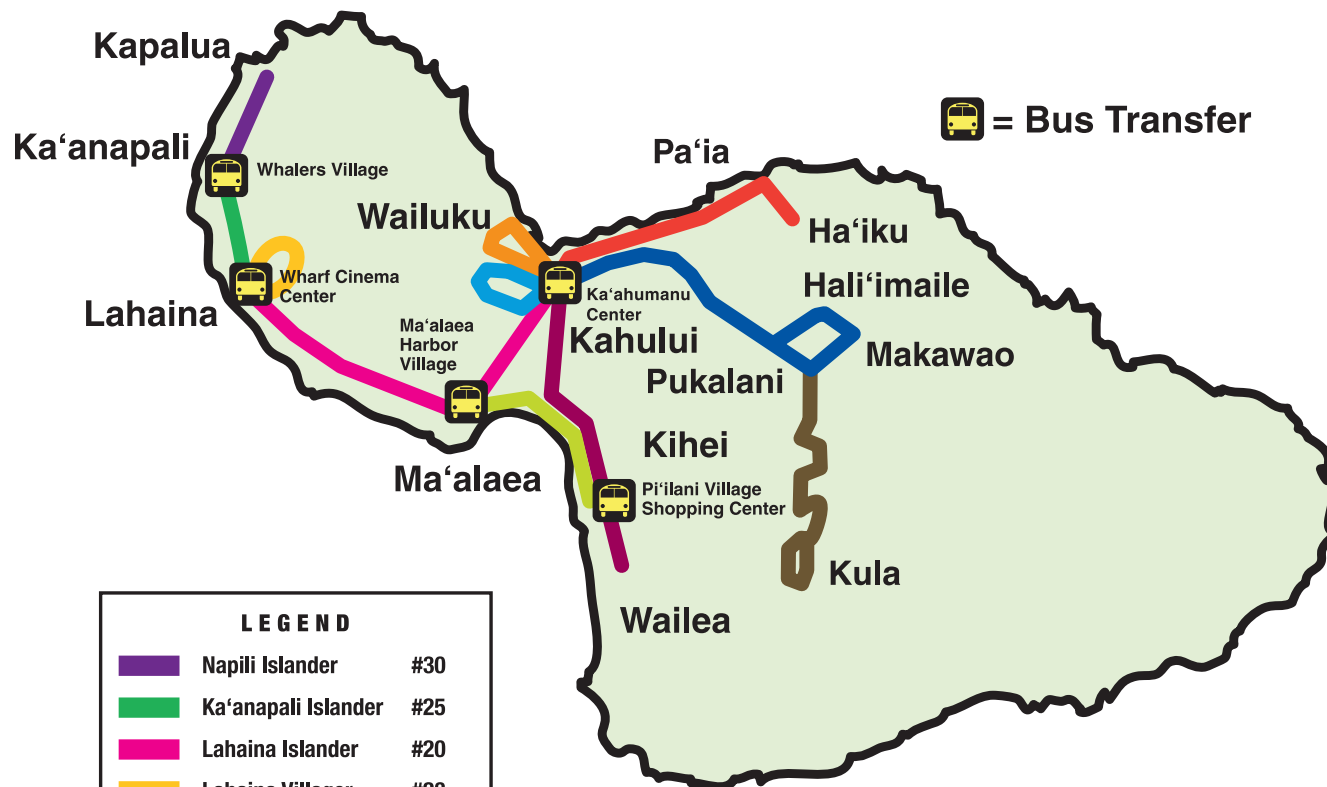


Appendix C

County of Maui Bus Routes and Timetable



LEGEND

	Napili Islander	#30
	Ka'anapali Islander	#25
	Lahaina Islander	#20
	Lahaina Villager	#23
	Kihei Villager	#15
	Kihei Islander	#10
	Wailuku Loop	#1 & 2
	Kahului Loop	#5 & 6
	Upcountry Islander	#40
	Haiku Islander	#35
	Kula Villager	#39



maui bus

Operated By

Roberts Hawaii 
(808) 871-4838

= Bus Transfer

GENERAL INFORMATION

The Maui Bus public transit service consists of thirteen bus routes, all operated by Roberts Hawaii. These routes are funded by the County of Maui and provide service in and between various Central, South, West, Haiku, Kula and Upcountry Maui communities. All of the routes are operated seven days a week, including all holidays. No transfers are given on any of the routes.

MAHALO NUI LOA!



Alan Arakawa
Mayor, Maui County

FARES

All routes cost \$2.00 per boarding. Infants under 2 years old, riding on the lap of an accompanying adult travel free. Daily and monthly passes are also available.

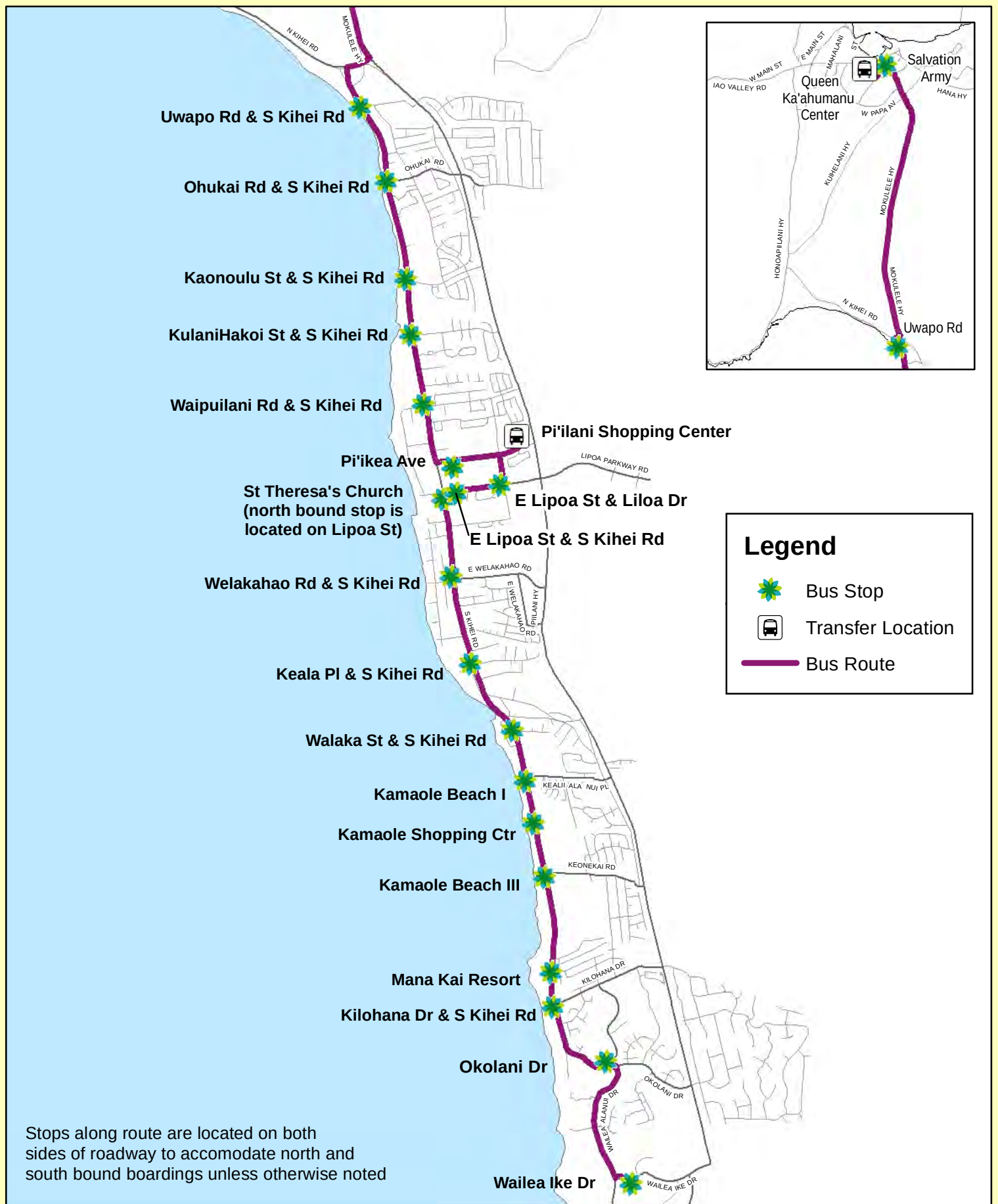
COMMUTER SERVICE

The County of Maui also funds four commuter service routes, all operated by Roberts Hawaii. The routes are called the Haiku-Wailea Commuter, Makawao-Kapalua Commuter, Wailuku-Kapalua Commuter, and the Kihei-Kapalua Commuter.

CONTACT INFORMATION

www.mauicounty.gov/bus
public.transit@mauicounty.gov
(808) 871-4838

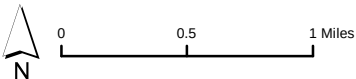
DUE TO SPACE LIMITATIONS, NOT ALL STOPS ARE LISTED ON THE SCHEDULE. Please refer to the County of Maui website at www.mauicounty.gov/bus to view route maps.



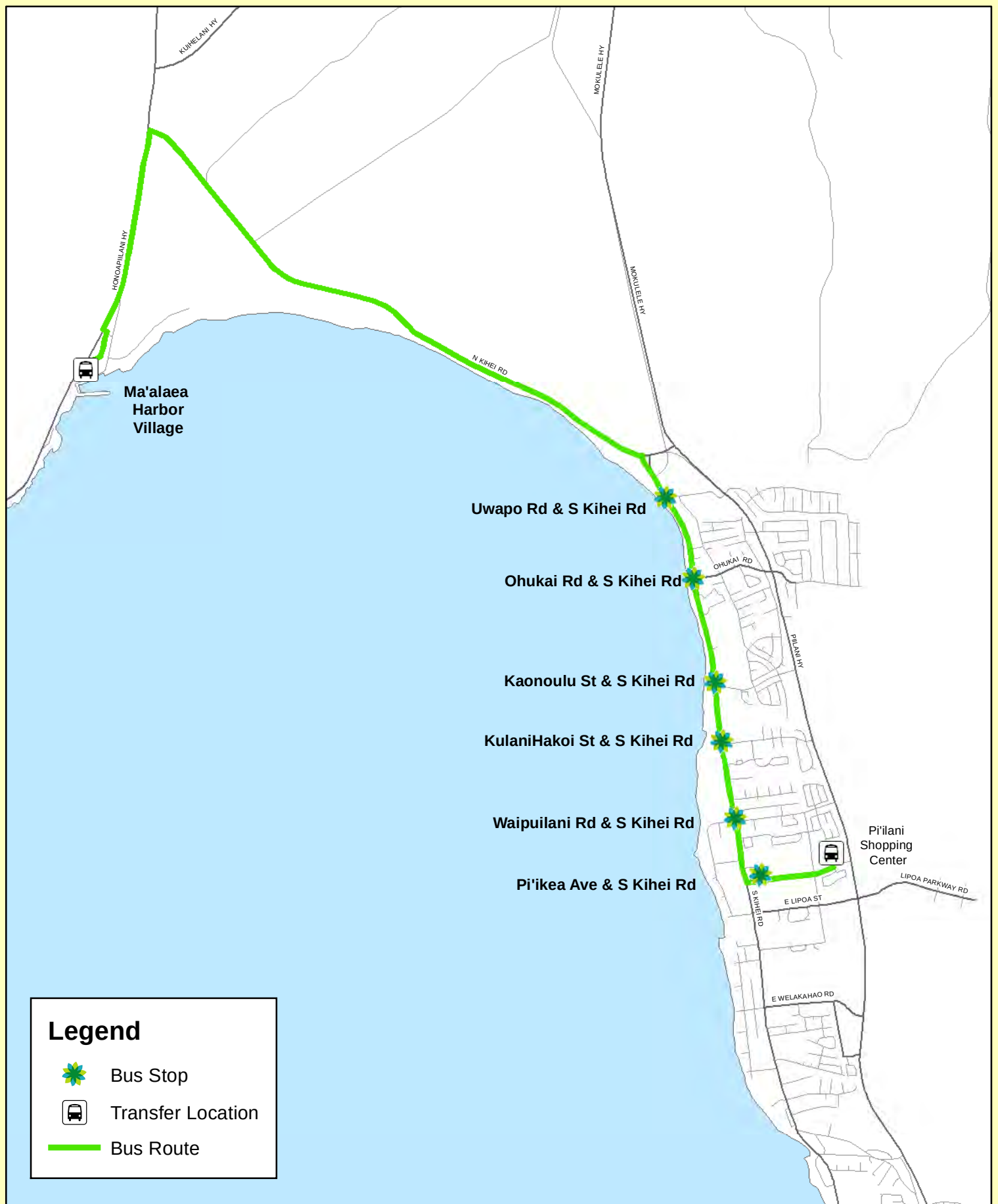
Stops along route are located on both sides of roadway to accomodate north and south bound boardings unless otherwise noted



maui bus
2145 Kaohu Street, Suite 102
Wailuku, HI 96793



Kihei Islander Route 10



Legend



Bus Stop



Transfer Location

Bus Route



maui bus

2145 Kaohu Street, Suite 102
Wailuku, HI 96793



0 0.5 Miles

Kihei Villager Route 15

WAILUKU LOOP ROUTE #1

Queen Ka'ahumanu Center	Maui Memorial Hospital	Maui Lani Parkway	Ka Hale A Ke Ola	State Office Building	Malama I Ke Ola Health Clinic	Wailuku Post Office	Pi'hana Terrace	Makaala Dr. Fronting Hale Mahaolu	Waiehu Heights	Hawaiian Homes	Eha St. Fronting Sack N Save	Wailuku Community Center	Kanaloa Ave. / Little League Field	Queen Ka'ahumanu Center
6:30	6:37	6:39	6:47	6:52	6:55	6:58	7:03	7:08	7:11	7:12	7:13	7:15	7:21	7:30
7:30	7:37	7:39	7:47	7:52	7:55	7:58	8:03	8:08	8:11	8:12	8:13	8:15	8:21	8:30
8:30	8:37	8:39	8:47	8:52	8:55	8:58	9:03	9:08	9:11	9:12	9:13	9:15	9:21	9:30
9:30	9:37	9:39	9:47	9:52	9:55	9:58	10:03	10:08	10:11	10:12	10:13	10:15	10:21	10:30
10:30	10:37	10:39	10:47	10:52	10:55	10:58	11:03	11:08	11:11	11:12	11:13	11:15	11:21	11:30
11:30	11:37	11:39	11:47	11:52	11:55	11:58	12:03	12:08	12:11	12:12	12:13	12:15	12:21	12:30
12:30	12:37	12:39	12:47	12:52	12:55	12:58	1:03	1:08	1:11	1:12	1:13	1:15	1:21	1:30
1:30	1:37	1:39	1:47	1:52	1:55	1:58	2:03	2:08	2:11	2:12	2:13	2:15	2:21	2:30
2:30	2:37	2:39	2:47	2:52	2:55	2:58	3:03	3:08	3:11	3:12	3:13	3:15	3:21	3:30
3:30	3:37	3:39	3:47	3:52	3:55	3:58	4:03	4:08	4:11	4:12	4:13	4:15	4:21	4:30
4:30	4:37	4:39	4:47	4:52	4:55	4:58	5:03	5:08	5:11	5:12	5:13	5:15	5:21	5:30
5:30	5:37	5:39	5:47	5:52	5:55	5:58	6:03	6:08	6:11	6:12	6:13	6:15	6:21	6:30
6:30	6:37	6:39	6:47	6:52	6:55	6:58	7:03	7:08	7:11	7:12	7:13	7:15	7:21	7:30
7:30	7:37	7:39	7:47	7:52	7:55	7:58	8:03	8:08	8:11	8:12	8:13	8:15	8:21	8:30
8:30	8:37	8:39	8:47	8:52	8:55	8:58	9:03	9:08	9:11	9:12	9:13	9:15	9:21	9:30

KAHULUI LOOP ROUTE #5

Queen Ka'ahumanu Center	Wahinepio Ave / UH Maui College Park'g Entrance	Roselani Place	Onhe'e Ave. / S. Papa Ave.	Hale Mahaolu Elua	Kamehameha Ave. / Moloka'i Akau St.	Luana Gardens	W. Papa Ave. / La'au St.	Pakaula St. / Wai-Mart back Entrance	Maui Marketplace Food Court	K-Mart	Kamehameha Ave. / Maui Mail Entrance	Kahului Shopping Center	Queen Ka'ahumanu Center
6:30	6:38	6:41	6:44	6:47	6:49	6:51	6:53	7:00	7:03	7:08	7:14	7:17	7:30
7:30	7:38	7:41	7:44	7:47	7:49	7:51	7:53	8:00	8:03	8:08	8:14	8:17	8:30
8:30	8:38	8:41	8:44	8:47	8:49	8:51	8:53	9:00	9:03	9:08	9:14	9:17	9:30
9:30	9:38	9:41	9:44	9:47	9:49	9:51	9:53	10:00	10:03	10:08	10:14	10:17	10:30
10:30	10:38	10:41	10:44	10:47	10:49	10:51	10:53	11:00	11:03	11:08	11:14	11:17	11:30
11:30	11:38	11:41	11:44	11:47	11:49	11:51	11:53	12:00	12:03	12:08	12:14	12:17	12:30
12:30	12:38	12:41	12:44	12:47	12:49	12:51	12:53	1:00	1:03	1:08	1:14	1:17	1:30
1:30	1:38	1:41	1:44	1:47	1:49	1:51	1:53	2:00	2:03	2:08	2:14	2:17	2:30
2:30	2:38	2:41	2:44	2:47	2:49	2:51	2:53	3:00	3:03	3:08	3:14	3:17	3:30
3:30	3:38	3:41	3:44	3:47	3:49	3:51	3:53	4:00	4:03	4:08	4:14	4:17	4:30
4:30	4:38	4:41	4:44	4:47	4:49	4:51	4:53	5:00	5:03	5:08	5:14	5:17	5:30
5:30	5:38	5:41	5:44	5:47	5:49	5:51	5:53	6:00	6:03	6:08	6:14	6:17	6:30
6:30	6:38	6:41	6:44	6:47	6:49	6:51	6:53	7:00	7:03	7:08	7:14	7:17	7:30
7:30	7:38	7:41	7:44	7:47	7:49	7:51	7:53	8:00	8:03	8:08	8:14	8:17	8:30
8:30	8:38	8:41	8:44	8:47	8:49	8:51	8:53	9:00	9:03	9:08			

LAHAINA ISLANDER #20

Queen Ka'ahumanu Center	State Office Building and Wells St.	Ma'alaea Harbor Village	Wharf Cinema Center	Ma'alaea Harbor Village	State Office Building	Queen Ka'ahumanu Center
5:30	5:40	5:55	6:30	7:05	7:18	7:30
6:30	6:40	6:55	7:30	8:05	8:18	8:30
7:30	7:40	7:55	8:30	9:05	9:18	9:30
8:30	8:40	8:55	9:30	10:05	10:18	10:30
9:30	9:40	9:55	10:30	11:05	11:18	11:30
10:30	10:40	10:55	11:30	12:05	12:18	12:30
11:30	11:40	11:55	12:30	1:05	1:18	1:30
12:30	12:40	12:55	1:30	2:05	2:18	2:30
1:30	1:40	1:55	2:30	3:05	3:18	3:30
2:30	2:40	2:55	3:30	4:05	4:18	4:30
3:30	3:40	3:55	4:30	5:05	5:18	5:30
4:30	4:40	4:55	5:30	6:05	6:18	6:30
5:30	5:40	5:55	6:30	7:05	7:18	7:30
6:30	6:40	6:55	7:30	8:05	8:18	8:30
7:30	7:40	7:55	8:30	9:05	9:18	9:30

WAILUKU LOOP ROUTE #2 (reverse)

Queen Ka'ahumanu Center	Kanaloa Avenue / Near Kaahumanu Ave.	Wailuku Community Center	Eha Street Fronting Sack N Save	Hawaiian Homes	Waiehu Heights	Makaala Drive Fronting Hale Mahaolu	Pi'hana Terrace	Wailuku Post Office	Malama I Ke Ola Health Clinic	Ka Hale A Ke Ola	State Office Building	Maui Lani Parkway	Maui Memorial Hospital	Queen Ka'ahumanu Center
7:00	7:03	7:08	7:11	7:15	7:17	7:19	7:24	7:29	7:32	7:37	7:43	7:46	7:49	8:00
8:00	8:03	8:08	8:11	8:15	8:17	8:19	8:24	8:29	8:32	8:37	8:43	8:46	8:49	9:00
9:00	9:03	9:08	9:11	9:15	9:17	9:19	9:24	9:29	9:32	9:37	9:43	9:46	9:49	10:00
10:00	10:03	10:08	10:11	10:15	10:17	10:19	10:24	10:29	10:32	10:37	10:43	10:46	10:49	11:00
11:00	11:03	11:08	11:11	11:15	11:17	11:19	11:24	11:29	11:32	11:37	11:43	11:46	11:49	12:00
12:00	12:03	12:08	12:11	12:15	12:17	12:19	12:24	12:29	12:32	12:37	12:43	12:46	12:49	1:00
1:00	1:03	1:08	1:11	1:15	1:17	1:19	1:24	1:29	1:32	1:37	1:43	1:46	1:49	2:00
2:00	2:03	2:08	2:11	2:15	2:17	2:19	2:24	2:29	2:32	2:37	2:43	2:46	2:49	3:00
3:00	3:03	3:08	3:11	3:15	3:17	3:19	3:24	3:29	3:32	3:37	3:43	3:46	3:49	4:00
4:00	4:03	4:08	4:11	4:15	4:17	4:19	4:24	4:29	4:32	4:37	4:43	4:46	4:49	5:00
5:00	5:03	5:08	5:11	5:15	5:17	5:19	5:24	5:29	5:32	5:37	5:43	5:46	5:49	6:00
6:00	6:03	6:08	6:11	6:15	6:17	6:19	6:24	6:29	6:32	6:37	6:43	6:46	6:49	7:00
7:00	7:03	7:08	7:11	7:15	7:17	7:19	7:24	7:29	7:32	7:37	7:43	7:46	7:49	8:00
8:00	8:03	8:08	8:11	8:15	8:17	8:19	8:24	8:29	8:32	8:37	8:43	8:46	8:49	9:00
9:00	9:03	9:08	9:11	9:15	9:17	9:19	9:24	9:29	9:32	9:37	9:43	9:46	9:49	10:00

KAHULUI LOOP ROUTE #6 (reverse)

Queen Ka'ahumanu Center	Kahului Shopping Center	Kamehameha Ave. / Ho'ohana St.	K-Mart	Maui Marketplace Food Court	Pakaula St. / Past Home Depot Entrance	W. Papa Ave. / La'au St.	Luana Gardens	Kamehameha Ave. / Moloka'i Akau St.	Hale Mahaolu Elua	Onhe'e / S. Papa Ave.	Roselani Place	Wahinepio Ave / MACC	Queen Ka'ahumanu Center
7:00	7:08	7:10	7:16	7:25	7:29	7:35	7:37	7:38	7:40	7:43	7:45	7:48	8:00
8:00	8:08	8:10	8:16	8:25	8:29	8:35	8:37	8:38	8:40	8:43	8:45	8:48	9:00
9:00	9:08	9:10	9:16	9:25	9:29	9:35	9:37	9:38	9:40	9:43	9:45	9:48	10:00
10:00	10:08	10:10	10:16	10:25	10:29	10:35	10:37	10:38	10:40	10:43	10:45	10:48	11:00
11:00	11:08	11:10	11:16	11:25	11:29	11:35	11:37	11:38	11:40	11:43	11:45	11:48	12:00
12:00	12:08	12:10	12:16	12:25	12:29	12:35	12:37	12:38	12:40	12:43	12:45	12:48	1:00
1:00	1:08	1:10	1:16	1:25	1:29	1:35	1:37	1:38	1:40	1:43	1:45	1:48	2:00
2:00	2:08	2:10	2:16	2:25	2:29	2:35	2:37	2:38	2:40	2:43	2:45	2:48	3:00
3:00	3:08	3:10	3:16	3:25	3:29	3:35	3:37	3:38	3:40	3:43	3:45	3:48	4:00
4:00	4:08	4:10	4:16	4:25	4:29	4:35	4:37	4:38	4:40	4:43	4:45	4:48	5:00
5:00	5:08	5:10	5:16	5:25	5:29	5:35	5:37	5:38	5:40	5:43	5:45	5:48	6:00
6:00	6:08	6:10	6:16	6:25	6:29	6:35	6:37	6:38	6:40	6:43	6:45	6:48	7:00
7:00	7:08	7:10	7:16	7:25	7:29	7:35	7:37	7:38	7:40	7:43	7:45	7:48	8:00
8:00	8:08	8:10	8:16	8:25	8:29	8:35	8:37	8:38	8:40	8:43	8:45	8:48	9:00
9:00	9:08	9:10	9:16	9:25	9:29	9:35	9:37	9:38	9:40	9:43	9:45	9:48	10:00

KA'ANAPALI ISLANDER #25

Wharf Cinema Center Luakini Street	Papalaia Street	Lahaina Cannery Mail	Whalers Village	Lahaina Cannery Mail	Papalaia Street	Wharf Cinema Center Luakini Street
			6:00	6:10	6:20	6:30
6:30	6:43	6:50	7:00	7:10	7:20	7:30
7:30	7:43	7:50	8:00	8:10	8:20	8:30
8:30	8:43	8:50	9:00	9:10	9:20	9:30
9:30	9:43	9:50	10:00	10:10	10:20	10:30
10:30	10:43	10:50	11:00	11:10	11:20	11:30
11:30	11:43	11:50	12:00	12:10	12:20	12:30
12:30	12:43	12:50	1:00	1:10	1:20	1:30
1:30	1:43	1:50	2:00	2:10	2:20	2:30
			2:30	2:40	2:50	3:00
2:30	2:43	2:50	3:00	3:10	3:20	3:30
3:00	3:13	3:20	3:30	3:40	3:50	4:00
3:30	3:43	3:50	4:00	4:10	4:20	4:30
4:00	4:13	4:20	4:30	4:40	4:50	5:00
4:30	4:43	4:50	5:00	5:10	5:20	5:30
5:00	5:13	5:20	5:30			
5:30	5:43	5:50	6:00	6:10	6:20	6:30
6:30	6:43	6:50	7:00	7:10	7:20	7:30
7:30	7:43	7:50	8:00	8:10	8:20	8:30
8:30	8:43	8:50	9:00	9:10	9:20	9:30

