



LAMPIRAN A
DATA HASIL PENGAMATAN

FORM SURVEI			
PANJANG ANTREAN			
Hari/Tanggal	: Rabu, 25 Mei 2022		
Lokasi	: Simpang Faroka (Pendekat Barat)		
Surveyor	: Ucil		
JAM	Panjang Antrean (m)		
	Line 1 (Kanan)	Line 2 (Kiri)	Line 3
06:47:15	13		
06:47:54	28		
06:48:35	15		
06:49:24	34		
06:50:03	18		
06:50:53	25		
06:51:33	16		
06:52:19	32		
06:53:14	13		
06:53:52	23		
06:54:33	45		
06:55:20	56		
06:56:05	35		
06:56:50	23		
06:57:37	28		
06:58:21	33		
06:59:08	17		
06:59:53	30		
07:00:40	27		
07:01:23	22		
07:02:09	30		
07:02:54	23		
07:03:40	17		
07:04:25	24		
07:05:10	25		
07:05:56	23		
07:06:40	45		
07:07:28	30		
07:08:13	43		
07:09:44	47		
07:10:29	24		
07:11:14	25		
07:12:02	33		
07:12:45	33		
07:13:31	15		
07:14:17	30		
07:15:01	13		
07:15:47	28		
07:16:32	15		
07:17:16	33		
07:18:04	21		
07:18:48	25		
07:19:33	17		
07:20:19	25		
07:21:04	26		
07:21:50	23		
07:22:35	27		
07:23:20	32		
07:24:06	43		
07:24:41	23		
07:25:34	30		
07:26:23	25		
07:27:09	30		
07:27:55	17		
07:28:38	35		
07:29:22	15		
07:30:16	40		
07:31:40	23		
07:32:25	20		
07:33:11	40		
07:33:56	25		
07:34:43	30		
07:35:27	15		
07:36:14	27		
07:36:58	13		
07:37:43	33		
07:38:29	17		
07:39:15	35		
07:39:59	27		
07:40:45	43		
07:41:30	24		
07:42:15	30		
07:43:01	15		
07:43:47	23		
07:44:33	30		
07:45:17	22		
07:46:03	20		
07:46:48	18		
07:47:34	35		
07:48:20	22		
07:49:05	25		
07:49:50	13		
07:50:36	35		
07:51:21	43		
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07:52:51	23		
07:53:36	43		
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07:55:08	22		
07:55:53	12		
07:56:39	21		
07:57:24	10		
07:58:10	22		
07:58:58	8		
07:59:41	25		
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08:01:13	40		
08:01:56	17		
08:02:42	32		
08:03:28	21		
08:04:14	35		
08:04:58	20		
08:05:47	30		
08:06:29	10		
08:07:15	25		
08:08:00	11		
08:08:45	23		
08:09:30	15		
08:10:16	25		
08:11:00	13		
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08:13:18	18		
08:14:03	28		
08:14:49	12		
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08:17:05	27		
08:17:50	15		
08:18:36	20		
08:19:20	13		
08:20:06	37		
08:20:52	17		
08:21:37	25		
08:22:22	10		
08:23:08	35		
08:23:52	12		
08:24:38	23		
08:25:25	20		
08:26:10	23		
08:26:55	13		
08:27:40	35		
08:28:25	34		
08:29:10	27		
08:29:55	23		
08:30:43	25		
08:31:25	24		
08:32:14	28		
08:32:56	25		
08:33:42	22		
08:34:27	18		
08:35:14	25		
08:36:59	12		
08:37:45	15		
08:38:14	17		
08:39:01	13		
08:39:45	22		
08:40:32	27		
08:41:16	13		
08:42:02	32		
08:42:47	15		
08:43:32	30		
08:44:18	13		
08:45:05	40		
08:45:50	22		
08:46:35	33		
08:47:20	20		

FORM SURVEI			
PANJANG ANTREAN			
Hari/Tanggal		: Rabu, 25 Mei 2022	
Lokasi		: Simpang Faroka (Pendekat Timur)	
Surveyor		: Ari	
JAM	Panjang Antrean (m)		
	Line 1	Line 2	Line 3
06:30:03	15		
06:31:36	12.5		
06:32:26	11		
06:33:07	15		
06:33:53	6		
06:34:38	10		
06:35:22	21		
06:36:10	40		
06:36:57	15		
06:37:38	6		
06:38:24	0		
06:39:09	10		
06:39:55	9		
06:40:39	5		
06:41:26	11		
06:42:11	15		
06:42:56	10		
06:43:42	2.5		
06:44:24	16		
06:45:13	7		
06:45:58	20		
06:46:43	3.5		
06:47:28	18		
06:48:14	2		
06:48:58	11		
06:49:45	12		
06:50:30	15		
06:51:16	0		
06:52:01	21.5		
06:52:47	5		
06:53:32	10		
06:54:17	5		
06:55:02	14		
06:55:47	20.5		
06:56:33	10		
06:57:18	15		
06:58:04	10		
06:58:49	11		
06:59:35	0		
07:00:20	14		
07:01:05	3		
07:01:50	12		
07:02:36	5		
07:03:21	25		
07:04:07	5		
07:04:52	16		
07:05:37	6		
07:06:23	40		
07:07:09	38		
07:07:58	20		
07:08:40	24		
07:09:25	25		
07:10:10	32		
07:10:56	22		
07:11:41	15		
07:12:27	18.5		
07:13:12	30		
07:13:58	21		
07:14:43	22		
07:15:28	30		
07:16:13	20		
07:17:00	0		
07:17:44	17		
07:18:30	10		
07:19:16	10		
07:20:01	22		
07:20:46	28		
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07:22:17	20		
07:23:03	17		
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07:26:04	41		
07:26:50	40		
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07:29:05	20		
07:29:50	21		
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07:32:52	18		
07:33:38	24		
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07:35:09	7		
07:35:55	26		
07:36:40	6		
07:37:25	17		
07:38:11	17.5		
07:38:56	20		
07:39:42	5		
07:40:27	34		
07:41:13	20		
07:41:58	18		
07:42:43	15.5		
07:43:29	21		
07:44:15	17		
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07:45:45	20		
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07:48:02	10		
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07:56:21	16		
07:57:06	10		
07:57:52	24		
07:58:37	15		
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08:00:08	11		
08:00:54	3		
08:01:39	7		
08:02:25	8		
08:03:10	13		
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08:06:56	18		
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08:08:27	24		
08:09:13	17		
08:09:58	10		
08:10:44	30		
08:11:29	7		
08:12:15	10		
08:13:00	25		
08:13:46	7		
08:14:31	17		
08:15:16	9		
08:16:02	23		
08:16:48	4		
08:17:33	20		
08:18:19	0		
08:19:03	41		
08:19:48	30		
08:20:33	20		
08:21:19	0		
08:22:05	21		
08:22:50	3		
08:23:35	40		
08:24:20	2.5		
08:25:06	13		
08:25:51	10		
08:26:37	7		
08:27:22	2		
08:28:07	7		
08:28:52	7		
08:29:37	2.5		
08:30:23	13		

FORM SURVEI PANJANG ANTREAN			
Hari/Tanggal	: Rabu, 25 Mei 2022		
Lokasi	: Simpang Faroka (Pendekat Barat)		
Surveyor	: Farkhan		
JAM	Panjang Antrean (m)		
	Line 1 (Kanan)	Line 2 (Kiri)	Line 3
15:30:47	17		
15:31:24	22		
15:32:23	34		
15:33:14	42		
15:34:07	23		
15:34:50	32		
15:35:39	18		
15:36:26	28		
15:37:14	33		
15:38:02	27		
15:38:51	7		
15:39:38	36		
15:40:27	13		
15:41:40	38		
15:42:02	6		
15:42:52	24		
15:43:40	33		
15:44:29	43		
15:45:20	26		
15:46:05	17		
15:46:55	21		
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15:50:55	11		
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15:52:32	13		
15:53:23	8		
15:54:09	14		
15:55:00	17		
15:55:47	18		
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15:58:11	21		
15:58:59	13		
15:59:49	19		
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16:01:22	27		
16:02:14	24		
16:03:01	41		
16:03:50	14		
16:04:38	40		
16:05:27	9		
16:06:15	33		
16:07:04	15		
16:07:56	21		
16:08:34	18		
16:09:30	40		
16:10:18	11		
16:11:07	16		
16:11:58	19		
16:12:42	13		
16:13:31	17		
16:14:20	22		
16:15:11	19		
16:16:01	38		
16:16:50	12		
16:17:38	18		
16:18:23	23		
16:19:11	15		
16:20:02	27		
16:20:50	24		
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16:28:05	32		
16:28:53	8		
16:29:44	36		
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16:32:07	24		
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16:33:42	5		
16:34:32	27		
16:35:22	18		
16:36:04	36		
16:36:56	9		
16:37:45	24		
16:38:34	116		
16:39:26	42		
16:40:58	23		
16:41:52	3		
16:42:36	8		
16:43:22	25		
16:44:14	21		
16:45:02	17		
16:45:49	11		
16:46:40	13		
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16:49:53	18		
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16:53:04	32		
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16:59:35	9		
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17:02:01	14		
17:02:53	29		
17:03:36	17		
17:04:25	36		
17:05:12	21		
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17:06:50	11		
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17:09:14	13		
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17:11:40	6		
17:12:30	8		
17:13:19	5		
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17:14:55	19		
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17:18:08	18		
17:18:55	13		
17:19:43	32		
17:20:32	12		
17:21:22	5		
17:22:08	9		
17:22:58	31		
17:23:47	17		
17:24:35	19		
17:25:26	9		
17:26:14	41		
17:27:01	21		
17:27:50	13		
17:28:37	28		
17:29:28	19		
17:30:16	14		

