00:38:57	00:41:40	00:42:17				00:40:58
	TARDE	IDA	00:49:21	00:33:32	00:58:47	00:35:28	00:49:42		00:45:22
		REGRESO	00:53:53	00:55:02	00:32:41	00:48:50			00:47:37
6	MAÑANA	IDA	00:48:18	00:48:21	00:55:36				00:50:45
		REGRESO	00:57:15	00:58:48	00:53:39				00:56:34
	MEDIODIA	IDA	00:51:04	00:46:54	00:49:25				00:49:08
		REGRESO	00:54:41	00:56:12	00:51:47				00:54:13
	TARDE	IDA	00:49:32	00:49:25	00:48:28				00:49:08
		REGRESO	01:00:27	00:51:22	00:57:52				00:56:34
7	MAÑANA	IDA	00:31:16	00:31:46	00:29:09	00:34:46	00:35:49	00:37:07	00:33:19
		REGRESO	00:42:20	00:43:00	00:41:28				00:42:16
	MEDIODIA	IDA	00:35:00	00:34:39	00:35:20	00:37:39			00:35:39
		REGRESO	00:37:48	00:41:41	00:44:28				00:41:19
	TARDE	IDA	00:42:10	00:33:54	00:33:43	00:36:20	00:38:27		00:36:55
		REGRESO	00:39:24	00:41:28	00:42:11				00:41:01
8	MAÑANA	IDA	00:34:34	00:34:02	00:31:37	00:33:39	00:37:50	00:31:40	00:33:54
		REGRESO	00:40:05	00:37:38	00:39:35	00:37:09			00:38:37
	MEDIODIA	IDA	00:30:09	00:39:38	00:33:05	00:38:01	00:33:34	00:35:00	00:34:54
		REGRESO	00:45:20	00:48:09	00:38:50				00:44:06
	TARDE	IDA	00:34:02	00:36:58	00:34:41				00:35:14
		REGRESO	00:41:27	00:44:44	00:35:32	00:39:52			00:40:24



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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS DE RECORRIDO 1999						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:34:26	00:34:12	00:32:01	00:35:57			00:34:09
		REGRESO	00:27:33	00:27:12	00:29:32	00:27:21			00:27:55
	MEDIODIA	IDA	00:33:41	00:30:28	00:32:34	00:30:34	00:32:23	00:29:44	00:31:34
		REGRESO	00:35:40	00:30:06	00:34:42	00:33:00			00:33:22
	TARDE	IDA	00:44:21	00:44:20	00:38:39				00:42:27
		REGRESO	00:46:55	00:46:55	00:44:31				00:46:07
10	MAÑANA	IDA	00:19:48	00:20:30	00:20:58	00:24:35	00:23:06	00:22:29	00:21:54
		REGRESO	00:23:43	00:22:15	00:20:39	00:22:11	00:24:31	00:25:10	00:23:05
	MEDIODIA	IDA	00:23:50	00:25:08	00:23:59	00:25:17	00:26:58	00:26:28	00:25:17
		REGRESO	00:26:04	00:32:18	00:23:17	00:23:08	00:26:19		00:26:13
	TARDE	IDA	00:25:13	00:26:50	00:26:57	00:23:57	00:26:55	00:24:08	00:25:40
		REGRESO	00:28:33	00:25:08	00:28:29	00:25:17	00:25:42	00:22:03	00:25:52
11	MAÑANA	IDA	00:47:56	00:48:18	00:44:30	00:39:10			00:44:59
		REGRESO	00:47:27	00:50:22	00:45:44				00:47:51
	MEDIODIA	IDA	00:36:10	00:40:18	00:43:16	00:39:50	00:37:54		00:39:30
		REGRESO	00:44:42	00:45:17	00:40:24				00:43:28
	TARDE	IDA	00:46:15	00:46:44	00:45:10	00:39:26	00:37:31	00:39:16	00:42:24
		REGRESO	00:53:54	00:49:09	00:47:10				00:50:04
12	MAÑANA	IDA	00:28:02	00:27:00	00:27:41	00:27:22	00:28:30	00:31:10	00:28:18
		REGRESO	00:30:02	00:29:08	00:30:18	00:31:35	00:29:45	00:25:46	00:29:26
	MEDIODIA	IDA	00:29:42	00:27:33	00:29:50	00:26:30	00:28:58	00:27:20	00:28:19
		REGRESO	00:34:35	00:30:04	00:28:37	00:31:27	00:29:20		00:30:49
	TARDE	IDA	00:28:02	00:34:00		00:26:28			00:29:30
		REGRESO	00:33:14	00:35:10	00:31:18				00:33:14
13	MAÑANA	IDA	00:30:56	00:29:03	00:28:02	00:28:16	00:32:13		00:29:42
		REGRESO	00:30:00	00:31:26	00:33:13				00:31:33
	MEDIODIA	IDA	00:28:28	00:28:10	00:27:58	00:29:00	00:27:55		00:28:18
		REGRESO	00:33:01	00:29:01	00:36:24				00:32:49
	TARDE	IDA	00:31:57	00:32:00	00:27:55	00:30:37	00:27:33		00:30:00
		REGRESO	00:33:42	00:33:09	00:32:27				00:33:06
14	MAÑANA	IDA	00:40:45	00:38:54	00:41:08				00:40:16
		REGRESO	00:34:10	00:33:54	00:31:29				00:33:11
	MEDIODIA	IDA	00:46:32	00:42:40	00:42:36				00:43:56
		REGRESO	00:33:44	00:33:51	00:33:53				00:33:49
	TARDE	IDA	00:41:48	00:40:33	00:42:04				00:41:28
		REGRESO	00:33:50	00:32:18	00:31:10				00:32:26
15	MAÑANA	IDA	00:32:01	00:33:50	00:37:01				00:34:17
		REGRESO	00:39:18	00:41:16	00:41:56				00:40:50
	MEDIODIA	IDA	00:35:54	00:31:18	00:31:20				00:32:51
		REGRESO	00:39:37	00:40:31	00:36:00				00:38:43
	TARDE	IDA	00:38:12	00:40:21	00:33:54	00:38:39			00:37:46
		REGRESO	00:36:41	00:39:00	00:49:00				00:41:34

MAÑANA	IDA	00:14:51	00:28:18	00:32:29	00:38:49	00:10:20	00:07:18	00:19:17
	REGRESO	00:12:34	00:12:48	00:13:03	00:11:38			00:12:48
MEDIODIA	IDA	00:28:40	00:10:04	00:07:24	00:12:10	00:09:19	00:01:13	00:57:30
	REGRESO	00:18:08	00:16:40	00:11:28				00:18:28
TARDE	IDA	00:18:57	00:18:58	00:32:27				00:38:14
	REGRESO	00:18:23	00:18:28	00:27:28	00:08:17			00:28:28



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TRAYECTORIA	PERIODO	SENTIDO	DEMORAS 1999						TOTAL
			1	2	3	4	5	6	
1	MAÑANA	IDA	00:02:32	00:13:37	00:05:30				00:07:13
		REGRESO	00:17:21	00:10:18	00:23:58				00:17:12
	MEDIODIA	IDA	00:08:16	00:13:37	00:12:39	00:15:49			00:12:35
		REGRESO	00:08:29	00:10:18	00:15:01				00:11:16
	TARDE	IDA	00:12:39	00:30:34	00:10:47				00:18:00
		REGRESO	00:11:25	00:04:13	00:12:21				00:09:20
2	MAÑANA	IDA	00:02:12	00:02:03	00:02:35	00:06:14	00:04:06	00:07:48	00:04:10
		REGRESO	00:03:22	00:00:58	00:03:29	00:03:28	00:02:46	00:04:08	00:03:02
	MEDIODIA	IDA	00:05:12	00:05:21	00:06:06	00:08:18	00:04:30		00:05:53
		REGRESO	00:07:57	00:03:25	00:03:29	00:06:58	00:04:57		00:05:21
	TARDE	IDA	00:11:48	00:07:16	00:06:39	00:07:05	00:04:13		00:07:24
		REGRESO	00:05:57	00:04:51	00:02:47	00:10:22	00:06:37		00:06:07
3	MAÑANA	IDA	00:04:25	00:04:22	00:02:19	00:04:31	00:03:49	00:06:00	00:04:14
		REGRESO	00:04:33	00:03:56	00:03:49	00:06:31	00:05:53		00:04:56
	MEDIODIA	IDA	00:10:06	00:03:05	00:04:06	00:03:12	00:06:00	00:05:13	00:05:17
		REGRESO	00:04:18	00:05:19	00:04:09	00:04:57			00:04:41
	TARDE	IDA	00:04:37	00:08:12	00:11:23	00:05:42	00:09:40		00:07:55
		REGRESO	00:04:40	00:05:05	00:03:17	00:05:30			00:04:38
4	MAÑANA	IDA	00:07:50	00:03:57	00:04:27	00:09:58	00:10:37	00:08:22	00:07:32
		REGRESO	00:06:45	00:07:18	00:05:21	00:09:56	00:08:57	00:06:12	00:07:25
	MEDIODIA	IDA	00:04:50	00:05:15	00:03:46	00:10:24	00:06:12	00:06:20	00:06:08
		REGRESO	00:07:39	00:08:34	00:07:15	00:04:31	00:07:43	00:02:31	00:06:22
	TARDE	IDA	00:06:56	00:07:25	00:06:20	00:08:50	00:20:10	00:10:52	00:10:05
		REGRESO	00:09:10	00:08:40	00:07:49	00:08:14	00:05:46	00:05:26	00:07:31
5	MAÑANA	IDA	00:13:07	00:19:35	00:10:50	00:14:52	00:14:04		00:14:30
		REGRESO	00:12:57	00:08:45	00:09:22				00:10:21
	MEDIODIA	IDA	00:13:13	00:14:50	00:15:01				00:14:21
		REGRESO	00:10:53	00:12:44	00:10:53				00:11:30
	TARDE	IDA	00:19:39	00:05:52	00:27:00	00:08:12	00:19:22		00:16:01
		REGRESO	00:21:21	00:20:13	00:07:40	00:18:24			00:16:55
6	MAÑANA	IDA	00:13:51	00:12:51	00:17:09				00:14:37
		REGRESO	00:22:32	00:19:30	00:16:27				00:19:30
	MEDIODIA	IDA	00:13:41	00:07:23	00:11:26				00:10:50
		REGRESO	00:19:14	00:17:31	00:15:28				00:17:24
	TARDE	IDA	00:12:36	00:12:03	00:07:41				00:10:47
		REGRESO	00:28:16	00:16:18	00:18:20				00:20:58
7	MAÑANA	IDA	00:06:09	00:06:24	00:05:12	00:07:41	00:07:55	00:11:43	00:07:31
		REGRESO	00:12:12	00:14:29	00:10:37				00:12:26
	MEDIODIA	IDA	00:07:36	00:07:10	00:08:27	00:09:03			00:08:04
		REGRESO	00:09:28	00:11:20	00:15:00				00:11:56
	TARDE	IDA	00:13:57	00:06:44	00:07:02	00:09:14	00:11:15		00:09:38
		REGRESO	00:12:57	00:11:55	00:12:37				00:12:30
8	MAÑANA	IDA	00:14:51	00:08:16	00:05:59	00:08:48	00:10:35	00:07:15	00:09:17
		REGRESO	00:13:44	00:12:49	00:13:03	00:11:39			00:12:49
	MEDIODIA	IDA	00:05:40	00:10:04	00:07:24	00:10:10	00:06:19	00:08:13	00:07:58
		REGRESO	00:16:03	00:18:45	00:11:26				00:15:25
	TARDE	IDA	00:10:37	00:10:59	00:05:37				00:09:04
		REGRESO	00:10:22	00:15:45	00:07:35	00:08:15			00:10:29



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TRAYECTORIA	PERIODO	SENTIDO	DEMORAS 1999						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:10:11	00:08:12	00:10:03	00:13:48			00:10:33
		REGRESO	00:04:35	00:04:04	00:06:38	00:04:58			00:05:04
	MEDIODIA	IDA	00:08:48	00:07:16	00:10:34	00:08:39	00:09:35	00:05:33	00:08:24
		REGRESO	00:10:14	00:07:54	00:10:43	00:10:06			00:09:44
	TARDE	IDA	00:18:11	00:19:22	00:16:39				00:18:04
		REGRESO	00:20:47	00:17:56	00:19:29				00:19:24
10	MAÑANA	IDA	00:04:21	00:06:12	00:06:57	00:09:01	00:06:26	00:06:17	00:06:32
		REGRESO	00:07:29	00:07:29	00:05:38	00:06:52	00:08:30	00:09:04	00:07:30
	MEDIODIA	IDA	00:08:21	00:08:48	00:09:10	00:09:40	00:07:00	00:10:08	00:08:51
		REGRESO	00:09:10	00:14:16	00:06:42	00:06:30	00:10:29		00:09:25
	TARDE	IDA	00:09:44	00:08:48	00:09:14	00:07:00	00:08:56	00:08:11	00:08:39
		REGRESO	00:11:58	00:07:43	00:11:22	00:11:18	00:09:18	00:08:30	00:10:01
11	MAÑANA	IDA	00:15:40	00:11:35	00:11:14	00:07:45			00:11:34
		REGRESO	00:16:54	00:18:47	00:14:41				00:16:47
	MEDIODIA	IDA	00:07:27	00:06:17	00:11:31	00:08:31	00:08:07		00:08:23
		REGRESO	00:14:16	00:14:26	00:11:40				00:13:27
	TARDE	IDA	00:12:05	00:09:10	00:11:59	00:08:26	00:08:16	00:09:36	00:09:55
		REGRESO	00:23:01	00:19:50	00:16:46				00:19:52
12	MAÑANA	IDA	00:08:35	00:07:22	00:04:27	00:07:43	00:08:25	00:09:59	00:07:45
		REGRESO	00:09:46	00:09:04	00:07:54	00:10:41	00:08:01	00:05:39	00:08:31
	MEDIODIA	IDA	00:09:46	00:07:42	00:08:44	00:06:17	00:08:06	00:07:22	00:08:00
		REGRESO	00:11:48	00:09:01	00:07:07	00:13:29	00:07:49		00:09:51
	TARDE	IDA	00:07:13	00:12:58		00:06:52			00:09:01
		REGRESO	00:08:02	00:12:33	00:09:16				00:09:57
13	MAÑANA	IDA	00:10:17	00:10:14	00:09:01	00:10:13	00:13:39		00:10:41
		REGRESO	00:09:04	00:10:36	00:12:21				00:10:40
	MEDIODIA	IDA	00:07:56	00:08:09	00:08:37	00:09:28	00:08:31		00:08:32
		REGRESO	00:11:30	00:07:42	00:14:44				00:11:19
	TARDE	IDA	00:12:07	00:12:16	00:09:17	00:12:09	00:09:02		00:10:58
		REGRESO	00:11:40	00:11:39	00:10:28				00:11:16
14	MAÑANA	IDA	00:10:25	00:09:02	00:11:29				00:10:19
		REGRESO	00:05:07	00:07:29	00:05:52				00:06:09
	MEDIODIA	IDA	00:12:51	00:09:13	00:06:55				00:09:40
		REGRESO	00:07:08	00:07:34	00:06:53				00:07:12
	TARDE	IDA	00:10:29	00:09:01	00:11:52				00:10:27
		REGRESO	00:06:47	00:05:17	00:06:11				00:06:05
15	MAÑANA	IDA	00:06:36	00:08:43	00:10:08				00:08:29
		REGRESO	00:10:48	00:13:15	00:13:58				00:12:40
	MEDIODIA	IDA	00:10:00	00:06:04	00:04:49				00:06:58
		REGRESO	00:10:31	00:11:03	00:12:15				00:11:16
	TARDE	IDA	00:11:40	00:11:48	00:07:49	00:06:31			00:09:27
		REGRESO	00:08:53	00:10:12	00:19:24				00:12:50

8	MAÑANA	IDA	00:10:11
		REGRESO	00:04:35
	MEDIODIA	IDA	00:08:48
		REGRESO	00:10:14
	TARDE	IDA	00:18:11
		REGRESO	00:20:47

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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS RESTANTE 1999
1	MAÑANA	IDA	00:31:21
		REGRESO	00:39:41
	MEDIODIA	IDA	00:34:36
		REGRESO	00:36:42
	TARDE	IDA	00:33:18
		REGRESO	00:36:04
2	MAÑANA	IDA	00:18:31
		REGRESO	00:18:57
	MEDIODIA	IDA	00:18:51
		REGRESO	00:19:41
	TARDE	IDA	00:22:12
		REGRESO	00:21:10
3	MAÑANA	IDA	00:19:55
		REGRESO	00:22:15
	MEDIODIA	IDA	00:22:21
		REGRESO	00:23:11
	TARDE	IDA	00:25:35
		REGRESO	00:22:15
4	MAÑANA	IDA	00:21:06
		REGRESO	00:22:25
	MEDIODIA	IDA	00:21:48
		REGRESO	00:23:40
	TARDE	IDA	00:21:49
		REGRESO	00:23:32
5	MAÑANA	IDA	00:29:38
		REGRESO	00:29:22
	MEDIODIA	IDA	00:30:49
		REGRESO	00:29:28
	TARDE	IDA	00:29:21
		REGRESO	00:30:42
6	MAÑANA	IDA	00:36:08
		REGRESO	00:37:04
	MEDIODIA	IDA	00:38:18
		REGRESO	00:36:49
	TARDE	IDA	00:38:22
		REGRESO	00:35:36
7	MAÑANA	IDA	00:25:48
		REGRESO	00:29:50
	MEDIODIA	IDA	00:27:35
		REGRESO	00:29:23
	TARDE	IDA	00:27:16
		REGRESO	00:28:31
8	MAÑANA	IDA	00:24:36
		REGRESO	00:25:48
	MEDIODIA	IDA	00:26:56
		REGRESO	00:28:42
	TARDE	IDA	00:26:09
		REGRESO	00:29:54

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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS RESTANTE 1999
9	MAÑANA	IDA	00:23:35
		REGRESO	00:22:51
	MEDIODIA	IDA	00:23:10
		REGRESO	00:23:38
	TARDE	IDA	00:24:23
		REGRESO	00:26:43
10	MAÑANA	IDA	00:15:22
		REGRESO	00:15:35
	MEDIODIA	IDA	00:16:25
		REGRESO	00:16:48
	TARDE	IDA	00:17:01
		REGRESO	00:15:50
11	MAÑANA	IDA	00:33:25
		REGRESO	00:31:04
	MEDIODIA	IDA	00:31:07
		REGRESO	00:30:00
	TARDE	IDA	00:32:28
		REGRESO	00:30:12
12	MAÑANA	IDA	00:20:32
		REGRESO	00:20:55
	MEDIODIA	IDA	00:20:19
		REGRESO	00:20:58
	TARDE	IDA	00:20:29
		REGRESO	00:23:17
13	MAÑANA	IDA	00:19:01
		REGRESO	00:20:53
	MEDIODIA	IDA	00:19:46
		REGRESO	00:21:30
	TARDE	IDA	00:19:02
		REGRESO	00:21:50
14	MAÑANA	IDA	00:29:57
		REGRESO	00:27:02
	MEDIODIA	IDA	00:34:16
		REGRESO	00:26:38
	TARDE	IDA	00:31:01
		REGRESO	00:26:21
15	MAÑANA	IDA	00:25:48
		REGRESO	00:28:10
	MEDIODIA	IDA	00:25:53
		REGRESO	00:27:26
	TARDE	IDA	00:28:19
		REGRESO	00:28:44