HAIKU ISLANDER ROUTE #35

Queen Ka'ahumanu Center	Kahului Salvation Army / Kamehameha Ave	Kamehameha Ave / Ho'ohana St	Kahului Airport Pick-Up Zone #3	Pala Town	Haiku Marketplace	Shelter Next to Haiku Comm. Center	Pala Town	Kahului Airport Pick-Up Zone #3	Kamehameha Ave / Maui Mail Entrance	Kamehameha Ave / Kahului Shop g Ctr (rear)	Queen Ka'ahumanu Center
5:30	5:33	5:34	5:40	5:53	6:11	6:17	6:29	6:40	6:47	6:48	7:00
7:00	7:03	7:04	7:10	7:23	7:41	7:47	7:59	8:10	8:17	8:18	8:30
8:30	8:33	8:34	8:40	8:53	9:11	9:17	9:29	9:40	9:47	9:48	10:00
10:00	10:03	10:04	10:10	10:23	10:41	10:47	10:59	11:10	11:17	11:18	11:30
11:30	11:33	11:34	11:40	11:53	12:11	12:17	12:29	12:40	12:47	12:48	1:00
1:00	1:03	1:04	1:10	1:23	1:41	1:47	1:59	2:10	2:17	2:18	2:30
2:30	2:33	2:34	2:40	2:53	3:11	3:17	3:29	3:40	3:47	3:48	4:00
4:00	4:03	4:04	4:10	4:23	4:41	4:47	4:59	5:10	5:17	5:18	5:30
5:30	5:33	5:34	5:40	5:53	6:11	6:17	6:29	6:40	6:47	6:48	7:00
7:00	7:03	7:04	7:10	7:23	7:41	7:47	7:59	8:10	8:17	8:18	8:30
8:30	8:33	8:34	8:40	8:53	9:11	9:17	9:29	9:40			

KIHEI ISLANDER ROUTE #10

Queen Ka'ahumanu Center	Kahului Salvation Army / Kamehameha Ave	Uwapa / S. Kihei Rd.	Kulanihakoi St. / S. Kihei Rd.	Pili'ani Shopping Center	Keala Pl. / S. Kihei Rd. Kalama Park	Kamaole Beach III	Wailea Ike Drive	Kamaole Beach III	Keala Pl. / S. Kihei Rd. Near Hoodland	Pili'ani Shopping Center	Kulanihakoi St. / S. Kihei Rd.	Uwapa / S. Kihei Rd.	Kamehameha Ave / Kahului Shop'g Ctr (rear)	Queen Ka'ahumanu Center
5:30	5:35	5:50	5:55	6:03	6:12	6:20	6:27	6:34	6:42	6:50	6:57	7:02	7:18	7:30
6:30	6:35	6:50	6:55	7:03	7:12	7:20	7:27	7:34	7:42	7:50	7:57	8:02	8:18	8:30
7:30	7:35	7:50	7:55	8:03	8:12	8:20	8:27	8:34	8:42	8:50	8:57	9:02	9:18	9:30
8:30	8:35	8:50	8:55	9:03	9:12	9:20	9:27	9:34	9:42	9:50	9:57	10:02	10:18	10:30
9:30	9:35	9:50	9:55	10:03	10:12	10:20	10:27	10:34	10:42	10:50	10:57	11:02	11:18	11:30
10:30	10:35	10:50	10:55	11:03	11:12	11:20	11:27	11:34	11:42	11:50	11:57	12:02	12:18	12:30
11:30	11:35	11:50	11:55	12:03	12:12	12:20	12:27	12:34	12:42	12:50	12:57	1:02	1:18	1:30
12:30	12:35	12:50	12:55	1:03	1:12	1:20	1:27	1:34	1:42	1:50	1:57	2:02	2:18	2:30
1:30	1:35	1:50	1:55	2:03	2:12	2:20	2:27	2:34	2:42	2:50	2:57	3:02	3:18	3:30
2:30	2:35	2:50	2:55	3:03	3:12	3:20	3:27	3:34	3:42	3:50	3:57	4:02	4:18	4:30
3:30	3:35	3:50	3:55	4:03	4:12	4:20	4:27	4:34	4:42	4:50	4:57	5:02	5:18	5:30
4:30	4:35	4:50	4:55	5:03	5:12	5:20	5:27	5:34	5:42	5:50	5:57	6:02	6:18	6:30
5:30	5:35	5:50	5:55	6:03	6:12	6:20	6:27	6:34	6:42	6:50	6:57	7:02	7:18	7:30
6:30	6:35	6:50	6:55	7:03	7:12	7:20	7:27	7:34	7:42	7:50	7:57	8:02	8:18	8:30
7:30	7:35	7:50	7:55	8:03	8:12	8:20	8:27	8:34	8:42	8:50	8:57	9:02	9:18	9:30

KIHEI VILLAGER ROUTE #15

Ma'alaea Harbor Village	Uwapa Rd. / S. Kihei Rd.	Ohukei St. / S. Kihei Rd.	Kaonolu / S. Kihei Rd.	Kulanihakoi / S. Kihei Rd.	Waipuli Rd. / S. Kihei Rd.	Pili'ani Shopping Center	Pili'ani Shopping Center	Pili'ani Shopping Center	Waipuli Rd. / S. Kihei Rd.	Kulanihakoi / S. Kihei Rd.	Kaonolu / S. Kihei Rd.	Ohukei St. / S. Kihei Rd.	Uwapa Rd. / S. Kihei Rd.	Ma'alaea Harbor Village
6:05	6:17	6:19	6:21	6:22	6:24	6:26	6:30	6:33	6:35	6:36	6:37	6:39	6:41	6:55
7:05	7:17	7:19	7:21	7:22	7:24	7:26	7:30	7:33	7:35	7:36	7:37	7:39	7:41	7:55
8:05	8:17	8:19	8:21	8:22	8:24	8:26	8:30	8:33	8:35	8:36	8:37	8:39	8:41	8:55
9:05	9:17	9:19	9:21	9:22	9:24	9:26	9:30	9:33	9:35	9:36	9:37	9:39	9:41	9:55
10:05	10:17	10:19	10:21	10:22	10:24	10:26	10:30	10:33	10:35	10:36	10:37	10:39	10:41	10:55
11:05	11:17	11:19	11:21	11:22	11:24	11:26	11:30	11:33	11:35	11:36	11:37	11:39	11:41	11:55
12:05	12:17	12:19	12:21	12:22	12:24	12:26	12:30	12:33	12:35	12:36	12:37	12:39	12:41	12:55
1:05	1:17	1:19	1:21	1:22	1:24	1:26	1:30	1:33	1:35	1:36	1:37	1:39	1:41	1:55
2:05	2:17	2:19	2:21	2:22	2:24	2:26	2:30	2:33	2:35	2:36	2:37	2:39	2:41	2:55
3:05	3:17	3:19	3:21	3:22	3:24	3:26	3:30	3:33	3:35	3:36	3:37	3:39	3:41	3:55
4:05	4:17	4:19	4:21	4:22	4:24	4:26	4:30	4:33	4:35	4:36	4:37	4:39	4:41	4:55
5:05	5:17	5:19	5:21	5:22	5:24	5:26	5:30	5:33	5:35	5:36	5:37	5:39	5:41	5:55
6:05	6:17	6:19	6:21	6:22	6:24	6:26	6:30	6:33	6:35	6:36	6:37	6:39	6:41	6:55
7:05	7:17	7:19	7:21	7:22	7:24	7:26	7:30	7:33	7:35	7:36	7:37	7:39	7:41	7:55
8:05	8:17	8:19	8:21	8:22	8:24	8:26	8:30	8:33	8:35	8:36	8:37	8:39	8:41	8:55

LAHAINA VILLAGER ROUTE #23

Wharf Cinema Center Luakini Street	505 Front Street	Lahaina Aquatics Center	Kualoa Street / Kumukahi Street	Kalena Street / Pkanele Street	Lahaina Gateway	Ainaka Road / Fleming Road	Lela'i Parkway / Near Hooli Street	Lahaina Civic Center (back)	Lahaina Cannery Mall	Papalaua Street	Wharf Cinema Center Luakini Street
8:00	8:04	8:09	8:15	8:17	8:23	8:27	8:31	8:34	8:42	8:48	9:00
9:00	9:04	9:09	9:15	9:17	9:23	9:27	9:31	9:34	9:42	9:48	10:00
10:00	10:04	10:09	10:15	10:17	10:23	10:27	10:31	10:34	10:42	10:48	11:00
11:00	11:04	11:09	11:15	11:17	11:23	11:27	11:31	11:34	11:42	11:48	12:00
12:00	12:04	12:09	12:15	12:17	12:23	12:27	12:31	12:34	12:42	12:48	1:00
1:00	1:04	1:09	1:15	1:17	1:23	1:27	1:31	1:34	1:42	1:48	2:00
BREAK											
3:00	3:04	3:09	3:15	3:17	3:23	3:27	3:31	3:34	3:42	3:48	4:00
4:00	4:04	4:09	4:15	4:17	4:23	4:27	4:31	4:34	4:42	4:48	5:00
5:00	5:04	5:09	5:15	5:17	5:23	5:27	5:31	5:34	5:42	5:48	6:00
6:00	6:04	6:09	6:15	6:17	6:23	6:27	6:31	6:34	6:42	6:48	7:00
7:00	7:04	7:09	7:15	7:17	7:23	7:27	7:31	7:34	7:42	7:48	8:00
8:00	8:04	8:09	8:15	8:17	8:23	8:27	8:31	8:34	8:42	8:48	9:00
9:00	9:04	9:09	9:15	9:17	9:23	9:27	9:31	9:34	9:42	9:48	10:00
10:00	10:04	10:09	10:15	10:17	10:23	10:27	10:31	10:34	10:42	10:48	11:00

NAPILI ISLANDER ROUTE #30

Whalers Village	Honokowai Shop'g Ctr	Polynesian Shores	Kahana Manor	Napili Plaza	Napili Kai	Napili Shores	Napili Plaza	Kahana Sunset	Valley Isle Resort	Polynesian Shores	Across Honokowai Shopping Center	Whalers Village
6:00	6:10	6:15	6:17	6:24	6:30	6:33	6:37	6:40	6:43	6:45	6:50	7:00
7:00	7:10	7:15	7:17	7:24	7:30	7:33	7:37	7:40	7:43	7:45	7:50	8:00
8:00	8:10	8:15	8:17	8:24	8:30	8:33	8:37	8:40	8:43	8:45	8:50	9:00
9:00	9:10	9:15	9:17	9:24	9:30	9:33	9:37	9:40	9:43	9:45	9:50	10:00
10:00	10:10	10:15	10:17	10:24	10:30	10:33	10:37	10:40	10:43	10:45	10:50	11:00
11:00	11:10	11:15	11:17	11:24	11:30	11:33	11:37	11:40	11:43	11:45	11:50	12:00
12:00	12:10	12:15	12:17	12:24	12:30	12:33	12:37	12:40	12:43	12:45	12:50	1:00
1:00	1:10	1:15	1:17	1:24	1:30	1:33	1:37	1:40	1:43	1:45	1:50	2:00
2:00	2:10	2:15	2:17	2:24	2:30	2:33	2:37	2:40	2:43	2:45	2:50	3:00
3:00	3:10	3:15	3:17	3:24	3:30	3:33	3:37	3:40	3:43	3:45	3:50	4:00
4:00	4:10	4:15	4:17	4:24	4:30	4:33	4:37	4:40	4:43	4:45	4:50	5:00
5:00	5:10	5:15	5:17	5:24	5:30	5:33	5:37	5:40	5:43	5:45	5:50	6:00
6:00	6:10	6:15	6:17	6:24	6:30	6:33	6:37	6:40	6:43	6:45	6:50	7:00
7:00	7:10	7:15	7:17	7:24	7:30	7:33	7:37	7:40	7:43	7:45	7:50	8:00
8:00	8:10	8:15	8:17	8:24	8:30	8:33	8:37	8:40	8:43	8:45	8:50	9:00

KULA VILLAGER ROUTE #39

Pulealani Street near Comm. Ctr Entrance	Kulamalu - To Kula	Lower Kula Rd. / Waihele Pl.	Lower Kula Rd. / Lower Kino Dr.	Kula Hardware	Kula Community Ctr. / Holy Ghost Church	Near Mothara Store / Kula Gym	Lower Kula Rd. / Naalea Rd.	Rice Park	Lower Kula Rd. / Naalea Rd.	Near Mothara Store / Kula Gym	Kula Community Ctr. / Holy Ghost Church	Kula Hardware	Lower Kula Rd. / Lower Kino Dr.	Lower Kula Rd. / Waihele Pl.	Kulamalu - To Pukalani	Pulealani Street near Comm. Ctr Entrance
7:17	7:27	7:32	7:33	7:35	7:39	7:40	7:43	7:45	7:49	7:52	7:53	7:58	8:00	8:01	8:08	8:17
8:17	8:27	8:32	8:33	8:35	8:39	8:40	8:43	8:45	8:49	8:52	8:53	8:58	9:00	9:01	9:08	9:17
9:17	9:27	9:32	9:33	9:35	9:39	9:40	9:43	9:45	9:49	9:52	9:53	9:58	10:00	10:01	10:08	10:17
10:17	10:27	10:32	10:33	10:35	10:39	10:40	10:43	10:45	10:49	10:52	10:53	10:58	11:00	11:01	11:08	11:17
11:17	11:27	11:32	11:33	11:35	11:39	11:40	11:43	11:45	11:49	11:52	11:53	11:58	12:00	12:01	12:08	12:17
12:17	12:27	12:32	12:33	12:35	12:39	12:40	12:43	12:45	12:49	12:52	12:53	12:58	1:00	1:01	1:08	1:17
1:17	1:27	1:32	1:33	1:35	1:39	1:40	1:43	1:45	1:49	1:52	1:53	1:58	2:00	2:01	2:08	2:17
2:17	2:27	2:32	2:33	2:35	2:39	2:40	2:43	2:45	2:49	2:52	2:53	2:58	3:00	3:01	3:08	3:17
3:17	3:27	3:32	3:33	3:35	3:39	3:40	3:43	3:45	3:49	3:52	3:53	3:58	4:00	4:01	4:08	4:17
4:17	4:27	4:32	4:33	4:35	4:39	4:40	4:43	4:45	4:49	4:52	4:53	4:58	5:00	5:01	5:08	5:17
5:17	5:27	5:32	5:33	5:35	5:39	5:40	5:43	5:45	5:49	5:52	5:53	5:58	6:00	6:01	6:08	6:17
6:17	6:27	6:32	6:33	6:35	6:39	6:40	6:43	6:45	6:49	6:52	6:53	6:58	7:00	7:01	7:08	7:17
7:17	7:27	7:32	7:33	7:35	7:39	7:40	7:43	7:45	7:49	7:52	7:53	7:58	8:00	8:01	8:08	8:17
8:17	8:27	8:32	8:33	8:35	8:39	8:40	8:43	8:45	8:49	8:52	8:53	8:58	9:00	9:01	9:08	9:17

[All times in BOLD are PM]

ALL ROUTES
\$2 PER BOARDING

RULES

For your safety and the safety of others:

- Be at the bus stop at least 5 minutes prior to departure time. Wait on proper side of the road for the bus to arrive at the bus stop sign. Wait for the bus to make a complete stop before approaching the bus.
- Enter the bus with the exact fare or have your pass visible.
- Infants under 2 years old, traveling free must ride on the lap of an accompanying adult.
- Allow senior citizens the use of front seating.
- Be alert at all times for sudden or quick stops.
- When standing, please move to the rear of the bus and always hold on to standee handbars or seatbars.
- Do not change seats after the bus starts moving and fasten your seatbelts.
- One (1) Medium-sized suitcase, duffle bag, backpack, or carry-on bag allowed, no larger than 22"H x 14"W x 9"L and must fit and be placed under the passenger's seat or on the passenger's lap so that they do not protrude to another seat.
- All buses are equipped with a bicycle rack that can hold a maximum of two (2) bicycles. Only two-wheeled, non-motorized bicycles are permitted. Both tires must sit flat to the base of the rack. Bicycles with an oversized basket or other type of carrier that obstructs the view of the driver is not permitted. No gas or electric bicycles allowed.
- Grocery bags that a passenger can carry in their arms and be placed on their lap or under the seat are allowed. Bags filled with bottle and can recyclables are not allowed.
- Golf clubs or detachable fishing poles properly covered or in a container with no sharp edges are limited to three per person.
- Soft body boards without skegs and beach mats free of sand and debris are allowed.
- Metal-framed child carriers, collapsible baby strollers, band instruments, skateboards, beach chairs and small coolers are limited to one per person.
- Pets must be in an enclosed container or cage.
- Service animals are allowed on the bus.
- Shirt and footwear are required.

- Anyone who believes that he or she has been discriminated against on the basis of race, color, sex, age, religion, national origin, disability, low income, or limited English proficiency while using the Maui Bus or its paratransit services may file a Title VI complaint with MDOT.

Prohibited:

- Surfboards and sandboards.
- Food, beverages, smoking, e-cigarettes, loud music.
- Flammable, explosive or toxic materials.
- Weapons and dangerous instruments.
- Littering on the bus.

FARES

All routes cost \$2.00 per boarding. Infants under 2 years old, riding on the lap of an accompanying adult travel free. Daily and monthly passes are also available.

GENERAL BOARDING - All Routes	\$2.00
<i>Commuter and ADA Paratransit Service</i>	

DAILY PASS	\$4.00
<i>Fixed Routes and ADA Paratransit Service</i>	

MONTHLY PASS

General Boarding - All Routes	\$45.00
<i>Commuter and ADA Paratransit Service</i>	
Student Pass (With Valid School ID)	\$30.00
<i>Fixed Routes and ADA Paratransit Service</i>	
Senior Pass (55 Years & Older)	\$25.00
<i>Fixed Routes Only</i>	
Senior ADA Paratransit Pass (55 Years & Older)	\$30.00
<i>Paratransit Service Only</i>	
Person with Disability Pass*	\$30.00
<i>Fixed Routes Only</i>	

**Applicants shall be required to register with Maui Economic Opportunity, Inc. (MEO) to qualify for this rate. Please contact MEO at (808) 249-2990 for application and information.*

Monthly Passes are valid for a calendar month and are available for purchase from the 25th of the previous month through the 10th of each month.

Monthly and daily passes are available from Maui Bus Drivers; at the County Business Resource Center – Maui Mall (weekdays 8 am–4:30 pm, excluding holidays); and at the Wharf Cinema Center Management Office (weekdays 9 am–4 pm, excluding holidays).

Note: Lost, stolen, destroyed or misplaced bus passes will not be replaced or refunded. Monthly and daily passes are non-transferable.



maui bus

All vehicles are ADA accessible and are equipped with two bicycle racks.



**County of Maui
Department of Transportation**

Operated By

Roberts Hawaii

(808) 871-4838

EFFECTIVE FEBRUARY, 2015

Appendix D

Analysis Reports Existing (2016)
Condition

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Existing (2016)
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	94	91	257	39	194	22	1040	112	201	1395	29
Future Volume (veh/h)	106	94	91	257	39	194	22	1040	112	201	1395	29
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	100	0	273	41	0	23	1106	0	214	1484	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	152	238	203	298	392	333	92	1557	697	255	1883	842
Arrive On Green	0.09	0.13	0.00	0.17	0.21	0.00	0.05	0.44	0.00	0.05	0.18	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	113	100	0	273	41	0	23	1106	0	214	1484	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.8	6.2	0.0	18.9	2.2	0.0	1.6	31.8	0.0	15.0	50.2	0.0
Cycle Q Clear(g_c), s	7.8	6.2	0.0	18.9	2.2	0.0	1.6	31.8	0.0	15.0	50.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	152	238	203	298	392	333	92	1557	697	255	1883	842
V/C Ratio(X)	0.74	0.42	0.00	0.92	0.10	0.00	0.25	0.71	0.00	0.84	0.79	0.00
Avail Cap(c_a), veh/h	213	358	304	298	447	380	156	1557	697	270	1883	842
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	0.33	0.33	0.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.79	0.79	0.00
Uniform Delay (d), s/veh	55.8	50.2	0.0	51.1	39.8	0.0	56.9	28.5	0.0	58.1	44.8	0.0
Incr Delay (d2), s/veh	8.5	1.2	0.0	31.3	0.1	0.0	0.5	2.8	0.0	14.9	2.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	3.3	0.0	11.8	1.2	0.0	0.8	16.1	0.0	8.4	25.3	0.0
LnGrp Delay(d),s/veh	64.3	51.4	0.0	82.4	40.0	0.0	57.4	31.3	0.0	73.0	47.5	0.0
LnGrp LOS	E	D		F	D		E	C		E	D	
Approach Vol, veh/h		213			314			1129			1698	
Approach Delay, s/veh		58.2			76.9			31.8			50.7	
Approach LOS		E			E			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	59.0	13.7	30.3	10.5	70.5	24.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	18.0	45.0	14.0	29.0	10.0	53.0	20.0	23.0				
Max Q Clear Time (g_c+I1), s	17.0	33.8	9.8	4.2	3.6	52.2	20.9	8.2				
Green Ext Time (p_c), s	0.0	10.7	0.1	0.5	0.0	0.8	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			47.3									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Existing (2016)

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	21	88	123	14	114	26	1232	45	24	1366	20
Future Volume (veh/h)	84	21	88	123	14	114	26	1232	45	24	1366	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	90	23	0	132	15	0	28	1325	0	26	1469	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	218	43	201	224	19	201	58	2639	1180	56	2635	1179
Arrive On Green	0.13	0.13	0.00	0.13	0.13	0.00	0.07	1.00	0.00	0.06	1.00	0.00
Sat Flow, veh/h	1310	337	1583	1337	152	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	113	0	0	147	0	0	28	1325	0	26	1469	0
Grp Sat Flow(s),veh/h/ln	1647	0	1583	1489	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	4.0	0.0	0.0	1.9	0.0	0.0	1.8	0.0	0.0
Cycle Q Clear(g_c), s	7.7	0.0	0.0	11.7	0.0	0.0	1.9	0.0	0.0	1.8	0.0	0.0
Prop In Lane	0.80		1.00	0.90		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	260	0	201	243	0	201	58	2639	1180	56	2635	1179
V/C Ratio(X)	0.43	0.00	0.00	0.60	0.00	0.00	0.48	0.50	0.00	0.46	0.56	0.00
Avail Cap(c_a), veh/h	380	0	329	359	0	329	156	2639	1180	156	2635	1179
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.70	0.70	0.00	0.84	0.84	0.00
Uniform Delay (d), s/veh	51.0	0.0	0.0	52.7	0.0	0.0	57.4	0.0	0.0	57.5	0.0	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	3.4	0.0	0.0	1.6	0.5	0.0	1.8	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	5.1	0.0	0.0	1.0	0.2	0.0	0.9	0.3	0.0
LnGrp Delay(d),s/veh	52.7	0.0	0.0	56.1	0.0	0.0	58.9	0.5	0.0	59.3	0.7	0.0
LnGrp LOS	D			E			E	A		E	A	
Approach Vol, veh/h	113			147			1353			1495		
Approach Delay, s/veh	52.7			56.1			1.7			1.7		
Approach LOS	D			E			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	8.0	97.2		19.8	8.1	97.1		19.8				
Change Period (Y+Rc), s	5.0	5.0		5.0	5.0	5.0		5.0				
Max Green Setting (Gmax), s	10.0	75.0		25.0	10.0	75.0		25.0				
Max Q Clear Time (g_c+I), s	13.8	2.0		13.7	3.9	2.0		9.7				
Green Ext Time (p_c), s	0.0	61.2		1.1	0.0	61.2		1.3				
Intersection Summary												
HCM 2010 Ctrl Delay	6.1											
HCM 2010 LOS	A											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

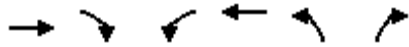
Existing (2016)
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	194	3	373	8	1	21	434	1009	5	2	1033	135
Future Volume (veh/h)	194	3	373	8	1	21	434	1009	5	2	1033	135
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	211	0	0	9	1	23	467	1085	0	2	1111	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	332	0	258	77	3	66	545	2595	1135	4	2042	914
Arrive On Green	0.09	0.00	0.00	0.04	0.04	0.03	0.32	1.00	0.00	0.00	0.58	0.00
Sat Flow, veh/h	3548	0	3167	1774	66	1527	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	211	0	0	9	0	24	467	1085	0	2	1111	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1593	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.2	0.0	0.0	0.6	0.0	1.8	15.9	0.0	0.0	0.1	24.2	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	0.6	0.0	1.8	15.9	0.0	0.0	0.1	24.2	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	332	0	258	77	0	69	545	2595	1135	4	2042	914
V/C Ratio(X)	0.64	0.00	0.00	0.12	0.00	0.35	0.86	0.42	0.00	0.53	0.54	0.00
Avail Cap(c_a), veh/h	539	0	443	99	0	89	743	2595	1135	57	2042	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.98	0.00	0.00	1.00	0.00	1.00	0.85	0.85	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.6	0.0	0.0	57.5	0.0	59.0	41.4	0.0	0.0	62.3	16.3	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.7	0.0	3.0	6.4	0.4	0.0	35.9	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	0.3	0.0	0.9	7.9	0.2	0.0	0.1	12.0	0.0
LnGrp Delay(d),s/veh	56.6	0.0	0.0	58.2	0.0	62.0	47.7	0.4	0.0	98.2	17.3	0.0
LnGrp LOS	E			E		E	D	A		F	B	
Approach Vol, veh/h	211			33			1552			1113		
Approach Delay, s/veh	56.6			61.0			14.7			17.5		
Approach LOS	E			E			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	95.6		9.4	23.8	76.1		15.7				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	77.0			5.0	26.5	54.0		17.0				
Max Q Clear Time (g_c+I), s	2.0			3.8	17.9	26.2		9.2				
Green Ext Time (p_c), s	0.0	39.6		0.0	1.4	21.0		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	19.3											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Existing (2016)
AM Peak Hour



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↖	↖	↑↑	↖↖	↖		
Traffic Volume (veh/h)	344	212	93	476	414	180		
Future Volume (veh/h)	344	212	93	476	414	180		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	358	0	97	496	431	188		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1253	1065	124	2740	557	237		
Arrive On Green	0.67	0.00	0.14	1.00	0.16	0.15		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	358	0	97	496	431	188		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	9.7	0.0	6.6	0.0	15.0	14.3		
Cycle Q Clear(g_c), s	9.7	0.0	6.6	0.0	15.0	14.3		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1253	1065	124	2740	557	237		
V/C Ratio(X)	0.29	0.00	0.78	0.18	0.77	0.79		
Avail Cap(c_a), veh/h	1253	1065	298	2740	964	424		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.79	0.79	1.00	1.00		
Uniform Delay (d), s/veh	8.3	0.0	52.9	0.0	50.2	51.3		
Incr Delay (d2), s/veh	0.6	0.0	3.2	0.1	0.9	2.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.2	0.0	3.3	0.0	7.2	6.4		
LnGrp Delay(d),s/veh	8.9	0.0	56.1	0.1	51.1	53.6		
LnGrp LOS	A		E	A	D	D		
Approach Vol, veh/h	358			593	619			
Approach Delay, s/veh	8.9			9.3	51.8			
Approach LOS	A			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.7	88.1				100.8		24.2
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (G_max), s	24.0	55.5				80.5		33.5
Max Q Clear Time (g_c+I), s	11.7	11.7				2.0		17.0
Green Ext Time (p_c), s	0.1	10.0				10.7		1.7
Intersection Summary								
HCM 2010 Ctrl Delay			26.0					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary
5: PIILANI HIGHWAY & PIIKEA AVENUE