FORM SURVEI							
PANJANG ANTREAN							
Hari/Tanggal	: Rabu, 25 Mei 2022						
Lokasi	: Simpang Faroka (Pendekat Timur)						
Surveyor	: Ari						
JAM	Panjang Antrean (m)						
	Line 1	Line 2	Line 3				
15:30:23	20			16:26:53	60		
15:31:11	20			16:27:41	20		
15:32:00	19			16:28:30	12		
15:32:48	9			16:29:18	41		
15:33:37	30			16:30:07	28		
15:34:25	28			16:30:55	26		
15:35:13	30			16:31:44	13		
15:36:02	10.5			16:32:32	20		
15:36:51	31			16:33:20	15		
15:37:39	7			16:34:09	3		
15:38:27	40			16:34:58	11		
15:39:15	2			16:35:46	13		
15:40:04	29			16:36:34	9		
15:40:52	21			16:37:22	41		
15:41:40	16			16:38:10	10		
15:42:28	30			16:38:59	29		
15:43:17	65			16:39:47	19		
15:44:05	56			16:40:36	25		
15:44:53	55			16:41:24	16		
15:45:42	58			16:42:13	50		
15:46:31	35			16:43:01	17		
15:47:19	49			16:43:50	44		
15:48:08	53			16:44:38	30.5		
15:48:56	47			16:45:26	30		
15:49:44	40			16:46:15	2		
15:50:32	28			16:47:03	49		
15:51:21	4			16:47:52	21		
15:52:09	4			16:48:40	27.5		
15:52:58	28			16:49:29	60		
15:53:47	11			16:50:17	21		
15:54:35	10			16:51:06	16		
15:55:23	10			16:51:54	4		
15:56:12	12			16:52:43	20		
15:57:00	40			16:53:31	6		
15:57:48	12.5			16:54:20	26		
15:58:37	12			16:55:09	4		
15:59:26	6			16:55:57	35		
16:00:14	16			16:56:45	5		
16:01:02	11.5			16:57:34	18		
16:01:50	3			16:58:22	6		
16:02:38	10			16:59:11	6		
16:03:27	17			16:59:59	21		
16:04:16	21			17:00:48	42		
16:05:04	28			17:01:36	38.5		
16:05:52	12			17:02:25	17		
16:06:41	7			17:03:13	18		
16:07:30	18			17:04:01	40		
16:08:18	30			17:04:50	10		
16:09:07	49			17:05:38	21		
16:09:55	29			17:06:27	0		
16:10:43	16			17:07:15	13		
16:11:32	29			17:08:03	25		
16:12:20	10			17:08:52	26		
16:13:09	30.5			17:09:40	48		
16:13:58	41			17:10:29	15		
16:14:46	25			17:11:17	60		
16:15:34	16			17:12:06	26		
16:16:23	2			17:12:54	13		
16:17:11	30			17:13:43	5		
16:18:00	15			17:14:31	20		
16:18:48	20			17:15:20	13		
16:19:37	10			17:16:08	21		
16:20:25	21.5			17:16:57	20		
16:21:13	55			17:17:45	15		
16:22:02	15			17:18:33	25		
16:22:50	40			17:19:21	33		
16:23:39	59			17:20:10	15		
16:24:27	17.5			17:20:58	20		
16:25:16	18			17:21:47	49		
16:26:04	3			17:22:35	50		
				17:23:24	72		
				17:24:12	41		
				17:25:00	19		
				17:25:49	45		
				17:26:37	53		
				17:27:26	80		
				17:28:14	100		
				17:29:02	110		
				17:29:51	100		
				17:30:39	110		

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Faroka (Pendekat Timur)
 Surveyor : Ima & Calvin

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM
06.30 - 06.45	0	0	0	0	0	0	0	0	0	31	31	1	1,3	116	23,2	2	2,6	0	84	84	23	29,9	365	73	3	3,9	5
06.45 - 07.00	0	0	0	0	0	0	0	0	0	45	45	2	2,6	129	25,8	1	1,3	0	120	120	23	29,9	579	115,8	5	6,5	24
07.00 - 07.15	0	0	0	0	0	0	0	0	0	44	44	6	7,8	164	32,8	1	1,3	0	134	134	15	19,5	682	136,4	11	14,3	3
07.15 - 07.30	0	0	0	0	0	0	0	0	0	57	57	3	3,9	156	31,2	2	2,6	0	169	169	22	28,6	690	138	9	11,7	4
07.30 - 07.45	0	0	0	0	0	0	0	0	0	61	61	4	5,2	119	23,8	2	2,6	0	149	149	41	53,3	575	115	5	6,5	3
07.45 - 08.00	0	0	0	0	0	0	0	0	0	50	50	4	5,2	185	37	1	1,3	0	147	147	31	40,3	572	114,4	7	9,1	7
08.00 - 08.15	0	0	0	0	0	0	0	0	0	56	56	2	2,6	138	27,6	4	5,2	0	157	157	47	61,1	501	100,2	9	11,7	1
08.15 - 08.30	0	0	0	0	0	0	0	0	0	37	37	4	5,2	121	24,2	2	2,6	0	131	131	30	39	453	90,6	6	7,8	1
JUMLAH	0	0	0	0	0	0	0	0	0	381	381	26	33,8	1128	225,6	15	19,5	0	1091	1091	232	301,6	4417	883,4	55	71,5	48

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Faroka (Pendekat Timur)
 Surveyor : Fara

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM
15.30 - 15.45	0	0	0	0	0	0	0	0	0	192	192	50	65	654	130,8	8	10,4	0	68	68	8	10,4	134	26,8	2	2,6	0
15.45 - 16.00	0	0	0	0	0	0	0	0	0	195	195	47	61,1	780	156	11	14,3	1	67	67	2	2,6	151	30,2	2	2,6	0
16.00 - 16.15	0	0	0	0	0	0	0	0	0	196	196	34	44,2	778	155,6	5	6,5	0	72	72	3	3,9	136	27,2	1	1,3	1
16.15 - 16.30	0	0	0	0	0	0	0	0	0	207	207	32	41,6	717	143,4	4	5,2	2	78	78	10	13	163	32,6	1	1,3	1
16.30 - 16.45	0	0	0	0	0	0	0	0	0	158	158	23	29,9	560	112	7	9,1	0	80	80	4	5,2	127	25,4	2	2,6	1
16.45 - 17.00	0	0	0	0	0	0	0	0	0	192	192	39	50,7	569	113,8	12	15,6	0	65	65	4	5,2	138	27,6	2	2,6	1
17.00 - 17.15	0	0	0	0	0	0	0	0	0	222	222	42	54,6	605	121	15	19,5	0	79	79	2	2,6	138	27,6	1	1,3	1
17.15 - 17.30	0	0	0	0	0	0	0	0	0	189	189	38	49,4	546	109,2	10	13	0	76	76	1	1,3	157	31,4	2	2,6	1
JUMLAH	0	0	0	0	0	0	0	0	0	1551	1551	305	396,5	5209	1041,8	72	93,6	3	585	585	34	44,2	1144	228,8	13	16,9	6

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Kleco 1 (Pendekat Selatan)
 Surveyor : Fara

JAM	Arah Kiri									Arah Lurus									Arah Kanan									
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	
06.30 - 06.45	0	0	0	0	23	4,6	0	0	0	0	0	0	0	0	0	0	0	0	0	26	26	0	0	344	68,8	0	0	1
06.45 - 07.00	0	0	1	1,3	9	1,8	0	0	1	0	0	0	0	0	0	0	0	0	30	30	1	1,3	595	119	0	0	0	
07.00 - 07.15	5	5	1	1,3	6	1,2	0	0	1	0	0	0	0	0	0	0	0	0	39	39	2	2,6	469	93,8	0	0	1	
07.15 - 07.30	5	5	1	1,3	8	1,6	0	0	1	0	0	0	0	0	0	0	0	0	30	30	2	2,6	367	73,4	0	0	1	
07.30 - 07.45	1	1	2	2,6	17	3,4	0	0	2	0	0	0	0	0	0	0	0	0	15	15	0	0	415	83	0	0	3	
07.45 - 08.00	2	2	2	2,6	7	1,4	0	0	2	0	0	0	0	0	0	0	0	0	20	20	3	3,9	343	68,6	0	0	2	
08.00 - 08.15	5	5	3	3,9	10	2	0	0	2	0	0	0	0	0	0	0	0	0	18	18	2	2,6	215	43	0	0	0	
08.15 - 08.30	7	7	3	3,9	5	1	0	0	6	0	0	0	0	0	0	0	0	0	21	21	3	3,9	209	41,8	0	0	2	
JUMLAH	25	25	13	16,9	85	17	0	0	15	0	0	0	0	0	0	0	0	0	199	199	13	16,9	2957	591,4	0	0	10	

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Kleco 1 (Pendekat Selatan)
 Surveyor : Ezra

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,2	BUS	EMP 1,3	UM
15.30 - 15.45	6	6	3	3,9	45	9	0	0	2	0	0	0	0	0	0	0	0	0	30	30	3	3,9	222	44,4	0	0	0
15.45 - 16.00	12	12	0	0	62	12,4	0	0	2	0	0	0	0	0	0	0	0	0	39	39	1	1,3	242	48,4	0	0	0
16.00 - 16.15	7	7	4	5,2	47	9,4	0	0	2	0	0	0	0	0	0	0	0	0	40	40	3	3,9	265	53	0	0	0
16.15 - 16.30	9	9	1	1,3	69	13,8	0	0	3	0	0	0	0	0	0	0	0	0	27	27	2	2,6	248	49,6	0	0	0
16.30 - 16.45	7	7	0	0	35	7	0	0	3	0	0	0	0	0	0	0	0	0	36	36	3	3,9	208	41,6	0	0	0
16.45 - 17.00	6	6	2	2,6	121	24,2	0	0	4	0	0	0	0	0	0	0	0	0	24	24	4	5,2	182	36,4	0	0	0
17.00 - 17.15	7	7	1	1,3	69	13,8	0	0	8	0	0	0	0	0	0	0	0	0	44	44	3	3,9	168	33,6	0	0	0
17.15 - 17.30	6	6	1	1,3	62	12,4	0	0	8	0	0	0	0	0	0	0	0	0	37	37	2	2,6	158	31,6	0	0	0
JUMLAH	60	60	12	15,6	510	102	0	0	32	0	0	0	0	0	0	0	0	0	277	277	21	27,3	1693	338,6	0	0	0

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Kleco 1 (Pendekat Barat)
 Surveyor : App

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM
06.30 - 06.45	0	0	0	0	0	0	0	0	0	167	167	24	31,2	628	125,6	4	5,2	5	0	0	0	0	40	8	0	0	0
06.45 - 07.00	0	0	0	0	0	0	0	0	0	216	216	30	39	1085	217	7	9,1	6	4	4	0	0	80	16	0	0	0
07.00 - 07.15	0	0	0	0	0	0	0	0	0	187	187	27	35,1	844	168,8	10	13	11	2	2	0	0	67	13,4	0	0	0
07.15 - 07.30	0	0	0	0	0	0	0	0	0	199	199	34	44,2	856	171,2	5	6,5	7	6	6	1	1,3	64	12,8	0	0	0
07.30 - 07.45	0	0	0	0	0	0	0	0	0	162	162	37	48,1	781	156,2	8	10,4	5	5	5	0	0	56	11,2	0	0	2
07.45 - 08.00	0	0	0	0	0	0	0	0	0	160	160	36	46,8	718	143,6	6	7,8	6	4	4	0	0	68	13,6	0	0	0
08.00 - 08.15	0	0	0	0	0	0	0	0	0	138	138	27	35,1	501	100,2	8	10,4	18	4	4	1	1,3	49	9,8	0	0	0
08.15 - 08.30	0	0	0	0	0	0	0	0	0	191	191	45	58,5	529	105,8	6	7,8	11	3	3	2	2,6	20	4	0	0	1
JUMLAH	0	0	0	0	0	0	0	0	0	1420	1420	260	338	5942	1188,4	54	70,2	69	28	28	4	5,2	444	88,8	0	0	3