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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS DE RECORRIDO FEBRERO 2001						TOTAL
			1	2	3	4	5	6	
1	MAÑANA	IDA	00:41:12	01:05:32	00:38:28				00:48:24
		REGRESO	01:03:00	00:42:19	01:06:21				00:57:13
	MEDIODIA	IDA	00:44:18	00:42:50	00:43:28				00:43:32
		REGRESO	00:59:17	00:45:46	00:41:41				00:48:55
	TARDE	IDA	00:46:48	00:46:58	00:52:31				00:48:46
		REGRESO	00:50:30	00:55:55	00:57:38				00:54:41
2	MAÑANA	IDA	00:20:59	00:22:08	00:18:33	00:20:31	00:17:20	00:23:06	00:20:26
		REGRESO	00:24:07	00:23:20	00:18:07	00:32:05	00:18:11		00:23:10
	MEDIODIA	IDA	00:24:16	00:24:11	00:24:30	00:22:50	00:22:02	00:19:27	00:22:53
		REGRESO	00:23:14	00:24:46	00:21:47	00:23:08	00:21:43	00:22:16	00:22:49
	TARDE	IDA	00:27:15	00:28:06	00:21:23	00:25:20	00:22:43	00:23:19	00:24:41
		REGRESO	00:16:02	00:23:54	00:25:44	00:22:10	00:22:09	00:22:50	00:22:08
3	MAÑANA	IDA	00:19:52	00:22:57	00:24:15	00:22:10	00:23:21	00:21:50	00:22:24
		REGRESO	00:34:18	00:29:21	00:19:51	00:32:44	00:21:17	00:29:30	00:27:50
	MEDIODIA	IDA	00:22:00	00:27:30	00:27:15	00:25:04	00:27:25	00:30:09	00:26:34
		REGRESO	00:26:33	00:27:31	00:28:20	00:29:52	00:23:40	00:26:11	00:27:01
	TARDE	IDA	00:28:13	00:30:11	00:23:35	00:23:56	00:26:45	00:32:04	00:27:27
		REGRESO	00:24:10	00:25:16	00:26:43	00:27:32	00:25:52	00:23:00	00:25:26
4	MAÑANA	IDA	00:29:13	00:29:30	00:26:45	00:31:26	00:31:31	00:27:22	00:29:18
		REGRESO	00:30:32	00:32:00	00:38:38	00:23:00	00:27:48	00:30:09	00:30:21
	MEDIODIA	IDA	00:31:47	00:37:00	00:26:12	00:27:28	00:30:08	00:32:18	00:30:49
		REGRESO	00:28:32	00:27:29	00:32:01	00:33:35	00:29:00	00:28:19	00:29:49
	TARDE	IDA	00:35:03	00:39:04	00:25:59	00:27:31	00:35:11	00:31:20	00:32:21
		REGRESO	00:30:26	00:28:48	00:28:50	00:36:03	00:31:28	00:24:04	00:29:56
5	MAÑANA	IDA	00:38:35	00:30:28	00:40:29				00:36:31
		REGRESO	00:38:45	00:52:20	00:41:05				00:44:03
	MEDIODIA	IDA	00:56:35	00:37:22	00:44:00				00:45:59
		REGRESO	00:38:36	00:46:56	00:43:30				00:43:01
	TARDE	IDA	00:52:10	00:39:43	00:45:15				00:45:43
		REGRESO	00:53:28	00:46:35	00:55:03				00:51:42
6	MAÑANA	IDA	00:50:16	00:54:13	00:42:04				00:48:51
		REGRESO	00:53:53	00:59:41	00:45:52				00:53:09
	MEDIODIA	IDA	00:49:32	00:54:26	00:44:07				00:49:22
		REGRESO	00:54:06	00:50:57	00:44:57				00:50:00
	TARDE	IDA	00:50:28	00:44:46	00:43:41				00:46:18
		REGRESO	00:50:37	00:56:00	00:45:13				00:50:37
7	MAÑANA	IDA	00:31:00	00:37:45	00:33:32	00:46:00	00:29:03	00:32:13	00:34:56
		REGRESO	00:36:20	00:44:08					00:40:14
	MEDIODIA	IDA	00:37:03	00:39:34	00:36:24	00:33:54	00:32:34	00:34:55	00:35:44
		REGRESO	00:42:55	00:35:00	00:35:44				00:37:53
	TARDE	IDA	00:42:26	00:42:43	00:37:35	00:34:51	00:42:50		00:40:05
		REGRESO	00:44:54	00:44:04	00:33:42				00:40:53
8	MAÑANA	IDA	00:37:00	00:42:35	00:34:45	00:31:00	00:34:49		00:36:02
		REGRESO	00:47:30	00:37:27	00:45:00				00:43:19
	MEDIODIA	IDA	00:31:48	00:32:00	00:33:25	00:34:16	00:32:08		00:32:43
		REGRESO	00:41:13	00:33:50	00:33:55				00:36:19
	TARDE	IDA	00:37:06	00:39:29	00:34:40	00:44:27	00:35:42	00:38:00	00:38:14
		REGRESO	00:38:00	00:39:45	00:33:20				00:37:02



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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS DE RECORRIDO FEBRERO 2001						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:51:44	00:39:22	00:34:30	00:29:00	00:43:32		00:39:38
		REGRESO	00:29:05	00:26:49	00:27:08	00:32:50	00:30:53		00:29:21
	MEDIODIA	IDA	00:28:44	00:34:50	00:32:25	00:32:40	00:31:30	00:29:30	00:31:37
		REGRESO	00:32:40	00:29:25	00:33:22	00:32:50	00:33:40	00:32:59	00:32:29
	TARDE	IDA	00:35:25	00:33:07	00:34:24	00:40:35	00:34:47	00:34:40	00:35:30
		REGRESO	00:35:10	00:36:00	00:37:55	00:35:30			00:36:09
10	MAÑANA	IDA	00:21:20	00:19:48	00:17:00	00:16:35	00:17:40	00:19:56	00:18:43
		REGRESO	00:18:51	00:19:15	00:19:57	00:18:02	00:20:26		00:19:18
	MEDIODIA	IDA	00:23:37	00:24:12	00:25:22	00:22:40	00:25:28	00:23:41	00:24:10
		REGRESO	00:20:58	00:23:23	00:25:35	00:20:46	00:22:44	00:22:44	00:22:42
	TARDE	IDA	00:20:32	00:22:12	00:20:50	00:26:20	00:24:23	00:23:50	00:23:01
		REGRESO	00:21:38	00:24:25	00:21:09	00:22:50	00:21:35	00:22:51	00:22:25
11	MAÑANA	IDA	00:46:07	00:39:55	00:44:39	00:42:37	00:39:29		00:42:33
		REGRESO	00:54:03	00:45:19	00:38:44				00:46:02
	MEDIODIA	IDA	00:37:40	00:35:19	00:38:21	00:37:42	00:36:12	00:37:33	00:37:08
		REGRESO	00:41:44	00:36:35	00:37:13	00:38:12	00:38:30	00:38:35	00:38:28
	TARDE	IDA	00:40:00	00:43:04	00:38:01	00:44:01	00:46:06	00:39:24	00:41:46
		REGRESO	00:41:04	00:45:27	00:46:25				00:44:19
12	MAÑANA	IDA	00:25:37	00:37:20	00:34:50	00:37:40	00:27:59	00:28:26	00:31:59
		REGRESO	00:30:00	00:30:27	00:30:01	00:31:17	00:31:20		00:30:37
	MEDIODIA	IDA	00:28:10	00:31:08	00:31:06	00:33:46	00:21:00	00:28:56	00:29:01
		REGRESO	00:30:51	00:30:19	00:28:46	00:26:26	00:22:50	00:31:42	00:28:29
	TARDE	IDA	00:31:13	00:30:40	00:32:31	00:35:06	00:28:42	00:30:34	00:31:28
		REGRESO	00:36:04	00:33:13	00:29:34	00:29:30	00:33:55	00:33:55	00:32:42
13	MAÑANA	IDA	00:26:30	00:27:42	00:20:36	00:30:20	00:29:51	00:29:51	00:27:28
		REGRESO	00:28:15	00:28:53	00:24:00	00:29:26	00:27:02	00:27:49	00:27:34
	MEDIODIA	IDA	00:23:30	00:28:43	00:24:40	00:23:49	00:26:27		00:25:26
		REGRESO	00:28:53	00:25:20	00:24:14	00:31:40	00:22:58		00:26:37
	TARDE	IDA	00:27:14	00:35:41	00:31:00	00:27:05	00:29:40	00:33:52	00:30:45
		REGRESO	00:28:27	00:26:38	00:26:45	00:23:36	00:26:01	00:29:48	00:26:52
14	MAÑANA	IDA	00:33:20	00:30:30	00:36:20	00:51:15	00:37:50	00:46:50	00:39:21
		REGRESO	00:45:50	00:38:45	00:34:22	00:34:33			00:38:23
	MEDIODIA	IDA	00:31:30	00:33:26	00:40:35	00:43:19	00:40:00	00:39:15	00:38:01
		REGRESO	00:43:40	00:39:00	00:30:15	00:34:20			00:36:49
	TARDE	IDA	00:33:36	00:31:30	00:39:03	00:45:00	00:40:00	00:43:20	00:38:45
		REGRESO	00:44:55	00:40:00	00:38:03	00:32:05			00:38:46
15	MAÑANA	IDA	00:40:39	00:39:27	00:31:59	00:34:24	00:35:55	00:43:08	00:37:35
		REGRESO	00:35:50	00:39:46	00:46:48	00:33:50			00:39:04
	MEDIODIA	IDA	00:35:22	00:37:40	00:36:56	00:37:57	00:34:15	00:37:15	00:36:34
		REGRESO	00:43:57	00:35:16	00:36:28	00:42:00			00:39:25
	TARDE	IDA	00:36:51	00:35:30	00:44:55	00:36:46	00:40:29		00:38:54
		REGRESO	00:42:43	00:39:10	00:42:20				00:41:24



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TRAYECTORIA	PERIODO	SENTIDO	DEMORAS FEBRERO 2001						TOTAL
			1	2	3	4	5	6	
1	MAÑANA	IDA	00:10:03	00:26:55	00:08:43				00:15:14
		REGRESO	00:13:14	00:07:31	00:34:41				00:18:29
	MEDIODIA	IDA	00:11:03	00:04:45	00:12:06				00:09:18
		REGRESO	00:09:47	00:13:47	00:09:49				00:11:08
	TARDE	IDA	00:16:38	00:13:04	00:15:57				00:15:13
		REGRESO	00:10:02	00:24:31	00:23:24				00:19:19
2	MAÑANA	IDA	00:05:05	00:04:37	00:05:30	00:02:16	00:06:06	00:04:36	00:04:42
		REGRESO	00:07:59	00:05:30	00:02:40	00:17:00	00:03:38		00:07:21
	MEDIODIA	IDA	00:02:03	00:04:28	00:05:29	00:04:04	00:02:26	00:02:26	00:03:29
		REGRESO	00:03:08	00:05:49	00:04:33	00:04:22	00:03:57	00:06:47	00:04:46
	TARDE	IDA	00:06:46	00:09:48	00:05:30	00:06:30	00:04:21	00:04:47	00:06:17
		REGRESO	00:06:53	00:05:39	00:05:54	00:05:03	00:04:59	00:04:39	00:05:31
3	MAÑANA	IDA	00:03:04	00:03:43	00:06:18	00:03:54	00:05:18	00:04:19	00:04:26
		REGRESO	00:13:25	00:07:39	00:02:30	00:10:19	00:03:26	00:08:11	00:07:35
	MEDIODIA	IDA	00:05:37	00:06:37	00:07:10	00:04:36	00:06:57	00:10:36	00:06:55
		REGRESO	00:07:21	00:07:34	00:07:05	00:07:03	00:04:17	00:05:11	00:06:25
	TARDE	IDA	00:10:07	00:09:37	00:06:09	00:04:51	00:08:26	00:08:18	00:07:55
		REGRESO	00:05:45	00:06:04	00:07:28	00:07:10	00:05:24	00:04:47	00:06:06
4	MAÑANA	IDA	00:08:22	00:08:22	00:07:14	00:11:36	00:12:29	00:09:10	00:09:32
		REGRESO	00:10:14	00:11:27	00:15:33	00:04:48	00:07:36	00:09:19	00:09:50
	MEDIODIA	IDA	00:10:12	00:17:15	00:06:20	00:07:17	00:08:22	00:08:54	00:09:43
		REGRESO	00:07:35	00:07:25	00:09:28	00:12:37	00:09:31	00:08:04	00:09:07
	TARDE	IDA	00:15:33	00:19:28	00:04:50	00:07:07	00:12:31	00:06:24	00:10:59
		REGRESO	00:10:08	00:07:44	00:06:59	00:13:53	00:11:12	00:03:05	00:08:50
5	MAÑANA	IDA	00:07:05	0.3:49	00:08:22				00:07:44
		REGRESO	00:10:22	00:18:52	00:10:54				00:13:23
	MEDIODIA	IDA	00:22:16	00:08:58	00:10:26				00:13:53
		REGRESO	00:09:23	00:13:01	00:11:37				00:11:20
	TARDE	IDA	00:20:05	00:11:02	00:11:46				00:14:18
		REGRESO	00:21:40	00:15:14	00:24:39				00:20:31
6	MAÑANA	IDA	00:11:48	00:10:55	00:08:56				00:10:33
		REGRESO	00:10:57	00:18:09	00:08:54				00:12:40
	MEDIODIA	IDA	00:07:28	00:14:28	00:09:21				00:10:26
		REGRESO	00:13:15	00:14:18	00:10:42				00:12:45
	TARDE	IDA	00:09:57	00:11:14	00:10:07				00:10:26
		REGRESO	00:10:59	00:23:21	00:36:46				00:23:42
7	MAÑANA	IDA	00:05:52	00:09:59	00:06:06	00:14:05	00:05:24	00:06:13	00:07:57
		REGRESO	00:07:56	00:14:42					00:11:19
	MEDIODIA	IDA	00:07:36	00:10:59	00:08:42	00:06:37	00:04:55	00:07:53	00:07:47
		REGRESO	00:10:42	00:08:32	00:07:44				00:08:59
	TARDE	IDA	00:13:12	00:08:21	00:09:00	00:07:41	00:14:11		00:10:29
		REGRESO	00:12:29	00:14:31	00:06:32				00:11:11
8	MAÑANA	IDA	00:11:33	00:09:04	00:09:34	00:05:59	00:08:42		00:08:58
		REGRESO	00:18:09	00:07:50	00:14:30				00:13:30
	MEDIODIA	IDA	00:08:15	00:06:32	00:05:54	00:07:45	00:05:39		00:06:49
		REGRESO	00:12:19	00:06:03	00:08:00				00:08:47
	TARDE	IDA	00:10:14	00:10:38	00:08:18	00:15:33	00:09:13	00:10:38	00:10:46
		REGRESO	00:11:02	00:09:01	00:06:18				00:08:47



UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN
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 DEPARTAMENTO DE ESTUDIOS DE INGENIERÍA DE TRÁNSITO



TRAYECTORIA	PERIODO	SENTIDO	DEMORAS FEBRERO 2001						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:18:19	00:10:47	00:10:29	00:04:36	00:12:09		00:11:16
		REGRESO	00:06:08	00:04:37	00:05:01	00:08:51	00:08:12		00:06:34
	MEDIODIA	IDA	00:06:05	00:06:50	00:09:12	00:07:03	00:08:02	00:06:25	00:07:16
		REGRESO	00:06:05	00:05:50	00:07:42	00:09:39	00:08:53	00:11:15	00:08:14
	TARDE	IDA	00:08:44	00:08:20	00:10:05	00:10:25	00:11:51	00:11:15	00:10:07
		REGRESO	00:07:54	00:10:36	00:09:50	00:08:52			00:09:18
10	MAÑANA	IDA	00:05:40	00:06:36	00:03:19	00:02:25	00:03:09	00:03:09	00:04:03
		REGRESO	00:05:12	00:05:51	00:05:07	00:03:57	00:05:21		00:05:06
	MEDIODIA	IDA	00:08:23	00:06:19	00:05:45	00:06:31	00:08:52	00:07:06	00:07:09
		REGRESO	00:04:22	00:06:53	00:08:26	00:06:35	00:06:16	00:06:16	00:06:28
	TARDE	IDA	00:04:15	00:06:30	00:05:24	00:08:11	00:08:38	00:06:15	00:06:32
		REGRESO	00:05:21	00:07:16	00:05:30	00:06:41	00:05:19	00:05:01	00:05:51
11	MAÑANA	IDA	00:15:20	00:13:17	00:16:07	00:14:47	00:12:25		00:14:23
		REGRESO	00:16:48	00:15:31	00:10:40				00:14:20
	MEDIODIA	IDA	00:08:24	00:07:03	00:08:38	00:09:56	00:06:25	00:07:28	00:07:59
		REGRESO	00:11:47	00:08:41	00:08:16	00:09:36	00:07:45	00:10:16	00:09:24
	TARDE	IDA	00:09:42	00:13:52	00:08:16	00:14:45	00:14:16	00:08:57	00:11:38
		REGRESO	00:12:34	00:12:38	00:14:21				00:13:11
12	MAÑANA	IDA	00:06:17	00:19:14	00:13:54	00:17:17	00:06:54	00:07:34	00:11:52
		REGRESO	00:13:53	00:08:13	00:08:15	00:08:55	00:11:51		00:10:13
	MEDIODIA	IDA	00:10:11	00:08:02	00:08:22	00:10:06	00:01:57	00:07:47	00:07:44
		REGRESO	00:11:11	00:12:25	00:08:44	00:06:20	00:01:35	00:09:07	00:08:14
	TARDE	IDA	00:09:23	00:08:02	00:09:28	00:11:04	00:08:10	00:10:14	00:09:23
		REGRESO	00:17:11	00:11:33	00:09:13	00:08:29	00:09:12	00:17:16	00:12:09
13	MAÑANA	IDA	00:05:21	00:06:49	00:03:12	00:09:32	00:05:07	00:05:05	00:05:51
		REGRESO	00:06:39	00:08:28	00:04:27	00:08:54	00:06:18	00:04:35	00:06:34
	MEDIODIA	IDA	00:05:06	00:08:01	00:04:29	00:03:59	00:08:10		00:05:57
		REGRESO	00:07:37	00:05:39	00:04:52	00:11:39	00:03:42		00:06:42
	TARDE	IDA	00:10:38	00:10:38	00:10:02	00:07:29	00:11:02	00:13:11	00:10:30
		REGRESO	00:07:24	00:04:39	00:06:36	00:05:31	00:07:00	00:06:59	00:06:21
14	MAÑANA	IDA	00:23:01	00:05:36	00:06:15	00:18:01	00:11:03	00:18:10	00:13:41
		REGRESO	00:01:03	00:10:36	00:06:14	00:07:29			00:06:20
	MEDIODIA	IDA	00:05:59	00:10:52	00:08:59	00:07:16	00:11:08	00:05:42	00:08:19
		REGRESO	00:11:23	00:09:54	00:04:48	00:05:40			00:07:56
	TARDE	IDA	00:09:00	00:06:06	00:03:46	00:08:31	00:11:50	00:05:57	00:07:32
		REGRESO	00:24:47	00:09:03	00:09:57	00:03:51			00:11:55
15	MAÑANA	IDA	00:15:17	00:27:12	00:05:06	00:08:54	00:10:03	00:09:08	00:12:37
		REGRESO	00:08:35	00:14:53	00:21:28	00:06:21			00:12:49
	MEDIODIA	IDA	00:09:46	00:11:29	00:11:02	00:10:52	00:06:11	00:07:21	00:09:27
		REGRESO	00:14:23	00:08:34	00:10:17	00:11:36			00:11:13
	TARDE	IDA	00:08:49	00:08:47	00:13:10	00:09:53	00:12:09		00:10:34
		REGRESO	00:10:13	00:13:53	00:10:38				00:11:35



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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS DE RECORRIDO JUNIO 2001						TOTAL
			1	2	3	4	5	6	
1	MAÑANA	IDA	00:32:33	00:48:02	00:35:11				00:38:35
		REGRESO	00:51:21	00:37:54	00:46:31				00:45:15
	MEDIODIA	IDA	00:37:51	00:48:02	00:39:23				00:41:45
		REGRESO	00:39:44	00:42:44	00:43:09				00:41:52
	TARDE	IDA	00:39:02	00:42:41	00:39:23				00:40:22
		REGRESO	00:52:47	00:54:00					00:53:24
2	MAÑANA	IDA	00:22:34	00:26:29	00:22:26	00:26:50	00:21:14	00:29:50	00:24:54
		REGRESO	00:34:00	00:23:21	00:26:38	00:25:24			00:27:21
	MEDIODIA	IDA	00:27:03	00:30:38	00:19:58	00:21:52	00:24:21	00:25:39	00:24:55
		REGRESO	00:27:48	00:24:55	00:22:52				00:25:12
	TARDE	IDA	00:30:30	00:30:30	00:25:49	00:30:37	00:25:56	00:27:18	00:28:27
		REGRESO	00:26:45	00:31:40	00:24:40				00:27:42
3	MAÑANA	IDA	00:24:05	00:24:02	00:28:00	00:27:32	00:23:00	00:24:15	00:25:09
		REGRESO	00:28:52	00:27:00	00:27:08	00:28:57	00:28:05		00:28:00
	MEDIODIA	IDA	00:31:22	00:37:40	00:35:49	00:33:31	00:29:58	00:28:10	00:32:45
		REGRESO	00:33:51	00:32:10	00:25:10	00:33:01	00:27:18		00:30:18
	TARDE	IDA	00:27:20	00:30:12	00:30:32	00:30:13	00:25:10	00:25:01	00:28:05
		REGRESO	00:26:53	00:30:36	00:30:46	00:24:46			00:28:15
4	MAÑANA	IDA	00:25:15	00:26:54	00:24:30	00:27:38	00:25:55	00:26:00	00:26:02
		REGRESO	00:24:03	00:25:04	00:27:37	00:27:00	00:27:53	00:24:58	00:26:06
	MEDIODIA	IDA	00:26:34	00:29:58	00:25:21	00:30:01	00:30:58	00:26:45	00:28:16
		REGRESO	00:28:36	00:24:17	00:28:04	00:33:12	00:30:31	00:28:00	00:28:47
	TARDE	IDA	00:26:00	00:29:14	00:27:36	00:28:54	00:26:55	00:28:09	00:27:48
		REGRESO	00:27:42	00:28:16	00:26:02	00:29:57	00:30:06	00:28:09	00:28:22
5	MAÑANA	IDA	00:37:39	00:51:25	00:32:28	00:35:12	00:38:40	00:47:36	00:40:30
		REGRESO	00:33:28	00:46:50	00:33:50				00:38:03
	MEDIODIA	IDA	00:43:27	00:46:43	00:40:14	00:38:20	00:40:30	00:39:00	00:41:22
		REGRESO	00:42:04	00:45:37	00:40:18				00:42:40
	TARDE	IDA	00:42:50	00:44:23	00:42:02	00:45:56	00:44:20		00:43:54
		REGRESO	00:49:40	00:46:20	00:47:36				00:47:52
6	MAÑANA	IDA	00:47:56	00:49:51	00:49:58	00:46:46	00:45:48	00:45:08	00:47:34
		REGRESO	00:53:25	00:47:39	00:54:11				00:51:45
	MEDIODIA	IDA	00:53:02	00:45:54	00:54:50	00:45:40	00:50:44		00:50:02
		REGRESO	00:50:00	00:46:21	00:54:21				00:50:14
	TARDE	IDA	00:47:56	00:46:35	00:49:45	00:46:03	00:47:22		00:47:32
		REGRESO	00:50:56	00:46:17	00:55:16				00:50:50
7	MAÑANA	IDA	00:34:19	00:39:30	00:30:01	00:35:04	00:38:25	00:38:50	00:36:01
		REGRESO	00:32:41	00:33:20	00:37:58				00:34:40
	MEDIODIA	IDA	00:36:48	00:38:52	00:35:02	00:37:25	00:40:15	00:37:40	00:37:40
		REGRESO	00:33:59	00:37:02	00:37:55				00:36:19
	TARDE	IDA	00:40:02	00:40:19	00:42:05	00:41:16			00:40:55
		REGRESO	00:42:15	00:40:14	00:46:03				00:42:51
8	MAÑANA	IDA	00:41:16	00:43:22	00:46:18				00:43:39
		REGRESO	00:49:40	00:42:29	00:47:58				00:46:42
	MEDIODIA	IDA	00:36:49	00:39:40	00:40:10				00:38:53
		REGRESO	00:44:50	00:41:58	00:42:16				00:43:01
	TARDE	IDA	00:47:17	00:38:56	00:39:34				00:41:56
		REGRESO	00:44:30	00:46:38	00:48:04				00:46:24