Existing (2016)
AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	238	192	151	1029	1566	379		
Future Volume (veh/h)	238	192	151	1029	1566	379		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	253	0	161	1095	1666	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	283	253	189	2748	2258	1010		
Arrive On Green	0.16	0.00	0.11	0.78	0.64	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	253	0	161	1095	1666	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	17.5	0.0	11.1	12.5	40.2	0.0		
Cycle Q Clear(g_c), s	17.5	0.0	11.1	12.5	40.2	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	283	253	189	2748	2258	1010		
V/C Ratio(X)	0.89	0.00	0.85	0.40	0.74	0.00		
Avail Cap(c_a), veh/h	355	317	255	2748	2258	1010		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	51.5	0.0	54.9	4.5	15.5	0.0		
Incr Delay (d2), s/veh	20.6	0.0	18.2	0.4	2.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.2	0.0	6.4	6.2	20.1	0.0		
LnGrp Delay(d),s/veh	72.0	0.0	73.1	5.0	17.7	0.0		
LnGrp LOS	E		E	A	B			
Approach Vol, veh/h	253			1256	1666			
Approach Delay, s/veh	72.0			13.7	17.7			
Approach LOS	E			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		101.1		23.9	17.3	83.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		92.0		25.0	18.0	70.0		
Max Q Clear Time (g_c+I1), s		14.5		19.5	13.1	42.2		
Green Ext Time (p_c), s		30.8		0.5	0.2	18.5		
Intersection Summary								
HCM 2010 Ctrl Delay			20.4					
HCM 2010 LOS			C					

HCM 2010 TWSC
6: PIILANI HIGHWAY & KAONOULU STREET

Existing (2016)
AM Peak Hour

Intersection						
Int Delay, s/veh	8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	23	205	45	1255	1738	12
Future Vol, veh/h	23	205	45	1255	1738	12
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	250	0	400	-	-	325
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	24	216	47	1321	1829	13
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2584	915	1829	0	-	0
Stage 1	1829	-	-	-	-	-
Stage 2	755	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 21	275	330	-	-	-
Stage 1	113	-	-	-	-	-
Stage 2	425	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 18	275	330	-	-	-
Mov Cap-2 Maneuver	~ 18	-	-	-	-	-
Stage 1	113	-	-	-	-	-
Stage 2	364	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	112.2	0.6		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	330	-	18	275	-	-
HCM Lane V/C Ratio	0.144	-	1.345	0.785	-	-
HCM Control Delay (s)	17.7	-	\$ 639.1	53.1	-	-
HCM Lane LOS	C	-	F	F	-	-
HCM 95th %tile Q(veh)	0.5	-	3.4	6	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 2010 TWSC
7: SOUTH KIHEI ROAD & KAONOULU STREET

Existing (2016)
AM Peak Hour

Intersection						
Int Delay, s/veh	1.7					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	60	22	459	53	10	337
Future Vol, veh/h	60	22	459	53	10	337
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	75	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	65	24	499	58	11	366
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	916	528	0	0	557	0
Stage 1	528	-	-	-	-	-
Stage 2	388	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	302	550	-	-	1014	-
Stage 1	592	-	-	-	-	-
Stage 2	686	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	298	550	-	-	1014	-
Mov Cap-2 Maneuver	298	-	-	-	-	-
Stage 1	592	-	-	-	-	-
Stage 2	676	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	18.1	0		0.2		
HCM LOS	C					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 298 550 1014	-	-		
HCM Lane V/C Ratio	-	- 0.219 0.043 0.011	-	-		
HCM Control Delay (s)	-	- 20.4 11.8 8.6	0			
HCM Lane LOS	-	- C B A	A			
HCM 95th %tile Q(veh)	-	- 0.8 0.1 0	-			

HCM 2010 TWSC
8: PIILANI HIGHWAY & KULANIHAKOI STREET

Existing (2016)
AM Peak Hour

Intersection						
Int Delay, s/veh	34.9					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	56	134	42	1243	1879	54
Future Vol, veh/h	56	134	42	1243	1879	54
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	0	475	-	-	375
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	59	141	44	1308	1978	57
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2721	989	1978	0	-	0
Stage 1	1978	-	-	-	-	-
Stage 2	743	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 17	246	289	-	-	0
Stage 1	93	-	-	-	-	0
Stage 2	431	-	-	-	-	0
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 14	246	289	-	-	-
Mov Cap-2 Maneuver	~ 14	-	-	-	-	-
Stage 1	93	-	-	-	-	-
Stage 2	365	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	\$ 612.7	0.6		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	
Capacity (veh/h)	289	-	14	246	-	
HCM Lane V/C Ratio	0.153	-	4.211	0.573	-	
HCM Control Delay (s)	19.7	-	\$ 1989	37.6	-	
HCM Lane LOS	C	-	F	E	-	
HCM 95th %tile Q(veh)	0.5	-	8.3	3.2	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Existing (2016)
AM Peak Hour

Intersection												
Int Delay, s/veh	7.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	23	38	2	7	10	40	2	3	24	166	3	10
Future Vol, veh/h	23	38	2	7	10	40	2	3	24	166	3	10
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	24	40	2	7	11	42	2	3	25	175	3	11
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	53	0	0	42	0	0	142	156	41	150	137	32
Stage 1	-	-	-	-	-	-	89	89	-	46	46	-
Stage 2	-	-	-	-	-	-	53	67	-	104	91	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1553	-	-	1567	-	-	828	736	1030	818	754	1042
Stage 1	-	-	-	-	-	-	918	821	-	968	857	-
Stage 2	-	-	-	-	-	-	960	839	-	902	820	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1553	-	-	1567	-	-	805	721	1030	783	739	1042
Mov Cap-2 Maneuver	-	-	-	-	-	-	805	721	-	783	739	-
Stage 1	-	-	-	-	-	-	904	808	-	953	853	-
Stage 2	-	-	-	-	-	-	943	835	-	863	807	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.7			0.9			8.8			10.7		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	805	983	1553	-	-	1567	-	-	783	952		
HCM Lane V/C Ratio	0.003	0.029	0.016	-	-	0.005	-	-	0.223	0.014		
HCM Control Delay (s)	9.5	8.8	7.4	-	-	7.3	-	-	10.9	8.8		
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A		
HCM 95th %tile Q(veh)	0	0.1	0	-	-	0	-	-	0.9	0		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Existing (2016)
AM Peak Hour

Intersection												
Int Delay, s/veh		4.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	23	40	6	3	25	2	14	0	3	5	0	41
Future Vol, veh/h	23	40	6	3	25	2	14	0	3	5	0	41
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	26	44	7	3	28	2	16	0	3	6	0	46
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	30	0	0	51	0	0	157	136	48	137	138	29
Stage 1	-	-	-	-	-	-	99	99	-	36	36	-
Stage 2	-	-	-	-	-	-	58	37	-	101	102	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1583	-	-	1555	-	-	809	755	1021	834	753	1046
Stage 1	-	-	-	-	-	-	907	813	-	980	865	-
Stage 2	-	-	-	-	-	-	954	864	-	905	811	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1583	-	-	1555	-	-	763	741	1021	820	739	1046
Mov Cap-2 Maneuver	-	-	-	-	-	-	763	741	-	820	739	-
Stage 1	-	-	-	-	-	-	892	800	-	964	863	-
Stage 2	-	-	-	-	-	-	911	862	-	887	798	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.4			0.7			9.6			8.7		
HCM LOS							A			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	799	1583	-	-	1555	-	-	1016				
HCM Lane V/C Ratio	0.024	0.016	-	-	0.002	-	-	0.05				
HCM Control Delay (s)	9.6	7.3	-	-	7.3	-	-	8.7				
HCM Lane LOS	A	A	-	-	A	-	-	A				
HCM 95th %tile O(veh)	0.1	0	-	-	0	-	-	0.2				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Existing (2016)
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	61	66	195	56	198	49	1502	151	158	1480	85
Future Volume (veh/h)	75	61	66	195	56	198	49	1502	151	158	1480	85
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	77	63	0	201	58	0	51	1548	0	163	1526	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	199	169	233	331	281	116	1959	876	192	2111	944
Arrive On Green	0.06	0.11	0.00	0.13	0.18	0.00	0.07	0.55	0.00	0.22	1.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	77	63	0	201	58	0	51	1548	0	163	1526	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.4	4.7	0.0	16.6	4.0	0.0	4.1	52.1	0.0	13.2	0.0	0.0
Cycle Q Clear(g_c), s	6.4	4.7	0.0	16.6	4.0	0.0	4.1	52.1	0.0	13.2	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	199	169	233	331	281	116	1959	876	192	2111	944
V/C Ratio(X)	0.71	0.32	0.00	0.86	0.18	0.00	0.44	0.79	0.00	0.85	0.72	0.00
Avail Cap(c_a), veh/h	154	298	253	248	397	338	130	1959	876	201	2111	944
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.78	0.78	0.00
Uniform Delay (d), s/veh	69.2	62.0	0.0	63.8	52.4	0.0	67.5	26.6	0.0	57.6	0.0	0.0
Incr Delay (d2), s/veh	8.5	0.9	0.0	24.1	0.2	0.0	1.0	3.3	0.0	20.5	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	2.5	0.0	9.7	2.1	0.0	2.1	26.3	0.0	7.5	0.5	0.0
LnGrp Delay(d),s/veh	77.7	62.9	0.0	87.9	52.6	0.0	68.4	29.9	0.0	78.1	1.7	0.0
LnGrp LOS	E	E		F	D		E	C		E	A	
Approach Vol, veh/h		140			259			1599			1689	
Approach Delay, s/veh		71.0			80.0			31.1			9.1	
Approach LOS		E			F			C			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	20.2	87.0	12.1	30.6	13.8	93.5	22.7	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	72.0	12.0	31.0	10.0	78.0	20.0	23.0				
Max Q Clear Time (g_c+I1), s	15.2	54.1	8.4	6.0	6.1	2.0	18.6	6.7				
Green Ext Time (p_c), s	0.0	17.4	0.1	0.4	0.0	68.2	0.1	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			26.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Existing (2016)
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	30	42	57	11	51	39	1547	94	78	1609	65
Future Volume (veh/h)	31	30	42	57	11	51	39	1547	94	78	1609	65
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	31	0	59	11	0	40	1595	0	80	1659	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	65	109	130	16	109	63	2818	1261	109	2911	1302
Arrive On Green	0.07	0.07	0.00	0.07	0.07	0.00	0.07	1.00	0.00	0.12	1.00	0.00
Sat Flow, veh/h	764	948	1583	1251	233	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	63	0	0	70	0	0	40	1595	0	80	1659	0
Grp Sat Flow(s),veh/h/ln	712	0	1583	1484	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	1.7	0.0	0.0	3.3	0.0	0.0	6.5	0.0	0.0
Cycle Q Clear(g_c), s	5.1	0.0	0.0	6.8	0.0	0.0	3.3	0.0	0.0	6.5	0.0	0.0
Prop In Lane	0.51		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	0	109	146	0	109	63	2818	1261	109	2911	1302
V/C Ratio(X)	0.41	0.00	0.00	0.48	0.00	0.00	0.64	0.57	0.00	0.73	0.57	0.00
Avail Cap(c_a), veh/h	310	0	264	286	0	264	130	2818	1261	177	2911	1302
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.57	0.57	0.00	0.73	0.73	0.00
Uniform Delay (d), s/veh	67.4	0.0	0.0	68.2	0.0	0.0	68.8	0.0	0.0	64.5	0.0	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0	3.4	0.0	0.0	2.3	0.5	0.0	2.6	0.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	3.0	0.0	0.0	1.6	0.2	0.0	3.3	0.2	0.0
LnGrp Delay(d),s/veh	69.9	0.0	0.0	71.6	0.0	0.0	71.1	0.5	0.0	67.1	0.6	0.0
LnGrp LOS	E			E			E	A		E	A	
Approach Vol, veh/h	63				70		1635				1739	
Approach Delay, s/veh	69.9				71.6		2.2				3.7	
Approach LOS	E				E		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	13.3	123.4			13.3	9.3	127.4	13.3				
Change Period (Y+Rc), s	5.0	5.0			4.0	5.0	5.0	4.0				
Max Green Setting (Gmax), s	14.0	98.0			24.0	10.0	102.0	24.0				
Max Q Clear Time (g_c+I), s	19.5	2.0			8.8	5.3	2.0	7.1				
Green Ext Time (p_c), s	0.0	86.8			0.6	0.0	90.1	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			5.5									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Existing (2016)
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	192	2	391	27	17	41	407	1244	18	5	1335	234
Future Volume (veh/h)	192	2	391	27	17	41	407	1244	18	5	1335	234
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	203	0	0	28	18	43	428	1309	0	5	1405	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	303	0	239	95	26	62	491	2653	1166	9	2165	969
Arrive On Green	0.09	0.00	0.00	0.05	0.05	0.04	0.29	1.00	0.00	0.01	0.61	0.00
Sat Flow, veh/h	3548	0	3167	1774	489	1168	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	203	0	0	28	0	61	428	1309	0	5	1405	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1657	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	8.3	0.0	0.0	2.3	0.0	5.4	17.7	0.0	0.0	0.4	38.3	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	2.3	0.0	5.4	17.7	0.0	0.0	0.4	38.3	0.0
Prop In Lane	1.00		1.00	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	303	0	239	95	0	88	491	2653	1166	9	2165	969
V/C Ratio(X)	0.67	0.00	0.00	0.30	0.00	0.69	0.87	0.49	0.00	0.56	0.65	0.00
Avail Cap(c_a), veh/h	473	0	391	95	0	88	642	2653	1166	47	2165	969
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.97	0.00	0.00	1.00	0.00	1.00	0.78	0.78	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.5	0.0	0.0	68.3	0.0	70.5	52.3	0.0	0.0	74.5	18.7	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0	1.7	0.0	20.4	8.1	0.5	0.0	19.0	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.2	0.0	0.0	1.2	0.0	3.0	9.0	0.2	0.0	0.3	19.2	0.0
LnGrp Delay(d),s/veh	69.0	0.0	0.0	70.0	0.0	90.9	60.3	0.5	0.0	93.5	20.3	0.0
LnGrp LOS	E			E		F	E	A		F	C	
Approach Vol, veh/h	203			89			1737			1410		
Approach Delay, s/veh	69.0			84.3			15.3			20.5		
Approach LOS	E			F			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.8	116.4		12.0	25.4	95.8		16.8				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	100.0			6.0	27.5	76.0		18.0				
Max Q Clear Time (g_c+I), s	10.4	2.0		7.4	19.7	40.3		10.3				
Green Ext Time (p_c), s	0.0	65.5		0.0	1.2	30.3		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	22.4											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Existing (2016)
PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	421	428	190	445	282	172		
Future Volume (veh/h)	421	428	190	445	282	172		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	434	0	196	459	291	177		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1225	1041	218	2857	480	205		
Arrive On Green	0.66	0.00	0.25	1.00	0.14	0.13		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	434	0	196	459	291	177		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	15.6	0.0	16.0	0.0	11.9	16.4		
Cycle Q Clear(g_c), s	15.6	0.0	16.0	0.0	11.9	16.4		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1225	1041	218	2857	480	205		
V/C Ratio(X)	0.35	0.00	0.90	0.16	0.61	0.86		
Avail Cap(c_a), veh/h	1225	1041	449	2857	665	290		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.81	0.81	1.00	1.00		
Uniform Delay (d), s/veh	11.5	0.0	55.7	0.0	60.7	64.0		
Incr Delay (d2), s/veh	0.8	0.0	4.3	0.1	0.5	12.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	18.2	0.0	8.1	0.0	5.7	7.9		
LnGrp Delay(d),s/veh	12.3	0.0	60.0	0.1	61.1	76.9		
LnGrp LOS	B		E	A	E	E		
Approach Vol, veh/h	434			655	468			
Approach Delay, s/veh	12.3			18.0	67.1			
Approach LOS	B			B	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.4	102.6				125.1		24.9
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	69.5					111.5		27.5
Max Q Clear Time (g_c+1.0), s	17.6					2.0		18.4
Green Ext Time (p_c), s	0.4	11.0				11.5		1.0
Intersection Summary								
HCM 2010 Ctrl Delay			31.2					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary
5: PIILANI HIGHWAY & PIIKEA AVENUE

Existing (2016)
PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	262	302	223	1592	1403	343		
Future Volume (veh/h)	262	302	223	1592	1403	343		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	265	0	225	1608	1417	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	293	261	251	2766	2172	972		
Arrive On Green	0.17	0.00	0.14	0.78	0.61	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	265	0	225	1608	1417	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	22.0	0.0	18.7	27.3	38.7	0.0		
Cycle Q Clear(g_c), s	22.0	0.0	18.7	27.3	38.7	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	293	261	251	2766	2172	972		
V/C Ratio(X)	0.91	0.00	0.90	0.58	0.65	0.00		
Avail Cap(c_a), veh/h	402	359	343	2766	2172	972		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	61.5	0.0	63.3	6.6	18.7	0.0		
Incr Delay (d2), s/veh	18.9	0.0	20.1	0.9	1.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.4	0.0	10.6	13.5	19.4	0.0		
LnGrp Delay(d),s/veh	80.4	0.0	83.5	7.5	20.2	0.0		
LnGrp LOS	F		F	A	C			
Approach Vol, veh/h	265			1833	1417			
Approach Delay, s/veh	80.4			16.8	20.2			
Approach LOS	F			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		121.2		28.8	25.2	96.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		108.0		34.0	29.0	75.0		
Max Q Clear Time (g_c+l1), s		29.3		24.0	20.7	40.7		
Green Ext Time (p_c), s		37.3		0.8	0.5	23.6		
Intersection Summary								
HCM 2010 Ctrl Delay			23.0					
HCM 2010 LOS			C					

HCM 2010 TWSC
6: PIILANI HIGHWAY & KAONOULU STREET

Existing (2016)
PM Peak Hour

Intersection						
Int Delay, s/veh	5.6					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	17	106	81	1720	1700	41
Future Vol, veh/h	17	106	81	1720	1700	41
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	250	0	400	-	-	325
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	96	96	96	96	96	96
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	18	110	84	1792	1771	43
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2836	885	1771	0	-	0
Stage 1	1771	-	-	-	-	-
Stage 2	1065	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 14	288	348	-	-	-
Stage 1	122	-	-	-	-	-
Stage 2	292	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 11	288	348	-	-	-
Mov Cap-2 Maneuver	~ 11	-	-	-	-	-
Stage 1	122	-	-	-	-	-
Stage 2	222	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	156.4	0.8		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	348	-	11	288	-	-
HCM Lane V/C Ratio	0.242	-	1.61	0.383	-	-
HCM Control Delay (s)	18.6	-	\$ 975.4	25.1	-	-
HCM Lane LOS	C	-	F	D	-	-
HCM 95th %tile Q(veh)	0.9	-	3	1.7	-	-
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 2010 TWSC
7: SOUTH KIHEI ROAD & KAONOULU STREET

Existing (2016)
PM Peak Hour

Intersection						
Int Delay, s/veh	1.6					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	49	22	544	127	30	573
Future Vol, veh/h	49	22	544	127	30	573
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	75	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	99	99	99	99	99	99
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	49	22	549	128	30	579
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1253	614	0	0	678	0
Stage 1	614	-	-	-	-	-
Stage 2	639	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	190	492	-	-	914	-
Stage 1	540	-	-	-	-	-
Stage 2	526	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	181	492	-	-	914	-
Mov Cap-2 Maneuver	181	-	-	-	-	-
Stage 1	540	-	-	-	-	-
Stage 2	501	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	26.2	0		0.5		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 181 492	914	-		
HCM Lane V/C Ratio	-	- 0.273 0.045	0.033	-		
HCM Control Delay (s)	-	- 32.2 12.7	9.1	0		
HCM Lane LOS	-	- D B	A	A		
HCM 95th %tile Q(veh)	-	- 1.1 0.1	0.1	-		

HCM 2010 TWSC
8: PIILANI HIGHWAY & KULANIHAKOI STREET

Existing (2016)
PM Peak Hour

Intersection						
Int Delay, s/veh	12					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	32	102	54	1765	1729	65
Future Vol, veh/h	32	102	54	1765	1729	65
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	0	475	-	-	375
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	98	98	98	98	98	98
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	33	104	55	1801	1764	66
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2775	882	1764	0	-	0
Stage 1	1764	-	-	-	-	-
Stage 2	1011	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	~ 15	289	350	-	-	0
Stage 1	123	-	-	-	-	0
Stage 2	312	-	-	-	-	0
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 13	289	350	-	-	-
Mov Cap-2 Maneuver	~ 13	-	-	-	-	-
Stage 1	123	-	-	-	-	-
Stage 2	263	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	\$ 323.4	0.5		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	
Capacity (veh/h)	350	-	13	289	-	
HCM Lane V/C Ratio	0.157	-	2.512	0.36	-	
HCM Control Delay (s)	17.2	\$ 1276.8	24.3	-	-	
HCM Lane LOS	C	-	F	C	-	
HCM 95th %tile Q(veh)	0.6	-	4.9	1.6	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Existing (2016)
PM Peak Hour

Intersection												
Int Delay, s/veh	4.4											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	43	33	1	18	44	115	0	3	9	75	2	13
Future Vol, veh/h	43	33	1	18	44	115	0	3	9	75	2	13
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	37	1	20	49	128	0	3	10	83	2	14
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	177	0	0	38	0	0	294	350	37	292	286	113
Stage 1	-	-	-	-	-	-	133	133	-	153	153	-
Stage 2	-	-	-	-	-	-	161	217	-	139	133	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1399	-	-	1572	-	-	658	574	1035	660	623	940
Stage 1	-	-	-	-	-	-	870	786	-	849	771	-
Stage 2	-	-	-	-	-	-	841	723	-	864	786	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1399	-	-	1572	-	-	623	547	1035	627	594	940
Mov Cap-2 Maneuver	-	-	-	-	-	-	623	547	-	627	594	-
Stage 1	-	-	-	-	-	-	840	759	-	820	761	-
Stage 2	-	-	-	-	-	-	815	714	-	823	759	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	4.3			0.7			9.3			11.2		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	-	846	1399	-	-	1572	-	-	627	872		
HCM Lane V/C Ratio	-	0.016	0.034	-	-	0.013	-	-	0.133	0.019		
HCM Control Delay (s)	0	9.3	7.7	-	-	7.3	-	-	11.6	9.2		
HCM Lane LOS	A	A	A	-	-	A	-	-	B	A		
HCM 95th %tile Q(veh)	-	0	0.1	-	-	0	-	-	0.5	0.1		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Existing (2016)
PM Peak Hour

Intersection												
Int Delay, s/veh		3.5										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	64	73	14	4	49	4	5	0	1	4	0	26
Future Vol, veh/h	64	73	14	4	49	4	5	0	1	4	0	26
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	71	81	16	4	54	4	6	0	1	4	0	29
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	59	0	0	97	0	0	311	299	89	298	305	57
Stage 1	-	-	-	-	-	-	231	231	-	66	66	-
Stage 2	-	-	-	-	-	-	80	68	-	232	239	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1545	-	-	1496	-	-	642	613	969	654	608	1009
Stage 1	-	-	-	-	-	-	772	713	-	945	840	-
Stage 2	-	-	-	-	-	-	929	838	-	771	708	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1545	-	-	1496	-	-	601	583	969	629	579	1009
Mov Cap-2 Maneuver	-	-	-	-	-	-	601	583	-	629	579	-
Stage 1	-	-	-	-	-	-	737	680	-	902	838	-
Stage 2	-	-	-	-	-	-	900	836	-	735	675	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	3.2			0.5			10.7			9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	642	1545	-	-	1496	-	-	934				
HCM Lane V/C Ratio	0.01	0.046	-	-	0.003	-	-	0.036				
HCM Control Delay (s)	10.7	7.4	-	-	7.4	-	-	9				
HCM Lane LOS	B	A	-	-	A	-	-	A				
HCM 95th %tile O(veh)	0	0.1	-	-	0	-	-	0.1				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Existing (2016)
Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	57	50	100	40	146	46	1144	113	96	1124	60
Future Volume (veh/h)	66	57	50	100	40	146	46	1144	113	96	1124	60
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	68	59	0	103	41	0	47	1179	0	99	1159	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	104	299	254	151	348	296	161	1515	678	266	1725	772
Arrive On Green	0.06	0.16	0.00	0.09	0.19	0.00	0.09	0.43	0.00	0.15	0.49	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	68	59	0	103	41	0	47	1179	0	99	1159	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	3.2	2.3	0.0	4.8	1.6	0.0	2.1	24.3	0.0	4.3	21.2	0.0
Cycle Q Clear(g_c), s	3.2	2.3	0.0	4.8	1.6	0.0	2.1	24.3	0.0	4.3	21.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	104	299	254	151	348	296	161	1515	678	266	1725	772
V/C Ratio(X)	0.65	0.20	0.00	0.68	0.12	0.00	0.29	0.78	0.00	0.37	0.67	0.00
Avail Cap(c_a), veh/h	104	416	354	209	526	447	230	1515	678	292	1725	772
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.86	0.86	0.00
Uniform Delay (d), s/veh	39.1	30.9	0.0	37.8	28.7	0.0	36.1	20.9	0.0	32.5	16.6	0.0
Incr Delay (d2), s/veh	13.5	0.3	0.0	5.3	0.1	0.0	0.4	4.0	0.0	0.3	1.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.0	1.2	0.0	2.6	0.8	0.0	1.0	12.6	0.0	2.1	10.7	0.0
LnGrp Delay(d),s/veh	52.6	31.3	0.0	43.0	28.9	0.0	36.5	24.9	0.0	32.8	18.4	0.0
LnGrp LOS	D	C		D	C		D	C		C	B	
Approach Vol, veh/h		127			144			1226			1258	
Approach Delay, s/veh		42.7			39.0			25.3			19.6	
Approach LOS		D			D			C			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	16.7	40.4	10.2	17.6	11.7	45.4	8.0	19.9				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	26.0	9.0	18.0	10.0	29.0	4.0	23.0				
Max Q Clear Time (g_c+l1), s	6.3	26.3	6.8	4.3	4.1	23.2	5.2	3.6				
Green Ext Time (p_c), s	0.1	0.0	0.1	0.2	0.0	5.5	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			24.2									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Existing (2016)
Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	27	61	61	17	47	47	1242	47	41	1177	28
Future Volume (veh/h)	33	27	61	61	17	47	47	1242	47	41	1177	28
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	34	28	0	62	17	0	48	1267	0	42	1201	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	161	83	148	214	32	148	106	2356	1054	100	2342	1048
Arrive On Green	0.09	0.09	0.00	0.09	0.09	0.00	0.06	0.67	0.00	0.06	0.66	0.00
Sat Flow, veh/h	805	886	1583	1234	338	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	62	0	0	79	0	0	48	1267	0	42	1201	0
Grp Sat Flow(s),veh/h/ln	1691	0	1583	1572	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.8	0.0	0.0	1.7	12.1	0.0	1.5	11.3	0.0
Cycle Q Clear(g_c), s	2.1	0.0	0.0	2.9	0.0	0.0	1.7	12.1	0.0	1.5	11.3	0.0
Prop In Lane	0.55		1.00	0.78		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	244	0	148	246	0	148	106	2356	1054	100	2342	1048
V/C Ratio(X)	0.25	0.00	0.00	0.32	0.00	0.00	0.45	0.54	0.00	0.42	0.51	0.00
Avail Cap(c_a), veh/h	653	0	560	626	0	560	164	2356	1054	164	2342	1048
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	0.69	0.69	0.00	0.89	0.89	0.00
Uniform Delay (d), s/veh	27.6	0.0	0.0	28.0	0.0	0.0	29.5	5.7	0.0	29.6	5.6	0.0
Incr Delay (d2), s/veh	0.8	0.0	0.0	1.1	0.0	0.0	0.8	0.6	0.0	0.9	0.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	0.0	0.0	1.4	0.0	0.0	0.8	6.0	0.0	0.7	5.6	0.0
LnGrp Delay(d),s/veh	28.4	0.0	0.0	29.0	0.0	0.0	30.3	6.3	0.0	30.6	6.3	0.0
LnGrp LOS	C			C			C	A		C	A	
Approach Vol, veh/h	62				79		1315				1243	
Approach Delay, s/veh	28.4				29.0		7.2				7.2	
Approach LOS	C				C		A				A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	7.7	47.3			10.1	7.9	47.0	10.1				
Change Period (Y+Rc), s	5.0	5.0			5.0	5.0	5.0	5.0				
Max Green Setting (Gmax), s	23.0	23.0			22.0	5.0	23.0	22.0				
Max Q Clear Time (g_c+I), s	14.1	14.1			4.9	3.7	13.3	4.1				
Green Ext Time (p_c), s	0.0	8.4			0.6	0.0	9.2	0.7				
Intersection Summary												
HCM 2010 Ctrl Delay			8.3									
HCM 2010 LOS			A									