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Kleco 1 (Pendekat Barat)
 Surveyor : App

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM
15.30 - 15.45	0	0	0	0	0	0	0	0	0	162	162	32	41,6	527	105,4	11	14,3	2	2	2	2	2,6	32	6,4	0	0	0
15.45 - 16.00	0	0	0	0	0	0	0	0	0	137	137	55	71,5	569	113,8	6	7,8	1	4	4	0	0	56	11,2	0	0	0
16.00 - 16.15	0	0	0	0	0	0	0	0	0	168	168	25	32,5	611	122,2	9	11,7	1	3	3	0	0	58	11,6	0	0	1
16.15 - 16.30	0	0	0	0	0	0	0	0	0	131	131	37	48,1	448	89,6	7	9,1	1	5	5	0	0	24	4,8	0	0	0
16.30 - 16.45	0	0	0	0	0	0	0	0	0	139	139	42	54,6	452	90,4	11	14,3	0	4	4	0	0	29	5,8	0	0	0
16.45 - 17.00	0	0	0	0	0	0	0	0	0	168	168	28	36,4	409	81,8	2	2,6	2	4	4	0	0	26	5,2	0	0	0
17.00 - 17.15	0	0	0	0	0	0	0	0	0	148	148	32	41,6	442	88,4	8	10,4	2	2	2	0	0	40	8	0	0	0
17.15 - 17.30	0	0	0	0	0	0	0	0	0	170	170	38	49,4	397	79,4	7	9,1	1	5	5	0	0	25	5	0	0	0
JUMLAH	0	0	0	0	0	0	0	0	0	1223	1223	289	375,7	3855	771	61	79,3	10	29	29	2	2,6	290	58	0	0	1

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Kleco 2 (Pendekat Utara)
 Surveyor : Wennya

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM
06.30 - 06.45	10	10	0	0	31	6,2	0	0	5	0	0	0	0	0	0	0	0	0	0	0	0	0	58	11,6	0	0	3
06.45 - 07.00	0	0	0	0	32	6,4	0	0	7	0	0	0	0	0	0	0	0	0	1	1	0	0	78	15,6	0	0	4
07.00 - 07.15	2	2	0	0	13	2,6	0	0	8	0	0	0	0	0	0	0	0	0	2	2	0	0	97	19,4	0	0	2
07.15 - 07.30	4	4	0	0	21	4,2	0	0	10	0	0	0	0	0	0	0	0	0	2	2	0	0	93	18,6	0	0	2
07.30 - 07.45	1	1	0	0	26	5,2	0	0	12	0	0	0	0	0	0	0	0	0	2	2	0	0	76	15,2	0	0	2
07.45 - 08.00	2	2	0	0	18	3,6	0	0	14	0	0	0	0	0	0	0	0	0	2	2	0	0	83	16,6	0	0	2
08.00 - 08.15	1	1	0	0	19	3,8	0	0	14	0	0	0	0	0	0	0	0	0	7	7	0	0	55	11	0	0	2
08.15 - 08.30	2	2	0	0	15	3	0	0	18	0	0	0	0	0	0	0	0	0	0	0	0	0	34	6,8	0	0	1
JUMLAH	22	22	0	0	175	35	0	0	88	0	0	0	0	0	0	0	0	0	16	16	0	0	574	114,8	0	0	18

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Simpang Kleco 2 (Pendekat Utara)
 Surveyor : Calvin

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM
15.30 - 15.45	1	1	2	2,6	21	4,2	0	0	0	0	0	0	0	0	0	0	0	0	3	3	1	1,3	53	10,6	0	0	5
15.45 - 16.00	4	4	0	0	22	4,4	0	0	2	0	0	0	0	0	0	0	0	0	4	4	1	1,3	69	13,8	0	0	2
16.00 - 16.15	3	3	0	0	18	3,6	0	0	0	0	0	0	0	0	0	0	0	0	7	7	1	1,3	66	13,2	0	0	0
16.15 - 16.30	1	1	1	1,3	19	3,8	0	0	3	0	0	0	0	0	0	0	0	0	5	5	0	0	50	10	0	0	0
16.30 - 16.45	3	3	1	1,3	19	3,8	0	0	3	0	0	0	0	0	0	0	0	0	5	5	1	1,3	43	8,6	0	0	0
16.45 - 17.00	1	1	0	0	22	4,4	0	0	1	0	0	0	0	0	0	0	0	0	5	5	1	1,3	36	7,2	0	0	0
17.00 - 17.15	2	2	1	1,3	20	4	0	0	4	0	0	0	0	0	0	0	0	0	0	0	0	0	38	7,6	0	0	1
17.15 - 17.30	1	1	1	1,3	28	5,6	0	0	0	0	0	0	0	0	0	0	0	0	4	4	0	0	28	5,6	0	0	1
JUMLAH	16	16	6	7,8	169	33,8	0	0	13	0	0	0	0	0	0	0	0	0	33	33	5	6,5	383	76,6	0	0	9

FORMULIR SURVEI LALU LINTAS

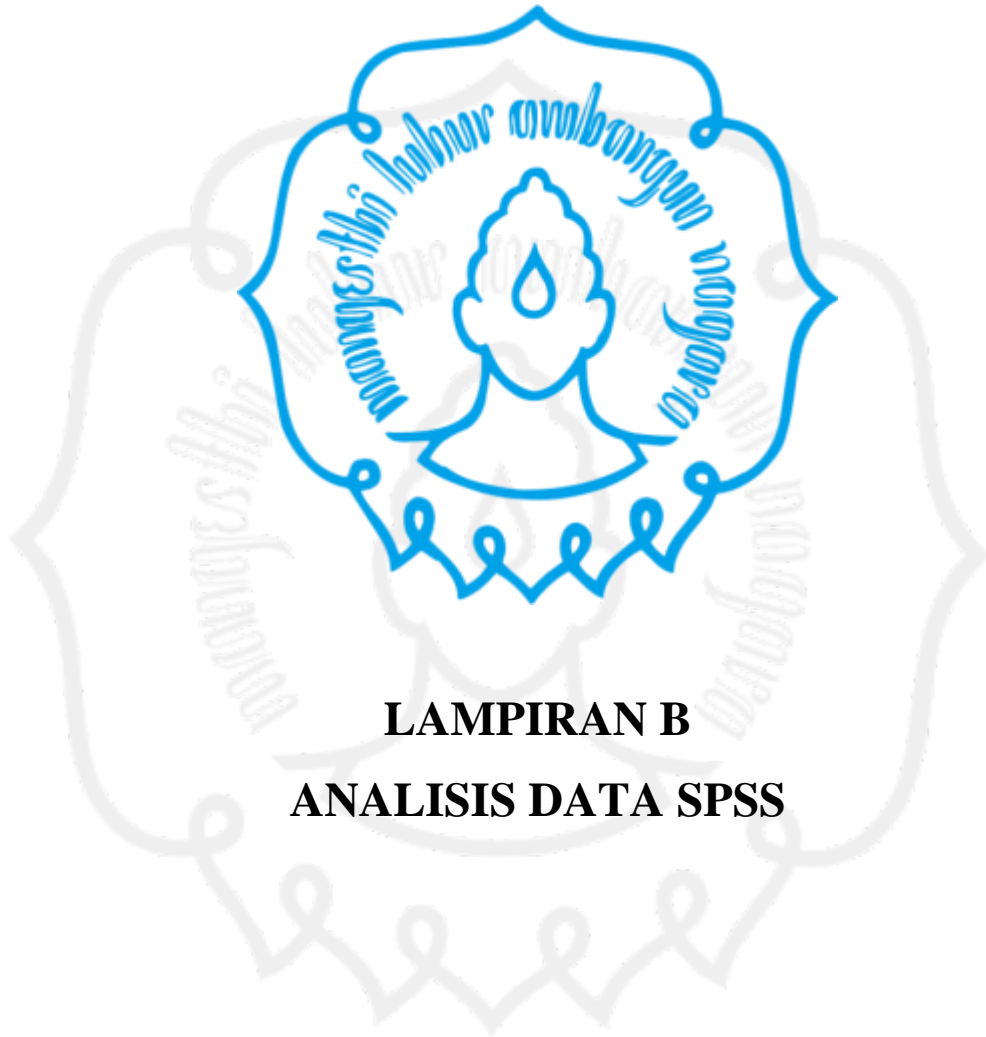
Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Pasar Kleco 2 Timur (Pendekat Timur)
 Surveyor :

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM
06.30 - 06.45	0	0	0	0	0	0	0	0	0	65	65	21	27,3	292	58,4	8	10,4	0	0	0	0	0	11	2,2	0	0	0
06.45 - 07.00	0	0	0	0	0	0	0	0	0	110	110	19	24,7	447	89,4	6	7,8	0	2	2	0	0	10	2	0	0	0
07.00 - 07.15	0	0	0	0	0	0	0	0	0	114	114	15	19,5	390	78	11	14,3	1	2	2	0	0	5	1	0	0	0
07.15 - 07.30	0	0	0	0	0	0	0	0	0	158	158	22	28,6	430	86	12	15,6	1	3	3	0	0	11	2,2	0	0	0
07.30 - 07.45	0	0	0	0	0	0	0	0	0	133	133	38	49,4	349	69,8	6	7,8	2	1	1	0	0	7	1,4	0	0	0
07.45 - 08.00	0	0	0	0	0	0	0	0	0	143	143	31	40,3	347	69,4	5	6,5	1	1	1	0	0	10	2	0	0	0
08.00 - 08.15	0	0	0	0	0	0	0	0	0	140	140	42	54,6	309	61,8	9	11,7	0	0	0	0	0	3	0,6	0	0	0
08.15 - 08.30	0	0	0	0	0	0	0	0	0	128	128	29	37,7	337	67,4	8	10,4	0	2	2	0	0	9	1,8	0	0	0
JUMLAH	0	0	0	0	0	0	0	0	0	991	991	217	282,1	2901	580,2	65	84,5	5	11	11	0	0	66	13,2	0	0	0

FORMULIR SURVEI LALU LINTAS

Hari/Tanggal : Rabu, 25 Mei 2022
 Lokasi : Pasar Kleco 2 Timur (Pendekat Timur)
 Surveyor :