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 DEPARTAMENTO DE ESTUDIOS DE INGENIERÍA DE TRÁNSITO



TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS DE RECORRIDO JUNIO 2001						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:32:33	00:38:08	00:30:05	00:30:03	00:31:06	00:42:15	00:34:02
		REGRESO	00:30:27	00:38:21	00:28:25				00:32:24
	MEDIODIA	IDA	00:37:33	00:28:57	00:32:18	00:36:01	00:34:38	00:33:05	00:33:45
		REGRESO	00:36:43	00:34:36	00:33:44				00:35:01
	TARDE	IDA	00:34:42	00:32:35	00:33:20	00:38:46	00:42:01		00:36:17
		REGRESO	00:39:55	00:41:52	00:45:02				00:42:16
10	MAÑANA	IDA	00:19:24	00:18:43	00:18:17	00:19:12	00:18:18	00:19:26	00:18:53
		REGRESO	00:18:25	00:18:31	00:19:59	00:19:42	00:18:32	00:17:37	00:18:48
	MEDIODIA	IDA	00:24:48	00:23:49	00:22:37	00:24:08	00:23:38	00:25:30	00:24:05
		REGRESO	00:24:15	00:25:21	00:28:06	00:22:25	00:26:37	00:25:39	00:25:24
	TARDE	IDA	00:23:00	00:27:42	00:19:11	00:25:35	00:23:21	00:26:14	00:24:11
		REGRESO	00:20:11	00:22:32	00:26:26	00:22:28	00:22:58		00:22:55
11	MAÑANA	IDA	00:52:39	00:41:50	00:50:59				00:48:29
		REGRESO	00:44:02	00:48:00	00:40:00				00:44:01
	MEDIODIA	IDA	00:49:39	00:43:49	00:41:40				00:45:03
		REGRESO	00:43:59	00:42:31	00:39:55				00:42:08
	TARDE	IDA	00:49:36	00:47:59	00:52:40				00:50:05
		REGRESO	00:45:05	00:51:18	00:47:28				00:47:57
12	MAÑANA	IDA	00:31:55	00:33:54	00:30:08	00:29:16	00:25:54	00:35:55	00:31:10
		REGRESO	00:33:33	00:35:24	00:29:14	00:27:05	00:30:53		00:31:14
	MEDIODIA	IDA	00:30:20	00:28:39	00:33:38	00:33:17	00:29:01	00:28:46	00:30:37
		REGRESO	00:32:13	00:30:57	00:27:32	00:33:26	00:29:02		00:30:38
	TARDE	IDA	00:27:53	00:36:08	00:33:48	00:30:38	00:30:14		00:31:44
		REGRESO	00:33:21	00:35:00	00:36:39	00:33:37			00:34:39
13	MAÑANA	IDA	00:25:09	00:29:04	00:22:10	00:19:38	00:23:50		00:23:58
		REGRESO	00:29:09	00:31:25	00:25:27	00:24:56	00:24:45		00:27:08
	MEDIODIA	IDA	00:31:31	00:26:19	00:31:45	00:31:00	00:27:24		00:29:36
		REGRESO	00:26:46	00:26:23	00:24:35	00:26:45			00:26:07
	TARDE	IDA	00:24:32	00:32:09	00:27:57	00:24:03			00:27:10
		REGRESO	00:32:08	00:27:35	00:29:30				00:29:44
14	MAÑANA	IDA	00:22:24	00:27:22	00:23:50	00:31:00	00:19:03	00:22:53	00:24:25
		REGRESO	00:23:23	00:20:12	00:30:48				00:24:48
	MEDIODIA	IDA	00:27:42	00:29:25	00:31:00	00:29:03	00:22:21	00:18:57	00:26:25
		REGRESO	00:20:47	00:20:43	00:30:20				00:23:57
	TARDE	IDA	00:31:00	00:34:38	00:29:05	00:36:06	00:19:03	00:30:32	00:30:04
		REGRESO	00:25:57	00:27:16	00:29:03				00:27:25
15	MAÑANA	IDA	00:42:00	00:40:28	00:42:32				00:41:40
		REGRESO	00:44:10	00:43:05	00:43:48				00:43:41
	MEDIODIA	IDA	00:49:42	00:52:11	00:49:28				00:50:27
		REGRESO	00:46:48	00:52:15	00:46:05				00:48:23
	TARDE	IDA	00:52:39	00:41:30	00:46:10				00:46:46
		REGRESO	00:50:08	00:49:32	00:45:32				00:48:24



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TRAYECTORIA	PERIODO	SENTIDO	DEMORAS JUNIO 2001						TOTAL
			1	2	3	4	5	6	
1	MAÑANA	IDA	00:03:22	00:14:58	00:05:20				00:07:53
		REGRESO	00:20:34	00:07:42	00:13:03				00:13:46
	MEDIODIA	IDA	00:07:31	00:09:57	00:08:22				00:08:37
		REGRESO	00:07:16	00:13:12	00:14:04				00:11:31
	TARDE	IDA	00:08:40	00:09:24	00:07:54				00:08:39
		REGRESO	00:23:31	00:16:59					00:20:15
2	MAÑANA	IDA	00:03:16	00:06:35	00:04:57	00:10:02	00:03:01	00:11:33	00:06:34
		REGRESO	00:16:36	00:04:17	00:08:17	00:07:22			00:09:08
	MEDIODIA	IDA	00:06:19	00:09:05	00:04:16	00:06:29	00:06:00	00:06:54	00:06:30
		REGRESO	00:09:01	00:04:20	00:05:49				00:06:23
	TARDE	IDA	00:07:45	00:08:15	00:07:45	00:12:57	00:06:57	00:08:50	00:08:45
		REGRESO	00:06:08	00:12:39	00:06:55				00:08:34
3	MAÑANA	IDA	00:02:39	00:07:20	00:06:17	00:07:44	00:02:44	00:05:19	00:05:21
		REGRESO	00:05:45	00:05:25	00:05:55	00:09:26	00:04:33		00:06:13
	MEDIODIA	IDA	00:06:59	00:05:04	00:13:09	00:11:56	00:08:31	00:06:34	00:08:42
		REGRESO	00:10:41	00:08:48	00:07:05	00:10:32	00:05:54		00:08:36
	TARDE	IDA	00:09:10	00:10:33	00:09:43	00:05:19	00:05:10	00:01:53	00:06:58
		REGRESO	00:04:49	00:07:42	00:09:42	00:04:27			00:06:40
4	MAÑANA	IDA	00:05:36	00:07:31	00:04:12	00:06:44	00:05:31	00:05:26	00:05:50
		REGRESO	00:04:31	00:04:59	00:06:44	00:05:52	00:07:07	00:03:42	00:05:29
	MEDIODIA	IDA	00:06:02	00:08:44	00:04:02	00:10:27	00:09:34	00:05:38	00:07:24
		REGRESO	00:08:33	00:03:41	00:06:24	00:10:32	00:09:25	00:07:53	00:07:45
	TARDE	IDA	00:05:16	00:07:59	00:05:59	00:08:53	00:06:46	00:05:36	00:06:45
		REGRESO	00:04:31	00:09:06	00:04:39	00:07:52	00:09:49	00:07:57	00:07:19
5	MAÑANA	IDA	00:06:50	00:15:53	00:02:47	00:06:59	00:07:43	00:09:51	00:08:20
		REGRESO	00:04:34	00:10:45	00:04:24				00:06:34
	MEDIODIA	IDA	00:10:37	00:11:57	00:09:15	00:06:59	00:08:30	00:06:31	00:08:58
		REGRESO	00:08:34	00:09:19	00:08:14				00:08:42
	TARDE	IDA	00:08:46	00:10:54	00:08:53	00:10:45	00:11:07		00:10:05
		REGRESO	00:13:34	00:10:32	00:14:34				00:12:53
6	MAÑANA	IDA	00:12:32	00:16:26	00:15:32	00:11:40	00:11:28	00:12:38	00:13:23
		REGRESO	00:18:19	00:15:54	00:18:52				00:17:42
	MEDIODIA	IDA	00:16:59	00:12:06	00:15:48	00:11:41	00:14:07		00:14:08
		REGRESO	00:14:21	00:12:33	00:20:02				00:15:39
	TARDE	IDA	00:10:05	00:12:47	00:14:23	00:11:07	00:12:57		00:12:16
		REGRESO	00:16:22	00:13:32	00:19:57				00:16:37
7	MAÑANA	IDA	00:05:06	00:07:19	00:04:13	00:08:22	00:07:36	00:10:12	00:07:08
		REGRESO	00:05:11	00:05:36	00:09:20				00:06:42
	MEDIODIA	IDA	00:06:05	00:09:31	00:04:57	00:09:34	00:09:19	00:07:15	00:07:47
		REGRESO	00:04:39	00:06:26	00:08:19				00:06:28
	TARDE	IDA	00:09:42	00:09:49	00:11:12	00:07:43			00:09:36
		REGRESO	00:06:57	00:09:20	00:12:23				00:09:33
8	MAÑANA	IDA	00:09:30	00:14:03	00:15:34				00:13:02
		REGRESO	00:19:42	00:13:27	00:17:48				00:16:59
	MEDIODIA	IDA	00:08:56	00:12:23	00:09:31				00:10:17
		REGRESO	00:15:38	00:10:40	00:14:28				00:13:35
	TARDE	IDA	00:16:21	00:11:36	00:09:57				00:12:38
		REGRESO	00:14:53	00:16:21	00:19:45				00:17:00



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TRAYECTORIA	PERIODO	SENTIDO	DEMORAS JUNIO 2001						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:08:30	00:11:30	00:08:49	00:08:42	00:08:49	00:16:22	00:10:27
		REGRESO	00:08:03	00:14:23	00:06:31				00:09:39
	MEDIODIA	IDA	00:14:43	00:06:32	00:09:03	00:11:33	00:11:43	00:09:49	00:10:34
		REGRESO	00:13:08	00:10:21	00:11:29				00:11:39
	TARDE	IDA	00:09:53	00:07:50	00:10:03	00:15:01	00:18:13		00:12:12
		REGRESO	00:15:20	00:17:22	00:23:53				00:18:52
10	MAÑANA	IDA	00:04:21	00:04:20	00:04:25	00:04:45	00:04:50	00:05:39	00:04:43
		REGRESO	00:04:30	00:04:24	00:05:58	00:06:07	00:04:40	00:03:43	00:04:54
	MEDIODIA	IDA	00:10:25	00:10:16	00:06:35	00:09:39	00:09:29	00:10:59	00:09:34
		REGRESO	00:09:08	00:10:26	00:13:36	00:09:30	00:11:13	00:10:55	00:10:48
	TARDE	IDA	00:08:30	00:13:07	00:04:44	00:10:11	00:08:52	00:12:58	00:09:44
		REGRESO	00:05:22	00:08:16	00:11:16	00:08:19	00:08:20		00:08:19
11	MAÑANA	IDA	00:17:24	00:07:37	00:14:39				00:13:13
		REGRESO	00:08:43	00:12:20	00:03:38				00:08:14
	MEDIODIA	IDA	00:13:02	00:10:11	00:08:55				00:10:43
		REGRESO	00:09:52	00:11:54	00:07:02				00:09:36
	TARDE	IDA	00:13:01	00:13:53	00:19:52				00:15:35
		REGRESO	00:09:32	00:17:02	00:13:09				00:13:14
12	MAÑANA	IDA	00:09:13	00:11:05	00:07:55	00:08:07	00:05:18	00:12:10	00:08:58
		REGRESO	00:12:03	00:12:51	00:08:47	00:05:18	00:09:38		00:09:43
	MEDIODIA	IDA	00:07:55	00:06:03	00:10:42	00:10:19	00:07:42	00:07:37	00:08:23
		REGRESO	00:08:42	00:09:45	00:07:41	00:10:21	00:07:16		00:08:45
	TARDE	IDA	00:06:42	00:11:24	00:10:17	00:08:53	00:09:29		00:09:21
		REGRESO	00:07:49	00:11:30	00:11:22	00:09:50			00:10:08
13	MAÑANA	IDA	00:05:45	00:08:29	00:03:42	00:03:29	00:06:32		00:05:35
		REGRESO	00:07:13	00:08:15	00:07:42	00:07:23	00:05:57		00:07:18
	MEDIODIA	IDA	00:11:10	00:07:11	00:12:11	00:12:22	00:09:17		00:10:26
		REGRESO	00:05:16	00:08:15	00:06:14	00:05:27			00:06:18
	TARDE	IDA	00:06:32	00:11:02	00:09:09	00:06:38			00:08:20
		REGRESO	00:11:04	00:09:11	00:09:44				00:10:00
14	MAÑANA	IDA	00:03:34	00:05:54	00:04:43	00:10:05	00:05:15	00:04:55	00:05:44
		REGRESO	00:07:25	00:05:10	00:08:38				00:07:04
	MEDIODIA	IDA	00:07:31	00:07:51	00:09:23	00:06:22	00:03:45	00:01:48	00:06:07
		REGRESO	00:04:33	00:03:37	00:08:32				00:05:34
	TARDE	IDA	00:08:15	00:10:19	00:07:50	00:12:18	00:02:02	00:03:43	00:07:25
		REGRESO	00:09:11	00:08:58	00:06:26				00:08:12
15	MAÑANA	IDA	00:06:55	00:09:17	00:09:17				00:08:30
		REGRESO	00:12:21	00:10:41	00:12:40				00:11:54
	MEDIODIA	IDA	00:13:27	00:18:18	00:18:21				00:16:42
		REGRESO	00:08:03	00:18:28	00:13:17				00:13:16
	TARDE	IDA	00:15:21	00:09:17	00:14:52				00:13:10
		REGRESO	00:13:35	00:18:25	00:15:51				00:15:57



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TRAYECTORIA	PERIODO	SENTIDO	TIEMPOS DE RECORRIDO OCTUBRE 2001						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:35:31	00:53:09	00:40:00	00:34:03		00:35:37	00:39:40
		REGRESO	00:33:30	00:29:02	00:36:29		00:33:10		00:33:03
	MEDIODIA	IDA	00:35:58	00:38:48	00:36:07	00:38:30		00:34:31	00:36:47
		REGRESO	00:39:43	00:32:28	00:35:52		00:39:37		00:36:55
	TARDE	IDA	00:36:52	00:50:05	00:40:16				00:42:24
		REGRESO	00:43:18	00:36:03	00:40:21		00:53:40		00:43:20
10	MAÑANA	IDA	00:19:15	00:19:43	00:18:12	00:23:24	00:20:35		00:20:14
		REGRESO	00:18:58	00:17:43	00:18:33	00:20:29	00:18:28		00:18:50
	MEDIODIA	IDA	00:26:20	00:26:25	00:23:52	00:27:26		00:23:48	00:25:34
		REGRESO	00:27:50	00:28:40	00:33:40	00:26:25	00:28:52		00:29:05
	TARDE	IDA	00:26:10	00:29:40	00:26:03	00:27:30			00:27:21
		REGRESO	00:31:01	00:27:15	00:31:54	00:35:54			00:31:31
11	MAÑANA	IDA	00:49:48	00:59:37	00:49:48				00:53:04
		REGRESO	00:47:17	00:45:01	00:42:32				00:44:57
	MEDIODIA	IDA	00:47:01	00:42:08	00:49:01				00:46:03
		REGRESO	00:47:45	00:41:57	00:43:10				00:44:17
	TARDE	IDA	00:57:29	00:52:50	01:04:05				00:58:08
		REGRESO	00:47:20	00:49:50	00:45:43				00:47:38
12	MAÑANA	IDA	00:22:05	00:40:42	00:31:28	00:33:12	00:30:56	00:30:40	00:31:30
		REGRESO	00:27:18	00:27:03	00:31:07	00:30:41	00:29:32		00:29:08
	MEDIODIA	IDA	00:28:27	00:31:18	00:31:37	00:30:11		00:30:11	00:30:21
		REGRESO	00:32:07	00:32:12	00:27:40		00:30:38		00:30:39
	TARDE	IDA	00:36:10	00:32:38	00:30:58	00:36:17		00:34:50	00:34:11
		REGRESO	00:40:30	00:33:54	00:37:40		00:42:47		00:38:43
13	MAÑANA	IDA	00:20:00	00:28:35	00:20:49	00:27:09	00:40:04	00:27:57	00:27:26
		REGRESO	00:29:21	00:23:47	00:26:38	00:29:55	00:26:12	00:26:05	00:27:00
	MEDIODIA	IDA	00:25:10	00:27:48	00:26:30	00:24:53		00:25:40	00:26:00
		REGRESO	00:32:15	00:27:00	00:29:08	00:28:40	00:28:39	00:24:55	00:28:26
	TARDE	IDA	00:26:15	00:38:30	00:32:10	00:28:38	00:28:06	00:28:09	00:30:18
		REGRESO	00:33:36	00:30:32	00:32:12	00:31:51	00:32:04	00:33:53	00:32:21
14	MAÑANA	IDA	00:48:27	00:52:35	00:44:50				00:48:37
		REGRESO	00:35:42	00:34:09	00:34:20				00:34:44
	MEDIODIA	IDA	00:48:08	00:50:00	00:46:02				00:48:03
		REGRESO	00:36:08	00:36:52	00:35:13				00:36:04
	TARDE	IDA	01:01:51	00:46:50	00:54:20				00:54:20
		REGRESO	00:41:59	00:47:28	00:39:01				00:42:49
15	MAÑANA	IDA	00:49:08	00:42:31	00:43:56				00:45:12
		REGRESO	00:41:25	00:46:21	00:46:02				00:44:36
	MEDIODIA	IDA	00:48:12	00:49:38	00:47:05				00:48:18
		REGRESO	00:46:09	00:53:18	00:48:12				00:49:13
	TARDE	IDA	00:55:25	00:49:48	00:55:22				00:53:32
		REGRESO	00:50:35	01:10:12	00:47:05				00:55:57



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TRAYECTORIA	PERIODO	SENTIDO	DEMORAS OCTUBRE 2001						TOTAL
			1	2	3	4	5	6	
1	MAÑANA	IDA	00:07:35	00:05:34	00:01:57				00:05:02
		REGRESO	00:22:49	00:22:42	00:23:56				00:23:09
	MEDIODIA	IDA	00:10:46	00:11:13	00:18:43				00:13:34
		REGRESO	00:07:14	00:10:29	00:08:04				00:08:36
	TARDE	IDA	00:22:46	00:40:13	00:36:34				00:33:11
		REGRESO	00:10:51	00:10:25	00:06:03				00:09:06
2	MAÑANA	IDA	00:04:12	00:06:54	00:04:48	00:05:15	00:07:49	00:08:24	00:06:14
		REGRESO	00:04:43	00:03:32	00:11:53	00:05:24	00:26:29		00:10:24
	MEDIODIA	IDA	00:05:36	00:08:02	00:06:22	00:05:24	00:06:26	00:08:10	00:06:40
		REGRESO	00:06:23	00:05:48	00:06:23	00:07:10	00:06:45	00:06:08	00:06:26
	TARDE	IDA	00:07:44	00:07:14	00:09:33	00:12:30	00:13:56	00:16:48	00:11:18
		REGRESO	00:10:04	00:04:55	00:15:55		00:11:33		00:10:37
3	MAÑANA	IDA	00:04:02	00:05:45	00:03:36		00:05:53	00:07:34	00:05:22
		REGRESO	00:10:02	00:07:19	00:06:56		00:04:21	00:06:59	00:07:07
	MEDIODIA	IDA	00:15:36	00:07:45	00:04:39	00:07:15	00:02:25	00:04:38	00:07:03
		REGRESO	00:05:08	00:03:58	00:05:31		00:03:17	00:04:18	00:04:26
	TARDE	IDA	00:08:35	00:09:19	00:04:45			00:16:15	00:09:43
		REGRESO	00:05:04	00:05:05	00:04:51		00:05:39		00:05:10
4	MAÑANA	IDA	00:08:53	00:08:56	00:06:16	00:02:58		00:06:41	00:06:45
		REGRESO	00:03:51	00:08:01	00:08:34		00:07:49		00:07:04
	MEDIODIA	IDA	00:04:47	00:04:41	00:05:17	00:05:00		00:08:20	00:05:37
		REGRESO	00:04:08	00:05:15	00:05:21				00:04:55
	TARDE	IDA	00:07:24	00:06:32	00:06:59	00:11:11		00:07:15	00:07:52
		REGRESO	00:06:39	00:06:14	00:07:57		00:06:41		00:06:53
5	MAÑANA	IDA	00:16:53	00:12:34	00:08:23				00:12:37
		REGRESO	00:04:24	00:07:01	00:07:09				00:06:11
	MEDIODIA	IDA	00:10:38	00:13:38	00:07:11				00:10:29
		REGRESO	00:07:37	00:09:03	00:09:19				00:08:40
	TARDE	IDA	00:13:39	00:15:32	00:08:52				00:12:41
		REGRESO	00:14:17	00:20:43	00:20:00				00:18:20
6	MAÑANA	IDA	00:11:50	00:19:37	00:14:34				00:15:20
		REGRESO	00:16:20	00:20:32	00:21:23				00:19:25
	MEDIODIA	IDA	00:10:31	00:14:54	00:14:09				00:13:11
		REGRESO	00:11:22	00:13:09	00:17:28				00:14:00
	TARDE	IDA	00:12:33	00:17:15	00:23:12				00:17:40
		REGRESO	00:17:43	00:26:02	00:19:48				00:21:11
7	MAÑANA	IDA	00:04:25	00:08:57	00:05:47	00:07:26		00:06:52	00:06:41
		REGRESO	00:12:45	00:06:09	00:07:33		00:12:51		00:09:49
	MEDIODIA	IDA	00:04:01	00:07:20	00:07:13	00:05:53		00:08:13	00:06:32
		REGRESO	00:06:55	00:06:06	00:08:17		00:07:31		00:07:12
	TARDE	IDA	00:07:53	00:10:40	00:07:33	00:08:41		00:08:33	00:08:40
		REGRESO	00:08:05	00:05:42	00:05:20				00:06:22
8	MAÑANA	IDA	00:04:57	00:13:29	00:11:22	00:09:17			00:09:46
		REGRESO	00:22:49	00:22:40	00:19:49		00:21:59		00:21:49
	MEDIODIA	IDA	00:08:21	00:04:35	00:06:53	00:09:33			00:07:20
		REGRESO	00:12:15	00:13:24	00:20:19		00:15:47		00:15:26
	TARDE	IDA	00:13:38	00:22:41		00:24:22			00:20:14
		REGRESO	00:26:48	00:18:03					00:22:25