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Existing (2016)
Saturday Peak Ho

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	214	0	263	3	0	1	307	1031	1	3	974	198
Future Volume (veh/h)	214	0	263	3	0	1	307	1031	1	3	974	198
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	223	0	0	3	0	1	320	1074	0	3	1015	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	381	0	285	51	0	46	451	2379	1027	6	1948	871
Arrive On Green	0.11	0.00	0.00	0.03	0.00	0.01	0.13	0.67	0.00	0.00	0.55	0.00
Sat Flow, veh/h	3548	0	3167	1774	0	1583	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	223	0	0	3	0	1	320	1074	0	3	1015	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1583	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.1	0.0	0.0	0.1	0.0	0.1	7.6	12.1	0.0	0.1	15.4	0.0
Cycle Q Clear(g_c), s	5.1	0.0	0.0	0.1	0.0	0.1	7.6	12.1	0.0	0.1	15.4	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	381	0	285	51	0	46	451	2379	1027	6	1948	871
V/C Ratio(X)	0.58	0.00	0.00	0.06	0.00	0.02	0.71	0.45	0.00	0.53	0.52	0.00
Avail Cap(c_a), veh/h	417	0	317	146	0	130	911	2379	1027	83	1948	871
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	1.00	0.00	1.00	0.84	0.84	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	36.1	0.0	0.0	40.2	0.0	41.1	35.4	6.6	0.0	42.3	12.1	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	0.5	0.0	0.2	1.7	0.5	0.0	25.1	1.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	0.1	0.0	0.0	3.7	6.0	0.0	0.1	7.7	0.0
LnGrp Delay(d),s/veh	37.8	0.0	0.0	40.6	0.0	41.3	37.1	7.1	0.0	67.4	13.1	0.0
LnGrp LOS	D			D			D	A		E	B	
Approach Vol, veh/h	223				4		1394				1018	
Approach Delay, s/veh	37.8				40.8		14.0				13.2	
Approach LOS	D				D		B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	61.1		6.5	14.6	50.8		13.1				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s	46.0			5.0	22.0	28.0		8.0				
Max Q Clear Time (g_c+I), s	14.1			2.1	9.6	17.4		7.1				
Green Ext Time (p_c), s	0.0	22.2		0.0	1.1	9.1		0.1				
Intersection Summary												
HCM 2010 Ctrl Delay	15.7											
HCM 2010 LOS	B											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary
4: SOUTH KIHAI ROAD & NORTH KIHAI ROAD

Existing (2016)
Saturday Peak Ho

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	332	318	169	334	278	162		
Future Volume (veh/h)	332	318	169	334	278	162		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	346	0	176	348	290	169		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	679	577	255	2139	702	266		
Arrive On Green	0.36	0.00	0.14	0.60	0.20	0.17		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	346	0	176	348	290	169		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	6.0	0.0	3.9	1.8	3.1	4.1		
Cycle Q Clear(g_c), s	6.0	0.0	3.9	1.8	3.1	4.1		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	679	577	255	2139	702	266		
V/C Ratio(X)	0.51	0.00	0.69	0.16	0.41	0.64		
Avail Cap(c_a), veh/h	1184	1006	340	3268	702	266		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	10.3	0.0	17.0	3.6	14.4	16.2		
Incr Delay (d2), s/veh	1.3	0.0	1.7	0.1	0.1	3.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	3.3	0.0	2.0	0.9	1.5	2.1		
LnGrp Delay(d),s/veh	11.6	0.0	18.7	3.7	14.6	20.0		
LnGrp LOS	B		B	A	B	B		
Approach Vol, veh/h	346			524	459			
Approach Delay, s/veh	11.6			8.7	16.6			
Approach LOS	B			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.0	19.2				29.2		12.5
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	25.0					37.0		7.0
Max Q Clear Time (g_c+I_b), s	8.0					3.8		6.1
Green Ext Time (p_c), s	0.1	5.6				7.3		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			12.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary
5: PIILANI HIGHWAY & PIIKEA AVENUE

Existing (2016)
Saturday Peak Ho

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	253	238	195	1067	1031	340		
Future Volume (veh/h)	253	238	195	1067	1031	340		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	258	0	199	1089	1052	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	317	283	246	2434	1708	764		
Arrive On Green	0.18	0.00	0.14	0.69	0.48	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	258	0	199	1089	1052	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	8.4	0.0	6.5	8.3	13.1	0.0		
Cycle Q Clear(g_c), s	8.4	0.0	6.5	8.3	13.1	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	317	283	246	2434	1708	764		
V/C Ratio(X)	0.81	0.00	0.81	0.45	0.62	0.00		
Avail Cap(c_a), veh/h	473	422	296	2434	1708	764		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	23.7	0.0	25.1	4.2	11.4	0.0		
Incr Delay (d2), s/veh	6.6	0.0	13.1	0.6	1.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.7	0.0	4.1	4.1	6.7	0.0		
LnGrp Delay(d),s/veh	30.2	0.0	38.2	4.8	13.1	0.0		
LnGrp LOS	C		D	A	B			
Approach Vol, veh/h	258			1288	1052			
Approach Delay, s/veh	30.2			10.0	13.1			
Approach LOS	C			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		45.3		14.7	12.3	33.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		36.0		16.0	10.0	22.0		
Max Q Clear Time (g_c+l1), s		10.3		10.4	8.5	15.1		
Green Ext Time (p_c), s		12.7		0.5	0.1	5.1		
Intersection Summary								
HCM 2010 Ctrl Delay			13.3					
HCM 2010 LOS			B					

HCM 2010 TWSC
6: PIILANI HIGHWAY & KAONOULU STREET

Existing (2016)
Saturday Peak Ho

Intersection						
Int Delay, s/veh	2.8					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	26	100	72	1292	1228	33
Future Vol, veh/h	26	100	72	1292	1228	33
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Yield
Storage Length	250	0	400	-	-	325
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	97	97	97	97	97	97
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	27	103	74	1332	1266	34
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2080	633	1266	0	-	0
Stage 1	1266	-	-	-	-	-
Stage 2	814	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	46	422	545	-	-	-
Stage 1	229	-	-	-	-	-
Stage 2	396	-	-	-	-	-
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	40	422	545	-	-	-
Mov Cap-2 Maneuver	40	-	-	-	-	-
Stage 1	229	-	-	-	-	-
Stage 2	342	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	54.5	0.7		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	SBR
Capacity (veh/h)	545	-	40	422	-	-
HCM Lane V/C Ratio	0.136	-	0.67	0.244	-	-
HCM Control Delay (s)	12.6	-	201.5	16.3	-	-
HCM Lane LOS	B	-	F	C	-	-
HCM 95th %tile Q(veh)	0.5	-	2.5	0.9	-	-

Intersection						
Int Delay, s/veh	1.9					
Movement	WBL	WBR	NBT	NBR	SBL	SBT
Traffic Vol, veh/h	61	15	490	99	24	488
Future Vol, veh/h	61	15	490	99	24	488
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	None	-	None	-	None
Storage Length	75	0	-	-	-	-
Veh in Median Storage, #	0	-	0	-	-	0
Grade, %	0	-	0	-	-	0
Peak Hour Factor	92	92	92	92	92	92
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	66	16	533	108	26	530
Major/Minor	Minor1	Major1		Major2		
Conflicting Flow All	1169	586	0	0	640	0
Stage 1	586	-	-	-	-	-
Stage 2	583	-	-	-	-	-
Critical Hdwy	6.42	6.22	-	-	4.12	-
Critical Hdwy Stg 1	5.42	-	-	-	-	-
Critical Hdwy Stg 2	5.42	-	-	-	-	-
Follow-up Hdwy	3.518	3.318	-	-	2.218	-
Pot Cap-1 Maneuver	213	510	-	-	944	-
Stage 1	556	-	-	-	-	-
Stage 2	558	-	-	-	-	-
Platoon blocked, %			-	-		-
Mov Cap-1 Maneuver	205	510	-	-	944	-
Mov Cap-2 Maneuver	205	-	-	-	-	-
Stage 1	556	-	-	-	-	-
Stage 2	536	-	-	-	-	-
Approach	WB	NB		SB		
HCM Control Delay, s	27.1	0		0.4		
HCM LOS	D					
Minor Lane/Major Mvmt	NBT	NBRWBLn1WBLn2	SBL	SBT		
Capacity (veh/h)	-	- 205 510	944	-		
HCM Lane V/C Ratio	-	- 0.323 0.032	0.028	-		
HCM Control Delay (s)	-	- 30.7 12.3	8.9	0		
HCM Lane LOS	-	- D B	A	A		
HCM 95th %tile Q(veh)	-	- 1.3 0.1	0.1	-		

HCM 2010 TWSC
8: PIILANI HIGHWAY & KULANIHAKOI STREET

Existing (2016)
Saturday Peak Ho

Intersection						
Int Delay, s/veh	5.3					
Movement	EBL	EBR	NBL	NBT	SBT	SBR
Traffic Vol, veh/h	42	70	40	1344	1223	53
Future Vol, veh/h	42	70	40	1344	1223	53
Conflicting Peds, #/hr	0	0	0	0	0	0
Sign Control	Stop	Stop	Free	Free	Free	Free
RT Channelized	-	Yield	-	None	-	Free
Storage Length	0	0	475	-	-	375
Veh in Median Storage, #	0	-	-	0	0	-
Grade, %	0	-	-	0	0	-
Peak Hour Factor	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2
Mvmt Flow	44	74	42	1415	1287	56
Major/Minor	Minor2	Major1		Major2		
Conflicting Flow All	2079	644	1287	0	-	0
Stage 1	1287	-	-	-	-	-
Stage 2	792	-	-	-	-	-
Critical Hdwy	6.84	6.94	4.14	-	-	-
Critical Hdwy Stg 1	5.84	-	-	-	-	-
Critical Hdwy Stg 2	5.84	-	-	-	-	-
Follow-up Hdwy	3.52	3.32	2.22	-	-	-
Pot Cap-1 Maneuver	46	416	535	-	-	0
Stage 1	223	-	-	-	-	0
Stage 2	407	-	-	-	-	0
Platoon blocked, %				-	-	-
Mov Cap-1 Maneuver	~ 42	416	535	-	-	-
Mov Cap-2 Maneuver	~ 42	-	-	-	-	-
Stage 1	223	-	-	-	-	-
Stage 2	375	-	-	-	-	-
Approach	EB	NB		SB		
HCM Control Delay, s	123.8	0.4		0		
HCM LOS	F					
Minor Lane/Major Mvmt	NBL	NBT	EBLn1	EBLn2	SBT	
Capacity (veh/h)	535	-	42	416	-	
HCM Lane V/C Ratio	0.079	-	1.053	0.177	-	
HCM Control Delay (s)	12.3	-	\$ 304.4	15.5	-	
HCM Lane LOS	B	-	F	C	-	
HCM 95th %tile Q(veh)	0.3	-	4.2	0.6	-	
Notes						
~: Volume exceeds capacity \$: Delay exceeds 300s +: Computation Not Defined *: All major volume in platoon						

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Existing (2016)
Saturday Peak Ho

Intersection												
Int Delay, s/veh	5.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	32	49	2	12	36	47	1	5	12	85	3	12
Future Vol, veh/h	32	49	2	12	36	47	1	5	12	85	3	12
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	37	56	2	14	41	54	1	6	14	98	3	14
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	95	0	0	59	0	0	236	254	57	237	228	68
Stage 1	-	-	-	-	-	-	131	131	-	96	96	-
Stage 2	-	-	-	-	-	-	105	123	-	141	132	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1499	-	-	1545	-	-	718	650	1009	717	671	995
Stage 1	-	-	-	-	-	-	873	788	-	911	815	-
Stage 2	-	-	-	-	-	-	901	794	-	862	787	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1499	-	-	1545	-	-	687	628	1009	684	649	995
Mov Cap-2 Maneuver	-	-	-	-	-	-	687	628	-	684	649	-
Stage 1	-	-	-	-	-	-	851	769	-	889	808	-
Stage 2	-	-	-	-	-	-	877	787	-	823	768	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	2.9			0.9			9.4			10.8		
HCM LOS							A			B		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	687	856	1499	-	-	1545	-	-	684	899		
HCM Lane V/C Ratio	0.002	0.023	0.025	-	-	0.009	-	-	0.143	0.019		
HCM Control Delay (s)	10.2	9.3	7.5	-	-	7.4	-	-	11.1	9.1		
HCM Lane LOS	B	A	A	-	-	A	-	-	B	A		
HCM 95th %tile Q(veh)	0	0.1	0.1	-	-	0	-	-	0.5	0.1		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Existing (2016)
Saturday Peak Ho

Intersection												
Int Delay, s/veh		3.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	30	77	9	4	42	5	8	1	4	4	2	45
Future Vol, veh/h	30	77	9	4	42	5	8	1	4	4	2	45
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	33	86	10	4	47	6	9	1	4	4	2	50
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	52	0	0	96	0	0	241	218	91	218	220	49
Stage 1	-	-	-	-	-	-	157	157	-	58	58	-
Stage 2	-	-	-	-	-	-	84	61	-	160	162	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1554	-	-	1498	-	-	713	680	967	738	678	1020
Stage 1	-	-	-	-	-	-	845	768	-	954	847	-
Stage 2	-	-	-	-	-	-	924	844	-	842	764	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1554	-	-	1498	-	-	664	664	967	720	662	1020
Mov Cap-2 Maneuver	-	-	-	-	-	-	664	664	-	720	662	-
Stage 1	-	-	-	-	-	-	827	752	-	934	845	-
Stage 2	-	-	-	-	-	-	874	842	-	819	748	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			0.6			10			9		
HCM LOS							B			A		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	735	1554	-	-	1498	-	-	968				
HCM Lane V/C Ratio	0.02	0.021	-	-	0.003	-	-	0.059				
HCM Control Delay (s)	10	7.4	-	-	7.4	-	-	9				
HCM Lane LOS	B	A	-	-	A	-	-	A				
HCM 95th %tile O(veh)	0.1	0.1	-	-	0	-	-	0.2				

Traffic Signal Warrants - Existing (2016)
Pi'ilani Highway and Kaonoulu Street

8-Hour Warrant Condition A - 100%

Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1	2	3	4	5	6	7	8	Pass?							
Pi'ilani Highway / Kaonoulu Street	Major	2	600	3483	No	3428	No	2974	2950	No	2693	No	2600	No	2573	No	2538	No	No
	Minor	2	200	114		126		224	110		156		137		118		110		No

8-Hour Warrant Condition B - 100%

Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1	2	3	4	5	6	7	8	Pass?								
Pi'ilani Highway / Kaonoulu Street	Major	2	900	3483	Pass	3428	Pass	2974	Pass	2950	Pass	2693	Pass	2600	Pass	2573	Pass	2538	Pass	Pass
	Minor	2	100	114		126		224		110		156		137		118		110		Pass

8-Hour Warrant Condition A - 80%

Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1		2		3		4		5		6		7		8		Pass?
Pi'ilani Highway / Kaonoulu Street	Major	2	480	3483	No	3428	No	2974	Pass	2950	No	2693	No	2600	No	2573	No	2538	No	No
	Minor	2	160	114		126		224		110		156		137		118		110		No

8-Hour Warrant Condition B - 80%

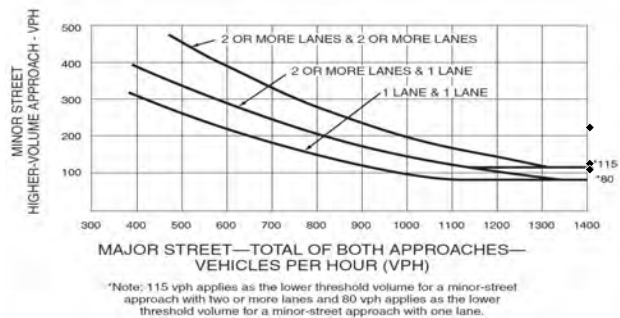
Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1	2	3	4	5	6	7	8	Pass?								
Pi'ilani Highway / Kaonoulu Street	Major	2	720	3483	Pass	3428	Pass	2974	Pass	2950	Pass	2693	Pass	2600	Pass	2573	Pass	2538	Pass	Pass
	Minor	2	80	114		126		224		110		156		137		118		110		Pass

Traffic Signal Warrants - Existing (2016)
Pi'ilani Highway and Kaonoulu Street

4-Hour Warrant - Figure 4C-2

Major/Minor Roads	Approach Type	# of Lanes	1	2	3	4	Pass?
Pi'ilani Highway / Kaonoulu Street	Major	2	3483		2974	2950	
	Minor	2	114	No	126	110	No

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



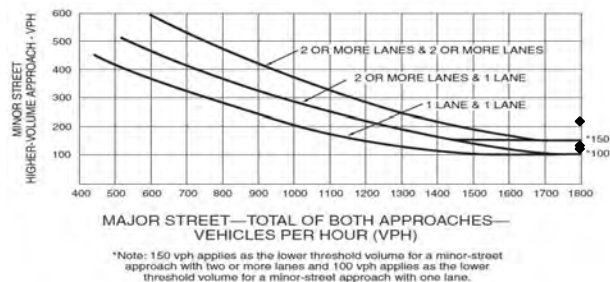
Source: MUTCD, 2009.

Traffic Signal Warrants - Existing (2016)
Pi'ilani Highway and Kaonoulu Street

Peak Hour Warrant - Figure 4C-3

Major/Minor Roads	Approach Type	# of Lanes	AM Volume	Pass?	PM Volume	Pass?	SAT VOLUME	Pass?	Pass?
Pi'ilani Highway / Kaonoulu Street	Major	2	3050		3542	No	2625	No	Yes
	Minor	2	228	Yes	123		126		

Figure 4C-3. Warrant 3, Peak Hour



Source: MUTCD, 2009.

Traffic Signal Warrants - Existing (2016)
Pi'ilani Highway and Kulanihakai Street

8-Hour Warrant Condition A - 100%

Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1		2		3		4		5		6		7		8		Pass?
Pi'ilani Highway / Kulanihakai Street	Major	2	600	3554	No	3550	No	3127	No	3034	No	2820	No	2660	No	2656	No	2589	No	No
	Minor	2	200	142		121		174		35		196		112		106		99		

8-Hour Warrant Condition B - 100%

Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1		2		3		4		5		6		7		8		Pass?
Pi'ilani Highway / Kulanihakai Street	Major	2	900	3554	Pass	3550	Pass	3127	Pass	3034	No	2820	Pass	2660	Pass	2656	Pass	2589	No	No
	Minor	2	100	142		121		174		35		196		112		106		99		

8-Hour Warrant Condition B - 80%

Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1		2		3		4		5		6		7		8		Pass?
Pi'ilani Highway / Kulanihakai Street	Major	2	480	3554	No	3550	No	3127	Pass	3034	No	2820	Pass	2660	No	2656	No	2589	No	No
	Minor	2	160	142		121		174		35		196		112		106		99		

8-Hour Warrant Condition B - 80%

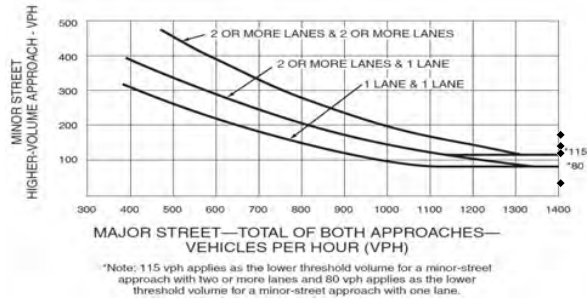
Major/Minor Roads	Approach Type	# of Lanes	Volume Threshold	1		2		3		4		5		6		7		8		Pass?
Pi'ilani Highway / Kulanihakai Street	Major	2	720	3554	Pass	3550	Pass	3127	Pass	3034	No	2820	Pass	2660	Pass	2656	Pass	2589	Pass	No
	Minor	2	80	142		121		174		35		196		112		106		99		

Traffic Signal Warrants - Existing (2016)
Pi'ilani Highway and Kulanihakai Street

4-Hour Warrant - Figure 4C-2

Major/Minor Roads	Approach Type	# of Lanes	1		2		3		4		Pass?
Pi'ilani Highway / Kulanihakai Street	Major	2	3554	Yes	3550	Yes	3127	Yes	3034	No	No
	Minor	2	142		121		174		35		

Figure 4C-1. Warrant 2, Four-Hour Vehicular Volume



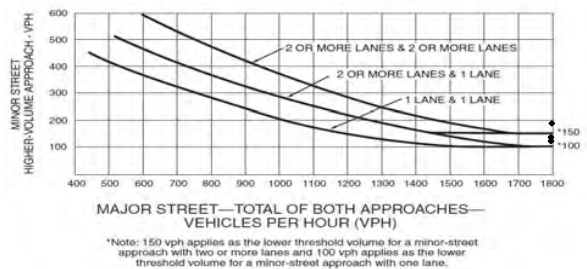
Source: MUTCD, 2009.

Traffic Signal Warrants - Existing (2016)
Pi'ilani Highway and Kulanihakai Street

Peak Hour Warrant - Figure 4C-3

Major/Minor Roads	Approach Type	# of Lanes	AM Volume	Pass?	PM Volume	Pass?	SAT VOLUME	Pass?	Pass?
Pi'ilani Highway / Kulanihakai Street	Major	2	3218	Yes	3613	No	2660	No	Yes
	Minor	2	190		134		112		

Figure 4C-3. Warrant 3, Peak Hour



Source: MUTCD, 2009.

Appendix E

County of Maui South Maui
Development Map

[illegible]

Projects depicted on the map which do not appear in the list above have no residential units planned

The development projects shown are those projects that have come to the attention of the Department of Planning. There are certainly a great many more projects that are in various stages of development, but they are not shown for the same areas within the Maui Island Plan growth boundaries depicted. It is the case for some areas within the Maui Island Plan growth boundaries depicted that the Department has not been informed. This is the case for some areas within the Maui Island Plan growth boundaries depicted that are not shown to 2030. There are many areas within the growth boundaries that are not already partially or fully developed, and other areas where no development proposals have been brought to the attention of the Department. Further, the Department has not been able to identify all the projects that are in various stages of development and subdivisions of less than 40 lots. Therefore, this is not a complete depiction of the development projects for the county, and these maps are not intended to be a device for assessing project.

Projects identified as "Committee" have inclusion in the Maui Island Plan growth boundaries, are approved 2030GHP projects, "Committee" refers to the status of the project, or are approved 2030GHP projects. "Committee" refers to the status of the land relative to the primary county land use entitlements, but is in no way intended to be a device for assessing project. Projects identified as "Committee" are proposed with development or convey any land use timeframe for development.

Projects identified as "MIP and CP" have inclusion in the Maui Island Plan Growth Boundaries and the appropriate urban or rural Community Plan designations but not the conforming zoning entitlements to proceed.

Projects identified as "DHHL Near Term" are Department of Hawaiian Homelands (DHHL) projects planned to be initiated within the current planning horizon.

Lastly, the classifications above are in reference to the general level of county land use entitlements for the entire project. Project plans frequently change over time, and specific portions of the projects may gain or lose conformity in

the process. Also, state entitlement and various county permits may be required before all or particular portions of a project can be developed. Please consult with the Department of Planning's Zoning Administration and Enforcement Division to confirm Maui Island Plan, Community Plan, Zoning and other land use entitlements.