JAM	Arah Kiri									Arah Lurus									Arah Kanan								
	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM	LV	EMP 1	HV	EMP 1,3	MC	EMP 0,25	BUS	EMP 1,3	UM
15.30 - 15.45	0	0	0	0	0	0	0	0	0	160	160	38	49,4	335	67	6	7,8	0	6	6	0	0	11	2,2	0	0	0
15.45 - 16.00	0	0	0	0	0	0	0	0	0	168	168	49	63,7	383	76,6	11	14,3	0	1	1	0	0	5	1	0	0	0
16.00 - 16.15	0	0	0	0	0	0	0	0	0	229	229	36	46,8	465	93	7	9,1	0	4	4	0	0	10	2	0	0	0
16.15 - 16.30	0	0	0	0	0	0	0	0	0	134	134	25	32,5	334	66,8	2	2,6	0	1	1	0	0	1	0,2	0	0	0
16.30 - 16.45	0	0	0	0	0	0	0	0	0	148	148	24	31,2	448	89,6	7	9,1	0	1	1	0	0	5	1	0	0	0
16.45 - 17.00	0	0	0	0	0	0	0	0	0	192	192	26	33,8	387	77,4	10	13	0	2	2	0	0	6	1,2	0	0	0
17.00 - 17.15	0	0	0	0	0	0	0	0	0	197	197	42	54,6	480	96	14	18,2	0	3	3	0	0	14	2,8	0	0	0
17.15 - 17.30	0	0	0	0	0	0	0	0	0	203	203	36	46,8	492	98,4	12	15,6	0	4	4	0	0	10	2	0	0	0
JUMLAH	0	0	0	0	0	0	0	0	0	1431	1431	276	358,8	3324	664,8	69	89,7	0	22	22	0	0	62	12,4	0	0	0



LAMPIRAN B
ANALISIS DATA SPSS

```
T-TEST PAIRS=Vistro WITH Lapangan (PAIRED)
/CRITERIA=CI (.9500)
/MISSING=ANALYSIS.
```

T-Test

[DataSet0]

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Vistro	56.9500	2	12.50165	8.84000
	Lapangan	52.5000	2	20.50610	14.50000

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Vistro & Lapangan	2	1.000	.000

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	Paired Differences	
					95% Confidence Interval of the Difference	
					Lower	Upper
Pair 1	Vistro - Lapangan	4.45000	8.00445	5.66000	-67.46712	76.36712

Paired Samples Test

		t	df	Sig. (2-tailed)
Pair 1	Vistro - Lapangan	.786	1	.576

```
T-TEST PAIRS=Vistro WITH Lapangan (PAIRED)
/CRITERIA=CI (.9500)
/MISSING=ANALYSIS.
```

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Vistro	64.4000	2	1.69706	1.20000
	Lapangan	58.5000	2	26.16295	18.50000

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Vistro & Lapangan	2	1.000	.000

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	Paired Differences	
					95% Confidence Interval of the Difference	
					Lower	Upper
Pair 1	Vistro - Lapangan	5.90000	24.46589	17.30000	-213.91734	225.71734

Paired Samples Test

		t	df	Sig. (2-tailed)
Pair 1	Vistro - Lapangan	.341	1	.791


```
T-TEST PAIRS=Vistro WITH Lapangan (PAIRED)
/CRITERIA=CI (.9500)
/MISSING=ANALYSIS.
```

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Vistro	72.0800	2	24.86187	17.58000
	Lapangan	62.5000	2	44.54773	31.50000

Paired Samples Correlations

		N	Correlation	Sig.
Pair 1	Vistro & Lapangan	2	1.000	.000

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	Paired Differences	
					Lower	Upper
Pair 1	Vistro - Lapangan	9.58000	19.68585	13.92000	-167.29037	186.45037

Paired Samples Test

		t	df	Sig. (2-tailed)
Pair 1	Vistro - Lapangan	.688	1	.616

```
T-TEST PAIRS=Vistro WITH Lapangan (PAIRED)
/CRITERIA=CI (.9500)
/MISSING=ANALYSIS.
```

T-Test

Paired Samples Statistics

		Mean	N	Std. Deviation	Std. Error Mean
Pair 1	Vistro	54.6700	2	6.87308	4.86000
	Lapangan	55.6500	2	33.02189	23.35000

Paired Samples Correlations

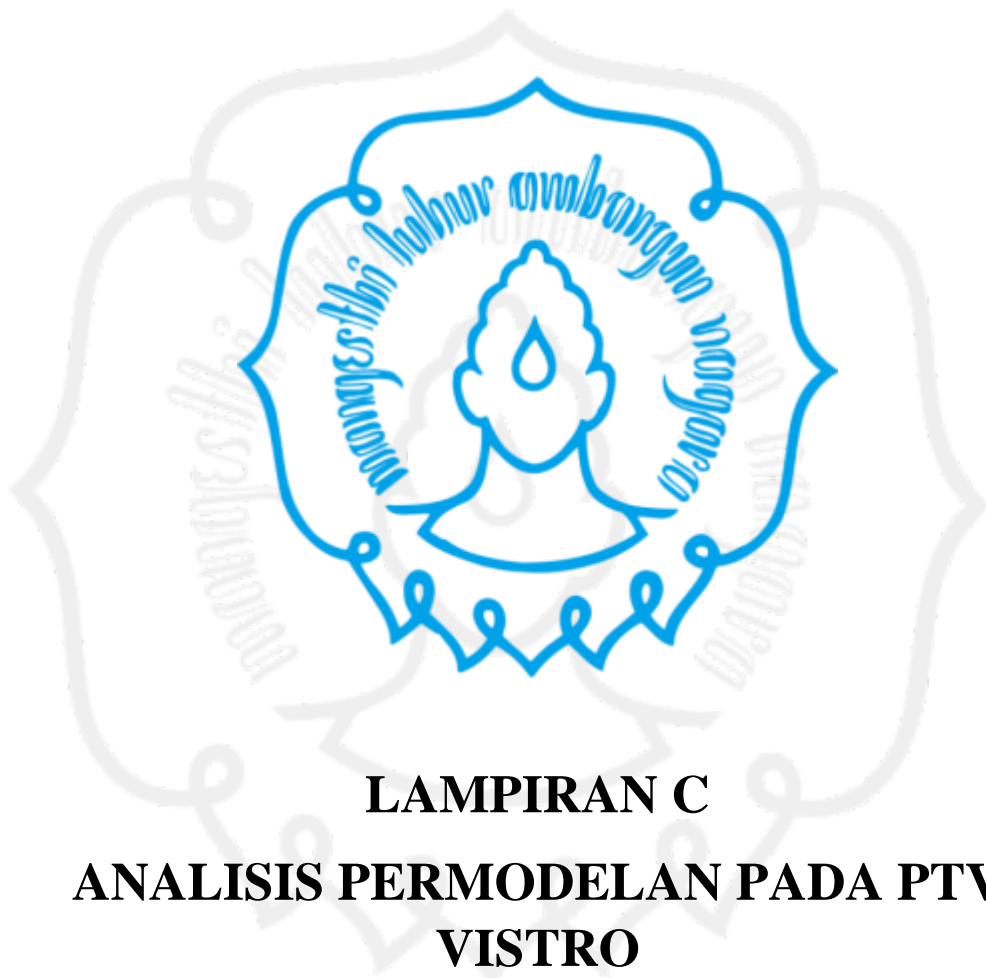
		N	Correlation	Sig.
Pair 1	Vistro & Lapangan	2	1.000	.000

Paired Samples Test

		Mean	Std. Deviation	Std. Error Mean	Paired Differences	
					95% Confidence Interval of the Difference	
					Lower	Upper
Pair 1	Vistro - Lapangan	-.98000	26.14881	18.49000	-235.91773	233.95773

Paired Samples Test

		t	df	Sig. (2-tailed)
Pair 1	Vistro - Lapangan	-.053	1	.966



LAMPIRAN C
ANALISIS PERMODELAN PADA PTV
VISTRO

Generated with 

Version 6.00-03

faroka

Vistro File: F:\...\Sp Faroka-Staggered Kleco Pagi.vistro

Scenario: Base Scenario

Report File: F:\...\1. Base Scenario.pdf

7/5/2022

Intersection Analysis Summary



ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Simpang Faroka	Signalized	HCM 2010	WB Right	0.775	11.5	B
2	Simpang Kleco 1 (SMK BATIK 1)	Signalized	HCM 2010	NB Right	0.573	34.4	C
3	Simpang Kleco 2 (Pasar Kleco)	Signalized	HCM 2010	WB Right	0.571	27.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: Simpang Faroka**

Control Type:	Signalized	Delay (sec / veh):	11.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	Utara		Timur		Timur	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.00	3.00	7.00	6.50	3.00	3.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [m]	30.48	30.48	70.00	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Utara		Timur		Timur	
Base Volume Input [veh/h]	0	0	402	1158	1248	348
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	0	0	402	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1158	1248	348
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	290	312	87
Total Analysis Volume [veh/h]	0	0	0	1158	1248	348
Presence of On-Street Parking			No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	45
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal group	0	0	0	3	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	-	Lead
Minimum Green [s]	0	0	0	5	5	5
Maximum Green [s]	0	0	0	20	40	15
Amber [s]	0.0	0.0	0.0	2.0	0.0	2.0
All red [s]	0.0	0.0	0.0	3.0	0.0	3.0
Split [s]	0	0	0	25	45	20
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	5
Pedestrian Clearance [s]	0	0	0	0	0	10
Rest In Walk				No	No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	3.0	0.0	3.0
Minimum Recall				No	No	No
Maximum Recall				No	No	No
Pedestrian Recall				No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	R
C, Cycle Length [s]	45	45	45	45	45
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	0.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00
g_i, Effective Green Time [s]	20	20	20	45	15
g / C, Green / Cycle	0.44	0.44	0.44	1.00	0.33
(v / s)_i Volume / Saturation Flow Rate	0.00	0.33	0.33	0.78	0.23
s, saturation flow rate [veh/h]	1482	1744	1744	1609	1533
c, Capacity [veh/h]	659	775	775	1609	511
d1, Uniform Delay [s]	0.00	10.40	10.40	0.00	12.94
k, delay calibration	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	6.76	6.76	3.83	7.43
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.75	0.75	0.78	0.68
d, Delay for Lane Group [s/veh]	0.00	17.16	17.16	3.83	20.37
Lane Group LOS	A	B	B	A	C
Critical Lane Group	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	4.98	4.98	1.71	3.51
50th-Percentile Queue Length [m/ln]	0.00	37.92	37.92	13.03	26.73
95th-Percentile Queue Length [veh/ln]	0.00	8.63	8.63	3.08	6.31
95th-Percentile Queue Length [m/ln]	0.00	65.79	65.79	23.46	48.11