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TRAYECTORIA	PERIODO	SENTIDO	DEMORAS OCTUBRE 2001						TOTAL
			1	2	3	4	5	6	
9	MAÑANA	IDA	00:11:33	00:29:33	00:15:46	00:10:55		00:13:26	00:16:15
		REGRESO	00:10:17	00:08:17	00:15:12		00:11:45		00:11:23
	MEDIODIA	IDA	00:11:15	00:13:51	00:10:26	00:16:19		00:10:16	00:12:25
		REGRESO	00:16:28	00:09:57	00:12:54		00:15:47		00:13:46
	TARDE	IDA	00:10:27	00:18:51	00:13:57				00:14:25
		REGRESO	00:20:46	00:13:04	00:15:30		00:28:14		00:19:24
10	MAÑANA	IDA	00:04:55	00:06:59	00:05:31	00:09:00	00:07:22		00:06:45
		REGRESO	00:03:32	00:05:28	00:04:11	00:06:38	00:03:31		00:04:40
	MEDIODIA	IDA	00:11:39	00:11:24	00:08:45	00:13:36		00:10:03	00:11:05
		REGRESO	00:12:39	00:10:35	00:18:43	00:11:04	00:11:26		00:12:53
	TARDE	IDA	00:08:48	00:13:22	00:08:17	00:11:49			00:10:34
		REGRESO	00:15:05	00:11:17	00:14:48	00:20:26			00:15:24
11	MAÑANA	IDA	00:15:31	00:26:45	00:19:20				00:20:32
		REGRESO	00:15:15	00:15:00	00:11:55				00:14:03
	MEDIODIA	IDA	00:12:02	00:10:18	00:16:32				00:12:57
		REGRESO	00:13:37	00:11:17	00:12:33				00:12:29
	TARDE	IDA	00:22:37	00:16:58	00:31:27				00:23:41
		REGRESO	00:14:21	00:16:27	00:12:48				00:14:32
12	MAÑANA	IDA	00:04:17	00:19:19	00:10:14	00:13:29	00:10:46	00:10:49	00:11:29
		REGRESO	00:06:15	00:06:20	00:09:31	00:10:19	00:07:58		00:08:05
	MEDIODIA	IDA	00:09:12	00:08:58	00:11:23	00:08:24		00:11:57	00:09:59
		REGRESO	00:10:41	00:10:21	00:06:58		00:08:13		00:09:03
	TARDE	IDA	00:10:46	00:09:04	00:08:33	00:11:06		00:11:10	00:10:08
		REGRESO	00:12:25	00:09:58	00:10:24		00:13:37		00:11:36
13	MAÑANA	IDA	00:03:03	00:06:45	00:04:02	00:06:43	00:18:24	00:07:30	00:07:44
		REGRESO	00:06:44	00:03:37	00:05:59	00:09:20	00:05:54	00:06:10	00:06:17
	MEDIODIA	IDA	00:06:06	00:07:47	00:07:28	00:06:11		00:06:52	00:06:53
		REGRESO	00:10:56	00:05:54	00:08:54	00:08:13	00:05:41	00:05:37	00:07:32
	TARDE	IDA	00:07:57	00:16:32	00:11:04	00:08:10	00:08:50	00:08:50	00:10:14
		REGRESO	00:10:10	00:08:36	00:05:59	00:09:28	00:08:32	00:11:31	00:09:03
14	MAÑANA	IDA	00:14:36	00:14:51	00:09:37				00:13:01
		REGRESO	00:04:30	00:03:54	00:04:05				00:04:10
	MEDIODIA	IDA	00:10:59	00:12:02	00:09:44				00:10:55
		REGRESO	00:07:11	00:05:41	00:04:53				00:05:55
	TARDE	IDA	00:22:06	00:10:06	00:14:30				00:15:34
		REGRESO	00:10:03	00:09:17	00:05:46				00:08:22
15	MAÑANA	IDA	00:16:37	00:11:41	00:10:03				00:12:47
		REGRESO	00:06:54	00:12:03	00:11:46				00:10:14
	MEDIODIA	IDA	00:13:02	00:12:37	00:12:33				00:12:44
		REGRESO	00:11:57	00:17:59	00:10:23				00:13:26
	TARDE	IDA	00:17:43	00:15:19	00:12:19				00:15:07
		REGRESO	00:14:38	00:26:30	00:09:05				00:16:44

V.3.2 Cálculo del coeficiente de demoras

La obtención del factor de demoras futuras se realizará mediante el uso del *Highway Capacity Software* (HCS) para cada trayectoria, sentido y periodo del día, con el cual se obtendrán el factor de demoras, que se denominará como F_{HCS} .

Este software es la herramienta mas utilizada para definir el incremento de las demoras que se tendrán en el futuro, principalmente debidas al aumento del volumen de tránsito en las intersecciones.

La obtención se basó en los datos registrados en las 54 intersecciones maestras, ubicadas como anteriormente se mencionó. Cada trayectoria tiene en sus recorridos que cruzar varias de estas intersecciones (varían de 2 hasta 6 intersecciones por cada una de las trayectorias).

Al Obtener de esta manera, un promedio de tiempos de demora en cada trayectoria, periodo del día y sentido del viaje, y al dividir el año futuro entre el año base se obtendrán los factores de demora que se aplicarán al procedimiento del Sistema de Medición.

La fórmula para obtener el factor es la siguiente:

$$FACTORDEDEMORAS_{HCS} = \frac{DEMORAESTIMADA^{AÑO FUTURO}}{DEMORAESTIMADA^{AÑO BASE}}$$

La siguiente tabla muestra la ubicación de cada intersección maestra, en las trayectorias estudiadas, que servirán de base para la obtención de las demoras estimadas, las cuales se muestran en las hojas siguientes; y, así mismo, los formatos donde se obtienen los factores de demoras HCS .

En este trabajo, el año base será 1999 y el año futuro el 2001, entendiendo como un futuro para cada uno de los estudios realizados en el año 2001.



UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN
FACULTAD DE INGENIERÍA CIVIL
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CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Municipio.-

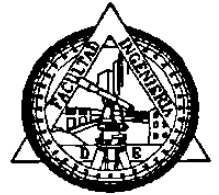
Monterrey, N.L.

Año: 1999

Recorrido	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
1	2	EB (T)	35	37.3	221.7	2	WB (T)	50.8	30.2	192.4
	3	EB (T)	255	345.3	205.5	3	WB (T)	42.7	40.2	43.8
	29	NB (T)	86.40	283.00	115.20	29	SB (T)	213.30	149.30	124.30
	30	NB (T)	62.00	66.20	61.30	30	SB (T)	59.10	59.30	74.70
	46	EB (T)	39.00	30.20	29.50	46	SB (R)	39.10	43.70	64.20
	58	NB (R)	0.00	0.00	-	58	WB (L)	47.80	231.40	-
2	14	-	-	-	-	14	WB (L)	25.60	21.60	37.90
	23	NB (T)	4.40	4.90	6.70	23	-	-	-	-
	26	-	-	-	-	26	SB (T)	33.90	33.60	26.20
	31	EB (R)	0.00	0.00	0.00	31	NB (L)	31.20	32.70	35.30
	41	NB (R)	0.00	0.00	0.00	41	WB (L)	12.00	12.20	11.50
	44	EB (T)	103.50	97.80	80.90	44	WB (T)	43.20	40.60	61.00
3	45	SB (L)	38.60	69.00	108.00	45	WB (R)	0.00	0.00	0.00
	29	NB (L)	86.40	283.00	115.20	29	EB (R)	176.90	54.50	98.50
	30	NB (T)	62.00	66.20	61.30	30	SB (T)	59.10	59.30	74.70
	32	EB (T)	31.30	28.90	43.50	32	NB (T)	18.50	18.30	17.80
	42	EB (T)	25.00	23.90	28.90	42	WB (T)	24.00	29.50	25.40
4	43	EB (L)	25.70	27.40	27.40	43	SB (R)	50.80	46.60	46.60
	35	SB (R)	74.00	149.00	122.70	35	WB (L)	42.90	43.30	55.80
	36	NB (T)	25.00	16.90	18.00	36	SB (T)	33.70	34.10	48.10
	37	EB (L)	45.30	43.30	69.20	37	SB (R)	24.00	44.30	27.50
	39	EB (T)	37.00	37.00	37.30	39	WB (T)	45.00	55.70	40.70
	40	EB (L)	48.50	69.20	57.50	40	SB (R)	20.20	15.90	13.50
	43	EB (T)	25.70	27.40	27.40	43	WB (T)	40.90	48.00	37.80
	44	EB (T)	103.50	97.80	80.90	44	WB (T)	43.20	40.60	61.00
5	50	EB (T)	57.30	66.10	55.10	50	WB (T)	86.00	40.10	59.90
	12	WB (L)	57.60	44.30	42.90	12	NB (R)	58.60	70.10	56.40
	14	WB (T)	25.60	21.60	37.90	14	-	-	-	-
	15	SB (R)	57.90	33.70	37.00	15	NB (T)	14.10	12.70	14.10
	17	SB (T)	31.70	13.70	13.90	17	NB (R)	24.50	27.00	33.70
	18	-	-	-	-	18	EB (T)	12.60	12.80	14.50
	27	SB (T)	20.60	22.70	16.20	27	NB (T)	17.80	14.30	32.90
6	47	WB (T)	45.80	44.00	44.10	47	EB (T)	42.70	44.80	67.70
	2	WB (T)	50.80	30.20	192.40	2	EB (T)	35.00	37.30	221.70
	3	WB (T)	42.70	40.20	43.80	3	EB (T)	255.00	345.30	205.50
	5	NB (T)	37.10	35.30	41.00	5	SB (T)	12.40	5.90	5.60
	6	NB (L)	37.10	32.70	34.90	6	EB (R)	40.00	35.90	33.60
	10	EB (T)	50.80	46.90	44.60	10	WB (T)	44.80	53.40	61.90
	11	EB (T)	23.20	22.80	21.20	11	WB (T)	14.80	16.20	13.30
7	58	WB (R)	47.80	41.60	-	58	SB (L)	494.30	162.40	-
	13	NB (T)	-	23.80	36.20	13	SB (T)	-	33.80	68.10
	14	-	-	-	-	14	SB (T)	25.60	33.00	45.60
	24	NB (T)	0.70	1.90	0.90	24	SB (T)	25.40	24.00	16.10
	38	NB (T)	21.40	16.40	17.80	38	SB (T)	14.70	18.30	20.20
	39	NB (T)	55.00	56.60	54.40	39	SB (T)	43.00	48.40	53.90
8	40	EB (T)	0.00	0.00	0.00	40	WB (T)	31.80	22.80	25.50
	9	NB (R)	48.00	54.60	43.70	9	SB (L)	46.60	47.10	48.60
	37	NB (T)	8.20	7.90	7.80	37	SB (T)	59.30	44.30	103.00
	48	NB (R)	110.80	73.50	80.50	48	WB (L)	82.50	56.30	66.40
	50	NB (R)	58.90	63.30	58.20	50	WB (L)	86.00	40.10	59.90
	51	NB (T)	41.90	41.90	38.50	51	SB (T)	46.30	46.30	54.40
8	52	EB (L)	45.40	44.50	48.80	52	SB (R)	0.00	0.00	0.00



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CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Año: 1999

Recorrido	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
9	8	WB (L)	42.90	47.60	39.00	8	NB (L)	51.40	40.50	45.50
	9	WB (T)	96.00	52.60	67.10	9	EB (T)	48.00	46.50	45.80
	20	NB (T)	16.10	15.10	16.70	20	-	-	-	-
	28	EB (R)	0.00	0.00	0.00	28	SB (L)	41.00	106.50	200.00
	47	SB (T)	50.00	44.70	50.70	47	NB (T)	50.30	47.30	52.10
	48	SB (R)	104.00	56.20	71.10	48	WB (L)	82.50	56.30	66.40
10	10	SB (T)	56.20	47.80	47.80	10	NB (T)	75.00	89.70	70.90
	17	-	-	-	-	17	NB (T)	24.50	27.00	33.70
	22	EB (T)	24.80	24.20	21.60	22	-	-	-	-
	23	-	-	-	-	23	WB (T)	27.10	32.10	21.30
	24	-	-	-	-	24	SB (R)	25.40	24.00	16.10
11	4	WB (T)	35.40	33.20	39.60	4	EB (T)	36.80	30.20	33.10
	5	WB (L)	48.10	46.60	46.90	5	NB (R)	37.10	35.30	41.00
	7	NB (T)	55.70	45.60	47.80	7	SB (T)	53.00	47.10	50.90
	48	NB (T)	110.80	73.50	80.50	48	SB (T)	104.00	56.20	71.10
	49	NB (T)	103.20	72.90	80.10	49	SB (T)	123.00	117.80	251.30
	50	WB (R)	86.00	40.10	59.90	50	SB (L)	63.20	62.50	52.80
	52	WB (T)	34.40	21.90	23.00	52	EB (T)	16.30	17.60	19.00
54	EB (R)	39.20	42.00	42.20	54	NB (L)	48.00	45.50	46.40	
12	15	WB (T)	43.00	30.50	42.70	15	-	-	-	-
	16	WB (T)	43.80	17.40	16.40	16	EB (R)	0.00	0.00	0.00
	18	-	-	-	-	18	EB (T)	12.80	12.80	14.50
	19	SB (T)	9.80	9.50	9.40	19	NB (T)	11.50	12.50	12.20
	22	SB (T)	9.50	10.00	10.00	22	NB (T)	9.20	11.30	10.90
	25	SB (T)	10.50	11.50	11.40	25	NB (T)	11.50	12.10	13.90
	49	WB (T)	35.50	30.80	30.10	49	EB (T)	26.20	32.30	32.60
	51	WB (T)	40.50	40.50	44.10	51	EB (T)	38.40	38.40	46.10
53	SB (T)	40.30	42.50	42.70	53	NB (T)	53.80	40.40	41.10	
13	1	SB (T)	29.00	24.70	26.10	1	NB (T)	27.00	28.90	27.00
	3	SB (T)	53.50	128.00	68.30	3	NB (T)	49.40	44.50	44.60
	11	SB (T)	54.90	45.30	42.80	11	NB (T)	29.00	35.30	41.10
	18	SB (T)	23.70	24.80	25.90	18	-	-	-	-
	19	-	-	-	-	19	NB (T)	11.50	12.50	12.20
	22	-	-	-	-	22	NB (T)	9.20	11.30	10.90
	57	SB (T)	48.40	54.00	-	57	NB (T)	53.40	49.90	-
14	27	EB (T)	30.10	36.80	72.30	27	-	-	-	-
	28	SB (T)	19.90	28.90	30.20	28	-	-	-	-
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	58.60	56.20	54.70
	45	NB (R)	0.00	0.00	0.00	45	WB (L)	42.40	40.10	42.20
	56	NB (R)	0.00	0.00	0.00	56	WB (L)	0.00	0.00	0.00
15	25	EB (T)	21.40	23.00	26.00	25	-	-	-	-
	26	-	-	-	-	26	WB (T)	20.80	23.90	23.30
	31	NB (R)	0.00	0.00	0.00	31	WB (L)	63.60	53.90	80.20
	32	EB (T)	31.30	28.90	43.50	32	WB (T)	0.00	0.00	0.00
	33	EB (T)	25.80	15.70	13.20	33	WB (T)	31.20	34.00	27.30
	34	EB (T)	13.90	13.00	15.00	34	WB (T)	12.40	12.80	13.60
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	56.60	56.20	54.70
	45	EB (L)	48.50	40.50	40.70	45	SB (R)	0.00	0.00	0.00
	55	EB (T)	0.00	0.00	0.00	55	WB (T)	881.80	301.00	350.90
	56	SB (L)	17.60	19.10	18.00	56	WB (R)	40.90	31.30	33.50



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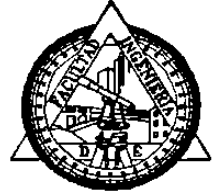


RESUMEN TIEMPOS DE DEMORAS DEL "HCS"

DEMORAS							Promedios	
	Recorrido	IDA			REGRESO			
		<i>Mañana</i>	<i>Medio día</i>	<i>Tarde</i>	<i>Mañana</i>	<i>Medio día</i>		<i>Tarde</i>
1	477.40	762.00	633.20	452.80	554.10	499.40	563.15	
2	148.50	171.70	195.60	145.90	140.70	171.90	162.05	
3	230.40	429.40	276.30	329.30	208.20	263.00	289.43	
4	416.30	506.70	468.10	335.90	322.00	344.30	396.88	
5	239.20	180.00	192.00	170.30	181.70	219.30	197.08	
6	289.50	249.70	377.90	896.30	656.40	541.60	501.90	
7	77.10	96.70	109.30	140.50	181.30	229.40	139.36	
8	313.20	285.70	277.50	320.70	234.10	332.30	293.92	
9	299.00	216.20	244.60	273.20	297.10	409.50	289.96	
10	81.00	72.00	69.40	152.00	172.80	142.00	114.87	
11	512.80	375.80	420.00	481.40	412.20	565.60	481.30	
12	232.90	192.70	206.80	163.20	159.80	171.30	187.78	
13	209.50	276.80	163.10	179.50	182.40	135.60	191.18	
14	426.70	399.90	464.40	99.00	96.30	96.90	263.87	
15	535.20	474.40	518.30	1107.30	513.10	583.50	621.97	



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CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Municipio.- **Monterrey, N.L.**