Waiheke Island

Waiheke Harbour

Waiheke Peninsula

Legend

- Waiheke Island
- Waiheke Harbour
- Waiheke Peninsula

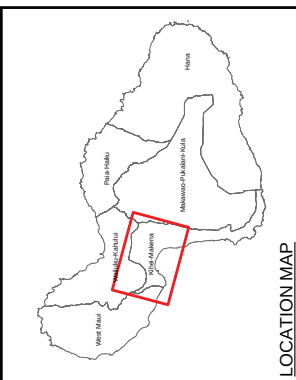
Legend

Development Project Classes

- Committed
- MIP and CP
- MIP Only
- DPHL Near Term
- DPHL Long Term
- Project Depicted on Adjacent Map

Maui Island Plan Growth Boundaries

- Urban
- Small Town
- Rural

[illegible]

Appendix F

Analysis Reports Future (2025) and
(2032) Without Project Conditions

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2025) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	104	101	317	64	219	27	1130	137	211	1737	29
Future Volume (veh/h)	106	104	101	317	64	219	27	1130	137	211	1737	29
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	111	0	337	68	0	29	1202	0	224	1848	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	206	175	306	372	316	97	1659	742	257	1980	886
Arrive On Green	0.08	0.11	0.00	0.17	0.20	0.00	0.05	0.47	0.00	0.14	0.56	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	113	111	0	337	68	0	29	1202	0	224	1848	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	8.2	0.0	25.0	4.4	0.0	2.3	39.6	0.0	17.9	69.8	0.0
Cycle Q Clear(g_c), s	9.0	8.2	0.0	25.0	4.4	0.0	2.3	39.6	0.0	17.9	69.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	148	206	175	306	372	316	97	1659	742	257	1980	886
V/C Ratio(X)	0.77	0.54	0.00	1.10	0.18	0.00	0.30	0.72	0.00	0.87	0.93	0.00
Avail Cap(c_a), veh/h	208	308	262	306	411	349	135	1659	742	281	1980	886
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.61	0.61	0.00
Uniform Delay (d), s/veh	65.1	61.0	0.0	60.0	48.2	0.0	65.9	31.0	0.0	60.7	29.5	0.0
Incr Delay (d2), s/veh	10.3	2.2	0.0	81.6	0.2	0.0	0.6	2.8	0.0	14.4	6.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	4.3	0.0	19.2	2.3	0.0	1.1	20.0	0.0	9.8	35.6	0.0
LnGrp Delay(d),s/veh	75.4	63.2	0.0	141.6	48.4	0.0	66.5	33.8	0.0	75.1	35.9	0.0
LnGrp LOS	E	E		F	D		E	C		E	D	
Approach Vol, veh/h		224			405			1231			2072	
Approach Delay, s/veh		69.4			125.9			34.5			40.1	
Approach LOS		E			F			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	25.0	72.0	15.1	32.9	11.9	85.1	28.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	22.0	57.0	16.0	31.0	10.0	69.0	24.0	23.0				
Max Q Clear Time (g_c+l1), s	19.9	41.6	11.0	6.4	4.3	71.8	27.0	10.2				
Green Ext Time (p_c), s	0.1	15.0	0.1	0.6	0.0	0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay				48.9								
HCM 2010 LOS				D								

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2025) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	31	98	198	29	164	31	1345	70	54	1635	20
Future Volume (veh/h)	84	31	98	198	29	164	31	1345	70	54	1635	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	90	33	0	213	31	0	33	1446	0	58	1758	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	92	83	70	178	83	70	407	2663	1191	138	1992	891
Arrive On Green	0.05	0.04	0.00	0.05	0.04	0.00	0.23	0.75	0.00	0.04	0.56	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	90	33	0	213	31	0	33	1446	0	58	1758	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	6.8	2.3	0.0	7.0	2.2	0.0	2.0	23.1	0.0	2.2	58.2	0.0
Cycle Q Clear(g_c), s	6.8	2.3	0.0	7.0	2.2	0.0	2.0	23.1	0.0	2.2	58.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	92	83	70	178	83	70	407	2663	1191	138	1992	891
V/C Ratio(X)	0.98	0.40	0.00	1.19	0.37	0.00	0.08	0.54	0.00	0.42	0.88	0.00
Avail Cap(c_a), veh/h	92	359	305	178	359	305	407	2663	1191	280	1992	891
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.66	0.66	0.00	0.64	0.64	0.00
Uniform Delay (d), s/veh	63.9	62.7	0.0	64.0	62.7	0.0	40.8	7.0	0.0	63.2	25.6	0.0
Incr Delay (d2), s/veh	86.5	4.4	0.0	129.1	4.0	0.0	0.0	0.5	0.0	0.5	4.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.6	1.3	0.0	6.5	1.2	0.0	1.0	11.2	0.0	1.1	29.4	0.0
LnGrp Delay(d),s/veh	150.4	67.1	0.0	193.1	66.6	0.0	40.8	7.5	0.0	63.7	29.6	0.0
LnGrp LOS	F	E		F	E		D	A		E	C	
Approach Vol, veh/h	123			244			1479			1816		
Approach Delay, s/veh	128.1			177.0			8.3			30.7		
Approach LOS	F			F			A			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	105.6	10.0	10.0	35.0	80.0	10.0	10.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	10.0	75.0	6.0	25.0	10.0	75.0	6.0	25.0				
Max Q Clear Time (g_c+1.2), s	14.2	25.1	8.8	4.2	4.0	60.2	9.0	4.3				
Green Ext Time (p_c), s	0.0	23.8	0.0	0.2	3.1	12.3	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	34.7											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2025) Without Project

AM Peak Hour

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	217	3	458	8	1	21	531	1110	5	2	1252	151
Future Volume (veh/h)	217	3	458	8	1	21	531	1110	5	2	1252	151
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	235	0	0	9	1	23	571	1194	0	2	1346	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	399	0	297	102	4	88	645	2222	955	4	1566	701
Arrive On Green	0.11	0.00	0.00	0.06	0.06	0.03	0.19	0.63	0.00	0.00	0.44	0.00
Sat Flow, veh/h	3548	0	3167	1774	66	1527	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	235	0	0	9	0	24	571	1194	0	2	1346	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1593	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.0	0.0	0.0	0.4	0.0	1.2	12.9	15.2	0.0	0.1	27.4	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	0.4	0.0	1.2	12.9	15.2	0.0	0.1	27.4	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	399	0	297	102	0	92	645	2222	955	4	1566	701
V/C Ratio(X)	0.59	0.00	0.00	0.09	0.00	0.26	0.88	0.54	0.00	0.52	0.86	0.00
Avail Cap(c_a), veh/h	399	0	297	155	0	139	645	2222	955	89	1566	701
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	1.00	0.00	1.00	0.77	0.77	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	33.7	0.0	0.0	35.7	0.0	37.0	31.7	8.4	0.0	39.9	20.1	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.4	0.0	1.5	11.1	0.7	0.0	34.8	6.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	0.0	0.0	0.2	0.0	0.6	7.1	7.5	0.0	0.1	14.7	0.0
LnGrp Delay(d),s/veh	35.9	0.0	0.0	36.1	0.0	38.5	42.8	9.1	0.0	74.6	26.4	0.0
LnGrp LOS	D			D		D	D	A		E	C	
Approach Vol, veh/h	235			33			1765			1348		
Approach Delay, s/veh	35.9			37.8			20.0			26.5		
Approach LOS	D			D			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	54.2		8.6	19.0	39.4		13.0				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	42.0			5.0	14.5	31.0		7.0				
Max Q Clear Time (g_c+I_2), s	17.2			3.2	14.9	29.4		7.0				
Green Ext Time (p_c), s	0.0	21.2		0.0	0.0	1.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	23.9											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2025) Without Project
AM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations				 	 			
Traffic Volume (veh/h)	379	262	93	521	597	247		
Future Volume (veh/h)	379	262	93	521	597	247		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	395	0	97	543	622	257		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	900	765	153	2253	792	325		
Arrive On Green	0.48	0.00	0.09	0.64	0.23	0.21		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	395	0	97	543	622	257		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	8.3	0.0	3.2	4.0	10.2	9.2		
Cycle Q Clear(g_c), s	8.3	0.0	3.2	4.0	10.2	9.2		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	900	765	153	2253	792	325		
V/C Ratio(X)	0.44	0.00	0.63	0.24	0.79	0.79		
Avail Cap(c_a), veh/h	900	765	177	2253	803	330		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.63	0.63	1.00	1.00		
Uniform Delay (d), s/veh	10.2	0.0	26.5	4.7	21.7	22.6		
Incr Delay (d2), s/veh	1.6	0.0	2.1	0.2	4.6	11.1		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.7	0.0	1.7	1.9	5.3	5.1		
LnGrp Delay(d),s/veh	11.7	0.0	28.6	4.8	26.3	33.8		
LnGrp LOS	B		C	A	C	C		
Approach Vol, veh/h	395			640	879			
Approach Delay, s/veh	11.7			8.4	28.5			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.2	33.0				42.2		17.8
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	4.0	26.5				36.5		12.5
Max Q Clear Time (g_c+I_2), s	10.3	10.3				6.0		12.2
Green Ext Time (p_c), s	0.0	7.5				10.3		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			18.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2025) Without Project

AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	283	217	191	1402	1969	434		
Future Volume (veh/h)	283	217	191	1402	1969	434		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	301	0	203	1491	2095	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	315	281	197	2595	2045	915		
Arrive On Green	0.18	0.00	0.11	0.73	0.58	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	301	0	203	1491	2095	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	15.1	0.0	10.0	17.5	52.0	0.0		
Cycle Q Clear(g_c), s	15.1	0.0	10.0	17.5	52.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	315	281	197	2595	2045	915		
V/C Ratio(X)	0.95	0.00	1.03	0.57	1.02	0.00		
Avail Cap(c_a), veh/h	315	281	197	2595	2045	915		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	36.6	0.0	40.0	5.5	19.0	0.0		
Incr Delay (d2), s/veh	38.5	0.0	72.1	0.9	26.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.2	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.7	0.0	8.8	8.6	32.5	0.0		
LnGrp Delay(d),s/veh	75.2	0.0	112.3	6.5	45.4	0.0		
LnGrp LOS	E		F	A	F			
Approach Vol, veh/h	301			1694	2095			
Approach Delay, s/veh	75.2			19.1	45.4			
Approach LOS	E			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		70.0		20.0	14.0	56.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		66.0		16.0	10.0	52.0		
Max Q Clear Time (g_c+I1), s		19.5		17.1	12.0	54.0		
Green Ext Time (p_c), s		36.2		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			36.7					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary
6: PIILANI HIGHWAY & KAONOULU STREET

Future (2025) Without Project
AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	63	295	120	1341	2087	117		
Future Volume (veh/h)	63	295	120	1341	2087	117		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	66	0	126	1412	2197	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	86	77	138	3052	2620	1172		
Arrive On Green	0.05	0.00	0.08	0.86	0.74	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	66	0	126	1412	2197	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	3.3	0.0	6.3	8.2	38.3	0.0		
Cycle Q Clear(g_c), s	3.3	0.0	6.3	8.2	38.3	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	86	77	138	3052	2620	1172		
V/C Ratio(X)	0.76	0.00	0.91	0.46	0.84	0.00		
Avail Cap(c_a), veh/h	315	281	138	3052	2620	1172		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	42.3	0.0	41.2	1.4	8.0	0.0		
Incr Delay (d2), s/veh	13.0	0.0	51.3	0.5	3.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.9	0.0	5.1	3.9	19.5	0.0		
LnGrp Delay(d),s/veh	55.3	0.0	92.5	1.9	11.4	0.0		
LnGrp LOS	E		F	A	B			
Approach Vol, veh/h	66			1538	2197			
Approach Delay, s/veh	55.3			9.3	11.4			
Approach LOS	E			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		81.6		8.4	11.0	70.6		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		66.0		16.0	7.0	55.0		
Max Q Clear Time (g_c+I1), s		10.2		5.3	8.3	40.3		
Green Ext Time (p_c), s		42.2		0.1	0.0	13.5		
Intersection Summary								
HCM 2010 Ctrl Delay			11.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2025) Without Project
AM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	90	42	659	103	35	487		
Future Volume (veh/h)	90	42	659	103	35	487		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	98	46	716	112	38	529		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	150	134	1077	168	55	1457		
Arrive On Green	0.08	0.08	0.68	0.68	0.03	0.78		
Sat Flow, veh/h	1774	1583	1573	246	1774	1863		
Grp Volume(v), veh/h	98	46	0	828	38	529		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1819	1774	1863		
Q Serve(g_s), s	3.2	1.6	0.0	15.8	1.3	5.2		
Cycle Q Clear(g_c), s	3.2	1.6	0.0	15.8	1.3	5.2		
Prop In Lane	1.00	1.00		0.14	1.00			
Lane Grp Cap(c), veh/h	150	134	0	1245	55	1457		
V/C Ratio(X)	0.65	0.34	0.00	0.67	0.68	0.36		
Avail Cap(c_a), veh/h	473	422	0	1245	118	1457		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	26.6	25.9	0.0	5.5	28.8	2.0		
Incr Delay (d2), s/veh	4.8	1.5	0.0	2.8	13.9	0.7		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.8	0.8	0.0	8.8	0.8	2.8		
LnGrp Delay(d),s/veh	31.4	27.4	0.0	8.3	42.6	2.7		
LnGrp LOS	C	C		A	D	A		
Approach Vol, veh/h	144		828			567		
Approach Delay, s/veh	30.1		8.3			5.4		
Approach LOS	C		A			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	5.9	45.1				50.9		9.1
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	28.0				36.0		16.0
Max Q Clear Time (g_c+I), s	13.3	17.8				7.2		5.2
Green Ext Time (p_c), s	0.0	5.0				8.1		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			9.3					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

Future (2025) Without Project

8: PIILANI HIGHWAY & KULANIHAKOI STREET/Kihei HS Access

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	75	139	155	15	60	47	1387	285	120	2219	59
Future Volume (veh/h)	26	75	139	155	15	60	47	1387	285	120	2219	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	27	82	0	168	16	0	49	1460	0	130	2336	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	89	245	258	252	19	258	59	2294	1026	157	2490	1114
Arrive On Green	0.16	0.16	0.00	0.16	0.16	0.00	0.03	0.65	0.00	0.09	0.70	0.00
Sat Flow, veh/h	316	1501	1583	1192	114	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	109	0	0	184	0	0	49	1460	0	130	2336	0
Grp Sat Flow(s),veh/h/ln	1817	0	1583	1306	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	10.3	0.0	0.0	3.3	29.6	0.0	8.6	69.1	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	16.6	0.0	0.0	3.3	29.6	0.0	8.6	69.1	0.0
Prop In Lane	0.25		1.00	0.91		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	334	0	258	270	0	258	59	2294	1026	157	2490	1114
V/C Ratio(X)	0.33	0.00	0.00	0.68	0.00	0.00	0.83	0.64	0.00	0.83	0.94	0.00
Avail Cap(c_a), veh/h	426	0	343	342	0	343	59	2294	1026	237	2490	1114
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.6	0.0	0.0	49.1	0.0	0.0	57.7	12.6	0.0	53.8	15.5	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	3.8	0.0	0.0	60.4	1.4	0.0	13.7	8.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	0.0	0.0	6.2	0.0	0.0	2.6	14.8	0.0	4.8	36.0	0.0
LnGrp Delay(d),s/veh	45.2	0.0	0.0	52.9	0.0	0.0	118.0	14.0	0.0	67.4	23.9	0.0
LnGrp LOS	D			D			F	B		E	C	
Approach Vol, veh/h	109				184		1509				2466	
Approach Delay, s/veh	45.2				52.9		17.4				26.2	
Approach LOS	D				D		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	14.6	81.8			23.6	8.0	88.4	23.6				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	10.0	66.0			26.0	4.0	78.0	26.0				
Max Q Clear Time (g_c+I), s	10.6	31.6			8.3	5.3	71.1	18.6				
Green Ext Time (p_c), s	0.1	29.9			1.6	0.0	6.7	1.0				
Intersection Summary												
HCM 2010 Ctrl Delay			24.7									
HCM 2010 LOS			C									

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2025) Without Project

AM Peak Hour

Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	133	22	37	125	70	22	8	54	176	8	15
Future Vol, veh/h	28	133	22	37	125	70	22	8	54	176	8	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	140	23	39	132	74	23	8	57	185	8	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	205	0	0	163	0	0	469	494	152	489	468	168
Stage 1	-	-	-	-	-	-	211	211	-	246	246	-
Stage 2	-	-	-	-	-	-	258	283	-	243	222	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1366	-	-	1416	-	-	505	476	894	489	493	876
Stage 1	-	-	-	-	-	-	791	728	-	758	703	-
Stage 2	-	-	-	-	-	-	747	677	-	761	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1366	-	-	1416	-	-	471	453	894	435	469	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	471	453	-	435	469	-
Stage 1	-	-	-	-	-	-	774	713	-	742	684	-
Stage 2	-	-	-	-	-	-	705	658	-	689	705	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			1.2			10.7			18.3		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	471	794	1366	-	-	1416	-	-	435	673		
HCM Lane V/C Ratio	0.049	0.082	0.022	-	-	0.028	-	-	0.426	0.036		
HCM Control Delay (s)	13	9.9	7.7	-	-	7.6	-	-	19.3	10.5		
HCM Lane LOS	B	A	A	-	-	A	-	-	C	B		
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.1	-	-	2.1	0.1		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Future (2025) Without Project

AM Peak Hour

Intersection												
Int Delay, s/veh	2.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	145	11	8	150	7	14	0	8	10	0	56
Future Vol, veh/h	43	145	11	8	150	7	14	0	8	10	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	161	12	9	167	8	16	0	9	11	0	62

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	174	0	0	173	0	0	482	455	167	455	457	171
Stage 1	-	-	-	-	-	-	263	263	-	188	188	-
Stage 2	-	-	-	-	-	-	219	192	-	267	269	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	-	1404	-	-	495	501	877	515	500	873
Stage 1	-	-	-	-	-	-	742	691	-	814	745	-
Stage 2	-	-	-	-	-	-	783	742	-	738	687	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1403	-	-	1404	-	-	446	481	877	494	480	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	446	481	-	494	480	-
Stage 1	-	-	-	-	-	-	717	667	-	786	740	-
Stage 2	-	-	-	-	-	-	723	737	-	706	663	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.7	0.4	11.9	10.1
HCM LOS			B	B

Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1
Capacity (veh/h)	543	1403	-	-	1404	-	-	782
HCM Lane V/C Ratio	0.045	0.034	-	-	0.006	-	-	0.094
HCM Control Delay (s)	11.9	7.7	-	-	7.6	-	-	10.1
HCM Lane LOS	B	A	-	-	A	-	-	B
HCM 95th %tile Q(veh)	0.1	0.1	-	-	0	-	-	0.3

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2025) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	91	76	235	71	213	59	1887	216	183	1813	85
Future Volume (veh/h)	75	91	76	235	71	213	59	1887	216	183	1813	85
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	77	94	0	242	73	0	61	1945	0	189	1869	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	105	175	149	240	317	269	109	2040	913	188	2198	983
Arrive On Green	0.06	0.09	0.00	0.14	0.17	0.00	0.06	0.58	0.00	0.11	0.62	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	77	94	0	242	73	0	61	1945	0	189	1869	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.3	8.2	0.0	23.0	5.8	0.0	5.7	87.8	0.0	18.0	72.1	0.0
Cycle Q Clear(g_c), s	7.3	8.2	0.0	23.0	5.8	0.0	5.7	87.8	0.0	18.0	72.1	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	105	175	149	240	317	269	109	2040	913	188	2198	983
V/C Ratio(X)	0.73	0.54	0.00	1.01	0.23	0.00	0.56	0.95	0.00	1.01	0.85	0.00
Avail Cap(c_a), veh/h	146	263	224	240	362	307	115	2040	913	188	2198	983
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.49	0.49	0.00
Uniform Delay (d), s/veh	78.6	73.5	0.0	73.5	60.9	0.0	77.5	33.8	0.0	76.0	25.9	0.0
Incr Delay (d2), s/veh	11.1	2.5	0.0	60.2	0.4	0.0	2.9	11.6	0.0	47.4	2.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	4.4	0.0	15.3	3.0	0.0	2.9	46.0	0.0	11.3	35.7	0.0
LnGrp Delay(d),s/veh	89.7	76.0	0.0	133.8	61.3	0.0	80.4	45.5	0.0	123.4	28.1	0.0
LnGrp LOS	F	E		F	E		F	D		F	C	
Approach Vol, veh/h		171			315			2006			2058	
Approach Delay, s/veh		82.2			117.0			46.5			36.8	
Approach LOS		F			F			D			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	102.0	13.1	32.9	14.4	109.6	26.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	89.0	13.0	32.0	10.0	96.0	22.0	23.0				
Max Q Clear Time (g_c+l1), s	20.0	89.8	9.3	7.8	7.7	74.1	25.0	10.2				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	0.0	21.7	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			48.4									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

Future (2025) Without Project

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	50	52	112	26	86	49	1893	144	148	1917	65
Future Volume (veh/h)	31	50	52	112	26	86	49	1893	144	148	1917	65
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	52	0	115	27	0	51	1952	0	153	1976	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	66	126	107	208	170	144	129	2228	997	250	2228	997
Arrive On Green	0.04	0.07	0.00	0.06	0.09	0.00	0.07	0.63	0.00	0.07	0.63	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	32	52	0	115	27	0	51	1952	0	153	1976	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	1.5	2.2	0.0	2.7	1.1	0.0	2.3	37.6	0.0	3.6	38.7	0.0
Cycle Q Clear(g_c), s	1.5	2.2	0.0	2.7	1.1	0.0	2.3	37.6	0.0	3.6	38.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	66	126	107	208	170	144	129	2228	997	250	2228	997
V/C Ratio(X)	0.48	0.41	0.00	0.55	0.16	0.00	0.40	0.88	0.00	0.61	0.89	0.00
Avail Cap(c_a), veh/h	129	519	441	208	496	422	129	2228	997	250	2228	997
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.0	36.9	0.0	37.7	34.6	0.0	36.6	12.6	0.0	37.2	12.8	0.0
Incr Delay (d2), s/veh	5.4	3.0	0.0	3.1	0.6	0.0	0.7	5.2	0.0	3.2	5.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.8	1.2	0.0	1.4	0.6	0.0	1.1	19.8	0.0	1.8	20.4	0.0
LnGrp Delay(d),s/veh	44.4	39.9	0.0	40.8	35.2	0.0	37.3	17.9	0.0	40.4	18.5	0.0
LnGrp LOS	D	D		D	D		D	B		D	B	
Approach Vol, veh/h	84				142		2003				2129	
Approach Delay, s/veh	41.6				39.8		18.4				20.1	
Approach LOS	D				D		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	56.0	6.1	10.5	10.0	56.0	8.0	8.6				
Change Period (Y+Rc), s	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0				
Max Green Setting (Gmax), s	51.0	51.0	5.0	21.0	5.0	51.0	4.0	22.0				
Max Q Clear Time (g_c+I), s	39.6	39.6	3.5	3.1	4.3	40.7	4.7	4.2				
Green Ext Time (p_c), s	0.0	10.3	0.0	0.3	0.7	9.4	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			20.4									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2025) Without Project

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	2	508	27	17	41	521	1518	18	5	1610	262
Future Volume (veh/h)	215	2	508	27	17	41	521	1518	18	5	1610	262
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	227	0	0	28	18	43	548	1598	0	5	1695	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	374	0	288	121	33	80	619	2356	1023	9	1738	778
Arrive On Green	0.11	0.00	0.00	0.07	0.07	0.05	0.18	0.67	0.00	0.01	0.49	0.00
Sat Flow, veh/h	3548	0	3167	1774	489	1168	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	227	0	0	28	0	61	548	1598	0	5	1695	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1657	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.3	0.0	0.0	1.5	0.0	3.7	16.0	28.3	0.0	0.3	48.1	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	1.5	0.0	3.7	16.0	28.3	0.0	0.3	48.1	0.0
Prop In Lane	1.00		1.00	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	374	0	288	121	0	113	619	2356	1023	9	1738	778
V/C Ratio(X)	0.61	0.00	0.00	0.23	0.00	0.54	0.89	0.68	0.00	0.54	0.98	0.00
Avail Cap(c_a), veh/h	621	0	508	121	0	113	619	2356	1023	69	1738	778
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	44.0	0.0	0.0	45.4	0.0	47.1	41.1	10.5	0.0	51.0	25.5	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	1.0	0.0	5.1	14.4	1.0	0.0	17.3	16.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.2	0.0	0.0	0.8	0.0	1.9	8.9	13.9	0.0	0.2	27.2	0.0
LnGrp Delay(d),s/veh	45.5	0.0	0.0	46.3	0.0	52.2	55.6	11.4	0.0	68.3	41.7	0.0
LnGrp LOS	D			D		D	E	B		E	D	
Approach Vol, veh/h	227				89		2146		1700			
Approach Delay, s/veh	45.5				50.3		22.7		41.7			
Approach LOS	D				D		C		D			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	4.5	72.4			11.0	22.5	54.5	14.8				
Change Period (Y+Rc), s	4.0	6.0			6.0	4.5	6.0	6.0				
Max Green Setting (Gmax), s	4.0	63.0			5.0	18.0	48.5	16.0				
Max Q Clear Time (g_c+I_2), s	4.0	30.3			5.7	18.0	50.1	8.3				
Green Ext Time (p_c), s	0.0	30.8			0.0	0.0	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			32.3									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2025) Without Project
PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations				 	 			
Traffic Volume (veh/h)	496	483	190	510	441	236		
Future Volume (veh/h)	496	483	190	510	441	236		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	511	0	196	526	455	243		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	783	666	257	2269	715	284		
Arrive On Green	0.42	0.00	0.15	0.64	0.21	0.18		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	511	0	196	526	455	243		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	11.6	0.0	5.6	3.3	6.4	7.9		
Cycle Q Clear(g_c), s	11.6	0.0	5.6	3.3	6.4	7.9		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	783	666	257	2269	715	284		
V/C Ratio(X)	0.65	0.00	0.76	0.23	0.64	0.86		
Avail Cap(c_a), veh/h	985	837	302	2740	715	284		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.2	0.0	21.8	4.0	19.2	21.1		
Incr Delay (d2), s/veh	2.1	0.0	7.4	0.1	1.4	20.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.3	0.0	3.3	1.6	3.2	5.1		
LnGrp Delay(d),s/veh	14.3	0.0	29.2	4.1	20.6	41.9		
LnGrp LOS	B		C	A	C	D		
Approach Vol, veh/h	511			722	698			
Approach Delay, s/veh	14.3			10.9	28.0			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.7	26.3				38.0		15.0
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	9.5	26.5				39.5		9.5
Max Q Clear Time (g_c+I), s	13.6	13.6				5.3		9.9
Green Ext Time (p_c), s	0.1	7.2				12.2		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			18.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary 5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2025) Without Project
PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	397	387	303	1928	1721	453		
Future Volume (veh/h)	397	387	303	1928	1721	453		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	401	0	306	1947	1738	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	394	352	296	2438	1691	756		
Arrive On Green	0.22	0.00	0.17	0.69	0.48	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	401	0	306	1947	1738	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	20.0	0.0	15.0	34.2	43.0	0.0		
Cycle Q Clear(g_c), s	20.0	0.0	15.0	34.2	43.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	394	352	296	2438	1691	756		
V/C Ratio(X)	1.02	0.00	1.03	0.80	1.03	0.00		
Avail Cap(c_a), veh/h	394	352	296	2438	1691	756		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	35.0	0.0	37.5	9.7	23.5	0.0		
Incr Delay (d2), s/veh	49.7	0.0	61.7	2.8	29.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	15.2	0.0	12.4	17.5	27.8	0.0		
LnGrp Delay(d),s/veh	84.8	0.0	99.2	12.5	52.8	0.0		
LnGrp LOS	F		F	B	F			
Approach Vol, veh/h	401			2253	1738			
Approach Delay, s/veh	84.8			24.3	52.8			
Approach LOS	F			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		66.0		24.0	19.0	47.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		62.0		20.0	15.0	43.0		
Max Q Clear Time (g_c+I1), s		36.2		22.0	17.0	45.0		
Green Ext Time (p_c), s		22.5		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			41.1					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2025) Without Project
PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	102	216	151	2121	2014	131		
Future Volume (veh/h)	102	216	151	2121	2014	131		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	106	0	157	2209	2098	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	126	113	301	3120	2436	1090		
Arrive On Green	0.07	0.00	0.17	0.88	0.69	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	106	0	157	2209	2098	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	10.0	0.0	13.7	33.4	77.2	0.0		
Cycle Q Clear(g_c), s	10.0	0.0	13.7	33.4	77.2	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	126	113	301	3120	2436	1090		
V/C Ratio(X)	0.84	0.00	0.52	0.71	0.86	0.00		
Avail Cap(c_a), veh/h	198	177	301	3120	2436	1090		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	78.0	0.0	64.3	3.2	20.3	0.0		
Incr Delay (d2), s/veh	16.3	0.0	1.6	1.4	4.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	15.5	0.0	6.9	16.6	38.8	0.0		
LnGrp Delay(d),s/veh	94.3	0.0	65.9	4.6	24.6	0.0		
LnGrp LOS	F		E	A	C			
Approach Vol, veh/h	106			2366	2098			
Approach Delay, s/veh	94.3			8.6	24.6			
Approach LOS	F			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		153.9		16.1	32.9	121.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		143.0		19.0	22.0	117.0		
Max Q Clear Time (g_c+l1), s		35.4		12.0	15.7	79.2		
Green Ext Time (p_c), s		29.3		0.2	5.3	17.9		
Intersection Summary								
HCM 2010 Ctrl Delay			17.9					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHAI ROAD & KAONOULU STREET