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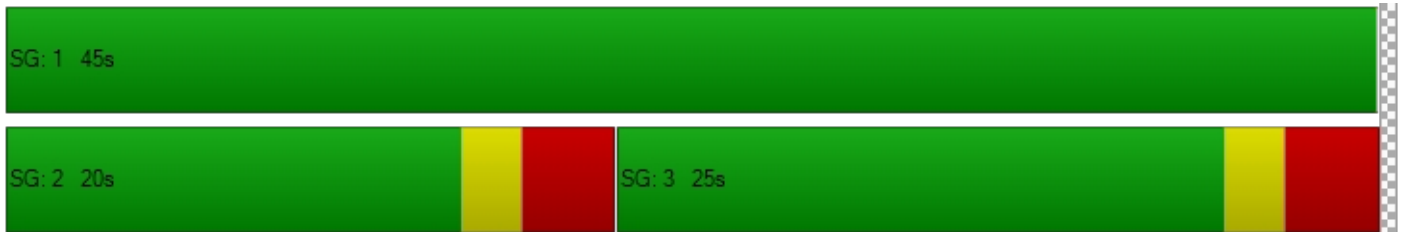
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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	8.58	17.16	3.83	20.37
Movement LOS			A	B	A	C
d_A, Approach Delay [s/veh]	0.00		17.16		7.43	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	11.52					
Intersection LOS	B					
Intersection V/C	0.775					

Sequence

Ring 1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-






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Intersection Level Of Service Report
Intersection 2: Simpang Kleco 1 (SMK BATIK 1)

Control Type:	Signalized	Delay (sec / veh):	34.4
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.573

Intersection Setup

Name	Selatan		Barat		Timur	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	1.00	3.00	8.50	3.00	2.00	7.50
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Selatan		Barat		Timur	
Base Volume Input [veh/h]	26	490	1683	72	197	1172
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	26	0	0	0	197	0
Total Hourly Volume [veh/h]	0	490	1683	72	0	1172
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	421	18	0	293
Total Analysis Volume [veh/h]	0	490	1683	72	0	1172
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	89
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive
Signal group	0	4	1	2	0	3
Auxiliary Signal Groups						
Lead / Lag	-	Lead	-	Lead	-	-
Minimum Green [s]	0	5	5	5	0	5
Maximum Green [s]	0	17	32	17	0	45
Amber [s]	0.0	3.0	3.0	3.0	0.0	3.0
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0
Split [s]	0	22	37	22	0	45
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0
Minimum Recall		No	No	No		No
Maximum Recall		No	No	No		No
Pedestrian Recall		No	No	No		No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	C	C	C
C, Cycle Length [s]	89	89	89	89	89	89
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	17	17	32	32	40	40
g / C, Green / Cycle	0.19	0.19	0.36	0.36	0.45	0.45
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.30	0.35	0.17	0.19
s, saturation flow rate [veh/h]	1533	1533	4322	1304	1744	4749
c, Capacity [veh/h]	293	293	1554	504	784	2135
d1, Uniform Delay [s]	34.66	34.66	26.10	25.18	16.21	16.55
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	28.72	28.72	5.79	29.25	1.37	0.59
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.84	0.84	0.84	0.91	0.37	0.41
d, Delay for Lane Group [s/veh]	63.38	63.38	31.89	54.43	17.58	17.14
Lane Group LOS	E	E	C	D	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	7.33	7.33	8.85	12.11	4.08	3.97
50th-Percentile Queue Length [m/ln]	55.83	55.83	67.44	92.26	31.06	30.28
95th-Percentile Queue Length [veh/ln]	11.77	11.77	13.73	17.81	7.34	7.15
95th-Percentile Queue Length [m/ln]	89.66	89.66	104.61	135.74	55.91	54.50

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	63.38	63.38	37.03	54.43	17.58	17.25
Movement LOS	E	E	D	D	B	B
d_A, Approach Delay [s/veh]	63.38		37.74		17.25	
Approach LOS	E		D		B	
d_I, Intersection Delay [s/veh]	34.39					
Intersection LOS	C					
Intersection V/C	0.573					

Sequence

Ring 1	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Simpang Kleco 2 (Pasar Kleco)

Control Type:	Signalized	Delay (sec / veh):	27.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.571

Intersection Setup

Name	Utara		Timur			Timur	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration	T		T T T			T T T	
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [m]	3.00	3.00	2.50	8.00	1.00	8.00	2.50
No. of Lanes in Pocket	0	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		50.00			48.28	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Utara		Timur			Timur	
Base Volume Input [veh/h]	26	76	69	1799	0	1006	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	26	0	69	0	0	0	0
Total Hourly Volume [veh/h]	0	76	0	1799	0	1006	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	0	450	0	252	4
Total Analysis Volume [veh/h]	0	76	0	1799	0	1006	15
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	89
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	ProtPerm
Signal group	0	4	0	1	5	2	3
Auxiliary Signal Groups							
Lead / Lag	-	Lead	-	-	Lead	-	Lag
Minimum Green [s]	0	5	0	5	5	5	5
Maximum Green [s]	0	17	0	42	27	30	15
Amber [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
Split [s]	0	22	0	47	32	35	20
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Minimum Recall		No		No	No	No	No
Maximum Recall		No		No	No	No	No
Pedestrian Recall		No		No	No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	C	R	C	C
C, Cycle Length [s]	89	89	89	89	89	89
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	4.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	0.00
g_i, Effective Green Time [s]	17	42	42	42	30	30
g / C, Green / Cycle	0.19	0.47	0.47	0.47	0.34	0.34
(v / s)_i Volume / Saturation Flow Rate	0.05	0.36	0.36	0.00	0.22	0.24
s, saturation flow rate [veh/h]	1533	1744	3320	1095	3021	1453
c, Capacity [veh/h]	293	823	1567	632	1018	456
d1, Uniform Delay [s]	30.64	19.25	19.25	0.00	25.11	26.57
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.15	6.57	3.47	0.00	3.35	13.13
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.26	0.75	0.75	0.00	0.66	0.77
d, Delay for Lane Group [s/veh]	32.79	25.82	22.72	0.00	28.46	39.70
Lane Group LOS	C	C	C	A	C	D
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.54	11.23	10.02	0.00	6.26	7.64
50th-Percentile Queue Length [m/ln]	11.76	85.56	76.32	0.00	47.74	58.25
95th-Percentile Queue Length [veh/ln]	2.78	16.72	15.21	0.00	10.37	12.18
95th-Percentile Queue Length [m/ln]	21.17	127.44	115.87	0.00	79.02	92.80

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.79	32.79	25.82	23.79	0.00	32.24	39.70
Movement LOS	C	C	C	C	A	C	D
d_A, Approach Delay [s/veh]	32.79		23.79			32.35	
Approach LOS	C		C			C	
d_I, Intersection Delay [s/veh]	27.04						
Intersection LOS	C						
Intersection V/C	0.571						

Sequence

Ring 1	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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 Report File: F:\...\1. Faroka - Kleco (Eksisting).pdf

Scenario: Base Scenario
 7/21/2022

Intersection Analysis Summary



ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Simpang Faroka	Signalized	HCM 2010	WB Thru	1.010	37.8	D
2	Simpang Kleco 1 (SMK BATIK 1)	Signalized	HCM 2010	EB Right	0.451	42.5	D
3	Simpang Kleco 2 (Pasar Kleco)	Signalized	HCM 2010	WB Right	0.499	29.0	C

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

Intersection Level Of Service Report
Intersection 1: Simpang Faroka

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	1.010

Intersection Setup

Name	Utara		Timur		Timur	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.00	3.00	7.00	6.50	3.00	3.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [m]	30.48	30.48	70.00	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Utara		Timur		Timur	
Base Volume Input [veh/h]	0	0	437	1024	1625	440
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	0	0	437	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1024	1625	440
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	256	406	110
Total Analysis Volume [veh/h]	0	0	0	1024	1625	440
Presence of On-Street Parking			No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	48
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal group	0	0	0	3	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	-	Lead
Minimum Green [s]	0	0	0	5	5	5
Maximum Green [s]	0	0	0	20	48	18
Amber [s]	0.0	0.0	0.0	2.0	0.0	2.0
All red [s]	0.0	0.0	0.0	3.0	0.0	3.0
Split [s]	0	0	0	25	48	23
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	5
Pedestrian Clearance [s]	0	0	0	0	0	10
Rest In Walk				No	No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	3.0	0.0	3.0
Minimum Recall				No	No	No
Maximum Recall				No	No	No
Pedestrian Recall				No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group		L	C	C	C	R
C, Cycle Length [s]		48	48	48	48	48
L, Total Lost Time per Cycle [s]		5.00	5.00	5.00	0.00	5.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	3.00	0.00	3.00
g_i, Effective Green Time [s]		20	20	20	48	18
g / C, Green / Cycle		0.42	0.42	0.42	1.00	0.38
(v / s)_i Volume / Saturation Flow Rate		0.00	0.29	0.29	1.01	0.29
s, saturation flow rate [veh/h]		1482	1744	1744	1609	1533
c, Capacity [veh/h]		618	726	726	1609	575
d1, Uniform Delay [s]		0.00	11.56	11.56	0.00	13.15
k, delay calibration		0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.00	5.85	5.85	54.64	9.99
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.00	0.70	0.70	1.01	0.77
d, Delay for Lane Group [s/veh]		0.00	17.41	17.41	54.64	23.14
Lane Group LOS		A	B	B	F	C
Critical Lane Group		No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		0.00	4.73	4.73	24.43	4.96
50th-Percentile Queue Length [m/ln]		0.00	36.03	36.03	186.13	37.78
95th-Percentile Queue Length [veh/ln]		0.00	8.29	8.29	32.85	8.61
95th-Percentile Queue Length [m/ln]		0.00	63.20	63.20	250.30	65.60

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	8.71	17.41	54.64	23.14
Movement LOS			A	B	F	C
d_A, Approach Delay [s/veh]	0.00		17.41		47.93	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	37.81					
Intersection LOS	D					
Intersection V/C	1.010					

Sequence




Ring 1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 2: Simpang Kleco 1 (SMK BATIK 1)

Control Type:	Signalized	Delay (sec / veh):	42.5
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.451