Año: **Febrero-00**

Recorrido	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
	2	EB (T)	35.00	37.30	221.70	2	WB (T)	50.80	30.20	192.40
	3	EB (T)	255.00	345.30	205.50	3	WB (T)	42.70	40.20	43.80
	29	NB (T)	113.00	330.60	161.50	29	SB (T)	221.50	155.60	134.90
	30	NB (T)	63.60	66.90	63.20	30	SB (T)	66.50	66.70	83.30
	46	EB (T)	46.80	31.20	29.70	46	SB (R)	44.40	59.30	75.00
	58	NB (R)	0.00	0.00	-	58	WB (L)	47.80	25.20	-
2	14	-	-	-	-	14	WB (L)	24.70	22.60	33.40
	23	NB (T)	4.50	5.10	7.90	23	-	-	-	-
	26	-	-	-	-	26	SB (T)	31.80	33.00	22.20
	31	EB (R)	0.00	0.00	0.00	31	NB (L)	31.10	32.90	36.20
	41	NB (R)	0.00	0.00	0.00	41	WB (L)	12.00	12.20	11.50
	44	EB (T)	156.20	164.00	126.80	44	WB (T)	64.60	58.30	71.50
	45	SB (L)	39.80	85.70	124.50	45	WB (R)	0.00	0.00	0.00
3	29	NB (L)	113.00	330.60	161.50	29	EB (R)	182.40	48.80	80.90
	30	NB (T)	63.60	66.90	63.20	30	SB (T)	66.50	66.70	83.30
	32	EB (T)	30.20	30.00	65.70	32	NB (T)	18.40	18.50	18.20
	42	EB (T)	26.60	25.60	29.60	42	WB (T)	24.70	32.50	25.10
	43	EB (L)	29.10	28.50	28.00	43	SB (R)	62.10	49.30	48.30
4	35	SB (R)	112.10	187.60	129.00	35	WB (L)	59.80	45.40	64.30
	36	NB (T)	23.40	16.90	17.90	36	SB (T)	36.20	41.70	78.00
	37	EB (L)	50.90	48.20	132.70	37	SB (R)	24.00	53.40	27.80
	39	EB (T)	36.50	37.20	37.50	39	WB (T)	56.30	58.70	45.30
	40	EB (L)	48.50	69.20	57.50	40	SB (R)	20.20	15.90	13.50
	43	EB (T)	29.10	28.50	28.00	43	WB (T)	42.90	48.00	37.30
	44	EB (T)	156.20	164.00	126.80	44	WB (T)	64.60	58.30	71.50
	50	EB (T)	60.30	96.70	73.10	50	WB (T)	90.30	40.30	68.00
5	12	WB (L)	72.60	46.40	48.50	12	NB (R)	54.70	66.60	54.70
	14	WB (T)	24.70	22.60	33.40	14	-	-	-	-
	15	SB (R)	51.30	34.80	40.20	15	NB (T)	14.10	12.70	14.00
	17	SB (T)	66.30	15.00	14.60	17	NB (R)	25.10	26.00	24.40
	18	-	-	-	-	18	EB (T)	14.40	14.10	15.60
	27	SB (T)	33.00	38.30	22.30	27	NB (T)	22.90	16.80	32.60
	47	WB (T)	45.60	44.00	44.10	47	EB (T)	42.70	44.80	67.70
6	2	WB (T)	50.80	30.20	192.40	2	EB (T)	35.00	37.30	221.70
	3	WB (T)	42.70	40.20	43.80	3	EB (T)	255.00	345.30	205.50
	5	NB (T)	38.80	35.50	41.90	5	SB (T)	12.60	6.10	5.80
	6	NB (L)	34.90	33.50	35.30	6	EB (R)	40.00	37.00	34.60
	10	EB (T)	63.70	50.00	47.30	10	WB (T)	47.10	62.10	87.20
	11	EB (T)	47.50	24.60	23.20	11	WB (T)	26.10	15.80	14.70
	58	WB (R)	47.80	41.60	-	58	SB (L)	494.30	162.40	-
7	13	NB (T)	-	25.20	52.40	13	SB (T)	-	36.70	70.70
	14	-	-	-	-	14	SB (T)	26.10	26.40	26.80
	24	NB (T)	0.70	1.90	0.90	24	SB (T)	24.30	24.60	16.50
	38	NB (T)	22.40	17.40	18.80	38	SB (T)	15.00	19.30	20.40
	39	NB (T)	52.70	50.80	47.20	39	SB (T)	45.10	52.60	63.00
	40	EB (T)	0.00	0.00	0.00	40	WB (T)	31.80	22.80	45.30
8	9	NB (R)	60.70	47.30	45.40	9	SB (L)	47.20	47.20	48.40
	37	NB (T)	8.40	8.00	8.00	37	SB (T)	104.60	53.40	120.10
	48	NB (R)	138.30	86.10	105.50	48	WB (L)	99.50	57.10	74.60
	50	NB (R)	73.70	99.00	85.60	50	WB (L)	90.30	40.30	68.00
	51	NB (T)	43.30	37.20	39.60	51	SB (T)	47.40	54.60	81.80
	52	EB (L)	45.80	45.00	49.90	52	SB (R)	0.00	0.00	0.00



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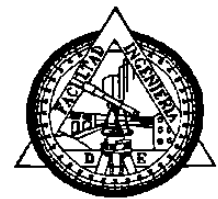
CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Año: *Febrero-00*

Año	Intersección	Orientación	IDA			REGRESO				
			7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
9	8	WB (L)	55.20	51.60	42.50	8	NB (L)	50.00	42.00	47.10
	9	WB (T)	82.00	67.10	70.90	9	EB (T)	49.80	45.40	46.60
	20	NB (T)	15.70	15.30	18.80	20	-	-	-	-
	28	EB (R)	0.00	0.00	0.00	28	SB (L)	42.00	153.00	219.90
	47	SB (T)	50.00	44.70	50.70	47	NB (T)	50.30	47.30	52.10
	48	SB (R)	127.40	58.60	85.70	48	WB (L)	99.50	57.10	74.60
10	10	SB (T)	60.00	49.20	49.00	10	NB (T)	84.30	137.40	119.60
	17	-	-	-	-	17	NB (T)	25.10	26.00	24.40
	22	EB (T)	26.00	25.20	31.80	22	-	-	-	-
	23	-	-	-	-	23	WB (T)	28.20	33.70	21.80
	24	-	-	-	-	24	SB (R)	24.30	24.60	16.50
11	4	WB (T)	39.20	35.20	42.50	4	EB (T)	43.10	32.60	35.50
	5	WB (L)	49.70	46.80	47.20	5	NB (R)	38.80	35.50	41.90
	7	NB (T)	60.40	46.70	51.50	7	SB (T)	54.20	48.00	52.20
	48	NB (T)	138.30	86.10	105.50	48	SB (T)	127.40	58.60	85.70
	49	NB (T)	146.00	93.40	102.50	49	SB (T)	175.30	168.30	317.40
	50	WB (R)	90.30	40.30	68.00	50	SB (L)	68.90	66.20	52.40
	52	WB (T)	37.40	22.30	22.20	52	EB (T)	16.40	17.80	19.40
	54	EB (R)	42.00	45.60	47.50	54	NB (L)	54.40	48.50	51.20
12	15	WB (T)	40.70	30.60	33.40	15	-	-	-	-
	16	WB (T)	40.90	17.40	45.40	16	EB (R)	0.00	0.00	0.00
	18	-	-	-	-	18	EB (T)	14.40	14.10	15.60
	19	SB (T)	9.80	9.60	9.90	19	NB (T)	11.40	13.00	14.30
	22	SB (T)	9.60	10.70	10.80	22	NB (T)	9.20	11.70	13.90
	25	SB (T)	10.40	11.70	10.80	25	NB (T)	9.60	12.40	13.30
	49	WB (T)	39.10	32.00	31.00	49	EB (T)	26.90	34.30	34.30
	51	WB (T)	41.80	44.80	45.60	51	EB (T)	39.20	48.90	48.60
	53	SB (T)	40.30	45.30	42.70	53	NB (T)	81.40	43.70	44.40
13	1	SB (T)	30.50	30.60	30.50	1	NB (T)	13.90	16.80	15.40
	3	SB (T)	53.50	128.00	68.30	3	NB (T)	49.40	44.50	44.60
	11	SB (T)	219.50	47.40	51.40	11	NB (T)	32.30	37.70	52.50
	18	SB (T)	26.00	26.80	27.20	18	-	-	-	-
	19	-	-	-	-	19	NB (T)	11.40	13.00	14.30
	22	-	-	-	-	22	NB (T)	9.20	11.70	13.90
	57	SB (T)	48.40	54.00	-	57	NB (T)	53.40	49.90	-
14	27	EB (T)	29.90	47.40	68.10	27	-	-	-	-
	28	SB (T)	23.00	44.30	34.30	28	-	-	-	-
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	56.60	56.20	54.70
	45	NB (R)	0.00	0.00	0.00	45	WB (L)	45.20	40.70	42.70
	56	NB (R)	0.00	0.00	0.00	56	WB (L)	0.00	0.00	0.00
15	25	EB (T)	21.30	23.50	26.30	25	-	-	-	-
	26	-	-	-	-	26	WB (T)	20.70	23.90	22.60
	31	NB (R)	0.00	0.00	0.00	31	WB (L)	57.60	57.50	34.50
	32	EB (T)	30.20	30.00	65.70	32	WB (T)	0.00	0.00	0.00
	33	EB (T)	25.80	15.70	13.20	33	WB (T)	31.20	34.00	27.30
	34	EB (T)	13.80	13.10	15.50	34	WB (T)	12.40	12.90	13.90
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	56.60	56.20	54.70
	45	EB (L)	64.40	41.60	41.30	45	SB (R)	0.00	0.00	0.00
	55	EB (T)	0.00	0.00	0.00	55	WB (T)	881.80	301.00	350.90
	56	SB (L)	17.60	19.10	18.00	56	WB (R)	40.90	31.30	33.50



UNIVERSIDAD AUTÓNOMA DE NUEVO LEÓN
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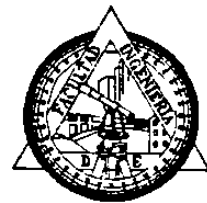


RESUMEN TIEMPOS DE DEMORAS DEL "HCS"

DEMORAS								
	Recorrido	IDA			REGRESO			Promedios
		Mañana	Medio día	Tarde	Mañana	Medio día	Tarde	
1	513.40	811.30	681.60	473.70	377.20	529.40	564.43	
2	200.50	254.80	259.00	164.20	159.00	174.80	202.05	
3	262.50	481.60	348.00	354.10	215.80	255.80	319.63	
4	516.70	648.30	602.30	394.30	361.70	405.70	488.17	
5	313.70	201.10	203.10	173.90	181.00	209.00	213.63	
6	326.20	255.60	383.90	910.10	666.00	569.50	518.55	
7	75.80	95.30	119.30	142.30	182.40	242.70	142.97	
8	370.20	322.60	344.00	389.00	252.60	372.90	341.88	
9	330.30	237.30	268.60	291.60	344.80	440.30	318.82	
10	86.00	74.40	80.80	161.90	221.70	182.30	134.52	
11	603.30	416.40	486.90	578.50	475.50	655.70	536.05	
12	232.60	202.10	229.60	192.10	178.10	184.40	203.15	
13	377.90	286.80	177.40	169.60	173.60	140.70	221.00	
14	429.80	425.90	464.30	101.80	96.90	97.40	269.32	
15	549.80	477.20	541.80	1101.20	516.80	537.40	620.72	



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CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

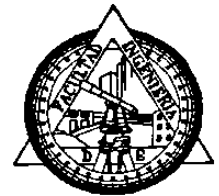
Municipio.- *Monterrey, N.L.*

Año: *Febrero-01*

Recorrido	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
1	2	EB (T)	35.00	37.30	221.70	2	WB (T)	50.80	30.20	182.40
	3	EB (T)	255.00	345.30	205.50	3	WB (T)	42.70	40.20	43.80
	29	NB (T)	182.20	427.10	262.30	29	SB (T)	237.40	168.10	155.80
	30	NB (T)	68.60	68.50	70.80	30	SB (T)	111.40	101.80	104.50
	46	EB (T)	92.20	33.80	30.30	46	SB (R)	88.50	142.50	100.90
	58	NB (R)	0.00	0.00	-	58	WB (L)	47.80	231.40	-
2	14	-	-	-	-	14	WB (L)	23.30	25.10	27.10
	23	NB (T)	4.90	5.60	15.50	23	-	-	-	-
	26	-	-	-	-	26	SB (T)	28.50	32.10	18.40
	31	EB (R)	0.00	0.00	0.00	31	NB (L)	30.90	33.20	38.40
	41	NB (R)	0.00	0.00	0.00	41	WB (L)	12.00	12.20	11.50
	44	EB (T)	265.80	301.80	163.80	44	WB (T)	147.70	135.10	66.40
	45	SB (L)	42.80	128.80	159.60	45	WB (R)	0.00	0.00	0.00
3	29	NB (L)	182.20	427.10	262.30	29	EB (R)	193.50	43.70	61.00
	30	NB (T)	68.60	68.50	70.80	30	SB (T)	111.40	101.80	104.50
	32	EB (T)	28.30	32.60	131.20	32	NB (T)	18.00	18.90	19.20
	42	EB (T)	30.90	30.20	31.00	42	WB (T)	26.40	49.50	24.50
	43	EB (L)	54.10	31.30	29.50	43	SB (R)	143.90	61.40	53.50
4	35	SB (R)	211.30	267.60	142.40	35	WB (L)	130.00	52.10	98.70
	36	NB (T)	20.80	16.90	17.80	36	SB (T)	47.60	168.00	171.30
	37	EB (L)	80.70	93.40	305.50	37	SB (R)	24.00	97.10	28.60
	39	EB (T)	35.50	37.50	38.00	39	WB (T)	144.20	65.80	88.40
	40	EB (L)	48.50	68.20	57.50	40	SB (R)	20.20	18.90	57.50
	43	EB (T)	54.10	31.30	29.50	43	WB (T)	49.60	48.10	36.30
	44	EB (T)	265.80	301.80	163.80	44	WB (T)	147.70	135.10	66.40
	50	EB (T)	75.00	211.80	143.50	50	WB (T)	98.80	40.90	95.20
5	12	WB (L)	124.50	54.00	75.00	12	NB (R)	49.60	80.60	48.60
	14	WB (T)	23.30	25.10	27.10	14	-	-	-	-
	15	SB (R)	42.30	37.50	52.50	15	NB (T)	14.10	12.60	13.80
	17	SB (T)	255.10	18.60	16.20	17	NB (R)	26.50	24.20	17.30
	18	-	-	-	-	18	EB (T)	23.00	18.20	18.90
	27	SB (T)	111.10	115.20	89.80	27	NB (T)	67.10	35.50	31.90
	47	WB (T)	45.80	44.00	44.10	47	EB (T)	42.70	44.80	67.70
6	2	WB (T)	50.80	30.20	182.40	2	EB (T)	35.00	37.30	221.70
	3	WB (T)	42.70	40.20	43.80	3	EB (T)	255.00	345.30	205.50
	5	NB (T)	43.80	35.70	43.90	5	SB (T)	13.00	6.50	6.30
	6	NB (L)	32.10	35.50	36.20	6	EB (R)	40.10	40.10	37.20
	10	EB (T)	145.80	68.90	62.90	10	WB (T)	57.20	111.40	169.00
	11	EB (T)	26.30	29.90	30.00	11	WB (T)	17.00	15.10	19.00
	58	WB (R)	47.80	41.60	-	58	SB (L)	494.30	162.40	-
7	13	NB (T)	-	29.40	101.10	13	SB (T)	-	45.20	75.30
	14	-	-	-	-	14	SB (T)	27.10	21.30	18.70
	24	NB (T)	0.60	2.00	1.00	24	SB (T)	22.60	26.00	17.30
	38	NB (T)	25.30	20.10	21.20	38	SB (T)	15.50	19.40	20.80
	39	NB (T)	49.60	44.50	40.70	39	SB (T)	52.80	77.00	106.10
	40	EB (T)	0.00	0.00	0.00	40	WB (T)	31.80	22.80	25.50
8	9	NB (R)	247.20	91.80	102.10	9	SB (L)	48.60	47.30	47.80
	37	NB (T)	8.80	8.20	8.40	37	SB (T)	221.70	97.10	155.50
	48	NB (R)	195.90	131.80	165.30	48	WB (L)	143.20	63.90	108.10
	50	NB (R)	144.60	223.20	221.50	50	WB (L)	96.80	40.90	95.20
	51	NB (T)	46.90	39.50	42.00	51	SB (T)	50.40	75.20	107.20
	52	EB (L)	46.60	45.80	52.50	52	SB (R)	0.00	0.00	0.00



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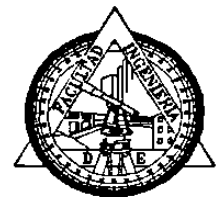
CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Año: *Febrero-01*

Código	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
9	8	WB (L)	117.30	83.40	81.00	8	NB (L)	47.80	46.70	51.60
	9	WB (T)	73.80	58.20	57.60	9	EB (T)	58.30	47.00	54.00
	20	NB (T)	15.80	15.70	27.50	20	-	-	-	-
	28	EB (R)	0.00	0.00	0.00	28	SB (L)	44.20	253.40	259.70
	47	SB (T)	50.00	44.70	126.50	47	NB (T)	50.30	47.30	165.30
	48	SB (R)	176.90	97.40	126.50	48	WB (L)	143.20	63.90	108.10
10	10	SB (T)	71.60	52.90	52.40	10	NB (T)	107.60	256.70	263.60
	17	-	-	-	-	17	NB (T)	26.50	24.20	17.30
	22	EB (T)	25.20	26.60	74.20	22	-	-	-	-
	23	-	-	-	-	23	WB (T)	30.80	37.10	22.80
	24	-	-	-	-	24	SB (R)	22.60	26.00	17.30
11	4	WB (T)	66.10	43.10	40.10	4	EB (T)	84.40	42.70	39.80
	5	WB (L)	53.80	47.20	47.80	5	NB (R)	43.80	35.70	43.90
	7	NB (T)	79.20	49.60	78.90	7	SB (T)	57.50	50.20	55.80
	48	NB (T)	195.90	131.80	165.30	48	SB (T)	176.90	97.40	126.50
	49	NB (T)	247.30	185.30	169.60	49	SB (T)	285.90	278.90	451.90
	50	WB (R)	88.80	40.90	95.20	50	SB (L)	96.20	80.40	51.80
	52	WB (T)	48.90	23.00	23.20	52	EB (T)	16.50	18.20	20.20
	54	EB (R)	60.40	90.80	139.50	54	NB (L)	125.40	63.20	94.40
12	15	WB (T)	37.10	31.00	51.80	15	-	-	-	-
	16	WB (T)	36.50	17.50	16.70	16	EB (R)	0.00	0.00	0.00
	18	-	-	-	-	18	EB (T)	23.00	18.20	18.90
	19	SB (T)	9.70	9.80	11.00	19	NB (T)	11.10	14.00	26.30
	22	SB (T)	9.50	11.00	12.30	22	NB (T)	9.20	12.20	20.70
	25	SB (T)	10.30	10.30	12.30	25	NB (T)	11.10	10.80	18.70
	49	WB (T)	64.00	34.70	32.90	49	EB (T)	28.50	40.50	39.50
	51	WB (T)	45.60	49.50	50.80	51	EB (T)	41.20	70.20	63.20
	53	SB (T)	48.50	59.20	63.10	53	NB (T)	172.10	64.50	63.60
13	1	SB (T)	29.70	33.40	33.10	1	NB (T)	15.60	33.40	18.60
	3	SB (T)	53.50	128.00	68.30	3	NB (T)	49.40	44.50	44.60
	11	SB (T)	86.30	53.10	55.80	11	NB (T)	30.00	46.70	90.90
	18	SB (T)	34.70	31.30	30.80	18	-	-	-	-
	19	-	-	-	-	19	NB (T)	11.10	14.00	26.30
	22	-	-	-	-	22	NB (T)	9.20	12.20	20.70
	57	SB (T)	48.40	54.00	-	57	NB (T)	53.40	49.90	-
14	27	EB (T)	29.50	92.10	60.70	27	-	-	-	-
	28	SB (T)	33.80	105.40	46.60	28	-	-	-	-
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	56.60	56.20	54.70
	45	NB (R)	0.00	0.00	0.00	45	WB (L)	59.70	42.20	43.90
	56	NB (R)	0.00	0.00	0.00	56	WB (L)	0.00	0.00	0.00
15	25	EB (T)	21.10	20.50	36.40	25	-	-	-	-
	26	-	-	-	-	26	WB (T)	20.50	23.80	21.30
	31	NB (R)	0.00	0.00	0.00	31	WB (L)	50.10	66.50	173.80
	32	EB (T)	28.30	32.60	131.20	32	WB (T)	0.00	0.00	0.00
	33	EB (T)	25.80	15.70	13.20	33	WB (T)	31.20	34.00	27.30
	34	EB (T)	13.50	13.30	16.60	34	WB (T)	12.20	13.00	14.40
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	56.60	56.20	54.70
	45	EB (L)	141.70	44.50	42.70	45	SB (R)	0.00	0.00	0.00
	55	EB (T)	0.00	0.00	0.00	55	WB (T)	881.80	301.00	350.90
	56	SB (L)	17.60	19.10	18.00	56	WB (R)	40.90	31.30	33.50



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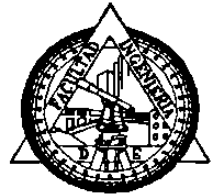


RESUMEN TIEMPOS DE DEMORAS DEL "HCS"

DEMORAS								
	Recorrido	IDA			REGRESO			Promedios
		Mañana	Medio día	Tarde	Mañana	Medio día	Tarde	
1	633.00	912.10	790.60	578.60	714.20	597.40	704.32	
2	313.50	436.20	338.90	242.40	237.70	161.80	288.42	
3	364.10	589.70	524.80	493.20	275.30	262.70	418.30	
4	801.70	1029.50	897.80	862.10	623.00	642.40	776.08	
5	602.10	294.40	304.70	223.00	196.10	196.20	303.08	
6	389.10	282.00	409.10	911.60	718.10	658.70	561.43	
7	75.50	96.00	164.00	149.80	211.70	263.70	160.12	
8	690.00	540.30	591.80	562.70	324.40	513.80	537.17	
9	433.80	279.40	399.10	343.80	458.30	638.70	425.52	
10	96.80	79.50	126.60	187.50	344.00	321.00	192.57	
11	850.40	591.70	759.60	886.60	666.70	884.30	773.22	
12	261.20	223.00	250.90	296.20	230.40	250.90	252.10	
13	262.60	299.80	188.00	168.70	200.70	201.10	220.15	
14	440.00	531.70	489.20	116.30	98.40	98.60	292.37	
15	624.70	479.90	620.00	1093.30	525.80	675.90	669.93	



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CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