Future (2025) Without Project
PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	84	52	795	172	55	835		
Future Volume (veh/h)	84	52	795	172	55	835		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	85	53	803	174	56	843		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	140	125	966	209	75	1432		
Arrive On Green	0.08	0.08	0.65	0.65	0.04	0.77		
Sat Flow, veh/h	1774	1583	1484	322	1774	1863		
Grp Volume(v), veh/h	85	53	0	977	56	843		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1806	1774	1863		
Q Serve(g_s), s	2.4	1.7	0.0	21.7	1.6	10.0		
Cycle Q Clear(g_c), s	2.4	1.7	0.0	21.7	1.6	10.0		
Prop In Lane	1.00	1.00		0.18	1.00			
Lane Grp Cap(c), veh/h	140	125	0	1175	75	1432		
V/C Ratio(X)	0.61	0.42	0.00	0.83	0.74	0.59		
Avail Cap(c_a), veh/h	539	481	0	1476	135	1805		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	23.4	23.1	0.0	7.0	24.9	2.6		
Incr Delay (d2), s/veh	4.2	2.3	0.0	3.4	13.4	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.3	0.8	0.0	11.4	1.1	5.1		
LnGrp Delay(d),s/veh	27.6	25.4	0.0	10.4	38.3	3.0		
LnGrp LOS	C	C		B	D	A		
Approach Vol, veh/h	138		977			899		
Approach Delay, s/veh	26.8		10.4			5.2		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.2	38.2				44.5		8.2
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	43.0	43.0				51.0		16.0
Max Q Clear Time (g_c+I), s	23.7	23.7				12.0		4.4
Green Ext Time (p_c), s	0.0	10.6				14.5		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			9.2					
HCM 2010 LOS			A					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2025) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	15	107	80	10	30	64	2207	65	25	2131	70
Future Volume (veh/h)	37	15	107	80	10	30	64	2207	65	25	2131	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	38	16	0	87	11	0	65	2252	0	27	2174	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.92	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	45	123	144	13	123	82	2410	1078	302	2851	1275
Arrive On Green	0.08	0.08	0.00	0.08	0.08	0.00	0.05	0.68	0.00	0.17	0.81	0.00
Sat Flow, veh/h	1102	583	1583	1338	169	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	54	0	0	98	0	0	65	2252	0	27	2174	0
Grp Sat Flow(s),veh/h/ln	1685	0	1583	1507	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	5.7	0.0	0.0	6.2	94.9	0.0	2.2	52.7	0.0
Cycle Q Clear(g_c), s	5.0	0.0	0.0	10.8	0.0	0.0	6.2	94.9	0.0	2.2	52.7	0.0
Prop In Lane	0.70		1.00	0.89		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	167	0	123	157	0	123	82	2410	1078	302	2851	1275
V/C Ratio(X)	0.32	0.00	0.00	0.62	0.00	0.00	0.80	0.93	0.00	0.09	0.76	0.00
Avail Cap(c_a), veh/h	245	0	205	231	0	205	125	2706	1211	302	2851	1275
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	74.6	0.0	0.0	77.1	0.0	0.0	80.3	23.8	0.0	59.4	8.3	0.0
Incr Delay (d2), s/veh	1.1	0.0	0.0	4.0	0.0	0.0	17.7	8.3	0.0	0.1	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	4.7	0.0	0.0	3.4	48.8	0.0	1.1	26.2	0.0
LnGrp Delay(d),s/veh	75.7	0.0	0.0	81.1	0.0	0.0	98.0	32.1	0.0	59.5	10.3	0.0
LnGrp LOS	E			F			F	C		E	B	
Approach Vol, veh/h	54				98		2317				2201	
Approach Delay, s/veh	75.7				81.1		33.9				10.9	
Approach LOS	E				F		C				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	33.0	119.8			17.2	11.8	140.9	17.2				
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	130.0	130.0			22.0	12.0	124.0	22.0				
Max Q Clear Time (g_c+1.2), s	14.2	96.9			7.0	8.2	54.7	12.8				
Green Ext Time (p_c), s	1.6	18.9			0.7	0.0	23.9	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			24.6									
HCM 2010 LOS			C									

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2025) Without Project

PM Peak Hour

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	48	168	31	63	149	125	20	8	44	105	12	18
Future Vol, veh/h	48	168	31	63	149	125	20	8	44	105	12	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	187	34	70	166	139	22	9	49	117	13	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	304	0	0	221	0	0	703	755	204	714	703	235
Stage 1	-	-	-	-	-	-	311	311	-	375	375	-
Stage 2	-	-	-	-	-	-	392	444	-	339	328	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1257	-	-	1348	-	-	352	338	837	346	362	804
Stage 1	-	-	-	-	-	-	699	658	-	646	617	-
Stage 2	-	-	-	-	-	-	633	575	-	676	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1257	-	-	1348	-	-	309	307	837	296	329	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	309	307	-	296	329	-
Stage 1	-	-	-	-	-	-	670	630	-	619	585	-
Stage 2	-	-	-	-	-	-	572	545	-	601	620	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.6			1.5			12.8			22.2		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	309	661	1257	-	-	1348	-	-	296	510		
HCM Lane V/C Ratio	0.072	0.087	0.042	-	-	0.052	-	-	0.394	0.065		
HCM Control Delay (s)	17.6	11	8	-	-	7.8	-	-	24.9	12.6		
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B		
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.2	-	-	1.8	0.2		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Future (2025) Without Project
PM Peak Hour

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	79	233	14	9	169	9	5	0	6	9	0	51
Future Vol, veh/h	79	233	14	9	169	9	5	0	6	9	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	259	16	10	188	10	6	0	7	10	0	57
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	274	0	0	683	660	267	659	663	193
Stage 1	-	-	-	-	-	-	442	442	-	213	213	-
Stage 2	-	-	-	-	-	-	241	218	-	446	450	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1375	-	-	1289	-	-	363	383	772	377	382	849
Stage 1	-	-	-	-	-	-	594	576	-	789	726	-
Stage 2	-	-	-	-	-	-	762	723	-	591	572	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1375	-	-	1289	-	-	320	356	772	353	355	849
Mov Cap-2 Maneuver	-	-	-	-	-	-	320	356	-	353	355	-
Stage 1	-	-	-	-	-	-	556	539	-	739	720	-
Stage 2	-	-	-	-	-	-	706	717	-	548	535	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			0.4			12.9			10.7		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	470	1375	-	-	1289	-	-	701				
HCM Lane V/C Ratio	0.026	0.064	-	-	0.008	-	-	0.095				
HCM Control Delay (s)	12.9	7.8	-	-	7.8	-	-	10.7				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.1	0.2	-	-	0	-	-	0.3				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2025) Without Project
Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	67	60	180	70	186	56	1496	183	156	1419	60
Future Volume (veh/h)	66	67	60	180	70	186	56	1496	183	156	1419	60
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	68	69	0	186	72	0	58	1542	0	161	1463	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	226	192	224	356	303	132	1864	834	198	1996	893
Arrive On Green	0.06	0.12	0.00	0.13	0.19	0.00	0.07	0.53	0.00	0.11	0.56	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	68	69	0	186	72	0	58	1542	0	161	1463	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.0	4.4	0.0	13.5	4.3	0.0	4.1	48.1	0.0	11.7	40.5	0.0
Cycle Q Clear(g_c), s	5.0	4.4	0.0	13.5	4.3	0.0	4.1	48.1	0.0	11.7	40.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	226	192	224	356	303	132	1864	834	198	1996	893
V/C Ratio(X)	0.68	0.30	0.00	0.83	0.20	0.00	0.44	0.83	0.00	0.81	0.73	0.00
Avail Cap(c_a), veh/h	162	340	289	256	439	373	148	1882	842	229	2043	914
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	61.0	52.8	0.0	56.1	44.8	0.0	58.3	26.1	0.0	57.1	21.3	0.0
Incr Delay (d2), s/veh	7.8	0.8	0.0	18.2	0.3	0.0	0.9	3.6	0.0	15.2	1.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.3	0.0	7.7	2.2	0.0	2.0	24.3	0.0	6.6	20.2	0.0
LnGrp Delay(d),s/veh	68.8	53.5	0.0	74.3	45.1	0.0	59.2	29.7	0.0	72.3	23.0	0.0
LnGrp LOS	E	D		E	D		E	C		E	C	
Approach Vol, veh/h		137			258			1600			1624	
Approach Delay, s/veh		61.1			66.2			30.8			27.9	
Approach LOS		E			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.7	73.3	10.4	29.2	13.8	78.2	19.6	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	16.0	69.0	11.0	30.0	10.0	75.0	18.0	23.0				
Max Q Clear Time (g_c+I1), s	13.7	50.1	7.0	6.3	6.1	42.5	15.5	6.4				
Green Ext Time (p_c), s	0.1	18.2	0.1	0.5	0.0	30.8	0.2	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			33.2									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2025) Without Project
Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	32	71	86	22	87	62	1581	102	56	1503	28
Future Volume (veh/h)	33	32	71	86	22	87	62	1581	102	56	1503	28
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	34	33	0	88	22	0	63	1613	0	57	1534	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	83	71	161	110	94	155	2663	1191	142	2500	1118
Arrive On Green	0.03	0.04	0.00	0.05	0.06	0.00	0.09	0.75	0.00	0.04	0.71	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	34	33	0	88	22	0	63	1613	0	57	1534	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.5	2.2	0.0	3.3	1.5	0.0	4.4	27.0	0.0	2.1	29.3	0.0
Cycle Q Clear(g_c), s	2.5	2.2	0.0	3.3	1.5	0.0	4.4	27.0	0.0	2.1	29.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	57	83	71	161	110	94	155	2663	1191	142	2500	1118
V/C Ratio(X)	0.60	0.40	0.00	0.55	0.20	0.00	0.41	0.61	0.00	0.40	0.61	0.00
Avail Cap(c_a), veh/h	95	329	280	211	343	292	163	2663	1191	159	2500	1118
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.2	60.5	0.0	60.7	58.3	0.0	56.3	7.3	0.0	60.9	9.9	0.0
Incr Delay (d2), s/veh	9.7	4.3	0.0	2.9	1.2	0.0	0.6	1.0	0.0	0.7	1.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.3	0.0	1.6	0.8	0.0	2.2	13.4	0.0	1.0	14.5	0.0
LnGrp Delay(d),s/veh	72.0	64.9	0.0	63.6	59.6	0.0	56.9	8.4	0.0	61.6	11.0	0.0
LnGrp LOS	E	E		E	E		E	A		E	B	
Approach Vol, veh/h	67		110				1676			1591		
Approach Delay, s/veh	68.5		62.8				10.2			12.9		
Approach LOS	E		E				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	102.0	7.2	11.7	15.4	96.0	9.1	9.8				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	97.0	6.0	23.0	11.0	91.0	7.0	22.0					
Max Q Clear Time (g_c+I), s	29.0	4.5	3.5	6.4	31.3	5.3	4.2					
Green Ext Time (p_c), s	0.0	32.8	0.0	0.2	4.1	27.7	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	14.2											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2025) Without Project
Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	0	360	3	0	1	419	1310	1	3	1226	222
Future Volume (veh/h)	240	0	360	3	0	1	419	1310	1	3	1226	222
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	250	0	0	3	0	1	436	1365	0	3	1277	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	398	0	310	42	0	38	543	2518	1097	6	1987	889
Arrive On Green	0.11	0.00	0.00	0.02	0.00	0.01	0.16	0.71	0.00	0.00	0.56	0.00
Sat Flow, veh/h	3548	0	3167	1774	0	1583	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	250	0	0	3	0	1	436	1365	0	3	1277	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1583	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.2	0.0	0.0	0.2	0.0	0.1	13.1	19.4	0.0	0.2	26.5	0.0
Cycle Q Clear(g_c), s	7.2	0.0	0.0	0.2	0.0	0.1	13.1	19.4	0.0	0.2	26.5	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	398	0	310	42	0	38	543	2518	1097	6	1987	889
V/C Ratio(X)	0.63	0.00	0.00	0.07	0.00	0.03	0.80	0.54	0.00	0.53	0.64	0.00
Avail Cap(c_a), veh/h	729	0	607	116	0	104	788	2844	1243	66	2183	977
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	45.4	0.0	0.0	51.1	0.0	52.0	43.5	7.3	0.0	53.3	16.1	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.7	0.0	0.3	3.9	0.3	0.0	25.7	0.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.6	0.0	0.0	0.1	0.0	0.0	6.5	9.4	0.0	0.1	13.0	0.0
LnGrp Delay(d),s/veh	47.0	0.0	0.0	51.8	0.0	52.3	47.4	7.6	0.0	79.0	16.9	0.0
LnGrp LOS	D			D			D	A		E	B	
Approach Vol, veh/h	250		4				1801			1280		
Approach Delay, s/veh	47.0		51.9				17.2			17.0		
Approach LOS	D		D				B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	80.1		6.6	20.4	64.1		16.0				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s	4.0	84.0		5.0	24.0	64.0		20.0				
Max Q Clear Time (g_c+I), s	12.2	21.4		2.2	15.1	28.5		9.2				
Green Ext Time (p_c), s	0.0	46.4		0.0	1.3	29.6		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay			19.4									
HCM 2010 LOS			B									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2025) Without Project
Timing Plan: Saturday



Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	412	368	169	409	441	222		
Future Volume (veh/h)	412	368	169	409	441	222		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	429	0	176	426	459	231		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	736	625	245	2182	747	294		
Arrive On Green	0.39	0.00	0.14	0.62	0.22	0.19		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	429	0	176	426	459	231		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	8.7	0.0	4.6	2.5	5.8	6.7		
Cycle Q Clear(g_c), s	8.7	0.0	4.6	2.5	5.8	6.7		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	736	625	245	2182	747	294		
V/C Ratio(X)	0.58	0.00	0.72	0.20	0.61	0.79		
Avail Cap(c_a), veh/h	1086	923	332	3021	788	313		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.4	0.0	19.8	4.0	17.0	18.6		
Incr Delay (d2), s/veh	1.6	0.0	2.5	0.1	0.9	10.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.7	0.0	2.4	1.2	2.8	3.7		
LnGrp Delay(d),s/veh	13.0	0.0	22.2	4.1	17.9	29.1		
LnGrp LOS	B		C	A	B	C		
Approach Vol, veh/h	429			602	690			
Approach Delay, s/veh	13.0			9.4	21.6			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.6	23.0				33.6		14.4
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	26.5					39.5		9.5
Max Q Clear Time (g_c+I), s	10.6	10.7				4.5		8.7
Green Ext Time (p_c), s	0.1	6.8				9.6		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			15.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary 5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2025) Without Project
Timing Plan: Saturday

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	413	338	305	1285	1260	475		
Future Volume (veh/h)	413	338	305	1285	1260	475		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	421	0	311	1311	1286	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	451	402	338	2442	1669	747		
Arrive On Green	0.25	0.00	0.19	0.69	0.47	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	421	0	311	1311	1286	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	33.3	0.0	24.7	26.2	43.3	0.0		
Cycle Q Clear(g_c), s	33.3	0.0	24.7	26.2	43.3	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	451	402	338	2442	1669	747		
V/C Ratio(X)	0.93	0.00	0.92	0.54	0.77	0.00		
Avail Cap(c_a), veh/h	532	475	408	2442	1669	747		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	52.3	0.0	57.0	10.9	31.4	0.0		
Incr Delay (d2), s/veh	21.8	0.0	23.4	0.9	3.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	19.0	0.0	14.3	13.0	21.9	0.0		
LnGrp Delay(d),s/veh	74.1	0.0	80.4	11.8	34.9	0.0		
LnGrp LOS	E		F	B	C			
Approach Vol, veh/h	421			1622	1286			
Approach Delay, s/veh	74.1			25.0	34.9			
Approach LOS	E			C	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.0		40.5	31.3	71.7		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		99.0		43.0	33.0	62.0		
Max Q Clear Time (g_c+l1), s		28.2		35.3	26.7	45.3		
Green Ext Time (p_c), s		25.7		1.2	0.6	12.0		
Intersection Summary								
HCM 2010 Ctrl Delay			35.0					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2025) Without Project

Timing Plan: Saturday

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	111	205	132	1657	1535	118		
Future Volume (veh/h)	111	205	132	1657	1535	118		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	114	0	136	1708	1582	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	139	124	279	3060	2402	1075		
Arrive On Green	0.08	0.00	0.16	0.86	0.68	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	114	0	136	1708	1582	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	8.9	0.0	9.8	17.7	36.3	0.0		
Cycle Q Clear(g_c), s	8.9	0.0	9.8	17.7	36.3	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	139	124	279	3060	2402	1075		
V/C Ratio(X)	0.82	0.00	0.49	0.56	0.66	0.00		
Avail Cap(c_a), veh/h	266	238	279	3060	2402	1075		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	63.5	0.0	53.8	2.5	13.1	0.0		
Incr Delay (d2), s/veh	11.2	0.0	1.3	0.7	1.4	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.8	0.0	4.9	8.6	18.1	0.0		
LnGrp Delay(d),s/veh	74.7	0.0	55.2	3.2	14.5	0.0		
LnGrp LOS	E		E	A	B			
Approach Vol, veh/h	114			1844	1582			
Approach Delay, s/veh	74.7			7.1	14.5			
Approach LOS	E			A	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		125.0		15.0	26.0	99.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		121.0		21.0	22.0	95.0		
Max Q Clear Time (g_c+I1), s		19.7		10.9	11.8	38.3		
Green Ext Time (p_c), s		15.2		0.2	6.6	11.5		
Intersection Summary								
HCM 2010 Ctrl Delay			12.6					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2025) Without Project
Timing Plan: Saturday

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	96	45	726	139	49	729		
Future Volume (veh/h)	96	45	726	139	49	729		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	104	49	789	151	53	792		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	165	147	928	178	75	1374		
Arrive On Green	0.09	0.09	0.61	0.61	0.04	0.74		
Sat Flow, veh/h	1774	1583	1520	291	1774	1863		
Grp Volume(v), veh/h	104	49	0	940	53	792		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1811	1774	1863		
Q Serve(g_s), s	2.7	1.4	0.0	19.8	1.4	9.2		
Cycle Q Clear(g_c), s	2.7	1.4	0.0	19.8	1.4	9.2		
Prop In Lane	1.00	1.00		0.16	1.00			
Lane Grp Cap(c), veh/h	165	147	0	1105	75	1374		
V/C Ratio(X)	0.63	0.33	0.00	0.85	0.70	0.58		
Avail Cap(c_a), veh/h	602	537	0	1268	151	1620		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	20.6	20.0	0.0	7.5	22.3	2.8		
Incr Delay (d2), s/veh	3.9	1.3	0.0	5.1	11.3	0.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.5	0.6	0.0	11.2	0.9	4.5		
LnGrp Delay(d),s/veh	24.5	21.3	0.0	12.6	33.6	3.2		
LnGrp LOS	C	C		B	C	A		
Approach Vol, veh/h	153		940			845		
Approach Delay, s/veh	23.5		12.6			5.1		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.0	32.8				38.8		8.4
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	33.0				41.0		16.0
Max Q Clear Time (g_c+I), s	4.0	21.8				11.2		4.7
Green Ext Time (p_c), s	0.0	6.9				12.0		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			10.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2025) Without Project
Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	75	0	5	0	50	1765	0	0	1630	63
Future Volume (veh/h)	52	0	75	0	5	0	50	1765	0	0	1630	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	55	0	0	0	5	0	53	1858	0	0	1716	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	123	0	81	0	95	81	69	3114	1393	1	2899	1297
Arrive On Green	0.05	0.00	0.00	0.00	0.05	0.00	0.04	0.88	0.00	0.00	0.82	0.00
Sat Flow, veh/h	1335	0	1583	0	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	55	0	0	0	5	0	53	1858	0	0	1716	0
Grp Sat Flow(s),veh/h/ln	1335	0	1583	0	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.1	0.0	0.0	0.0	0.3	0.0	3.9	17.5	0.0	0.0	22.4	0.0
Cycle Q Clear(g_c), s	5.4	0.0	0.0	0.0	0.3	0.0	3.9	17.5	0.0	0.0	22.4	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	123	0	81	0	95	81	69	3114	1393	1	2899	1297
V/C Ratio(X)	0.45	0.00	0.00	0.00	0.05	0.00	0.77	0.60	0.00	0.00	0.59	0.00
Avail Cap(c_a), veh/h	243	0	216	0	254	216	161	3114	1393	54	2899	1297
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	62.1	0.0	0.0	0.0	59.5	0.0	62.8	2.0	0.0	0.0	4.2	0.0
Incr Delay (d2), s/veh	2.5	0.0	0.0	0.0	0.2	0.0	16.6	0.9	0.0	0.0	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.1	0.0	0.0	0.0	0.2	0.0	2.2	8.6	0.0	0.0	11.1	0.0
LnGrp Delay(d),s/veh	64.6	0.0	0.0	0.0	59.7	0.0	79.4	2.9	0.0	0.0	5.1	0.0
LnGrp LOS	E				E		E	A			A	
Approach Vol, veh/h		55			5			1911			1716	
Approach Delay, s/veh		64.6			59.7			5.0			5.1	
Approach LOS		E			E			A			A	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	120.0			10.7	9.1	112.0		10.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	116.0			18.0	12.0	108.0		18.0				
Max Q Clear Time (g_c+I), s	19.5			7.4	5.9	24.4		2.3				
Green Ext Time (p_c), s	0.0	16.7		0.1	0.0	13.9		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	6.0											
HCM 2010 LOS	A											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2025) Without Project

Timing Plan: Saturday

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	37	189	22	42	146	57	21	10	42	110	8	17
Future Vol, veh/h	37	189	22	42	146	57	21	10	42	110	8	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	217	25	48	168	66	24	11	48	126	9	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	233	0	0	243	0	0	626	645	230	642	625	201
Stage 1	-	-	-	-	-	-	315	315	-	297	297	-
Stage 2	-	-	-	-	-	-	311	330	-	345	328	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1335	-	-	1323	-	-	397	391	809	387	401	840
Stage 1	-	-	-	-	-	-	696	656	-	712	668	-
Stage 2	-	-	-	-	-	-	699	646	-	671	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1335	-	-	1323	-	-	361	365	809	337	374	840
Mov Cap-2 Maneuver	-	-	-	-	-	-	361	365	-	337	374	-
Stage 1	-	-	-	-	-	-	674	635	-	689	644	-
Stage 2	-	-	-	-	-	-	649	623	-	600	626	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			1.3			12.4			20		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	361	656	1335	-	-	1323	-	-	337	601		
HCM Lane V/C Ratio	0.067	0.091	0.032	-	-	0.036	-	-	0.375	0.048		
HCM Control Delay (s)	15.7	11	7.8	-	-	7.8	-	-	22	11.3		
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B		
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.1	-	-	1.7	0.1		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Future (2025) Without Project