Intersection Setup

Name	Selatan		Barat		Timur	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	1.00	3.00	8.50	3.00	2.00	7.50
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Selatan		Barat		Timur	
Base Volume Input [veh/h]	89	344	1266	51	207	1196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	89	0	0	0	207	0
Total Hourly Volume [veh/h]	0	344	1266	51	0	1196
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	86	317	13	0	299
Total Analysis Volume [veh/h]	0	344	1266	51	0	1196
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive
Signal group	0	4	1	2	0	3
Auxiliary Signal Groups						
Lead / Lag	-	Lead	-	Lead	-	-
Minimum Green [s]	0	5	5	5	0	5
Maximum Green [s]	0	20	25	10	0	55
Amber [s]	0.0	3.0	3.0	3.0	0.0	3.0
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0
Split [s]	0	25	30	15	0	60
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0
Minimum Recall		No	No	No		No
Maximum Recall		No	No	No		No
Pedestrian Recall		No	No	No		No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	R	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	20	20	25	25	55	55
g / C, Green / Cycle	0.20	0.20	0.25	0.25	0.55	0.55
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.23	0.27	0.17	0.19
s, saturation flow rate [veh/h]	1533	1533	4322	1260	1744	4749
c, Capacity [veh/h]	307	307	1080	343	959	2612
d1, Uniform Delay [s]	36.04	36.04	36.35	35.57	12.22	12.48
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	7.44	7.44	14.66	85.75	0.85	0.36
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.56	0.56	0.91	0.99	0.31	0.34
d, Delay for Lane Group [s/veh]	43.48	43.48	51.01	121.33	13.07	12.84
Lane Group LOS	D	D	D	F	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	4.38	4.38	9.03	15.74	3.70	3.63
50th-Percentile Queue Length [m/ln]	33.37	33.37	68.81	119.94	28.17	27.67
95th-Percentile Queue Length [veh/ln]	7.81	7.81	13.96	22.25	6.65	6.54
95th-Percentile Queue Length [m/ln]	59.53	59.53	106.36	169.52	50.70	49.81

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	43.48	43.48	67.00	121.33	13.07	12.90
Movement LOS	D	D	E	F	B	B
d_A, Approach Delay [s/veh]	43.48		69.10		12.90	
Approach LOS	D		E		B	
d_I, Intersection Delay [s/veh]	42.49					
Intersection LOS	D					
Intersection V/C	0.451					

Sequence

Ring 1	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Simpang Kleco 2 (Pasar Kleco)

Control Type:	Signalized	Delay (sec / veh):	29.0
Analysis Method:	HCM 2010	Level Of Service:	C
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.499

Intersection Setup

Name	Utara		Timur			Timur	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration	T		T T T T T			T T T	
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [m]	3.00	3.00	2.50	8.00	1.00	8.00	2.50
No. of Lanes in Pocket	0	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		50.00			48.28	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Utara		Timur			Timur	
Base Volume Input [veh/h]	29	71	38	1396	0	1221	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	26	0	69	0	0	0	0
Total Hourly Volume [veh/h]	3	71	0	1396	0	1221	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	18	0	349	0	305	4
Total Analysis Volume [veh/h]	3	71	0	1396	0	1221	15
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	95
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	ProtPerm
Signal group	0	4	0	1	5	2	3
Auxiliary Signal Groups							
Lead / Lag	-	Lead	-	-	Lead	-	Lag
Minimum Green [s]	0	5	0	5	5	5	5
Maximum Green [s]	0	20	0	35	25	35	25
Amber [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
Split [s]	0	25	0	40	30	40	30
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Minimum Recall		No		No	No	No	No
Maximum Recall		No		No	No	No	No
Pedestrian Recall		No		No	No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

Lane Group Calculations

Lane Group	C	C	C	R	C	C
C, Cycle Length [s]	95	95	95	95	95	95
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	4.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	0.00
g_i, Effective Green Time [s]	20	35	35	35	35	35
g / C, Green / Cycle	0.21	0.37	0.37	0.37	0.37	0.37
(v / s)_i Volume / Saturation Flow Rate	0.05	0.22	0.22	0.00	0.26	0.28
s, saturation flow rate [veh/h]	1525	1744	4749	1226	3021	1591
c, Capacity [veh/h]	321	642	1750	560	1113	589
d1, Uniform Delay [s]	31.11	24.14	24.14	0.00	25.63	26.35
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	1.68	3.91	1.44	0.00	3.89	9.54
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

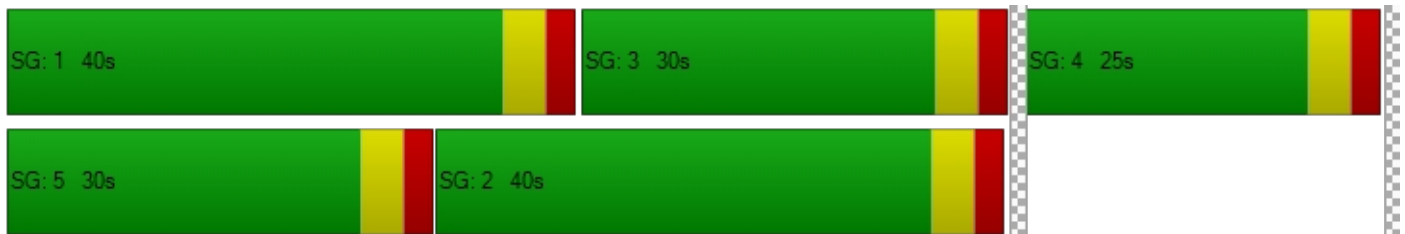
X, volume / capacity	0.23	0.58	0.58	0.00	0.71	0.76
d, Delay for Lane Group [s/veh]	32.79	28.04	25.58	0.00	29.52	35.89
Lane Group LOS	C	C	C	A	C	D
Critical Lane Group	Yes	Yes	No	No	No	Yes
50th-Percentile Queue Length [veh/ln]	1.55	7.26	6.19	0.00	7.94	9.88
50th-Percentile Queue Length [m/ln]	11.78	55.29	47.15	0.00	60.53	75.30
95th-Percentile Queue Length [veh/ln]	2.78	11.67	10.27	0.00	12.57	15.04
95th-Percentile Queue Length [m/ln]	21.20	88.95	78.24	0.00	95.76	114.59

Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	32.79	32.79	28.04	26.24	0.00	31.78	35.89
Movement LOS	C	C	C	C	A	C	D
d_A, Approach Delay [s/veh]	32.79		26.24			31.83	
Approach LOS	C		C			C	
d_I, Intersection Delay [s/veh]	28.97						
Intersection LOS	C						
Intersection V/C	0.499						

Sequence

Ring 1	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



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Scenario 1 Optimalisasi Tunggal

Report File: F:\...\2. Optimalisasi Tunggal.pdf

7/5/2022

Intersection Analysis Summary



ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Simpang Faroka	Signalized	HCM 2010	WB Right	0.775	10.9	B
2	Simpang Kleco 1 (SMK BATIK 1)	Signalized	HCM 2010	NB Right	0.488	14.5	B
3	Simpang Kleco 2 (Pasar Kleco)	Signalized	HCM 2010	SB Right	0.430	9.4	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.

**Intersection Level Of Service Report
Intersection 1: Simpang Faroka**

Control Type:	Signalized	Delay (sec / veh):	10.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.775

Intersection Setup

Name	Utara		Timur		Timur	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.00	3.00	7.00	6.50	3.00	3.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [m]	30.48	30.48	70.00	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Utara		Timur		Timur	
Base Volume Input [veh/h]	0	0	402	1158	1248	348
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	0	0	402	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1158	1248	348
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	290	312	87
Total Analysis Volume [veh/h]	0	0	0	1158	1248	348
Presence of On-Street Parking			No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	50
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal group	0	0	0	3	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	-	Lead
Minimum Green [s]	0	0	0	5	5	5
Maximum Green [s]	0	0	0	20	40	15
Amber [s]	0.0	0.0	0.0	2.0	0.0	2.0
All red [s]	0.0	0.0	0.0	3.0	0.0	3.0
Split [s]	0	0	0	30	50	20
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	5
Pedestrian Clearance [s]	0	0	0	0	0	10
Rest In Walk				No	No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	3.0	0.0	3.0
Minimum Recall				No	No	No
Maximum Recall				No	No	No
Pedestrian Recall				No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group		L	C	C	C	R
C, Cycle Length [s]		50	50	50	50	50
L, Total Lost Time per Cycle [s]		5.00	5.00	5.00	0.00	5.00
l1_p, Permitted Start-Up Lost Time [s]		0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]		3.00	3.00	3.00	0.00	3.00
g_i, Effective Green Time [s]		25	25	25	50	15
g / C, Green / Cycle		0.50	0.50	0.50	1.00	0.30
(v / s)_i Volume / Saturation Flow Rate		0.00	0.33	0.33	0.78	0.23
s, saturation flow rate [veh/h]		1482	1744	1744	1609	1533
c, Capacity [veh/h]		741	872	872	1609	460
d1, Uniform Delay [s]		0.00	9.36	9.36	0.00	15.85
k, delay calibration		0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor		1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]		0.00	4.06	4.06	3.83	11.86
d3, Initial Queue Delay [s]		0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio		1.00	1.00	1.00	1.00	1.00
PF, progression factor		1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity		0.00	0.66	0.66	0.78	0.76
d, Delay for Lane Group [s/veh]		0.00	13.41	13.41	3.83	27.71
Lane Group LOS		A	B	B	A	C
Critical Lane Group		No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]		0.00	4.50	4.50	1.71	4.59
50th-Percentile Queue Length [m/ln]		0.00	34.31	34.31	13.03	35.00
95th-Percentile Queue Length [veh/ln]		0.00	7.98	7.98	3.08	8.11
95th-Percentile Queue Length [m/ln]		0.00	60.82	60.82	23.46	61.79

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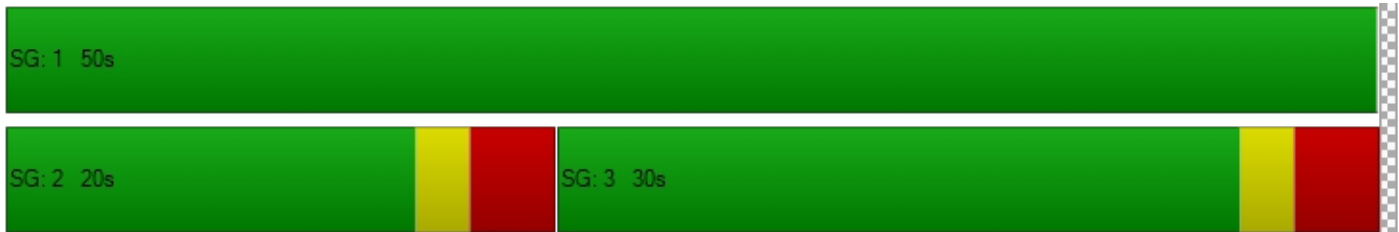
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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	6.71	13.41	3.83	27.71
Movement LOS			A	B	A	C
d_A, Approach Delay [s/veh]	0.00		13.41		9.03	
Approach LOS	A		B		A	
d_I, Intersection Delay [s/veh]	10.88					
Intersection LOS	B					
Intersection V/C	0.775					