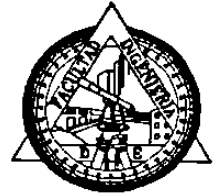
Municipio.- *Monterrey, N.L.*

Año: *Junio-01*

Recorrido	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
1	2	EB (T)	35.00	37.30	221.70	2	WB (T)	50.80	30.20	192.40
	3	EB (T)	36.00	36.00	36.00	3	WB (T)	28.70	28.70	28.70
	29	NB (T)	138.70	388.00	183.30	29	SB (T)	101.10	203.20	93.20
	30	NB (T)	70.80	69.90	69.70	30	SB (T)	142.10	96.80	103.10
	46	EB (T)	92.20	33.90	30.30	46	SB (R)	88.50	142.50	100.90
	58	NB (R)	0.00	0.00	-	58	WB (L)	47.80	231.40	-
2	14	-	-	-	-	14	WB (L)	25.60	31.80	30.20
	23	NB (T)	4.90	5.60	15.50	23	-	-	-	-
	26	-	-	-	-	26	SB (T)	28.50	32.10	18.40
	31	EB (R)	0.00	0.00	0.00	31	NB (L)	28.20	28.20	28.20
	41	NB (R)	0.00	0.00	0.00	41	WB (L)	12.00	12.20	11.50
	44	EB (T)	270.10	275.40	233.80	44	WB (T)	119.90	97.90	66.30
45	SB (L)	32.30	32.00	31.40	45	WB (R)	0.00	0.00	0.00	
3	29	NB (L)	138.70	388.00	183.30	29	EB (R)	144.40	43.20	61.00
	30	NB (T)	70.80	69.90	69.70	30	SB (T)	142.10	96.80	103.10
	32	EB (T)	27.10	41.20	101.40	32	NB (T)	19.60	22.00	19.50
	42	EB (T)	28.90	26.80	26.50	42	WB (T)	26.40	49.50	24.50
	43	EB (L)	54.10	31.30	29.50	43	SB (R)	198.00	62.90	52.60
4	35	SB (R)	297.00	244.00	130.10	35	WB (L)	124.00	84.60	135.40
	36	NB (T)	32.60	18.70	19.80	36	SB (T)	48.70	145.80	180.90
	37	EB (L)	96.90	137.00	323.10	37	SB (R)	24.00	67.00	28.60
	39	EB (T)	51.40	41.30	38.50	39	WB (T)	78.70	65.70	268.70
	40	EB (L)	48.50	69.20	67.50	40	SB (R)	20.20	15.90	57.50
	43	EB (T)	54.10	31.30	29.50	43	WB (T)	64.10	64.70	36.10
	44	EB (T)	270.10	275.40	233.80	44	WB (T)	119.90	97.90	66.30
	50	EB (T)	109.70	309.20	189.40	50	WB (T)	83.90	38.80	60.80
5	12	WB (L)	124.10	58.50	91.30	12	NB (R)	46.40	66.10	44.80
	14	WB (T)	25.60	31.80	30.20	14	-	-	-	-
	15	SB (R)	44.90	39.90	44.10	15	NB (T)	13.90	12.60	14.90
	17	SB (T)	9.20	8.80	8.80	17	NB (R)	125.10	81.50	26.80
	18	-	-	-	-	18	EB (T)	23.00	18.20	18.90
	27	SB (T)	133.40	110.20	91.60	27	NB (T)	85.10	25.40	53.60
	47	WB (T)	45.80	44.00	44.10	47	EB (T)	42.70	44.80	67.70
6	2	WB (T)	50.80	30.20	192.40	2	EB (T)	35.00	37.30	221.70
	3	WB (T)	28.70	28.70	28.70	3	EB (T)	36.00	36.00	36.00
	5	NB (T)	40.20	33.00	54.30	5	SB (T)	12.70	6.90	6.30
	6	NB (L)	33.20	36.90	37.70	6	EB (R)	40.40	45.80	39.10
	10	EB (T)	181.70	83.50	61.30	10	WB (T)	60.00	116.50	163.40
	11	EB (T)	55.80	32.10	35.30	11	WB (T)	28.70	16.20	19.30
	58	WB (R)	47.80	41.60	-	58	SB (L)	484.30	162.40	-
7	13	NB (T)	-	27.10	61.50	13	SB (T)	-	47.40	95.90
	14	-	-	-	-	14	SB (T)	40.80	23.40	20.50
	24	NB (T)	0.00	0.00	0.00	24	SB (T)	22.60	26.00	17.30
	38	NB (T)	21.90	19.70	19.50	38	SB (T)	20.20	25.30	41.90
	39	NB (T)	74.30	83.30	49.40	39	SB (T)	147.60	165.80	179.60
	40	EB (T)	0.00	0.00	0.00	40	WB (T)	31.80	22.80	25.50
8	9	NB (R)	263.10	86.60	119.60	9	SB (L)	48.30	46.70	48.60
	37	NB (T)	18.00	11.50	14.10	37	SB (T)	193.10	67.00	158.00
	48	NB (R)	195.90	131.80	165.30	48	WB (L)	143.20	63.90	108.10
	50	NB (R)	84.90	78.70	77.40	50	WB (L)	83.90	38.80	60.80
	51	NB (T)	46.90	39.50	42.00	51	SB (T)	50.40	75.20	107.20
	52	EB (L)	38.30	38.30	38.30	52	SB (R)	0.00	0.00	0.00



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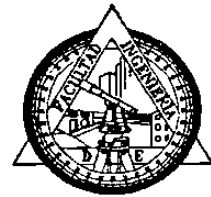
CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Año: *Junio-01*

Acontecimiento	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
9	8	WB (L)	26.60	27.10	26.70	8	NB (L)	48.00	47.10	52.00
	9	WB (T)	79.30	61.00	50.70	9	EB (T)	73.40	48.90	53.20
	20	NB (T)	15.80	15.70	27.50	20	-	-	-	-
	28	EB (R)	0.00	0.00	0.00	28	SB (L)	32.60	31.20	29.80
	47	SB (T)	50.00	44.70	126.50	47	NB (T)	50.30	47.30	165.30
	48	SB (R)	176.90	97.40	126.50	48	WB (L)	143.20	63.90	108.10
10	10	SB (T)	76.90	54.70	50.70	10	NB (T)	104.00	237.60	319.50
	17	-	-	-	-	17	NB (T)	125.10	81.50	26.80
	22	EB (T)	25.20	26.60	74.20	22	-	-	-	-
	23	-	-	-	-	23	WB (T)	30.80	37.10	22.80
	24	-	-	-	-	24	SB (R)	22.60	26.00	17.30
11	4	WB (T)	53.50	37.00	77.90	4	EB (T)	80.30	40.20	45.30
	5	WB (L)	57.20	47.80	47.40	5	NB (R)	40.20	33.00	54.30
	7	NB (T)	58.10	53.60	114.80	7	SB (T)	43.20	43.10	43.50
	48	NB (T)	185.90	131.80	165.30	48	SB (T)	176.90	97.40	126.50
	49	NB (T)	247.30	165.30	169.60	49	SB (T)	285.90	278.90	451.90
	50	WB (R)	83.90	38.80	60.60	50	SB (L)	80.20	93.10	55.00
	52	WB (T)	48.90	23.00	23.20	52	EB (T)	16.50	18.20	20.20
	54	EB (R)	49.60	91.70	130.30	54	NB (L)	125.40	63.20	94.40
12	15	WB (T)	37.10	31.00	51.80	15	-	-	-	-
	16	WB (T)	12.90	12.90	11.90	16	EB (R)	0.00	0.00	0.00
	18	-	-	-	-	18	EB (T)	23.00	18.20	18.90
	19	SB (T)	8.40	8.00	8.00	19	NB (T)	11.10	14.00	26.30
	22	SB (T)	8.40	8.40	8.40	22	NB (T)	9.20	12.20	20.70
	25	SB (T)	8.40	8.40	8.40	25	NB (T)	11.10	10.80	18.70
	49	WB (T)	91.50	35.00	33.10	49	EB (T)	28.50	40.50	39.50
	51	WB (T)	45.60	49.50	50.80	51	EB (T)	41.20	70.20	63.20
	53	SB (T)	48.50	59.20	63.10	53	NB (T)	172.10	64.50	63.60
13	1	SB (T)	29.10	29.60	29.40	1	NB (T)	15.40	18.40	19.00
	3	SB (T)	44.20	44.20	44.20	3	NB (T)	36.00	36.00	36.00
	11	SB (T)	120.20	68.40	53.00	11	NB (T)	30.30	43.10	55.80
	18	SB (T)	17.40	17.40	17.40	18	-	-	-	-
	19	-	-	-	-	19	NB (T)	11.10	14.00	26.30
	22	-	-	-	-	22	NB (T)	9.20	12.20	20.70
	57	SB (T)	48.40	54.00	-	57	NB (T)	53.40	49.90	-
14	27	EB (T)	30.00	80.90	66.40	27	-	-	-	-
	28	SB (T)	7.10	7.10	7.10	28	-	-	-	-
	41	SB (T)	376.70	334.20	381.90	41	NB (T)	56.60	56.20	54.70
	45	NB (R)	0.00	0.00	0.00	45	WB (L)	32.30	32.70	33.70
	56	NB (R)	0.00	0.00	0.00	56	WB (L)	0.00	0.00	0.00
15	25	EB (T)	21.10	20.50	36.40	25	-	-	-	-
	26	-	-	-	-	26	WB (T)	15.00	15.60	15.60
	31	NB (R)	0.00	0.00	0.00	31	WB (L)	26.10	26.10	24.70
	32	EB (T)	27.10	41.20	101.40	32	WB (T)	0.00	0.00	0.00
	33	EB (T)	25.80	15.70	13.20	33	WB (T)	31.20	34.00	27.30
	34	EB (T)	10.50	10.50	11.10	34	WB (T)	10.50	10.50	11.10
	41	SB (T)	376.70	334.20	381.90	41	NB (T)	56.60	56.20	54.70
	45	EB (L)	32.30	30.50	31.40	45	SB (R)	0.00	0.00	0.00
	55	EB (T)	0.00	0.00	0.00	55	WB (T)	881.80	301.00	350.90
	56	SB (L)	17.60	19.10	18.00	56	WB (R)	40.90	31.30	33.50



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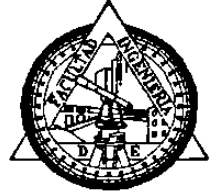


RESUMEN TIEMPOS DE DEMORAS DEL "HCS"

DEMORAS							
Recorrido	IDA			REGRESO			Promedios
	<i>Mañana</i>	<i>Medio día</i>	<i>Tarde</i>	<i>Mañana</i>	<i>Medio día</i>	<i>Tarde</i>	
1	372.70	565.10	541.00	459.00	732.80	518.30	531.48
2	307.30	313.00	280.70	214.20	202.20	154.60	245.33
3	319.60	557.20	410.40	530.50	274.40	260.70	392.13
4	960.30	1126.10	1021.70	563.50	580.40	834.30	847.72
5	383.00	293.20	310.10	336.20	248.60	226.70	299.63
6	438.20	286.00	409.70	707.10	421.10	485.80	457.98
7	96.20	130.10	130.40	263.00	310.70	380.70	218.52
8	627.10	386.40	456.70	518.90	291.60	482.70	460.57
9	348.60	245.90	357.90	345.50	238.40	408.40	324.12
10	102.10	81.30	124.90	282.50	382.20	386.40	226.57
11	794.40	589.00	789.30	858.60	867.10	891.10	764.92
12	260.80	212.40	235.50	296.20	230.40	250.90	247.70
13	259.30	213.60	144.00	155.40	173.60	157.80	183.95
14	413.80	422.20	435.40	88.90	88.90	88.40	256.27
15	511.10	471.70	573.40	1062.10	474.70	517.80	601.80



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CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Municipio.- *Monterrey, N.L.*

Año: *Octubre-01*

Recorrido	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
1	2	EB (T)	35.00	37.30	221.70	2	WB (T)	50.80	30.20	192.40
	3	EB (T)	255.00	345.30	205.50	3	WB (T)	42.70	40.20	43.80
	29	NB (T)	138.70	388.00	183.30	29	SB (T)	83.30	245.30	87.00
	30	NB (T)	70.80	69.90	69.70	30	SB (T)	142.10	96.80	103.10
	46	EB (T)	92.20	33.90	30.30	46	SB (R)	68.50	142.50	100.90
	58	NB (R)	0.00	0.00	-	58	WB (L)	47.80	231.40	-
2	14	-	-	-	-	14	WB (L)	25.70	29.60	32.40
	23	NB (T)	4.90	5.60	15.50	23	-	-	-	-
	26	-	-	-	-	26	SB (T)	28.50	32.10	18.40
	31	EB (R)	0.00	0.00	0.00	31	NB (L)	30.90	33.20	38.40
	41	NB (R)	0.00	0.00	0.00	41	WB (L)	12.00	12.20	11.50
	44	EB (T)	315.70	377.70	261.90	44	WB (T)	165.70	142.40	89.10
3	45	SB (L)	42.80	128.80	159.60	45	WB (R)	0.00	0.00	0.00
	29	NB (L)	138.70	388.00	183.30	29	EB (R)	144.40	43.20	61.00
	30	NB (T)	70.80	69.90	69.70	30	SB (T)	142.10	96.80	103.10
	32	EB (T)	28.40	35.90	141.90	32	NB (T)	20.40	21.60	19.80
	42	EB (T)	30.80	28.00	28.70	42	WB (T)	26.40	49.50	24.50
4	43	EB (L)	54.10	31.30	29.50	43	SB (R)	143.90	61.40	53.50
	35	SB (R)	266.20	230.40	86.00	35	WB (L)	153.50	81.50	166.20
	36	NB (T)	38.00	19.30	20.30	36	SB (T)	59.40	200.00	161.30
	37	EB (L)	120.50	113.10	321.10	37	SB (R)	24.00	130.80	28.70
	39	EB (T)	38.10	41.30	41.90	39	WB (T)	276.10	313.40	268.60
	40	EB (L)	48.50	69.20	57.50	40	SB (R)	20.20	15.90	57.50
	43	EB (T)	54.10	31.30	29.50	43	WB (T)	73.70	59.40	39.90
	44	EB (T)	315.70	377.70	261.90	44	WB (T)	165.70	142.40	89.10
5	50	EB (T)	304.30	318.00	101.40	50	WB (T)	83.90	38.80	60.80
	12	WB (L)	171.30	74.50	93.70	12	NB (R)	46.50	62.00	46.40
	14	WB (T)	25.70	29.60	32.40	14	-	-	-	-
	15	SB (R)	32.80	30.60	35.30	15	NB (T)	14.10	12.90	13.70
	17	SB (T)	255.10	18.60	16.20	17	NB (R)	47.30	37.90	22.20
	18	-	-	-	-	18	EB (T)	23.00	18.20	18.90
	27	SB (T)	102.50	122.10	85.00	27	NB (T)	94.80	48.40	35.90
6	47	WB (T)	45.80	44.00	44.10	47	EB (T)	42.70	44.80	67.70
	2	WB (T)	50.80	30.20	192.40	2	EB (T)	35.00	37.30	221.70
	3	WB (T)	42.70	40.20	43.80	3	EB (T)	255.00	345.30	205.50
	5	NB (T)	60.70	47.80	50.30	5	SB (T)	10.90	6.80	6.50
	6	NB (L)	33.50	36.30	37.10	6	EB (R)	40.00	47.60	38.10
	10	EB (T)	71.60	51.90	49.20	10	WB (T)	83.00	146.30	205.50
	11	EB (T)	57.50	31.20	51.10	11	WB (T)	31.70	17.10	18.40
7	58	WB (R)	47.80	41.60	-	58	SB (L)	494.30	162.40	-
	13	NB (T)	-	28.30	77.50	13	SB (T)	-	39.70	67.30
	14	-	-	-	-	14	SB (T)	55.50	24.10	20.90
	24	NB (T)	0.80	2.00	1.00	24	SB (T)	22.60	26.00	17.30
	38	NB (T)	24.80	20.70	20.60	38	SB (T)	19.90	30.50	38.40
	39	NB (T)	80.20	81.10	49.40	39	SB (T)	169.20	104.00	140.40
8	40	EB (T)	0.00	0.00	0.00	40	WB (T)	31.80	22.80	25.50
	9	NB (R)	285.00	129.90	107.60	9	SB (L)	48.80	46.30	46.70
	37	NB (T)	19.50	11.80	16.00	37	SB (T)	269.50	130.80	160.50
	48	NB (R)	195.90	131.80	165.30	48	WB (L)	143.20	63.90	108.10
	50	NB (R)	58.00	78.70	77.40	50	WB (L)	83.90	38.80	60.80
	51	NB (T)	46.90	39.50	42.00	51	SB (T)	50.40	75.20	107.20
8	52	EB (L)	46.60	45.80	52.50	52	SB (R)	0.00	0.00	0.00



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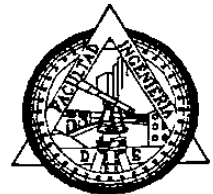
CODIFICACION PARA TOMA DE TIEMPOS DE DEMORAS DEL "HCS"

Año: *Octubre-01*

Carril	IDA					REGRESO				
	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00	Intersección	Orientación	7:00 - 9:30	12:00 - 14:00	17:30 - 20:00
9	8	WB (L)	26.50	26.90	26.50	8	NB (L)	50.70	51.40	52.40
	9	WB (T)	81.00	82.90	82.10	9	EB (T)	80.70	54.80	76.20
	20	NB (T)	15.80	15.70	27.50	20	-	-	-	-
	28	EB (R)	0.00	0.00	0.00	28	SB (L)	44.20	253.40	259.70
	47	SB (T)	50.00	44.70	126.50	47	NB (T)	50.30	47.30	165.30
	48	SB (R)	176.90	97.40	126.50	48	WB (L)	143.20	63.90	108.10
10	10	SB (T)	57.60	61.20	52.70	10	NB (T)	142.50	256.70	270.10
	17	-	-	-	-	17	NB (T)	47.30	37.90	22.20
	22	EB (T)	25.00	28.40	42.80	22	-	-	-	-
	23	-	-	-	-	23	WB (T)	30.80	37.10	22.80
	24	-	-	-	-	24	SB (R)	22.60	26.00	17.30
11	4	WB (T)	56.80	42.50	113.90	4	EB (T)	82.70	39.30	46.40
	5	WB (L)	164.60	48.10	48.40	5	NB (R)	60.70	47.80	50.30
	7	NB (T)	114.80	53.60	58.10	7	SB (T)	43.50	43.10	43.20
	48	NB (T)	195.90	131.80	165.30	48	SB (T)	176.90	97.40	126.50
	49	NB (T)	247.30	165.30	169.60	49	SB (T)	295.90	278.90	451.90
	50	WB (R)	83.90	38.80	60.80	50	SB (L)	80.20	93.10	55.00
	52	WB (T)	48.90	23.00	23.20	52	EB (T)	16.50	18.20	20.20
54	EB (R)	52.80	73.40	153.40	54	NB (L)	125.40	63.20	94.40	
12	15	WB (T)	37.10	31.00	51.80	15	-	-	-	-
	16	WB (T)	36.50	17.50	16.70	16	EB (R)	0.00	0.00	0.00
	18	-	-	-	-	18	EB (T)	23.00	18.20	18.90
	19	SB (T)	9.70	9.80	11.00	19	NB (T)	11.10	14.00	26.30
	22	SB (T)	9.50	11.00	12.30	22	NB (T)	9.20	12.20	20.70
	25	SB (T)	10.30	12.20	12.30	25	NB (T)	11.10	13.20	18.70
	49	WB (T)	112.10	36.00	34.40	49	EB (T)	28.50	40.50	39.50
	51	WB (T)	45.50	49.50	50.80	51	EB (T)	41.20	70.20	63.20
53	SB (T)	48.50	59.20	63.10	53	NB (T)	172.10	64.50	63.80	
13	1	SB (T)	27.40	28.00	28.70	1	NB (T)	15.90	19.10	19.60
	3	SB (T)	53.50	128.00	68.30	3	NB (T)	49.40	44.50	44.60
	11	SB (T)	169.20	69.20	79.10	11	NB (T)	31.20	42.30	66.40
	18	SB (T)	34.70	33.70	30.80	18	-	-	-	-
	19	-	-	-	-	19	NB (T)	11.10	14.00	26.30
	22	-	-	-	-	22	NB (T)	9.20	12.20	20.70
	57	SB (T)	48.40	54.00	-	57	NB (T)	53.40	49.90	-
14	27	EB (T)	34.00	38.10	44.50	27	-	-	-	-
	28	SB (T)	33.80	105.40	46.60	28	-	-	-	-
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	56.60	56.20	54.70
	45	NB (R)	0.00	0.00	0.00	45	WB (L)	59.70	42.20	43.90
	56	NB (R)	0.00	0.00	0.00	56	WB (L)	0.00	0.00	0.00
15	25	EB (T)	21.10	24.60	36.40	25	-	-	-	-
	26	-	-	-	-	26	WB (T)	20.50	23.80	21.30
	31	NB (R)	0.00	0.00	0.00	31	WB (L)	50.10	66.50	173.80
	32	EB (T)	28.40	35.90	141.80	32	WB (T)	0.00	0.00	0.00
	33	EB (T)	25.80	15.70	13.20	33	WB (T)	31.20	34.00	27.30
	34	EB (T)	13.50	13.30	16.60	34	WB (T)	12.20	13.00	14.40
	41	SB (T)	376.70	334.20	361.90	41	NB (T)	56.60	56.20	54.70
	45	EB (L)	141.70	44.50	42.70	45	SB (R)	0.00	0.00	0.00
	55	EB (T)	0.00	0.00	0.00	55	WB (T)	881.80	301.00	350.90
	56	SB (L)	17.60	19.10	18.00	56	WB (R)	40.90	31.30	33.50



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RESUMEN TIEMPOS DE DEMORAS DEL "HCS"