Timing Plan: Saturday

Intersection												
Int Delay, s/veh		2.8										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	45	227	14	9	162	10	8	1	9	9	7	70
Future Vol, veh/h	45	227	14	9	162	10	8	1	9	9	7	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	252	16	10	180	11	9	1	10	10	8	78
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	191	0	0	268	0	0	608	571	260	572	574	186
Stage 1	-	-	-	-	-	-	360	360	-	206	206	-
Stage 2	-	-	-	-	-	-	248	211	-	366	368	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1383	-	-	1296	-	-	408	431	779	431	429	856
Stage 1	-	-	-	-	-	-	658	626	-	796	731	-
Stage 2	-	-	-	-	-	-	756	728	-	653	621	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1383	-	-	1296	-	-	353	412	779	410	410	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	353	412	-	410	410	-
Stage 1	-	-	-	-	-	-	634	603	-	767	725	-
Stage 2	-	-	-	-	-	-	675	722	-	620	599	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.4			12.6			10.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	491	1383	-	-	1296	-	-	712				
HCM Lane V/C Ratio	0.041	0.036	-	-	0.008	-	-	0.134				
HCM Control Delay (s)	12.6	7.7	-	-	7.8	-	-	10.8				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.1	0.1	-	-	0	-	-	0.5				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2032) Without Project
AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	104	101	317	64	219	27	1325	137	211	2028	29
Future Volume (veh/h)	106	104	101	317	64	219	27	1325	137	211	2028	29
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	111	0	337	68	0	29	1410	0	224	2157	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	147	199	169	260	318	270	95	1817	813	237	2100	939
Arrive On Green	0.08	0.11	0.00	0.15	0.17	0.00	0.05	0.51	0.00	0.13	0.59	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	113	111	0	337	68	0	29	1410	0	224	2157	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.4	8.5	0.0	22.0	4.7	0.0	2.4	48.3	0.0	18.8	89.0	0.0
Cycle Q Clear(g_c), s	9.4	8.5	0.0	22.0	4.7	0.0	2.4	48.3	0.0	18.8	89.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	147	199	169	260	318	270	95	1817	813	237	2100	939
V/C Ratio(X)	0.77	0.56	0.00	1.30	0.21	0.00	0.31	0.78	0.00	0.95	1.03	0.00
Avail Cap(c_a), veh/h	201	298	253	260	360	306	130	1817	813	237	2100	939
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.41	0.41	0.00
Uniform Delay (d), s/veh	67.4	63.6	0.0	64.0	53.5	0.0	68.3	29.5	0.0	64.5	30.5	0.0
Incr Delay (d2), s/veh	11.7	2.4	0.0	158.3	0.3	0.0	0.7	3.3	0.0	24.9	20.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	4.5	0.0	22.2	2.5	0.0	1.2	24.3	0.0	10.8	49.1	0.0
LnGrp Delay(d),s/veh	79.1	66.1	0.0	222.3	53.9	0.0	69.0	32.9	0.0	89.3	50.9	0.0
LnGrp LOS	E	E		F	D		E	C		F	F	
Approach Vol, veh/h		224			405			1439			2381	
Approach Delay, s/veh		72.6			194.0			33.6			54.5	
Approach LOS		E			F			C			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	81.0	15.4	29.6	12.0	93.0	25.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	68.0	16.0	28.0	10.0	77.0	21.0	23.0				
Max Q Clear Time (g_c+l1), s	20.8	50.3	11.4	6.7	4.4	91.0	24.0	10.5				
Green Ext Time (p_c), s	0.0	17.5	0.1	0.6	0.0	0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			61.3									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2032) Without Project

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	46	98	333	59	234	31	1519	105	124	1783	20
Future Volume (veh/h)	84	46	98	333	59	234	31	1519	105	124	1783	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	90	49	0	358	63	0	33	1633	0	133	1917	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	91	78	367	162	137	351	2432	1088	197	1935	866
Arrive On Green	0.07	0.05	0.00	0.11	0.09	0.00	0.40	1.00	0.00	0.11	1.00	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	90	49	0	358	63	0	33	1633	0	133	1917	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	7.5	3.9	0.0	15.6	4.8	0.0	1.8	0.0	0.0	5.6	0.0	0.0
Cycle Q Clear(g_c), s	7.5	3.9	0.0	15.6	4.8	0.0	1.8	0.0	0.0	5.6	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	91	78	367	162	137	351	2432	1088	197	1935	866
V/C Ratio(X)	0.74	0.54	0.00	0.98	0.39	0.00	0.09	0.67	0.00	0.67	0.99	0.00
Avail Cap(c_a), veh/h	177	323	274	367	335	285	351	2432	1088	252	1935	866
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.59	0.59	0.00	0.61	0.61	0.00
Uniform Delay (d), s/veh	68.5	69.7	0.0	66.8	64.7	0.0	36.9	0.0	0.0	65.1	0.0	0.0
Incr Delay (d2), s/veh	8.7	6.8	0.0	40.2	2.2	0.0	0.0	0.9	0.0	1.5	14.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	2.2	0.0	9.5	2.6	0.0	0.9	0.3	0.0	2.7	3.8	0.0
LnGrp Delay(d),s/veh	77.2	76.5	0.0	107.0	66.9	0.0	36.9	0.9	0.0	66.6	14.0	0.0
LnGrp LOS	E	E		F	E		D	A		E	B	
Approach Vol, veh/h	139			421			1666			2050		
Approach Delay, s/veh	77.0			101.0			1.6			17.4		
Approach LOS	E			F			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	12.6	107.1	13.3	17.0	33.6	86.0	19.0	11.4				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	10.0	81.0	14.0	26.0	10.0	81.0	15.0	25.0				
Max Q Clear Time (g_c+I), s	17.6	2.0	9.5	6.8	3.8	2.0	17.6	5.9				
Green Ext Time (p_c), s	0.1	35.6	0.1	0.5	5.5	46.7	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	21.4											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2032) Without Project

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	3	521	8	1	21	625	1317	5	2	1411	165
Future Volume (veh/h)	237	3	521	8	1	21	625	1317	5	2	1411	165
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	257	0	0	9	1	23	672	1416	0	2	1517	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	354	0	285	68	3	58	727	2665	1171	4	1925	861
Arrive On Green	0.10	0.00	0.00	0.04	0.04	0.02	0.42	1.00	0.00	0.00	0.54	0.00
Sat Flow, veh/h	3548	0	3167	1774	66	1527	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	257	0	0	9	0	24	672	1416	0	2	1517	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1593	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.5	0.0	0.0	0.7	0.0	2.2	27.8	0.0	0.0	0.2	51.3	0.0
Cycle Q Clear(g_c), s	10.5	0.0	0.0	0.7	0.0	2.2	27.8	0.0	0.0	0.2	51.3	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	354	0	285	68	0	61	727	2665	1171	4	1925	861
V/C Ratio(X)	0.72	0.00	0.00	0.13	0.00	0.39	0.92	0.53	0.00	0.53	0.79	0.00
Avail Cap(c_a), veh/h	449	0	369	83	0	74	803	2665	1171	47	1925	861
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.94	0.00	0.00	1.00	0.00	1.00	0.60	0.60	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	65.5	0.0	0.0	69.7	0.0	71.4	42.2	0.0	0.0	74.8	27.3	0.0
Incr Delay (d2), s/veh	4.0	0.0	0.0	0.9	0.0	4.1	10.5	0.5	0.0	36.5	3.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.4	0.0	0.0	0.4	0.0	1.1	14.1	0.2	0.0	0.1	25.8	0.0
LnGrp Delay(d),s/veh	69.5	0.0	0.0	70.6	0.0	75.5	52.7	0.5	0.0	111.3	30.6	0.0
LnGrp LOS	E			E		E	D	A		F	C	
Approach Vol, veh/h	257			33			2088			1519		
Approach Delay, s/veh	69.5			74.1			17.3			30.8		
Approach LOS	E			E			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	117.0		9.7	35.7	85.6		19.0				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	4.0	102.0		5.0	34.5	71.0		17.0				
Max Q Clear Time (g_c+I_2), s	4.0	2.0		4.2	29.8	53.3		12.5				
Green Ext Time (p_c), s	0.0	74.3		0.0	1.4	16.6		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	26.4											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2032) Without Project
AM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	404	277	93	571	697	284		
Future Volume (veh/h)	404	277	93	571	697	284		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	421	0	97	595	726	296		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	915	777	144	2214	921	392		
Arrive On Green	0.49	0.00	0.03	0.21	0.27	0.25		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	421	0	97	595	726	296		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	11.1	0.0	4.1	10.6	14.7	13.0		
Cycle Q Clear(g_c), s	11.1	0.0	4.1	10.6	14.7	13.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	915	777	144	2214	921	392		
V/C Ratio(X)	0.46	0.00	0.67	0.27	0.79	0.75		
Avail Cap(c_a), veh/h	915	777	213	2214	1101	475		
HCM Platoon Ratio	1.00	1.00	0.33	0.33	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.63	0.63	1.00	1.00		
Uniform Delay (d), s/veh	12.6	0.0	35.5	15.3	25.5	26.1		
Incr Delay (d2), s/veh	1.7	0.0	1.3	0.2	2.6	4.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.2	0.0	2.0	5.3	7.3	6.1		
LnGrp Delay(d),s/veh	14.2	0.0	36.8	15.5	28.1	30.3		
LnGrp LOS	B		D	B	C	C		
Approach Vol, veh/h	421			692	1022			
Approach Delay, s/veh	14.2			18.5	28.8			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.1	40.8				50.9		24.1
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	28.5					41.5		22.5
Max Q Clear Time (g_c+I), s	13.1					12.6		16.7
Green Ext Time (p_c), s	0.0	7.9				11.1		1.9
Intersection Summary								
HCM 2010 Ctrl Delay			22.6					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary 5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2032) Without Project
AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	283	217	191	1576	2262	434		
Future Volume (veh/h)	283	217	191	1576	2262	434		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	301	0	203	1677	2406	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	287	256	191	2750	2260	1011		
Arrive On Green	0.16	0.00	0.11	0.78	0.64	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	301	0	203	1677	2406	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	21.0	0.0	14.0	26.1	83.0	0.0		
Cycle Q Clear(g_c), s	21.0	0.0	14.0	26.1	83.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	287	256	191	2750	2260	1011		
V/C Ratio(X)	1.05	0.00	1.06	0.61	1.06	0.00		
Avail Cap(c_a), veh/h	287	256	191	2750	2260	1011		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	54.5	0.0	58.0	6.1	23.5	0.0		
Incr Delay (d2), s/veh	67.0	0.0	82.7	1.0	38.9	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	15.6	0.0	11.2	13.0	52.4	0.0		
LnGrp Delay(d),s/veh	121.5	0.0	140.7	7.2	62.4	0.0		
LnGrp LOS	F		F	A	F			
Approach Vol, veh/h	301			1880	2406			
Approach Delay, s/veh	121.5			21.6	62.4			
Approach LOS	F			C	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		105.0		25.0	18.0	87.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		101.0		21.0	14.0	83.0		
Max Q Clear Time (g_c+I1), s		28.1		23.0	16.0	85.0		
Green Ext Time (p_c), s		59.9		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			49.6					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary
6: PIILANI HIGHWAY & KAONOULU STREET

Future (2032) Without Project
AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	63	295	120	1568	2412	117		
Future Volume (veh/h)	63	295	120	1568	2412	117		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	66	0	126	1651	2539	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	85	75	130	3182	2828	1265		
Arrive On Green	0.05	0.00	0.07	0.90	0.80	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	66	0	126	1651	2539	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	5.5	0.0	10.6	13.2	76.5	0.0		
Cycle Q Clear(g_c), s	5.5	0.0	10.6	13.2	76.5	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	85	75	130	3182	2828	1265		
V/C Ratio(X)	0.78	0.00	0.97	0.52	0.90	0.00		
Avail Cap(c_a), veh/h	225	201	130	3182	2828	1265		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	70.6	0.0	69.3	1.4	10.7	0.0		
Incr Delay (d2), s/veh	14.3	0.0	69.0	0.6	5.0	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	7.7	6.5	38.7	0.0		
LnGrp Delay(d),s/veh	84.9	0.0	138.3	2.0	15.8	0.0		
LnGrp LOS	F		F	A	B			
Approach Vol, veh/h	66			1777	2539			
Approach Delay, s/veh	84.9			11.7	15.8			
Approach LOS	F			B	B			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		138.8		11.2	15.0	123.8		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		123.0		19.0	11.0	108.0		
Max Q Clear Time (g_c+I1), s		15.2		7.5	12.6	78.5		
Green Ext Time (p_c), s		85.0		0.1	0.0	27.4		
Intersection Summary								
HCM 2010 Ctrl Delay			15.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2032) Without Project
AM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	105	47	763	108	40	566		
Future Volume (veh/h)	105	47	763	108	40	566		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	114	51	829	117	43	615		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	170	152	1069	151	61	1435		
Arrive On Green	0.10	0.10	0.67	0.67	0.03	0.77		
Sat Flow, veh/h	1774	1583	1597	225	1774	1863		
Grp Volume(v), veh/h	114	51	0	946	43	615		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1823	1774	1863		
Q Serve(g_s), s	3.7	1.8	0.0	21.3	1.4	6.8		
Cycle Q Clear(g_c), s	3.7	1.8	0.0	21.3	1.4	6.8		
Prop In Lane	1.00	1.00		0.12	1.00			
Lane Grp Cap(c), veh/h	170	152	0	1220	61	1435		
V/C Ratio(X)	0.67	0.34	0.00	0.78	0.71	0.43		
Avail Cap(c_a), veh/h	475	424	0	1220	119	1435		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	26.1	25.2	0.0	6.8	28.6	2.4		
Incr Delay (d2), s/veh	4.5	1.3	0.0	4.9	14.2	0.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.0	0.8	0.0	12.2	0.9	3.8		
LnGrp Delay(d),s/veh	30.6	26.5	0.0	11.7	42.7	3.3		
LnGrp LOS	C	C		B	D	A		
Approach Vol, veh/h	165		946		658			
Approach Delay, s/veh	29.3		11.7		5.9			
Approach LOS	C		B		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.0	44.0				50.0		9.7
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	38.0				46.0		16.0
Max Q Clear Time (g_c+I_2), s	13.4	23.3				8.8		5.7
Green Ext Time (p_c), s	0.0	7.4				10.9		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			11.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

Future (2032) Without Project

8: PIILANI HIGHWAY & KULANIHAKOI STREET/Kihei HS Access

AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	26	75	139	155	15	60	47	1597	285	120	2558	59
Future Volume (veh/h)	26	75	139	155	15	60	47	1597	285	120	2558	59
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	27	82	0	168	16	0	49	1681	0	130	2693	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	85	240	257	230	18	257	47	1837	822	423	2588	1158
Arrive On Green	0.16	0.16	0.00	0.16	0.16	0.00	0.03	0.52	0.00	0.24	0.73	0.00
Sat Flow, veh/h	339	1481	1583	1138	108	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	109	0	0	184	0	0	49	1681	0	130	2693	0
Grp Sat Flow(s),veh/h/ln	1820	0	1583	1246	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	14.1	0.0	0.0	4.0	65.2	0.0	9.0	109.7	0.0
Cycle Q Clear(g_c), s	7.9	0.0	0.0	22.0	0.0	0.0	4.0	65.2	0.0	9.0	109.7	0.0
Prop In Lane	0.25		1.00	0.91		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	325	0	257	248	0	257	47	1837	822	423	2588	1158
V/C Ratio(X)	0.34	0.00	0.00	0.74	0.00	0.00	1.04	0.91	0.00	0.31	1.04	0.00
Avail Cap(c_a), veh/h	344	0	274	263	0	274	47	2194	982	423	2588	1158
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	55.9	0.0	0.0	62.5	0.0	0.0	73.0	33.0	0.0	46.9	20.2	0.0
Incr Delay (d2), s/veh	0.6	0.0	0.0	10.1	0.0	0.0	141.5	8.6	0.0	0.4	29.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.6	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	14.1	0.0	0.0	8.2	0.0	0.0	3.8	33.9	0.0	4.5	63.4	0.0
LnGrp Delay(d),s/veh	56.5	0.0	0.0	72.6	0.0	0.0	215.1	41.6	0.0	47.3	49.5	0.0
LnGrp LOS	E			E			F	D		D	F	
Approach Vol, veh/h	109				184		1730				2823	
Approach Delay, s/veh	56.5				72.6		46.5				49.4	
Approach LOS	E				E		D				D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	39.8	81.9		28.3	8.0	113.7		28.3				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	19.0	93.0		26.0	4.0	108.0		26.0				
Max Q Clear Time (g_c+1), s	11.0	67.2		9.9	6.0	111.7		24.0				
Green Ext Time (p_c), s	7.3	10.6		1.6	0.0	0.0		0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			49.4									
HCM 2010 LOS			D									

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2032) Without Project
AM Peak Hour

Intersection												
Int Delay, s/veh	7.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	133	22	37	125	70	22	8	54	176	8	15
Future Vol, veh/h	28	133	22	37	125	70	22	8	54	176	8	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	140	23	39	132	74	23	8	57	185	8	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	205	0	0	163	0	0	469	494	152	489	468	168
Stage 1	-	-	-	-	-	-	211	211	-	246	246	-
Stage 2	-	-	-	-	-	-	258	283	-	243	222	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1366	-	-	1416	-	-	505	476	894	489	493	876
Stage 1	-	-	-	-	-	-	791	728	-	758	703	-
Stage 2	-	-	-	-	-	-	747	677	-	761	720	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1366	-	-	1416	-	-	471	453	894	435	469	876
Mov Cap-2 Maneuver	-	-	-	-	-	-	471	453	-	435	469	-
Stage 1	-	-	-	-	-	-	774	713	-	742	684	-
Stage 2	-	-	-	-	-	-	705	658	-	689	705	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	1.2	1.2	10.7	18.3
HCM LOS			B	C

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	471	794	1366	-	-	1416	-	-	435	673
HCM Lane V/C Ratio	0.049	0.082	0.022	-	-	0.028	-	-	0.426	0.036
HCM Control Delay (s)	13	9.9	7.7	-	-	7.6	-	-	19.3	10.5
HCM Lane LOS	B	A	A	-	-	A	-	-	C	B
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.1	-	-	2.1	0.1

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Future (2032) Without Project

AM Peak Hour

Intersection												
Int Delay, s/veh		2.9										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	150	11	8	150	7	14	0	8	10	0	56
Future Vol, veh/h	43	150	11	8	150	7	14	0	8	10	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	167	12	9	167	8	16	0	9	11	0	62
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	174	0	0	179	0	0	487	460	173	461	462	171
Stage 1	-	-	-	-	-	-	268	268	-	188	188	-
Stage 2	-	-	-	-	-	-	219	192	-	273	274	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1403	-	-	1397	-	-	491	498	871	511	497	873
Stage 1	-	-	-	-	-	-	738	687	-	814	745	-
Stage 2	-	-	-	-	-	-	783	742	-	733	683	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1403	-	-	1397	-	-	442	478	871	490	477	873
Mov Cap-2 Maneuver	-	-	-	-	-	-	442	478	-	490	477	-
Stage 1	-	-	-	-	-	-	713	663	-	786	740	-
Stage 2	-	-	-	-	-	-	723	737	-	701	660	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.6			0.4			12			10.1		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	538	1403	-	-	1397	-	-	781				
HCM Lane V/C Ratio	0.045	0.034	-	-	0.006	-	-	0.094				
HCM Control Delay (s)	12	7.7	-	-	7.6	-	-	10.1				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.1	0.1	-	-	0	-	-	0.3				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2032) Without Project

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	91	76	235	71	213	59	2178	216	183	2072	85
Future Volume (veh/h)	75	91	76	235	71	213	59	2178	216	183	2072	85
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	77	94	0	242	73	0	61	2245	0	189	2136	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	96	116	98	237	263	224	79	2284	1022	184	2493	1115
Arrive On Green	0.05	0.06	0.00	0.13	0.14	0.00	0.04	0.65	0.00	0.14	0.94	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	77	94	0	242	73	0	61	2245	0	189	2136	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	11.6	13.5	0.0	36.0	9.5	0.0	9.2	166.1	0.0	28.0	52.3	0.0
Cycle Q Clear(g_c), s	11.6	13.5	0.0	36.0	9.5	0.0	9.2	166.1	0.0	28.0	52.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	96	116	98	237	263	224	79	2284	1022	184	2493	1115
V/C Ratio(X)	0.80	0.81	0.00	1.02	0.28	0.00	0.77	0.98	0.00	1.03	0.86	0.00
Avail Cap(c_a), veh/h	131	166	141	237	276	235	85	2284	1022	184	2493	1115
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.33	1.33	1.33
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.49	0.49	0.00
Uniform Delay (d), s/veh	126.2	125.1	0.0	117.0	103.6	0.0	127.6	46.5	0.0	116.4	4.2	0.0
Incr Delay (d2), s/veh	21.4	17.9	0.0	64.6	0.6	0.0	28.2	15.2	0.0	53.5	2.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.1	0.0	0.0	0.0	0.0	0.0	0.2	0.0	0.0
%ile BackOfQ(50%),veh/ln	6.3	7.5	0.0	21.9	4.9	0.0	5.1	85.9	0.0	16.5	24.8	0.0
LnGrp Delay(d),s/veh	147.6	142.9	0.0	181.7	104.2	0.0	155.7	61.7	0.0	170.1	6.2	0.0
LnGrp LOS	F	F		F	F		F	E		F	A	
Approach Vol, veh/h		171			315			2306			2325	
Approach Delay, s/veh		145.0			163.8			64.2			19.5	
Approach LOS		F			F			E			B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	32.0	178.2	17.6	42.1	16.1	194.2	39.0	20.8				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	27.0	166.0	19.0	39.0	12.0	181.0	35.0	23.0				
Max Q Clear Time (g_c+I1), s	30.0	168.1	13.6	11.5	11.2	54.3	38.0	15.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	0.0	125.2	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			52.7									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