Sequence

Ring 1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-






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Intersection Level Of Service Report
Intersection 2: Simpang Kleco 1 (SMK BATIK 1)

Control Type:	Signalized	Delay (sec / veh):	14.5
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.488

Intersection Setup

Name	Selatan		Barat		Timur	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	1.00	3.00	8.50	3.00	2.00	7.50
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Selatan		Barat		Timur	
Base Volume Input [veh/h]	26	490	1683	72	197	1172
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	26	0	0	0	197	0
Total Hourly Volume [veh/h]	0	490	1683	72	0	1172
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	123	421	18	0	293
Total Analysis Volume [veh/h]	0	490	1683	72	0	1172
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	70
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive
Signal group	0	4	1	2	0	3
Auxiliary Signal Groups						
Lead / Lag	-	Lead	-	Lead	-	-
Minimum Green [s]	0	5	5	5	0	5
Maximum Green [s]	0	17	32	17	0	45
Amber [s]	0.0	3.0	3.0	3.0	0.0	3.0
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0
Split [s]	0	26	44	10	0	34
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0
Minimum Recall		No	No	No		No
Maximum Recall		No	No	No		No
Pedestrian Recall		No	No	No		No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	C	C	C
C, Cycle Length [s]	70	70	70	70	70	70
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	21	21	39	39	29	29
g / C, Green / Cycle	0.30	0.30	0.56	0.56	0.41	0.41
(v / s)_i Volume / Saturation Flow Rate	0.16	0.16	0.30	0.32	0.17	0.19
s, saturation flow rate [veh/h]	1533	1533	4322	1457	1744	4749
c, Capacity [veh/h]	460	460	2408	920	722	1968
d1, Uniform Delay [s]	20.41	20.41	9.76	9.44	14.43	14.73
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.44	4.44	0.85	2.06	1.70	0.74
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.53	0.53	0.53	0.51	0.41	0.45
d, Delay for Lane Group [s/veh]	24.85	24.85	10.61	11.51	16.13	15.47
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.70	3.70	3.67	4.26	3.34	3.19
50th-Percentile Queue Length [m/ln]	28.16	28.16	27.96	32.42	25.42	24.33
95th-Percentile Queue Length [veh/ln]	6.65	6.65	6.60	7.64	6.00	5.75
95th-Percentile Queue Length [m/ln]	50.68	50.68	50.32	58.20	45.76	43.79

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	24.85	24.85	10.82	11.51	16.13	15.64
Movement LOS	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	24.85		10.85		15.64	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	14.50					
Intersection LOS	B					
Intersection V/C	0.488					

Sequence

Ring 1	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Simpang Kleco 2 (Pasar Kleco)

Control Type:	Signalized	Delay (sec / veh):	9.4
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.430

Intersection Setup

Name	Utara		Timur			Timur	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [m]	3.00	3.00	2.50	8.00	1.00	8.00	2.50
No. of Lanes in Pocket	0	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		50.00			48.28	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Utara		Timur			Timur	
Base Volume Input [veh/h]	26	76	69	1799	0	1006	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	26	0	69	0	0	0	0
Total Hourly Volume [veh/h]	0	76	0	1799	0	1006	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	19	0	450	0	252	4
Total Analysis Volume [veh/h]	0	76	0	1799	0	1006	15
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	ProtPerm
Signal group	0	4	0	1	5	2	3
Auxiliary Signal Groups							
Lead / Lag	-	Lead	-	-	Lead	-	Lag
Minimum Green [s]	0	5	0	5	5	5	5
Maximum Green [s]	0	17	0	42	27	30	15
Amber [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
Split [s]	0	17	0	73	10	73	10
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Minimum Recall		No		No	No	No	No
Maximum Recall		No		No	No	No	No
Pedestrian Recall		No		No	No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	C	R	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	4.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	0.00
g_i, Effective Green Time [s]	12	68	68	68	68	68
g / C, Green / Cycle	0.12	0.68	0.68	0.68	0.68	0.68
(v / s)_i Volume / Saturation Flow Rate	0.05	0.36	0.36	0.00	0.22	0.23
s, saturation flow rate [veh/h]	1533	1744	3320	606	3021	1620
c, Capacity [veh/h]	184	1186	2257	472	2054	1104
d1, Uniform Delay [s]	40.74	7.94	7.94	0.00	6.54	6.48
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	6.85	1.66	0.87	0.00	0.41	0.81
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.41	0.52	0.52	0.00	0.32	0.33
d, Delay for Lane Group [s/veh]	47.59	9.60	8.81	0.00	6.95	7.28
Lane Group LOS	D	A	A	A	A	A
Critical Lane Group	Yes	No	Yes	No	No	Yes
50th-Percentile Queue Length [veh/ln]	2.07	6.27	5.72	0.00	2.63	3.03
50th-Percentile Queue Length [m/ln]	15.80	47.77	43.60	0.00	20.04	23.06
95th-Percentile Queue Length [veh/ln]	3.73	10.38	9.65	0.00	4.73	5.45
95th-Percentile Queue Length [m/ln]	28.45	79.07	73.50	0.00	36.08	41.50

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	47.59	47.59	9.60	9.08	0.00	7.07	7.28
Movement LOS	D	D	A	A	A	A	A
d_A, Approach Delay [s/veh]	47.59		9.08			7.07	
Approach LOS	D		A			A	
d_I, Intersection Delay [s/veh]	9.38						
Intersection LOS	A						
Intersection V/C	0.430						

Sequence

Ring 1	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Vistro File: F:\...\Sp Faroka-Staggered Kleco Sore3.vistro
Report File: F:\...\5. Optimalisasi tunggal.pdf

Scenario 1 Optimalisasi Tunggal
7/6/2022

Intersection Analysis Summary

ID	Intersection Name	Control Type	Method	Worst Mvmt	V/C	Delay (s/veh)	LOS
1	Simpang Faroka	Signalized	HCM 2010	WB Thru	1.010	37.8	D
2	Simpang Kleco 1 (SMK BATIK 1)	Signalized	HCM 2010	NB Right	0.396	14.9	B
3	Simpang Kleco 2 (Pasar Kleco)	Signalized	HCM 2010	SB Right	0.310	9.0	A

V/C, Delay, LOS: For two-way stop, these values are taken from the movement with the worst (highest) delay value. For all other control types, they are taken for the whole intersection.



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Intersection Level Of Service Report
Intersection 1: Simpang Faroka

Control Type:	Signalized	Delay (sec / veh):	37.8
Analysis Method:	HCM 2010	Level Of Service:	D
Analysis Period:	1 hour	Volume to Capacity (v/c):	1.010

Intersection Setup

Name	Utara		Timur		Timur	
Approach	Southbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Left	Thru	Thru	Right
Lane Width [m]	3.00	3.00	7.00	6.50	3.00	3.00
No. of Lanes in Pocket	0	0	1	0	0	0
Pocket Length [m]	30.48	30.48	70.00	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Utara		Timur		Timur	
Base Volume Input [veh/h]	0	0	437	1024	1625	440
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	0	0	437	0	0	0
Total Hourly Volume [veh/h]	0	0	0	1024	1625	440
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	0	0	256	406	110
Total Analysis Volume [veh/h]	0	0	0	1024	1625	440
Presence of On-Street Parking			No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	50
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	Permissive	Protected
Signal group	0	0	0	3	1	2
Auxiliary Signal Groups						
Lead / Lag	-	-	-	-	-	Lead
Minimum Green [s]	0	0	0	5	5	5
Maximum Green [s]	0	0	0	20	48	18
Amber [s]	0.0	0.0	0.0	2.0	0.0	2.0
All red [s]	0.0	0.0	0.0	3.0	0.0	3.0
Split [s]	0	0	0	27	50	23
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	5
Pedestrian Clearance [s]	0	0	0	0	0	10
Rest In Walk				No	No	
I1, Start-Up Lost Time [s]	0.0	0.0	0.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	0.0	0.0	3.0	0.0	3.0
Minimum Recall				No	No	No
Maximum Recall				No	No	No
Pedestrian Recall				No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	L	C	C	C	R
C, Cycle Length [s]	50	50	50	50	50
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	0.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00
g_i, Effective Green Time [s]	22	22	22	50	18
g / C, Green / Cycle	0.44	0.44	0.44	1.00	0.36
(v / s)_i Volume / Saturation Flow Rate	0.00	0.29	0.29	1.01	0.29
s, saturation flow rate [veh/h]	1482	1744	1744	1609	1533
c, Capacity [veh/h]	652	767	767	1609	552
d1, Uniform Delay [s]	0.00	11.10	11.10	0.00	14.36
k, delay calibration	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	0.00	4.67	4.67	54.64	12.42
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.00	0.67	0.67	1.01	0.80
d, Delay for Lane Group [s/veh]	0.00	15.77	15.77	54.64	26.78
Lane Group LOS	A	B	B	F	C
Critical Lane Group	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	0.00	4.54	4.54	42.14	5.61
50th-Percentile Queue Length [m/ln]	0.00	34.62	34.62	321.08	42.74
95th-Percentile Queue Length [veh/ln]	0.00	8.04	8.04	53.33	9.49
95th-Percentile Queue Length [m/ln]	0.00	61.25	61.25	406.37	72.34

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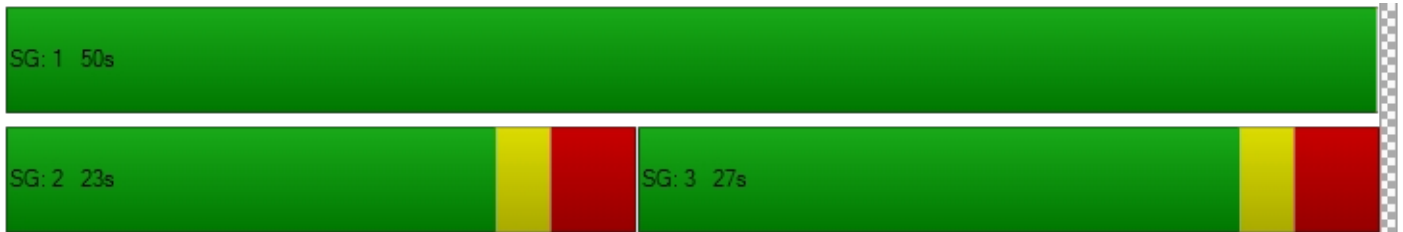
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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	0.00	0.00	7.89	15.77	54.64	26.78
Movement LOS			A	B	F	C
d_A, Approach Delay [s/veh]	0.00		15.77		48.70	
Approach LOS	A		B		D	
d_I, Intersection Delay [s/veh]	37.78					
Intersection LOS	D					
Intersection V/C	1.010					