DEMORAS								
	Recorrido	IDA			REGRESO			Promedios
		Mañana	Medio día	Tarde	Mañana	Medio día	Tarde	
1	591.70	874.40	710.50	455.20	786.40	507.20	654.23	
2	363.40	512.10	437.00	262.80	249.50	189.80	335.77	
3	322.80	553.10	453.10	477.20	272.50	261.90	390.10	
4	1185.40	1198.30	919.60	856.50	982.20	870.10	1002.02	
5	633.20	319.40	306.70	268.40	224.20	204.80	326.12	
6	364.60	279.20	423.90	949.90	762.80	695.70	579.35	
7	105.60	133.10	148.50	299.00	247.10	329.80	210.52	
8	631.90	437.50	460.80	595.80	355.00	483.30	494.05	
9	350.20	247.60	369.10	369.10	470.60	661.70	411.38	
10	82.60	89.60	95.50	243.20	357.70	332.40	200.17	
11	965.00	576.50	792.70	871.80	681.00	887.90	795.82	
12	309.20	226.20	252.40	296.20	232.80	250.90	261.28	
13	333.20	302.90	206.90	170.20	182.00	177.60	228.80	
14	444.50	477.70	453.00	116.30	98.40	98.60	281.42	
15	624.80	487.30	630.70	1093.30	525.80	675.90	672.97	



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FACTORES DE DEMORAS

TRAYECTORIA	TURNO	DIRECCIÓN	DEMORAS HCS 1998	DEMORAS HCS FEB-2001	COEFICIENTE DEMORAS HCS FEB- 01
1	MAÑANA	IDA	477.40	633.00	1.33
		REGRESO	452.80	578.80	1.28
	MEDIODIA	IDA	782.00	912.10	1.20
		REGRESO	554.10	714.20	1.29
	TARDE	IDA	633.20	790.60	1.25
		REGRESO	499.40	597.40	1.20
2	MAÑANA	IDA	146.50	313.50	2.14
		REGRESO	145.80	242.40	1.66
	MEDIODIA	IDA	171.70	436.20	2.54
		REGRESO	140.70	237.70	1.69
	TARDE	IDA	195.80	338.90	1.73
		REGRESO	171.80	161.80	0.94
3	MAÑANA	IDA	230.40	364.10	1.58
		REGRESO	329.30	493.20	1.50
	MEDIODIA	IDA	429.40	589.70	1.37
		REGRESO	208.20	275.30	1.32
	TARDE	IDA	276.30	524.80	1.90
		REGRESO	263.00	262.70	1.00
4	MAÑANA	IDA	416.30	801.70	1.93
		REGRESO	335.90	662.10	1.97
	MEDIODIA	IDA	506.70	1029.50	2.03
		REGRESO	322.00	623.00	1.93
	TARDE	IDA	468.10	897.80	1.92
		REGRESO	344.30	642.40	1.87
5	MAÑANA	IDA	239.20	602.10	2.52
		REGRESO	170.30	223.00	1.31
	MEDIODIA	IDA	180.00	294.40	1.64
		REGRESO	181.70	196.10	1.08
	TARDE	IDA	192.00	304.70	1.59
		REGRESO	219.30	198.20	0.90
6	MAÑANA	IDA	289.50	389.10	1.34
		REGRESO	896.30	911.60	1.02
	MEDIODIA	IDA	249.70	282.00	1.13
		REGRESO	656.40	718.10	1.09
	TARDE	IDA	377.90	409.10	1.08
		REGRESO	541.60	658.70	1.22
7	MAÑANA	IDA	77.10	75.50	0.98
		REGRESO	140.50	149.80	1.07
	MEDIODIA	IDA	98.70	96.00	0.97
		REGRESO	181.30	211.70	1.17
	TARDE	IDA	109.30	164.00	1.50
		REGRESO	229.40	263.70	1.15
8	MAÑANA	IDA	313.20	690.00	2.20
		REGRESO	320.70	562.70	1.75
	MEDIODIA	IDA	285.70	540.30	1.89
		REGRESO	234.10	324.40	1.39
	TARDE	IDA	277.50	591.80	2.13
		REGRESO	332.50	513.60	1.53



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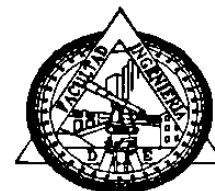


FACTORES DE DEMORAS

TRAYECTORIA	TURNO	DIRECCIÓN	DEMORAS HCS 1999	DEMORAS HCS FEB-2001	COEFICIENTE DEMORAS HCS FEB-01
9	MAÑANA	IDA	299.00	433.80	1.45
		REGRESO	273.20	343.80	1.26
	MEDIODIA	IDA	216.20	279.40	1.29
		REGRESO	297.10	458.30	1.54
	TARDE	IDA	244.60	399.10	1.63
		REGRESO	409.80	638.70	1.56
10	MAÑANA	IDA	81.00	98.80	1.20
		REGRESO	152.00	187.50	1.23
	MEDIODIA	IDA	72.00	79.50	1.10
		REGRESO	172.80	344.00	1.99
	TARDE	IDA	69.40	126.60	1.82
		REGRESO	142.00	321.00	2.26
11	MAÑANA	IDA	512.80	850.40	1.66
		REGRESO	481.40	886.60	1.84
	MEDIODIA	IDA	375.80	591.70	1.57
		REGRESO	412.20	666.70	1.62
	TARDE	IDA	420.00	759.60	1.81
		REGRESO	565.60	884.30	1.56
12	MAÑANA	IDA	232.90	281.20	1.12
		REGRESO	163.20	296.20	1.81
	MEDIODIA	IDA	192.70	223.00	1.16
		REGRESO	159.80	230.40	1.44
	TARDE	IDA	206.80	250.90	1.21
		REGRESO	171.30	250.90	1.46
13	MAÑANA	IDA	209.50	262.60	1.25
		REGRESO	179.50	168.70	0.94
	MEDIODIA	IDA	276.80	299.80	1.08
		REGRESO	182.40	200.70	1.10
	TARDE	IDA	163.10	188.00	1.15
		REGRESO	135.80	201.10	1.48
14	MAÑANA	IDA	426.70	440.00	1.03
		REGRESO	99.00	116.30	1.17
	MEDIODIA	IDA	399.90	531.70	1.33
		REGRESO	96.30	96.40	1.02
	TARDE	IDA	464.40	469.20	1.01
		REGRESO	96.90	98.60	1.02
15	MAÑANA	IDA	535.20	624.70	1.17
		REGRESO	1107.30	1093.30	0.99
	MEDIODIA	IDA	474.40	479.90	1.01
		REGRESO	513.10	525.80	1.02
	TARDE	IDA	518.30	620.00	1.20
		REGRESO	583.50	675.90	1.16



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FACTORES DE DEMORAS

TRAYECTORIA	TURNO	DIRECCIÓN	DEMORAS HCS 1999	DEMORAS HCS JUN-2001	COEFICIENTE DEMORAS HCS JUN-01
1	MAÑANA	IDA	477.40	372.70	0.78
		REGRESO	452.80	459.00	1.01
	MEDIODIA	IDA	762.00	565.10	0.74
		REGRESO	554.10	732.80	1.32
	TARDE	IDA	633.20	541.00	0.85
		REGRESO	499.40	518.30	1.04
2	MAÑANA	IDA	146.50	307.30	2.10
		REGRESO	145.90	214.20	1.47
	MEDIODIA	IDA	171.70	313.00	1.82
		REGRESO	140.70	202.20	1.44
	TARDE	IDA	195.60	280.70	1.44
		REGRESO	171.90	154.60	0.90
3	MAÑANA	IDA	230.40	319.60	1.39
		REGRESO	329.30	530.50	1.61
	MEDIODIA	IDA	429.40	557.20	1.30
		REGRESO	208.20	274.40	1.32
	TARDE	IDA	276.30	410.40	1.49
		REGRESO	263.00	260.70	0.99
4	MAÑANA	IDA	416.30	960.30	2.31
		REGRESO	335.90	563.50	1.68
	MEDIODIA	IDA	506.70	1126.10	2.22
		REGRESO	322.00	580.40	1.80
	TARDE	IDA	488.10	1021.70	2.18
		REGRESO	344.30	834.30	2.42
5	MAÑANA	IDA	239.20	383.00	1.60
		REGRESO	170.30	336.20	1.97
	MEDIODIA	IDA	180.00	293.20	1.63
		REGRESO	181.70	248.60	1.37
	TARDE	IDA	192.00	310.10	1.62
		REGRESO	219.30	226.70	1.03
6	MAÑANA	IDA	289.50	438.20	1.51
		REGRESO	896.30	707.10	0.79
	MEDIODIA	IDA	249.70	286.00	1.15
		REGRESO	656.40	421.10	0.64
	TARDE	IDA	377.90	409.70	1.08
		REGRESO	541.60	485.80	0.90
7	MAÑANA	IDA	77.10	96.20	1.25
		REGRESO	140.50	263.00	1.87
	MEDIODIA	IDA	98.70	130.10	1.32
		REGRESO	181.30	310.70	1.71
	TARDE	IDA	109.30	130.40	1.19
		REGRESO	229.40	380.70	1.66
8	MAÑANA	IDA	313.20	627.10	2.00
		REGRESO	320.70	518.90	1.62
	MEDIODIA	IDA	285.70	386.40	1.35
		REGRESO	234.10	291.60	1.25
	TARDE	IDA	277.50	450.70	1.65
		REGRESO	332.30	462.70	1.45



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FACTORES DE DEMORAS

TRAYECTORIA	TURNO	DIRECCIÓN	DEMORAS HCS 1999	DEMORAS HCS JUN-2001	COEFICIENTE DEMORAS HCS JUN-01
9	MAÑANA	IDA	299.00	348.60	1.17
		REGRESO	273.20	345.50	1.26
	MEDIODIA	IDA	216.20	245.90	1.14
		REGRESO	297.10	238.40	0.80
	TARDE	IDA	244.60	357.90	1.46
		REGRESO	409.80	408.40	1.00
10	MAÑANA	IDA	81.00	102.10	1.28
		REGRESO	152.00	282.50	1.86
	MEDIODIA	IDA	72.00	81.30	1.13
		REGRESO	172.80	382.20	2.21
	TARDE	IDA	69.40	124.90	1.80
		REGRESO	142.00	386.40	2.72
11	MAÑANA	IDA	512.80	794.40	1.55
		REGRESO	481.40	858.60	1.78
	MEDIODIA	IDA	375.80	589.00	1.57
		REGRESO	412.20	667.10	1.62
	TARDE	IDA	420.00	789.30	1.88
		REGRESO	565.60	891.10	1.58
12	MAÑANA	IDA	232.90	260.80	1.12
		REGRESO	163.20	296.20	1.81
	MEDIODIA	IDA	192.70	212.40	1.10
		REGRESO	159.80	230.40	1.44
	TARDE	IDA	206.80	235.50	1.14
		REGRESO	171.30	250.90	1.46
13	MAÑANA	IDA	209.50	259.30	1.24
		REGRESO	179.50	155.40	0.87
	MEDIODIA	IDA	276.80	213.60	0.77
		REGRESO	182.40	173.60	0.95
	TARDE	IDA	163.10	144.00	0.88
		REGRESO	135.80	157.80	1.16
14	MAÑANA	IDA	426.70	413.80	0.97
		REGRESO	99.00	88.90	0.90
	MEDIODIA	IDA	399.90	422.20	1.06
		REGRESO	96.30	88.90	0.92
	TARDE	IDA	464.40	435.40	0.94
		REGRESO	96.90	88.40	0.91
15	MAÑANA	IDA	535.20	511.10	0.95
		REGRESO	1107.30	1062.10	0.96
	MEDIODIA	IDA	474.40	471.70	0.99
		REGRESO	513.10	474.70	0.93
	TARDE	IDA	518.30	573.40	1.11
		REGRESO	583.50	601.80	1.03



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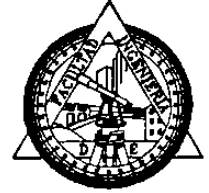


FACTORES DE DEMORAS

TRAYECTORIA	TURNO	DIRECCIÓN	DEMORAS HCS 1999	DEMORAS HCS OCT-2001	COEFICIENTE DEMORAS HCS OCT 01
1	MAÑANA	IDA	477.40	591.70	1.24
		REGRESO	452.80	455.20	1.01
	MEDIODIA	IDA	762.00	874.40	1.15
		REGRESO	554.10	455.20	0.82
	TARDE	IDA	633.20	710.50	1.12
		REGRESO	499.40	507.20	1.02
2	MAÑANA	IDA	146.50	363.40	2.48
		REGRESO	145.90	262.80	1.80
	MEDIODIA	IDA	171.70	512.10	2.98
		REGRESO	140.70	249.50	1.77
	TARDE	IDA	195.60	437.00	2.23
		REGRESO	171.90	189.80	1.10
3	MAÑANA	IDA	230.40	322.80	1.40
		REGRESO	329.30	477.20	1.45
	MEDIODIA	IDA	429.40	553.10	1.29
		REGRESO	208.20	272.50	1.31
	TARDE	IDA	276.30	453.10	1.64
		REGRESO	263.00	261.90	1.00
4	MAÑANA	IDA	416.30	1185.40	2.85
		REGRESO	335.90	856.50	2.55
	MEDIODIA	IDA	506.70	1198.30	2.36
		REGRESO	322.00	982.20	3.05
	TARDE	IDA	468.10	919.60	1.96
		REGRESO	344.30	870.10	2.53
5	MAÑANA	IDA	239.20	633.20	2.65
		REGRESO	170.30	268.40	1.58
	MEDIODIA	IDA	180.00	319.40	1.77
		REGRESO	181.70	224.20	1.23
	TARDE	IDA	192.00	306.70	1.60
		REGRESO	219.30	204.80	0.93
6	MAÑANA	IDA	289.50	364.60	1.26
		REGRESO	896.30	949.90	1.06
	MEDIODIA	IDA	249.70	319.40	1.28
		REGRESO	656.40	224.20	0.34
	TARDE	IDA	377.90	423.90	1.12
		REGRESO	541.60	695.70	1.28
7	MAÑANA	IDA	77.10	105.60	1.37
		REGRESO	140.50	299.00	2.13
	MEDIODIA	IDA	98.70	133.10	1.35
		REGRESO	181.30	247.10	1.36
	TARDE	IDA	109.30	148.50	1.36
		REGRESO	229.40	329.80	1.44
8	MAÑANA	IDA	313.20	631.90	2.02
		REGRESO	320.70	595.80	1.86
	MEDIODIA	IDA	285.70	437.50	1.53
		REGRESO	234.10	355.00	1.52
	TARDE	IDA	277.90	400.00	1.44
		REGRESO	332.30	483.30	1.45



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FACTORES DE DEMORAS

TRAYECTORIA	TURNO	DIRECCIÓN	DEMORAS HCS 1999	DEMORAS HCS OCT-2001	COEFICIENTE DEMORAS HCS OCT-01
9	MAÑANA	IDA	299.00	350.20	1.17
		REGRESO	273.20	369.10	1.35
	MEDIODIA	IDA	216.20	247.60	1.15
		REGRESO	297.10	470.60	1.58
	TARDE	IDA	244.60	369.10	1.51
		REGRESO	409.80	661.70	1.61
10	MAÑANA	IDA	81.00	82.60	1.02
		REGRESO	152.00	243.20	1.60
	MEDIODIA	IDA	72.00	89.60	1.24
		REGRESO	172.80	357.70	2.07
	TARDE	IDA	69.40	95.50	1.38
		REGRESO	142.00	332.40	2.34
11	MAÑANA	IDA	512.80	965.00	1.88
		REGRESO	481.40	871.80	1.81
	MEDIODIA	IDA	375.80	576.50	1.53
		REGRESO	412.20	681.00	1.65
	TARDE	IDA	420.00	792.70	1.89
		REGRESO	565.60	887.90	1.57
12	MAÑANA	IDA	232.90	309.20	1.33
		REGRESO	163.20	296.20	1.81
	MEDIODIA	IDA	192.70	226.20	1.17
		REGRESO	159.80	232.80	1.48
	TARDE	IDA	206.80	252.40	1.22
		REGRESO	171.30	250.90	1.48
13	MAÑANA	IDA	209.50	333.20	1.59
		REGRESO	179.50	170.20	0.95
	MEDIODIA	IDA	276.80	302.90	1.09
		REGRESO	182.40	182.00	1.00
	TARDE	IDA	163.10	206.90	1.27
		REGRESO	135.80	177.60	1.31
14	MAÑANA	IDA	426.70	444.50	1.04
		REGRESO	99.00	116.30	1.17
	MEDIODIA	IDA	399.90	477.70	1.19
		REGRESO	96.30	98.40	1.02
	TARDE	IDA	464.40	453.00	0.98
		REGRESO	96.90	98.60	1.02
15	MAÑANA	IDA	535.20	624.80	1.17
		REGRESO	1107.30	1093.30	0.99
	MEDIODIA	IDA	474.40	487.30	1.03
		REGRESO	513.10	525.80	1.02
	TARDE	IDA	518.30	630.70	1.22
		REGRESO	583.50	675.90	1.16

V.3.3 Cálculo del coeficiente de tiempo restante.

Para el cálculo de los tiempos esperados del 2001, se usarán los coeficientes calculados para cada trayectoria, el cual se denominará como F_{TR} y el procedimiento para la obtención de dicho factor es como sigue.

El procedimiento fue derivado de un análisis realizado en el libro *Ingeniería del Tránsito Urbano*, de Simón Cohen, el cual inicia de la obtención de la ecuación representativa de la modelación lineal:

$$T = a + bT_D$$

Donde a y b son constantes, T es tiempo total de recorrido y T_D el tiempo de demoras.

Se tiene también que,

$$T = T_R + T_D$$

así

$$T_R = T - T_D$$

sustituyendo

$$T_R = (a + bT_D) - T_D$$

$$T_R = a + T_D(b - 1)$$

para un porcentaje de incremento X , el nuevo tiempo restante (T_R') se expresa por:

$$T_R' = a + T_D'(b - 1)$$

$$T_R' = a + T_D \left(1 + \frac{X}{100} \right) (b - 1)$$

así

$$T_R' - T_R = T_D \left(\frac{X}{100} \right) (b - 1)$$

el crecimiento se puede expresar entonces así:

$$\frac{T_R' - T_R}{T_R} = \frac{T_D}{T_R} \left(\frac{X}{100} \right) (b - 1)$$

finalmente, el porcentaje queda:

$$Y\% = \frac{T_D}{T_R} X (b - 1)$$

Adicionalmente, se realiza la siguiente operación, para la obtención del factor:

$$F_{TR} = 1 + Y\%$$

Numéricamente, lo anterior se aplicaría para cada una de las trayectorias.

El procedimiento será el mismo para cada una de las trayectorias; los datos los cuales son los "tiempos brutos del 2001", capturados de los registros del Departamento de Ingeniería de Tránsito de la Facultad de Ingeniería Civil de la Universidad Autónoma de Nuevo León.

El análisis de basa en los datos de las demoras y de los tiempos restantes de cada una de las trayectorias, y mediante el promedio de ellas para el cálculo y la obtención del coeficiente de incremento de los tiempos de marcha.

De acuerdo a la metodología propuesta, se planteó que la obtención de los factores de predicción futura deberán irse ajustando, en el transcurso del tiempo, y a las condiciones prevalecientes en el Centro Urbano en estudio, pues es necesario tener más certeza y confiabilidad de los resultados obtenidos. Tal es el caso de los factores de tiempo restante; donde, además de actualizar los tiempos de movimiento y demoras para cada trayectoria en estudio, se consideró plantear el modelo lineal con datos obtenidos de los estudios realizados en la zona de metropolitana. Básicamente, el modelo nos proporciona dos

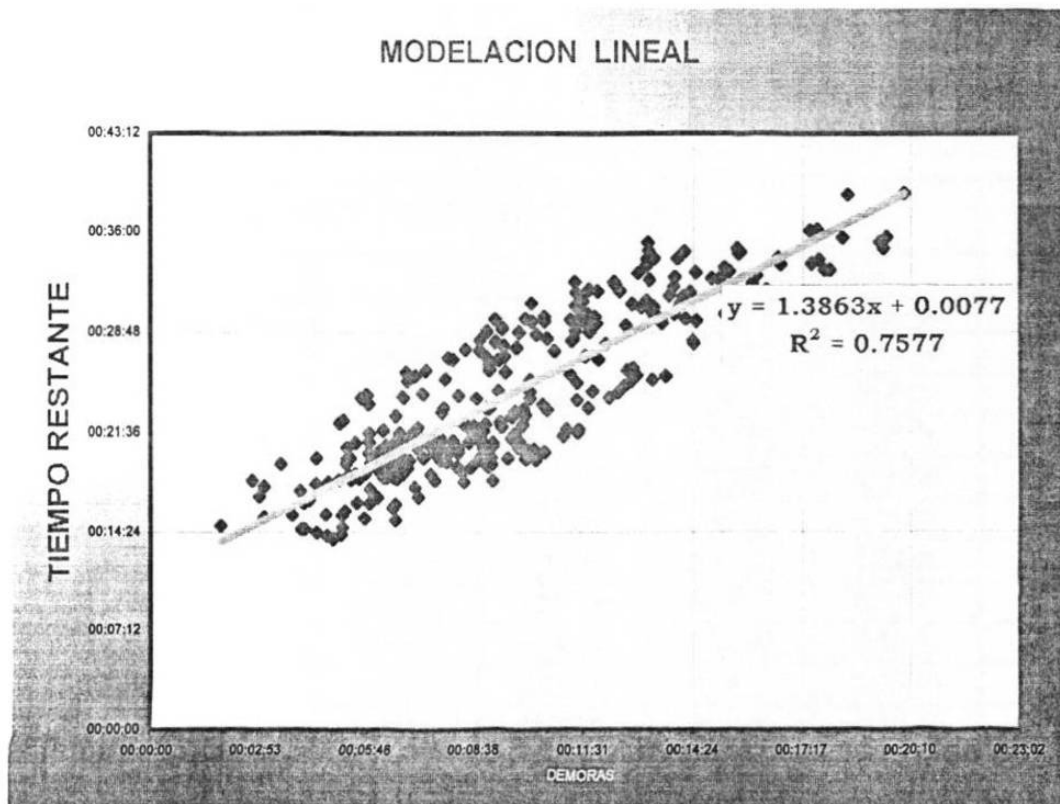
parámetros denominados a y b , descritos en el procedimiento anterior y que corresponden a la siguiente ecuación lineal.

$$T = a + bT_D$$

Donde los parámetros " a " y " b " se obtienen al modelar una línea recta sobre una serie de puntos graficados con los tiempos de espera (demoras), con respecto a los tiempos en marcha (tiempos en movimiento), y que representan el comportamiento de los viajes en nuestro centro urbano.

El coeficiente " b " se aplica directamente en la fórmula propuesta para obtener de manera porcentual el incremento de los tiempos restantes por trayectoria

La siguiente gráfica muestra lo dicho anteriormente, así como los valores numéricos que se emplearan en la evaluación. En ella se encuentra graficada una nube de puntos que corresponden a los tiempos de los estudios realizados desde Junio de 1999 hasta Octubre del 2001.



De dicha ecuación se desprende que $a=0.0077$ y $b=1.3863$, además que la R^2 es muy confiable; estos valores fueron tratados estadísticamente con el *software SPSS*.

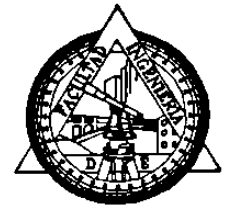
Para cada serie de estudios realizados en el 2001, se aplicará el procedimiento anterior y se obtendrá un factor por trayectoria y para cada estudio realizado.

Los datos requeridos son los tiempos en movimiento y los tiempos de demora de cada estudio.

En las páginas siguientes se muestra el resumen de los tiempos a emplear y la tabla de obtención del factor de tiempo restante, para cada uno de los estudios realizados en el 2001 y que servirán de comparación entre ellos, en los porcentajes de disminución de los tiempos de viaje, en la zona metropolitana.



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Trayectorias	TIEMPO TOTAL DE VIAJE FEBRERO 2001						PROMEDIO
	Matutino		Mediodia		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:48:24	0:57:13	0:43:32	0:48:55	0:48:46	0:54:41	0:50:15
2	0:20:26	0:23:10	0:22:53	0:22:49	0:24:41	0:22:08	0:22:41
3	0:22:24	0:27:50	0:26:34	0:27:01	0:27:27	0:25:26	0:26:07
4	0:29:18	0:30:21	0:30:49	0:29:49	0:32:21	0:29:56	0:30:26
5	0:36:31	0:44:03	0:45:59	0:43:01	0:45:43	0:51:42	0:44:30
6	0:48:51	0:53:09	0:49:22	0:50:00	0:46:18	0:50:37	0:49:43
7	0:34:56	0:40:14	0:35:44	0:37:53	0:40:05	0:40:53	0:38:17
8	0:36:02	0:43:19	0:32:43	0:36:19	0:38:14	0:37:02	0:37:17
9	0:39:38	0:29:21	0:31:37	0:32:29	0:35:30	0:36:09	0:34:07
10	0:18:43	0:19:18	0:24:10	0:22:42	0:23:01	0:22:25	0:21:43
11	0:42:33	0:46:02	0:37:08	0:38:28	0:41:46	0:44:19	0:41:43
12	0:31:59	0:30:37	0:29:01	0:28:29	0:31:28	0:32:42	0:30:43
13	0:27:28	0:27:34	0:25:26	0:26:37	0:30:45	0:26:52	0:27:27
14	0:39:21	0:38:23	0:38:01	0:36:49	0:38:45	0:38:46	0:38:21
15	0:37:35	0:39:04	0:36:34	0:39:25	0:38:54	0:41:24	0:38:49

Trayectorias	DEMORAS FEBRERO 2001						PROMEDIO
	Matutino		Mediodia		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:15:14	0:18:29	0:09:18	0:11:08	0:15:13	0:19:19	0:14:47
2	0:04:42	0:07:21	0:03:29	0:04:46	0:06:17	0:05:31	0:05:21
3	0:04:26	0:07:35	0:06:55	0:06:25	0:07:55	0:06:06	0:06:34
4	0:09:32	0:09:50	0:09:43	0:09:07	0:10:59	0:08:50	0:09:40
5	0:07:44	0:13:23	0:13:53	0:11:20	0:14:18	0:20:31	0:13:31
6	0:10:33	0:12:40	0:10:26	0:12:45	0:10:26	0:23:42	0:13:25
7	0:07:57	0:11:19	0:07:47	0:08:59	0:10:29	0:11:11	0:09:37
8	0:08:58	0:13:30	0:06:49	0:08:47	0:10:46	0:08:47	0:09:36
9	0:11:16	0:06:34	0:07:16	0:08:14	0:10:07	0:09:18	0:08:47
10	0:04:03	0:05:06	0:07:09	0:06:28	0:06:32	0:05:51	0:05:52
11	0:14:23	0:14:20	0:07:59	0:09:24	0:11:38	0:13:11	0:11:49
12	0:11:52	0:10:13	0:07:44	0:08:14	0:09:23	0:12:09	0:09:56
13	0:05:51	0:06:34	0:05:57	0:06:42	0:10:30	0:06:21	0:06:59
14	0:13:41	0:06:20	0:08:19	0:07:56	0:07:32	0:11:55	0:09:17
15	0:12:37	0:12:49	0:09:27	0:11:13	0:10:34	0:11:35	0:11:22



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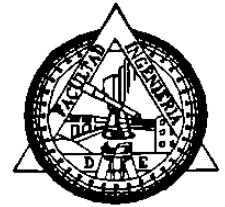


Trayectorias	TIEMPO RESTANTE FEBRERO 2001						PROMEDIO
	Matutino		Mediodia		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:33:10	0:38:45	0:34:14	0:37:47	0:33:33	0:35:22	0:35:28
2	0:15:44	0:15:49	0:19:23	0:18:03	0:18:24	0:16:37	0:17:20
3	0:17:58	0:20:15	0:19:38	0:20:36	0:19:33	0:19:19	0:19:33
4	0:19:46	0:20:32	0:21:06	0:20:43	0:21:22	0:21:06	0:20:46
5	0:28:47	0:30:41	0:32:06	0:31:40	0:31:25	0:31:11	0:30:58
6	0:38:18	0:40:29	0:38:56	0:37:15	0:35:52	0:26:55	0:36:17
7	0:26:59	0:28:55	0:27:57	0:28:54	0:29:36	0:29:43	0:28:41
8	0:27:03	0:29:49	0:25:54	0:27:32	0:27:28	0:28:15	0:27:40
9	0:28:22	0:22:47	0:24:20	0:24:15	0:25:23	0:26:51	0:25:20
10	0:14:40	0:14:13	0:17:01	0:16:14	0:16:29	0:16:33	0:15:52
11	0:28:10	0:31:42	0:29:09	0:29:05	0:30:08	0:31:08	0:29:54
12	0:20:07	0:20:24	0:21:17	0:20:15	0:22:04	0:20:33	0:20:47
13	0:21:37	0:21:01	0:19:29	0:19:55	0:20:15	0:20:31	0:20:28
14	0:25:40	0:32:02	0:29:41	0:28:52	0:31:13	0:26:51	0:29:03
15	0:24:59	0:26:14	0:27:07	0:28:13	0:28:21	0:29:50	0:27:27

COEFICIENTE DE TIEMPOS RESTANTE 99-FEB01			
Trayectorias	T_D/T_R	b	F_{TR}
1	0.41658	1.3863	1.16
2	0.30872	1.3863	1.12
3	0.33563	1.3863	1.13
4	0.46568	1.3863	1.18
5	0.43664	1.3863	1.17
6	0.36983	1.3863	1.14
7	0.33531	1.3863	1.13
8	0.34702	1.3863	1.13
9	0.34707	1.3863	1.13
10	0.36946	1.3863	1.14
11	0.39532	1.3863	1.15
12	0.47801	1.3863	1.18
13	0.34130	1.3863	1.13
14	0.31961	1.3863	1.12
15	0.41419	1.3863	1.16



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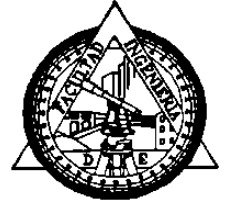


Trayectorias	TIEMPO TOTAL DE VIAJE JUNIO 2001						PROMEDIO
	Matutino		Mediodia		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:38:35	0:45:15	0:41:45	0:41:52	0:40:22	0:53:24	0:43:32
2	0:24:54	0:27:21	0:24:55	0:25:12	0:28:27	0:27:42	0:26:25
3	0:25:09	0:28:00	0:32:45	0:30:18	0:28:05	0:28:15	0:28:45
4	0:26:02	0:26:06	0:28:16	0:28:47	0:27:48	0:28:22	0:27:33
5	0:40:30	0:38:03	0:41:22	0:42:40	0:43:54	0:47:52	0:42:23
6	0:47:34	0:51:45	0:50:02	0:50:14	0:47:32	0:50:50	0:49:40
7	0:36:01	0:34:40	0:37:40	0:36:19	0:40:55	0:42:51	0:38:04
8	0:43:39	0:46:42	0:38:53	0:43:01	0:41:56	0:46:24	0:43:26
9	0:34:02	0:32:24	0:33:45	0:35:01	0:36:17	0:42:16	0:35:38
10	0:18:53	0:18:48	0:24:05	0:25:24	0:24:11	0:22:55	0:22:23
11	0:48:29	0:44:01	0:45:03	0:42:08	0:50:05	0:47:57	0:46:17
12	0:31:10	0:31:14	0:30:37	0:30:38	0:31:44	0:34:39	0:31:40
13	0:23:58	0:27:08	0:29:36	0:26:07	0:27:10	0:29:44	0:27:17
14	0:24:25	0:24:48	0:26:25	0:23:57	0:30:04	0:27:25	0:26:11
15	0:41:40	0:43:41	0:50:27	0:48:23	0:46:46	0:48:24	0:46:34

Trayectorias	DEMORAS JUNIO 2001						PROMEDIO
	Matutino		Mediodia		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:07:53	0:13:46	0:08:37	0:11:31	0:08:39	0:20:15	0:11:47
2	0:06:34	0:09:08	0:06:30	0:06:23	0:08:45	0:08:34	0:07:39
3	0:05:21	0:06:13	0:08:42	0:08:36	0:06:58	0:06:40	0:07:05
4	0:05:50	0:05:29	0:07:24	0:07:45	0:06:45	0:07:19	0:06:45
5	0:08:20	0:06:34	0:08:58	0:08:42	0:10:05	0:12:53	0:09:16
6	0:13:23	0:17:42	0:14:08	0:15:39	0:12:16	0:16:37	0:14:57
7	0:07:08	0:06:42	0:07:47	0:06:28	0:09:36	0:09:33	0:07:52
8	0:13:02	0:16:59	0:10:17	0:13:35	0:12:38	0:17:00	0:13:55
9	0:10:27	0:09:39	0:10:34	0:11:39	0:12:12	0:18:52	0:12:14
10	0:04:43	0:04:54	0:09:34	0:10:48	0:09:44	0:08:19	0:08:00
11	0:13:13	0:08:14	0:10:43	0:09:36	0:15:35	0:13:14	0:11:46
12	0:08:58	0:09:43	0:08:23	0:08:45	0:09:21	0:10:08	0:09:13
13	0:05:35	0:07:18	0:10:26	0:06:18	0:08:20	0:10:00	0:08:00
14	0:06:44	0:07:04	0:06:07	0:05:34	0:07:25	0:08:12	0:06:41
15	0:08:30	0:11:54	0:16:42	0:13:16	0:13:10	0:15:57	0:13:15



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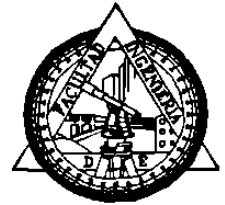


Trayectorias	TIEMPO RESTANTE JUNIO 2001						PROMEDIO
	Matutino		Mediodia		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:30:42	0:31:29	0:33:09	0:30:22	0:31:43	0:33:08	0:31:45
2	0:18:20	0:18:13	0:18:25	0:18:48	0:19:42	0:19:08	0:18:46
3	0:19:48	0:21:48	0:24:03	0:21:42	0:21:07	0:21:35	0:21:40
4	0:20:12	0:20:37	0:20:52	0:21:02	0:21:03	0:21:03	0:20:48
5	0:32:09	0:31:28	0:32:24	0:33:57	0:33:49	0:34:59	0:33:08
6	0:34:12	0:34:03	0:35:54	0:34:35	0:35:16	0:34:13	0:34:42
7	0:28:54	0:27:57	0:29:53	0:29:51	0:31:19	0:33:17	0:30:12
8	0:30:36	0:29:43	0:28:36	0:29:26	0:29:18	0:29:24	0:29:31
9	0:23:35	0:22:45	0:23:11	0:23:22	0:24:05	0:23:25	0:23:24
10	0:14:10	0:13:54	0:14:31	0:14:36	0:14:27	0:14:36	0:14:22
11	0:35:16	0:35:47	0:34:20	0:32:32	0:34:30	0:34:43	0:34:31
12	0:22:12	0:21:30	0:22:14	0:21:53	0:22:23	0:24:32	0:22:27
13	0:18:23	0:19:50	0:19:10	0:19:49	0:18:50	0:19:45	0:19:18
14	0:18:41	0:17:43	0:20:18	0:18:23	0:22:40	0:19:14	0:19:30
15	0:33:10	0:31:47	0:33:45	0:35:07	0:33:36	0:32:27	0:33:19

COEFICIENTE DE TIEMPOS RESTANTE 99-JUN01			
Trayectorias	T_D/T_R	b	F_{TR}
1	0.37099	1.3863	1.14
2	0.40779	1.3863	1.16
3	0.32674	1.3863	1.13
4	0.32479	1.3863	1.13
5	0.27950	1.3863	1.11
6	0.43095	1.3863	1.17
7	0.26078	1.3863	1.10
8	0.47167	1.3863	1.18
9	0.52274	1.3863	1.20
10	0.55682	1.3863	1.22
11	0.34080	1.3863	1.13
12	0.41045	1.3863	1.16
13	0.41423	1.3863	1.16
14	0.34275	1.3863	1.13
15	0.39764	1.3863	1.15



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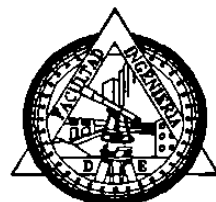


Trayectorias	TIEMPO TOTAL DE VIAJE OCTUBRE 2001						PROMEDIO
	Matutino		Mediodía		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:34:20	0:55:56	0:43:12	0:41:22	1:06:23	0:42:17	0:47:15
2	0:24:43	0:29:08	0:25:54	0:25:04	0:31:58	0:30:04	0:27:48
3	0:23:39	0:27:42	0:28:45	0:24:13	0:32:51	0:27:38	0:27:28
4	0:30:52	0:32:44	0:29:40	0:28:33	0:33:18	0:32:11	0:31:13
5	0:48:06	0:35:01	0:44:38	0:40:45	0:49:04	0:53:49	0:45:14
6	0:48:35	0:54:19	0:47:17	0:48:09	0:53:50	0:58:02	0:51:42
7	0:34:40	0:38:36	0:35:05	0:36:49	0:40:10	0:38:13	0:37:16
8	0:37:28	0:50:53	0:33:25	0:40:56	0:49:26	0:51:20	0:43:55
9	0:39:40	0:33:03	0:36:47	0:36:55	0:42:24	0:43:20	0:38:42
10	0:20:14	0:18:50	0:25:34	0:29:05	0:27:21	0:31:31	0:25:26
11	0:53:04	0:44:57	0:46:03	0:44:17	0:58:08	0:47:38	0:49:01
12	0:31:30	0:29:08	0:30:21	0:30:39	0:34:11	0:38:43	0:32:25
13	0:27:26	0:27:00	0:26:00	0:28:26	0:30:18	0:32:21	0:28:35
14	0:48:37	0:34:44	0:48:03	0:36:04	0:54:20	0:42:49	0:44:06
15	0:45:12	0:44:36	0:48:18	0:49:13	0:53:32	0:55:57	0:49:28

Trayectorias	DEMORAS OCTUBRE 2001						PROMEDIO
	Matutino		Mediodía		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:05:02	0:23:09	0:13:34	0:08:36	0:33:11	0:09:06	0:15:26
2	0:06:14	0:10:24	0:06:40	0:06:26	0:11:18	0:10:37	0:08:36
3	0:05:22	0:07:07	0:07:03	0:04:26	0:09:43	0:05:10	0:06:29
4	0:06:45	0:07:04	0:05:37	0:04:55	0:07:52	0:06:53	0:06:31
5	0:12:37	0:06:11	0:10:29	0:08:40	0:12:41	0:18:20	0:11:30
6	0:15:20	0:19:25	0:13:11	0:14:00	0:17:40	0:21:11	0:16:48
7	0:06:41	0:09:49	0:06:32	0:07:12	0:08:40	0:06:22	0:07:33
8	0:09:46	0:21:49	0:07:20	0:15:26	0:20:14	0:22:25	0:16:10
9	0:16:15	0:11:23	0:12:25	0:13:46	0:14:25	0:19:24	0:14:36
10	0:06:45	0:04:40	0:11:05	0:12:53	0:10:34	0:15:24	0:10:14
11	0:20:32	0:14:03	0:12:57	0:12:29	0:23:41	0:14:32	0:16:22
12	0:11:29	0:08:05	0:09:59	0:09:03	0:10:08	0:11:36	0:10:03
13	0:07:44	0:06:17	0:06:53	0:07:32	0:10:14	0:09:03	0:07:57
14	0:06:04	0:04:10	0:10:55	0:05:55	0:15:34	0:08:22	0:09:39
15	0:12:47	0:10:14	0:12:44	0:13:26	0:15:07	0:16:44	0:13:30



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DEPARTAMENTO DE ESTUDIOS DE INGENIERÍA DE TRÁNSITO



Trayectorias	TIEMPO RESTANTE OCTUBRE 2001						PROMEDIO
	Matutino		Mediodía		Vespertino		
	Ida	Regreso	Ida	Regreso	Ida	Regreso	
1	0:29:18	0:32:47	0:29:38	0:32:46	0:33:12	0:33:11	0:31:49
2	0:18:29	0:18:44	0:19:14	0:18:38	0:20:40	0:19:27	0:19:12
3	0:18:17	0:20:35	0:21:42	0:19:46	0:23:08	0:22:29	0:20:59
4	0:24:07	0:25:40	0:24:03	0:23:38	0:25:26	0:25:18	0:24:42
5	0:35:29	0:28:50	0:34:09	0:32:05	0:36:23	0:35:29	0:33:44
6	0:33:14	0:34:54	0:34:06	0:34:10	0:36:10	0:36:51	0:34:54
7	0:27:59	0:28:47	0:28:33	0:29:36	0:31:30	0:31:50	0:29:43
8	0:27:42	0:29:04	0:26:04	0:25:30	0:29:13	0:28:55	0:27:44
9	0:23:25	0:21:40	0:24:21	0:23:09	0:27:59	0:23:57	0:24:05
10	0:13:28	0:14:10	0:14:29	0:16:12	0:16:47	0:16:07	0:15:12
11	0:32:32	0:30:53	0:33:06	0:31:48	0:34:27	0:33:06	0:32:39
12	0:20:01	0:21:04	0:20:22	0:21:36	0:24:03	0:27:07	0:22:22
13	0:19:41	0:20:42	0:19:07	0:20:54	0:20:04	0:23:19	0:20:38
14	0:35:36	0:30:34	0:37:08	0:30:09	0:38:46	0:34:27	0:34:27
15	0:32:25	0:34:22	0:35:34	0:35:47	0:38:25	0:39:13	0:35:58

COEFICIENTE DE TIEMPOS RESTANTE 99-OCT01			
Trayectorias	T_D/T_R	b	F_{TR}
1	0.48536	1.3863	1.19
2	0.44820	1.3863	1.17
3	0.30864	1.3863	1.12
4	0.26374	1.3863	1.10
5	0.34066	1.3863	1.13
6	0.48132	1.3863	1.19
7	0.25407	1.3863	1.10
8	0.58290	1.3863	1.23
9	0.60632	1.3863	1.23
10	0.67278	1.3863	1.26
11	0.50152	1.3863	1.19
12	0.44947	1.3863	1.17
13	0.38555	1.3863	1.15
14	0.28037	1.3863	1.11
15	0.37567	1.3863	1.15

V.3.4 Obtención de los tiempos esperados para el 2001

Para obtener de los tiempos esperados se aplicará la siguiente fórmula, donde los datos variarán, dependiendo de la trayectoria, el sentido y el periodo del día, así como también del periodo de estudio analizado.

$$TEVM = TIEMPODERECORRIDOENMOVIMIENTO \times F_{TR} + DEMORAS \times F_{HCS}$$

Estos tiempos se obtendrán en serie, para los datos esperados en Febrero del 2001, Junio del 2001, y Octubre del 2001.

Los tiempos de recorrido en movimiento y los tiempos de demora a utilizar en la fórmula anterior son los tiempos reales de los estudios realizados en 1999, que al alterarse por los factores propuestos y calculados, nos arrojará los tiempos esperados en el 2001 si no se hubiese implementado un Sistema de Administración del Tránsito.

Estos tiempos esperados permitirán comparar sobre el futuro teórico esperado con el futuro real estudiado, para poder así estimar la mejora más certera y real de disminución de los tiempos de viaje, en la Zona Metropolitana.

En las páginas siguientes se muestra la tabla de cálculo y los resultados obtenidos de los tiempos esperados de viaje del 2001, para cada trayectoria, periodo del día, sentido del viaje y estudio realizado.