Sequence

Ring 1	1	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-






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Intersection Level Of Service Report
Intersection 2: Simpang Kleco 1 (SMK BATIK 1)

Control Type:	Signalized	Delay (sec / veh):	14.9
Analysis Method:	HCM 2010	Level Of Service:	B
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.396

Intersection Setup

Name	Selatan		Barat		Timur	
Approach	Northbound		Eastbound		Westbound	
Lane Configuration						
Turning Movement	Left	Right	Thru	Right	Left	Thru
Lane Width [m]	1.00	3.00	8.50	3.00	2.00	7.50
No. of Lanes in Pocket	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		48.28		48.28	
Grade [%]	0.00		0.00		0.00	
Crosswalk	Yes		Yes		Yes	

Volumes

Name	Selatan		Barat		Timur	
Base Volume Input [veh/h]	89	344	1266	51	207	1196
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	89	0	0	0	207	0
Total Hourly Volume [veh/h]	0	344	1266	51	0	1196
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	0	86	317	13	0	299
Total Analysis Volume [veh/h]	0	344	1266	51	0	1196
Presence of On-Street Parking	No	No	No	No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0		0	
Bicycle Volume [bicycles/h]	0		0		0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	100
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	ProtPerm	Permissive	Permissive
Signal group	0	4	1	2	0	3
Auxiliary Signal Groups						
Lead / Lag	-	Lead	-	Lead	-	-
Minimum Green [s]	0	5	5	5	0	5
Maximum Green [s]	0	20	25	10	0	55
Amber [s]	0.0	3.0	3.0	3.0	0.0	3.0
All red [s]	0.0	2.0	2.0	2.0	0.0	2.0
Split [s]	0	34	66	10	0	56
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0
Rest In Walk		No	No			No
I1, Start-Up Lost Time [s]	0.0	2.0	2.0	2.0	0.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	3.0	3.0	0.0	3.0
Minimum Recall		No	No	No		No
Maximum Recall		No	No	No		No
Pedestrian Recall		No	No	No		No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	R	C	C	C	C
C, Cycle Length [s]	100	100	100	100	100	100
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	5.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	0.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	3.00
g_i, Effective Green Time [s]	29	29	61	61	51	51
g / C, Green / Cycle	0.29	0.29	0.61	0.61	0.51	0.51
(v / s)_i Volume / Saturation Flow Rate	0.11	0.11	0.22	0.25	0.17	0.19
s, saturation flow rate [veh/h]	1533	1533	4322	1383	1744	4749
c, Capacity [veh/h]	445	445	2636	919	889	2422
d1, Uniform Delay [s]	28.39	28.39	9.79	9.54	14.49	14.80
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	2.55	2.55	0.39	1.21	1.02	0.44
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.39	0.39	0.37	0.38	0.34	0.37
d, Delay for Lane Group [s/veh]	30.94	30.94	10.19	10.75	15.51	15.24
Lane Group LOS	C	C	B	B	B	B
Critical Lane Group	Yes	No	No	Yes	No	Yes
50th-Percentile Queue Length [veh/ln]	3.58	3.58	3.39	3.81	4.12	4.05
50th-Percentile Queue Length [m/ln]	27.26	27.26	25.85	29.03	31.43	30.88
95th-Percentile Queue Length [veh/ln]	6.44	6.44	6.11	6.86	7.42	7.29
95th-Percentile Queue Length [m/ln]	49.06	49.06	46.53	52.26	56.57	55.58

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	30.94	30.94	10.32	10.75	15.51	15.31
Movement LOS	C	C	B	B	B	B
d_A, Approach Delay [s/veh]	30.94		10.34		15.31	
Approach LOS	C		B		B	
d_I, Intersection Delay [s/veh]	14.90					
Intersection LOS	B					
Intersection V/C	0.396					

Sequence

Ring 1	1	-	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	2	3	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-



Intersection Level Of Service Report
Intersection 3: Simpang Kleco 2 (Pasar Kleco)

Control Type:	Signalized	Delay (sec / veh):	9.0
Analysis Method:	HCM 2010	Level Of Service:	A
Analysis Period:	1 hour	Volume to Capacity (v/c):	0.310

Intersection Setup

Name	Utara		Timur			Timur	
Approach	Southbound		Eastbound			Westbound	
Lane Configuration							
Turning Movement	Left	Right	Left	Thru	U-turn	Thru	Right
Lane Width [m]	3.00	3.00	2.50	8.00	1.00	8.00	2.50
No. of Lanes in Pocket	0	0	0	0	0	0	0
Pocket Length [m]	30.48	30.48	30.48	30.48	30.48	30.48	30.48
Speed [km/h]	48.28		50.00			48.28	
Grade [%]	0.00		0.00			0.00	
Crosswalk	Yes		Yes			Yes	

Volumes

Name	Utara		Timur			Timur	
Base Volume Input [veh/h]	29	71	38	1396	0	1221	15
Base Volume Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Heavy Vehicles Percentage [%]	2.00	2.00	2.00	2.00	2.00	2.00	2.00
Growth Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00
In-Process Volume [veh/h]	0	0	0	0	0	0	0
Site-Generated Trips [veh/h]	0	0	0	0	0	0	0
Diverted Trips [veh/h]	0	0	0	0	0	0	0
Pass-by Trips [veh/h]	0	0	0	0	0	0	0
Existing Site Adjustment Volume [veh/h]	0	0	0	0	0	0	0
Other Volume [veh/h]	0	0	0	0	0	0	0
Left-Turn on Red Volume [veh/h]	26	0	69	0	0	0	0
Total Hourly Volume [veh/h]	3	71	0	1396	0	1221	15
Peak Hour Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Other Adjustment Factor	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000	1.0000
Total 15-Minute Volume [veh/h]	1	18	0	349	0	305	4
Total Analysis Volume [veh/h]	3	71	0	1396	0	1221	15
Presence of On-Street Parking	No	No	No		No	No	No
On-Street Parking Maneuver Rate [/h]	0	0	0	0	0	0	0
Local Bus Stopping Rate [/h]	0	0	0	0	0	0	0
Pedestrian Volume [ped/h]	0		0			0	
Bicycle Volume [bicycles/h]	0		0			0	

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Intersection Settings

Located in CBD	Yes
Signal Coordination Group	-
Cycle Length [s]	140
Coordination Type	Time of Day Pattern Coordinated
Actuation Type	Fixed time
Offset [s]	0.0
Offset Reference	LeadGreen
Permissive Mode	SingleBand
Lost time [s]	0.00

Phasing & Timing

Control Type	Permissive	Permissive	Permissive	Permissive	ProtPerm	Permissive	ProtPerm
Signal group	0	4	0	1	5	2	3
Auxiliary Signal Groups							
Lead / Lag	-	Lead	-	-	Lead	-	Lag
Minimum Green [s]	0	5	0	5	5	5	5
Maximum Green [s]	0	20	0	35	25	35	25
Amber [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
All red [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
Split [s]	0	24	0	106	10	106	10
Vehicle Extension [s]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Walk [s]	0	0	0	0	0	0	0
Pedestrian Clearance [s]	0	0	0	0	0	0	0
Rest In Walk		No		No		No	
I1, Start-Up Lost Time [s]	0.0	2.0	0.0	2.0	2.0	2.0	2.0
I2, Clearance Lost Time [s]	0.0	3.0	0.0	3.0	3.0	3.0	3.0
Minimum Recall		No		No	No	No	No
Maximum Recall		No		No	No	No	No
Pedestrian Recall		No		No	No	No	No
Detector Location [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Detector Length [m]	0.0	0.0	0.0	0.0	0.0	0.0	0.0
I, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00	1.00

Exclusive Pedestrian Phase

Pedestrian Signal Group	0
Pedestrian Walk [s]	0
Pedestrian Clearance [s]	0

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Lane Group Calculations

Lane Group	C	C	C	R	C	C
C, Cycle Length [s]	140	140	140	140	140	140
L, Total Lost Time per Cycle [s]	5.00	5.00	5.00	4.00	5.00	5.00
l1_p, Permitted Start-Up Lost Time [s]	0.00	0.00	0.00	0.00	0.00	2.00
l2, Clearance Lost Time [s]	3.00	3.00	3.00	0.00	3.00	0.00
g_i, Effective Green Time [s]	19	101	101	101	101	101
g / C, Green / Cycle	0.14	0.72	0.72	0.72	0.72	0.72
(v / s)_i Volume / Saturation Flow Rate	0.05	0.22	0.22	0.00	0.26	0.27
s, saturation flow rate [veh/h]	1525	1744	4749	483	3021	1656
c, Capacity [veh/h]	207	1258	3426	383	2179	1196
d1, Uniform Delay [s]	54.96	6.92	6.92	0.00	7.36	7.29
k, delay calibration	0.50	0.50	0.50	0.50	0.50	0.50
l, Upstream Filtering Factor	1.00	1.00	1.00	1.00	1.00	1.00
d2, Incremental Delay [s]	4.82	0.61	0.22	0.00	0.47	0.89
d3, Initial Queue Delay [s]	0.00	0.00	0.00	0.00	0.00	0.00
Rp, platoon ratio	1.00	1.00	1.00	1.00	1.00	1.00
PF, progression factor	1.00	1.00	1.00	1.00	1.00	1.00

Lane Group Results

X, volume / capacity	0.36	0.30	0.30	0.00	0.36	0.37
d, Delay for Lane Group [s/veh]	59.77	7.53	7.14	0.00	7.83	8.18
Lane Group LOS	E	A	A	A	A	A
Critical Lane Group	Yes	No	No	No	Yes	No
50th-Percentile Queue Length [veh/ln]	2.67	3.99	3.50	0.00	4.40	5.05
50th-Percentile Queue Length [m/ln]	20.32	30.37	26.64	0.00	33.54	38.46
95th-Percentile Queue Length [veh/ln]	4.80	7.17	6.29	0.00	7.84	8.73
95th-Percentile Queue Length [m/ln]	36.58	54.66	47.96	0.00	59.76	66.54

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Movement, Approach, & Intersection Results

d_M, Delay for Movement [s/veh]	59.77	59.77	7.53	7.25	0.00	7.95	8.18
Movement LOS	E	E	A	A	A	A	A
d_A, Approach Delay [s/veh]	59.77		7.25			7.96	
Approach LOS	E		A			A	
d_I, Intersection Delay [s/veh]	9.01						
Intersection LOS	A						
Intersection V/C	0.310						

Sequence

Ring 1	1	3	4	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 2	5	2	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Ring 4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-





LAMPIRAN D
DOKUMENTASI PELAKSANAAN
PENELITIAN