Future (2032) Without Project

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	80	52	227	51	141	49	2119	214	288	2079	65
Future Volume (veh/h)	31	80	52	227	51	141	49	2119	214	288	2079	65
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	82	0	234	53	0	51	2185	0	297	2143	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	47	103	88	273	201	171	162	2539	1136	331	2556	1144
Arrive On Green	0.03	0.06	0.00	0.08	0.11	0.00	0.18	1.00	0.00	0.19	1.00	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	32	82	0	234	53	0	51	2185	0	297	2143	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	4.8	11.7	0.0	18.1	7.1	0.0	6.7	0.0	0.0	22.7	0.0	0.0
Cycle Q Clear(g_c), s	4.8	11.7	0.0	18.1	7.1	0.0	6.7	0.0	0.0	22.7	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	47	103	88	273	201	171	162	2539	1136	331	2556	1144
V/C Ratio(X)	0.67	0.80	0.00	0.86	0.26	0.00	0.31	0.86	0.00	0.90	0.84	0.00
Avail Cap(c_a), veh/h	66	159	135	293	248	211	162	2539	1136	370	2556	1144
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.19	0.19	0.00	0.42	0.42	0.00
Uniform Delay (d), s/veh	130.2	126.0	0.0	122.8	110.6	0.0	103.0	0.0	0.0	107.7	0.0	0.0
Incr Delay (d2), s/veh	15.4	18.8	0.0	20.6	1.0	0.0	0.1	0.8	0.0	10.3	1.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.6	6.6	0.0	9.4	3.7	0.0	3.3	0.3	0.0	11.3	0.5	0.0
LnGrp Delay(d),s/veh	145.6	144.8	0.0	143.4	111.6	0.0	103.1	0.8	0.0	118.0	1.5	0.0
LnGrp LOS	F	F		F	F		F	A		F	A	
Approach Vol, veh/h	114			287			2236			2440		
Approach Delay, s/veh	145.0			137.6			3.1			15.7		
Approach LOS	F			F			A			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc),s	30.0	197.7	10.2	32.1	28.7	199.0	24.4	17.9				
Change Period (Y+Rc), s	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0				
Max Green Setting (Gmax),s	20.0	180.0	9.0	35.0	14.0	194.0	22.0	22.0				
Max Q Clear Time (g_c+T),s	24.7	2.0	6.8	9.1	8.7	2.0	20.1	13.7				
Green Ext Time (p_c), s	0.2	96.3	0.0	1.4	2.6	91.3	0.3	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	19.9											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2032) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	2	592	27	17	41	602	1718	18	5	1840	286
Future Volume (veh/h)	234	2	592	27	17	41	602	1718	18	5	1840	286
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	247	0	0	28	18	43	634	1808	0	5	1937	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	304	0	253	46	13	30	666	2919	1294	8	2251	1007
Arrive On Green	0.09	0.00	0.00	0.03	0.03	0.02	0.39	1.00	0.00	0.00	0.64	0.00
Sat Flow, veh/h	3548	0	3167	1774	489	1168	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	247	0	0	28	0	61	634	1808	0	5	1937	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1657	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	18.5	0.0	0.0	4.2	0.0	7.0	48.3	0.0	0.0	0.8	118.9	0.0
Cycle Q Clear(g_c), s	18.5	0.0	0.0	4.2	0.0	7.0	48.3	0.0	0.0	0.8	118.9	0.0
Prop In Lane	1.00		1.00	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	304	0	253	46	0	43	666	2919	1294	8	2251	1007
V/C Ratio(X)	0.81	0.00	0.00	0.61	0.00	1.42	0.95	0.62	0.00	0.61	0.86	0.00
Avail Cap(c_a), veh/h	394	0	334	46	0	43	714	2919	1294	26	2251	1007
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(l)	0.92	0.00	0.00	1.00	0.00	1.00	0.40	0.40	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	121.3	0.0	0.0	130.1	0.0	132.2	81.6	0.0	0.0	134.1	39.5	0.0
Incr Delay (d2), s/veh	8.9	0.0	0.0	21.0	0.0	283.6	11.5	0.4	0.0	24.0	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	19.5	0.0	0.0	2.3	0.0	6.6	24.0	0.2	0.0	0.4	59.5	0.0
LnGrp Delay(d),s/veh	130.2	0.0	0.0	151.2	0.0	415.8	93.1	0.4	0.0	158.2	44.1	0.0
LnGrp LOS	F			F		F	F	A		F	D	
Approach Vol, veh/h	247			89			2442			1942		
Approach Delay, s/veh	130.2			332.5			24.5			44.4		
Approach LOS	F			F			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.3	226.7		11.0	56.2	175.7		27.1				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	4.0	211.0		5.0	55.5	159.0		28.0				
Max Q Clear Time (g_c+I_2), s	12.8	2.0		9.0	50.3	120.9		20.5				
Green Ext Time (p_c), s	0.0	179.2		0.0	1.4	37.0		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay	44.0											
HCM 2010 LOS	D											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2032) Without Project
PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	541	498	190	550	509	271		
Future Volume (veh/h)	541	498	190	550	509	271		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	558	0	196	567	525	279		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	1080	918	219	2594	715	312		
Arrive On Green	0.58	0.00	0.25	1.00	0.21	0.20		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	558	0	196	567	525	279		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	24.3	0.0	14.4	0.0	19.2	23.2		
Cycle Q Clear(g_c), s	24.3	0.0	14.4	0.0	19.2	23.2		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	1080	918	219	2594	715	312		
V/C Ratio(X)	0.52	0.00	0.89	0.22	0.73	0.90		
Avail Cap(c_a), veh/h	1080	918	342	2594	816	358		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.62	0.62	1.00	1.00		
Uniform Delay (d), s/veh	17.0	0.0	49.9	0.0	50.0	52.9		
Incr Delay (d2), s/veh	1.8	0.0	7.9	0.1	2.3	20.5		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.9	0.0	7.5	0.0	9.4	11.9		
LnGrp Delay(d),s/veh	18.8	0.0	57.9	0.1	52.3	73.4		
LnGrp LOS	B		E	A	D	E		
Approach Vol, veh/h	558			763	804			
Approach Delay, s/veh	18.8			15.0	59.6			
Approach LOS	B			B	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc),s	20.7	82.2				102.9		32.1
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax),s	20.0	63.5				93.5		30.5
Max Q Clear Time (g_c+1.0),s	10.4	26.3				2.0		25.2
Green Ext Time (p_c), s	0.3	14.0				16.8		1.4
Intersection Summary								
HCM 2010 Ctrl Delay			32.9					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary 5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2032) Without Project
PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	397	387	303	2228	1972	453		
Future Volume (veh/h)	397	387	303	2228	1972	453		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	401	0	306	2251	1992	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	370	330	281	2566	1888	844		
Arrive On Green	0.21	0.00	0.16	0.73	0.53	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	401	0	306	2251	1992	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	25.0	0.0	19.0	57.7	64.0	0.0		
Cycle Q Clear(g_c), s	25.0	0.0	19.0	57.7	64.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	370	330	281	2566	1888	844		
V/C Ratio(X)	1.08	0.00	1.09	0.88	1.06	0.00		
Avail Cap(c_a), veh/h	370	330	281	2566	1888	844		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	47.5	0.0	50.5	12.5	28.0	0.0		
Incr Delay (d2), s/veh	71.5	0.0	79.7	4.6	37.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	19.6	0.0	15.5	29.2	40.7	0.0		
LnGrp Delay(d),s/veh	119.0	0.0	130.2	17.1	65.1	0.0		
LnGrp LOS	F		F	B	F			
Approach Vol, veh/h	401			2557	1992			
Approach Delay, s/veh	119.0			30.6	65.1			
Approach LOS	F			C	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		91.0		29.0	23.0	68.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		87.0		25.0	19.0	64.0		
Max Q Clear Time (g_c+I1), s		59.7		27.0	21.0	66.0		
Green Ext Time (p_c), s		25.6		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			51.7					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2032) Without Project
PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	102	216	151	2429	2300	131		
Future Volume (veh/h)	102	216	151	2429	2300	131		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	106	0	157	2530	2396	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	119	107	262	3196	2622	1173		
Arrive On Green	0.07	0.00	0.15	0.90	0.74	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	106	0	157	2530	2396	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	16.0	0.0	22.3	65.6	146.7	0.0		
Cycle Q Clear(g_c), s	16.0	0.0	22.3	65.6	146.7	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	119	107	262	3196	2622	1173		
V/C Ratio(X)	0.89	0.00	0.60	0.79	0.91	0.00		
Avail Cap(c_a), veh/h	171	152	262	3196	2622	1173		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	124.9	0.0	107.6	4.5	28.1	0.0		
Incr Delay (d2), s/veh	30.1	0.0	3.8	2.1	6.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	124.9	0.0	11.3	32.2	73.5	0.0		
LnGrp Delay(d),s/veh	155.0	0.0	111.4	6.5	34.4	0.0		
LnGrp LOS	F		F	A	C			
Approach Vol, veh/h	106			2687	2396			
Approach Delay, s/veh	155.0			12.7	34.4			
Approach LOS	F			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		247.8		22.2	43.8	204.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		236.0		26.0	32.0	200.0		
Max Q Clear Time (g_c+I1), s		67.6		18.0	24.3	148.7		
Green Ext Time (p_c), s		47.4		0.2	6.8	26.5		
Intersection Summary								
HCM 2010 Ctrl Delay			25.6					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2032) Without Project
PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	84	52	912	172	55	958		
Future Volume (veh/h)	84	52	912	172	55	958		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	85	53	921	174	56	968		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	134	119	1076	203	70	1500		
Arrive On Green	0.08	0.08	0.71	0.71	0.04	0.81		
Sat Flow, veh/h	1774	1583	1524	288	1774	1863		
Grp Volume(v), veh/h	85	53	0	1095	56	968		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1812	1774	1863		
Q Serve(g_s), s	3.1	2.1	0.0	30.1	2.1	14.1		
Cycle Q Clear(g_c), s	3.1	2.1	0.0	30.1	2.1	14.1		
Prop In Lane	1.00	1.00		0.16	1.00			
Lane Grp Cap(c), veh/h	134	119	0	1279	70	1500		
V/C Ratio(X)	0.64	0.44	0.00	0.86	0.80	0.65		
Avail Cap(c_a), veh/h	424	379	0	1571	106	1838		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	30.0	29.6	0.0	7.3	31.8	2.6		
Incr Delay (d2), s/veh	5.0	2.6	0.0	4.1	21.2	0.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	1.0	0.0	16.1	1.4	7.2		
LnGrp Delay(d),s/veh	35.0	32.2	0.0	11.5	53.1	3.2		
LnGrp LOS	C	C		B	D	A		
Approach Vol, veh/h	138		1095			1024		
Approach Delay, s/veh	33.9		11.5			5.9		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.6	51.2				57.8		9.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	58.0				66.0		16.0
Max Q Clear Time (g_c+I), s	14.1	32.1				16.1		5.1
Green Ext Time (p_c), s	0.0	15.1				20.7		0.3
Intersection Summary								
HCM 2010 Ctrl Delay			10.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2032) Without Project
PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	37	15	107	80	15	30	64	2525	65	25	2415	70
Future Volume (veh/h)	37	15	107	80	15	30	64	2525	65	25	2415	70
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	38	16	0	87	16	0	65	2577	0	27	2464	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.92	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	111	43	127	123	18	127	77	2678	1198	211	2944	1317
Arrive On Green	0.08	0.08	0.00	0.08	0.08	0.00	0.04	0.76	0.00	0.12	0.83	0.00
Sat Flow, veh/h	1103	537	1583	1225	225	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	54	0	0	103	0	0	65	2577	0	27	2464	0
Grp Sat Flow(s),veh/h/ln	1640	0	1583	1450	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	10.7	0.0	0.0	9.8	176.0	0.0	3.7	104.0	0.0
Cycle Q Clear(g_c), s	8.3	0.0	0.0	19.0	0.0	0.0	9.8	176.0	0.0	3.7	104.0	0.0
Prop In Lane	0.70		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	154	0	127	141	0	127	77	2678	1198	211	2944	1317
V/C Ratio(X)	0.35	0.00	0.00	0.73	0.00	0.00	0.84	0.96	0.00	0.13	0.84	0.00
Avail Cap(c_a), veh/h	217	0	194	202	0	194	105	2858	1278	211	2944	1317
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	118.0	0.0	0.0	123.0	0.0	0.0	128.2	29.4	0.0	106.4	12.5	0.0
Incr Delay (d2), s/veh	1.4	0.0	0.0	7.7	0.0	0.0	33.5	10.6	0.0	0.3	3.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	7.9	0.0	0.0	5.6	89.5	0.0	1.8	51.5	0.0
LnGrp Delay(d),s/veh	119.4	0.0	0.0	130.7	0.0	0.0	161.7	40.0	0.0	106.7	15.6	0.0
LnGrp LOS	F			F			F	D		F	B	
Approach Vol, veh/h	54			103			2642			2491		
Approach Delay, s/veh	119.4			130.7			43.0			16.5		
Approach LOS	F			F			D			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	36.1	208.3		25.6	15.8	228.6		25.6				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	7.0	218.0		33.0	16.0	209.0		33.0				
Max Q Clear Time (g_c+I), s	178.0	178.0		10.3	11.8	106.0		21.0				
Green Ext Time (p_c), s	1.2	26.3		0.8	0.0	36.7		0.6				
Intersection Summary												
HCM 2010 Ctrl Delay	33.0											
HCM 2010 LOS	C											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2032) Without Project
PM Peak Hour

Intersection												
Int Delay, s/veh	6.1											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	48	168	31	63	149	125	20	8	44	105	12	18
Future Vol, veh/h	48	168	31	63	149	125	20	8	44	105	12	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	187	34	70	166	139	22	9	49	117	13	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	304	0	0	221	0	0	703	755	204	714	703	235
Stage 1	-	-	-	-	-	-	311	311	-	375	375	-
Stage 2	-	-	-	-	-	-	392	444	-	339	328	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1257	-	-	1348	-	-	352	338	837	346	362	804
Stage 1	-	-	-	-	-	-	699	658	-	646	617	-
Stage 2	-	-	-	-	-	-	633	575	-	676	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1257	-	-	1348	-	-	309	307	837	296	329	804
Mov Cap-2 Maneuver	-	-	-	-	-	-	309	307	-	296	329	-
Stage 1	-	-	-	-	-	-	670	630	-	619	585	-
Stage 2	-	-	-	-	-	-	572	545	-	601	620	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.6			1.5			12.8			22.2		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	309	661	1257	-	-	1348	-	-	296	510		
HCM Lane V/C Ratio	0.072	0.087	0.042	-	-	0.052	-	-	0.394	0.065		
HCM Control Delay (s)	17.6	11	8	-	-	7.8	-	-	24.9	12.6		
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B		
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.2	-	-	1.8	0.2		

Intersection												
Int Delay, s/veh	2.5											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	79	233	14	9	169	9	5	0	6	9	0	51
Future Vol, veh/h	79	233	14	9	169	9	5	0	6	9	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	259	16	10	188	10	6	0	7	10	0	57
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	198	0	0	274	0	0	683	660	267	659	663	193
Stage 1	-	-	-	-	-	-	442	442	-	213	213	-
Stage 2	-	-	-	-	-	-	241	218	-	446	450	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1375	-	-	1289	-	-	363	383	772	377	382	849
Stage 1	-	-	-	-	-	-	594	576	-	789	726	-
Stage 2	-	-	-	-	-	-	762	723	-	591	572	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1375	-	-	1289	-	-	320	356	772	353	355	849
Mov Cap-2 Maneuver	-	-	-	-	-	-	320	356	-	353	355	
Stage 1	-	-	-	-	-	-	556	539	-	739	720	-
Stage 2	-	-	-	-	-	-	706	717	-	548	535	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.9			0.4			12.9			10.7		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	470	1375	-	-	1289	-	-	701				
HCM Lane V/C Ratio	0.026	0.064	-	-	0.008	-	-	0.095				
HCM Control Delay (s)	12.9	7.8	-	-	7.8	-	-	10.7				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile Q(veh)	0.1	0.2	-	-	0	-	-	0.3				

HCM 2010 Signalized Intersection Summary
1: PIILANI HIGHWAY & OHUKAI STREET

Future (2032) Without Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	92	60	285	90	236	56	1666	238	271	1532	60
Future Volume (veh/h)	66	92	60	285	90	236	56	1666	238	271	1532	60
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	68	95	0	294	93	0	58	1718	0	279	1579	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	218	185	272	399	339	128	1679	751	259	1940	868
Arrive On Green	0.06	0.12	0.00	0.15	0.21	0.00	0.07	0.47	0.00	0.15	0.55	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	68	95	0	294	93	0	58	1718	0	279	1579	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.2	6.5	0.0	21.0	5.7	0.0	4.3	65.0	0.0	20.0	49.9	0.0
Cycle Q Clear(g_c), s	5.2	6.5	0.0	21.0	5.7	0.0	4.3	65.0	0.0	20.0	49.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	218	185	272	399	339	128	1679	751	259	1940	868
V/C Ratio(X)	0.69	0.44	0.00	1.08	0.23	0.00	0.45	1.02	0.00	1.08	0.81	0.00
Avail Cap(c_a), veh/h	155	326	277	272	449	381	142	1679	751	259	1940	868
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.5	56.3	0.0	58.0	44.5	0.0	61.0	36.0	0.0	58.5	25.2	0.0
Incr Delay (d2), s/veh	8.1	1.4	0.0	77.9	0.3	0.0	0.9	28.0	0.0	78.0	3.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.4	0.0	16.2	3.0	0.0	2.1	38.3	0.0	15.4	25.0	0.0
LnGrp Delay(d),s/veh	71.6	57.7	0.0	135.9	44.8	0.0	61.9	64.0	0.0	136.5	28.4	0.0
LnGrp LOS	E	E		F	D		E	F		F	C	
Approach Vol, veh/h		163			387			1776			1858	
Approach Delay, s/veh		63.5			114.0			63.9			44.6	
Approach LOS		E			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.0	69.0	10.7	33.3	13.9	79.1	24.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	19.0	64.0	11.0	32.0	10.0	73.0	20.0	23.0				
Max Q Clear Time (g_c+I1), s	22.0	67.0	7.2	7.7	6.3	51.9	23.0	8.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.7	0.0	20.7	0.0	0.6				
Intersection Summary												
HCM 2010 Ctrl Delay			60.0									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2032) Without Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	32	71	86	22	137	62	1756	157	56	1737	28
Future Volume (veh/h)	33	32	71	86	22	137	62	1756	157	56	1737	28
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	34	33	0	88	22	0	63	1792	0	57	1772	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	75	136	116	211	172	146	111	2081	931	214	2081	931
Arrive On Green	0.04	0.07	0.00	0.06	0.09	0.00	0.06	0.59	0.00	0.06	0.59	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	34	33	0	88	22	0	63	1792	0	57	1772	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	1.3	1.2	0.0	1.7	0.8	0.0	2.4	29.5	0.0	1.1	28.8	0.0
Cycle Q Clear(g_c), s	1.3	1.2	0.0	1.7	0.8	0.0	2.4	29.5	0.0	1.1	28.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	75	136	116	211	172	146	111	2081	931	214	2081	931
V/C Ratio(X)	0.46	0.24	0.00	0.42	0.13	0.00	0.57	0.86	0.00	0.27	0.85	0.00
Avail Cap(c_a), veh/h	153	614	522	247	588	500	153	2081	931	296	2081	931
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	32.6	30.5	0.0	31.5	29.1	0.0	31.8	12.0	0.0	31.2	11.9	0.0
Incr Delay (d2), s/veh	4.3	1.3	0.0	1.3	0.5	0.0	1.7	5.0	0.0	0.2	4.6	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.7	0.6	0.0	0.9	0.4	0.0	1.2	15.6	0.0	0.5	15.1	0.0
LnGrp Delay(d),s/veh	36.9	31.8	0.0	32.8	29.5	0.0	33.5	16.9	0.0	31.4	16.5	0.0
LnGrp LOS	D	C		C	C		C	B		C	B	
Approach Vol, veh/h	67				110		1855		1829			
Approach Delay, s/veh	34.4				32.2		17.5		17.0			
Approach LOS	C				C		B		B			
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	3.3	45.0	5.9	10.5	8.3	45.0	7.3	9.1				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	40.0	40.0	5.0	21.0	5.0	40.0	4.0	22.0				
Max Q Clear Time (g_c+I), s	31.5	31.5	3.3	2.8	4.4	30.8	3.7	3.2				
Green Ext Time (p_c), s	0.0	7.6	0.0	0.2	0.4	8.0	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay			18.0									
HCM 2010 LOS			B									

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2032) Without Project
Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	0	427	3	0	1	485	1484	1	3	1399	242
Future Volume (veh/h)	262	0	427	3	0	1	485	1484	1	3	1399	242
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	273	0	0	3	0	1	505	1546	0	3	1457	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	434	0	322	58	0	51	670	2211	946	6	1558	697
Arrive On Green	0.12	0.00	0.00	0.03	0.00	0.01	0.19	0.62	0.00	0.00	0.44	0.00
Sat Flow, veh/h	3548	0	3167	1774	0	1583	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	273	0	0	3	0	1	505	1546	0	3	1457	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1583	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.4	0.0	0.0	0.1	0.0	0.0	10.2	21.4	0.0	0.1	28.8	0.0
Cycle Q Clear(g_c), s	5.4	0.0	0.0	0.1	0.0	0.0	10.2	21.4	0.0	0.1	28.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	434	0	322	58	0	51	670	2211	946	6	1558	697
V/C Ratio(X)	0.63	0.00	0.00	0.05	0.00	0.02	0.75	0.70	0.00	0.52	0.94	0.00
Avail Cap(c_a), veh/h	434	0	322	169	0	150	1051	2355	1010	96	1558	697
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	30.7	0.0	0.0	34.5	0.0	35.5	28.0	9.2	0.0	36.6	19.6	0.0
Incr Delay (d2), s/veh	2.9	0.0	0.0	0.4	0.0	0.1	1.8	1.1	0.0	24.8	11.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	0.0	0.0	0.1	0.0	0.0	5.0	10.6	0.0	0.1	16.4	0.0
LnGrp Delay(d),s/veh	33.6	0.0	0.0	34.9	0.0	35.6	29.7	10.3	0.0	61.4	30.7	0.0
LnGrp LOS	C			C		D	C	B		E	C	
Approach Vol, veh/h	273				4		2051				1460	
Approach Delay, s/veh	33.6				35.1		15.1				30.8	
Approach LOS	C				D		B				C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	50.0		6.4	17.8	36.4		13.0				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s	47.0			5.0	22.0	29.0		7.0				
Max Q Clear Time (g_c+I_2), s	23.4			2.1	12.2	30.8		7.4				
Green Ext Time (p_c), s	0.0	20.6		0.0	1.6	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	22.5											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2032) Without Project

Timing Plan: Saturday

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	447	378	169	444	513	255		
Future Volume (veh/h)	447	378	169	444	513	255		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	466	0	176	462	534	266		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	739	628	241	2162	801	322		
Arrive On Green	0.40	0.00	0.14	0.61	0.23	0.20		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	466	0	176	462	534	266		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	10.3	0.0	4.9	3.0	7.2	8.2		
Cycle Q Clear(g_c), s	10.3	0.0	4.9	3.0	7.2	8.2		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	739	628	241	2162	801	322		
V/C Ratio(X)	0.63	0.00	0.73	0.21	0.67	0.83		
Avail Cap(c_a), veh/h	976	830	312	2755	821	331		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	12.4	0.0	21.2	4.5	17.8	19.5		
Incr Delay (d2), s/veh	1.9	0.0	3.9	0.1	1.6	14.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.6	0.0	2.6	1.4	3.6	4.9		
LnGrp Delay(d),s/veh	14.3	0.0	25.1	4.6	19.4	33.8		
LnGrp LOS	B		C	A	B	C		
Approach Vol, veh/h	466			638	800			
Approach Delay, s/veh	14.3			10.2	24.2			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.9	24.3				35.2		15.9
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	9.0	25.3				38.3		10.7
Max Q Clear Time (g_c+I), s	10.9	12.3				5.0		10.2
Green Ext Time (p_c), s	0.1	6.5				10.5		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			17.1					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary 5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2032) Without Project
Timing Plan: Saturday

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	413	338	305	1503	1469	475		
Future Volume (veh/h)	413	338	305	1503	1469	475		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	421	0	311	1534	1499	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	402	359	308	2359	1557	697		
Arrive On Green	0.23	0.00	0.17	0.67	0.44	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	421	0	311	1534	1499	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	17.0	0.0	13.0	19.1	30.9	0.0		
Cycle Q Clear(g_c), s	17.0	0.0	13.0	19.1	30.9	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	402	359	308	2359	1557	697		
V/C Ratio(X)	1.05	0.00	1.01	0.65	0.96	0.00		
Avail Cap(c_a), veh/h	402	359	308	2359	1557	697		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	29.0	0.0	31.0	7.4	20.4	0.0		
Incr Delay (d2), s/veh	57.7	0.0	54.2	1.4	15.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.1	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	14.7	0.0	11.0	9.6	18.3	0.0		
LnGrp Delay(d),s/veh	86.7	0.0	85.3	8.8	35.9	0.0		
LnGrp LOS	F		F	A	D			
Approach Vol, veh/h	421			1845	1499			
Approach Delay, s/veh	86.7			21.7	35.9			
Approach LOS	F			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		54.0		21.0	17.0	37.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		50.0		17.0	13.0	33.0		
Max Q Clear Time (g_c+I1), s		21.1		19.0	15.0	32.9		
Green Ext Time (p_c), s		20.9		0.0	0.0	0.1		
Intersection Summary								
HCM 2010 Ctrl Delay			34.6					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2032) Without Project
Timing Plan: Saturday

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	111	205	132	1897	1764	118		
Future Volume (veh/h)	111	205	132	1897	1764	118		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	114	0	136	1956	1819	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	141	126	347	3022	2212	990		
Arrive On Green	0.08	0.00	0.20	0.85	0.63	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	114	0	136	1956	1819	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	7.6	0.0	8.0	21.7	47.6	0.0		
Cycle Q Clear(g_c), s	7.6	0.0	8.0	21.7	47.6	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	141	126	347	3022	2212	990		
V/C Ratio(X)	0.81	0.00	0.39	0.65	0.82	0.00		
Avail Cap(c_a), veh/h	237	211	347	3022	2212	990		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	54.3	0.0	42.1	2.9	17.4	0.0		
Incr Delay (d2), s/veh	10.4	0.0	0.7	1.1	3.6	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.1	0.0	4.0	10.8	24.1	0.0		
LnGrp Delay(d),s/veh	64.7	0.0	42.8	4.0	21.0	0.0		
LnGrp LOS	E		D	A	C			
Approach Vol, veh/h	114			2092	1819			
Approach Delay, s/veh	64.7			6.5	21.0			
Approach LOS	E			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		106.5		13.5	27.5	79.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		96.0		16.0	17.0	75.0		
Max Q Clear Time (g_c+I1), s		23.7		9.6	10.0	49.6		
Green Ext Time (p_c), s		20.1		0.2	5.4	11.9		
Intersection Summary								
HCM 2010 Ctrl Delay			14.7					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2032) Without Project
Timing Plan: Saturday

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	96	45	832	139	49	839		
Future Volume (veh/h)	96	45	832	139	49	839		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	104	49	904	151	53	912		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	161	143	1011	169	72	1421		
Arrive On Green	0.09	0.09	0.65	0.65	0.04	0.76		
Sat Flow, veh/h	1774	1583	1557	260	1774	1863		
Grp Volume(v), veh/h	104	49	0	1055	53	912		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1817	1774	1863		
Q Serve(g_s), s	3.1	1.6	0.0	26.5	1.6	12.4		
Cycle Q Clear(g_c), s	3.1	1.6	0.0	26.5	1.6	12.4		
Prop In Lane	1.00	1.00		0.14	1.00			
Lane Grp Cap(c), veh/h	161	143	0	1180	72	1421		
V/C Ratio(X)	0.65	0.34	0.00	0.89	0.74	0.64		
Avail Cap(c_a), veh/h	520	464	0	1264	130	1569		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	24.0	23.3	0.0	8.0	25.9	3.0		
Incr Delay (d2), s/veh	4.3	1.4	0.0	8.2	13.7	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	1.7	0.7	0.0	15.6	1.1	6.4		
LnGrp Delay(d),s/veh	28.3	24.7	0.0	16.2	39.6	3.8		
LnGrp LOS	C	C		B	D	A		
Approach Vol, veh/h	153		1055			965		
Approach Delay, s/veh	27.2		16.2			5.7		
Approach LOS	C		B			A		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.2	39.5				45.7		8.9
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	38.0				46.0		16.0
Max Q Clear Time (g_c+I), s	1.6	28.5				14.4		5.1
Green Ext Time (p_c), s	0.0	6.9				15.5		0.4
Intersection Summary								
HCM 2010 Ctrl Delay			12.3					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2032) Without Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	0	75	0	10	0	50	2010	0	0	1858	63
Future Volume (veh/h)	52	0	75	0	10	0	50	2010	0	0	1858	63
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	55	0	0	0	11	0	53	2116	0	0	1956	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	130	0	88	0	103	88	68	3107	1390	1	2853	1276
Arrive On Green	0.06	0.00	0.00	0.00	0.06	0.00	0.04	0.88	0.00	0.00	0.81	0.00
Sat Flow, veh/h	1256	0	1583	0	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	55	0	0	0	11	0	53	2116	0	0	1956	0
Grp Sat Flow(s),veh/h/ln	1256	0	1583	0	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	4.7	0.0	0.0	0.0	0.7	0.0	3.6	21.8	0.0	0.0	28.8	0.0
Cycle Q Clear(g_c), s	5.3	0.0	0.0	0.0	0.7	0.0	3.6	21.8	0.0	0.0	28.8	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	130	0	88	0	103	88	68	3107	1390	1	2853	1276
V/C Ratio(X)	0.42	0.00	0.00	0.00	0.11	0.00	0.77	0.68	0.00	0.00	0.69	0.00
Avail Cap(c_a), veh/h	239	0	211	0	248	211	133	3107	1390	59	2853	1276
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	56.4	0.0	0.0	0.0	53.8	0.0	57.2	2.2	0.0	0.0	5.0	0.0
Incr Delay (d2), s/veh	2.2	0.0	0.0	0.0	0.4	0.0	16.8	1.2	0.0	0.0	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.9	0.0	0.0	0.0	0.4	0.0	2.1	10.8	0.0	0.0	14.1	0.0
LnGrp Delay(d),s/veh	58.6	0.0	0.0	0.0	54.3	0.0	74.0	3.5	0.0	0.0	6.4	0.0
LnGrp LOS	E				D		E	A			A	
Approach Vol, veh/h	55			11			2169			1956		
Approach Delay, s/veh	58.6			54.3			5.2			6.4		
Approach LOS	E			D			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	109.3			10.7	8.6	100.7		10.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	88.0			16.0	9.0	83.0		16.0				
Max Q Clear Time (g_c+I), s	23.8			7.3	5.6	30.8		2.7				
Green Ext Time (p_c), s	0.0	53.3		0.1	0.0	44.8		0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	6.6											
HCM 2010 LOS	A											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2032) Without Project

Timing Plan: Saturday

Intersection												
Int Delay, s/veh	6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	37	189	22	42	146	57	21	10	42	110	8	17
Future Vol, veh/h	37	189	22	42	146	57	21	10	42	110	8	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	217	25	48	168	66	24	11	48	126	9	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	233	0	0	243	0	0	626	645	230	642	625	201
Stage 1	-	-	-	-	-	-	315	315	-	297	297	-
Stage 2	-	-	-	-	-	-	311	330	-	345	328	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1335	-	-	1323	-	-	397	391	809	387	401	840
Stage 1	-	-	-	-	-	-	696	656	-	712	668	-
Stage 2	-	-	-	-	-	-	699	646	-	671	647	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1335	-	-	1323	-	-	361	365	809	337	374	840
Mov Cap-2 Maneuver	-	-	-	-	-	-	361	365	-	337	374	-
Stage 1	-	-	-	-	-	-	674	635	-	689	644	-
Stage 2	-	-	-	-	-	-	649	623	-	600	626	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			1.3			12.4			20		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	361	656	1335	-	-	1323	-	-	337	601		
HCM Lane V/C Ratio	0.067	0.091	0.032	-	-	0.036	-	-	0.375	0.048		
HCM Control Delay (s)	15.7	11	7.8	-	-	7.8	-	-	22	11.3		
HCM Lane LOS	C	B	A	-	-	A	-	-	C	B		
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.1	-	-	1.7	0.1		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

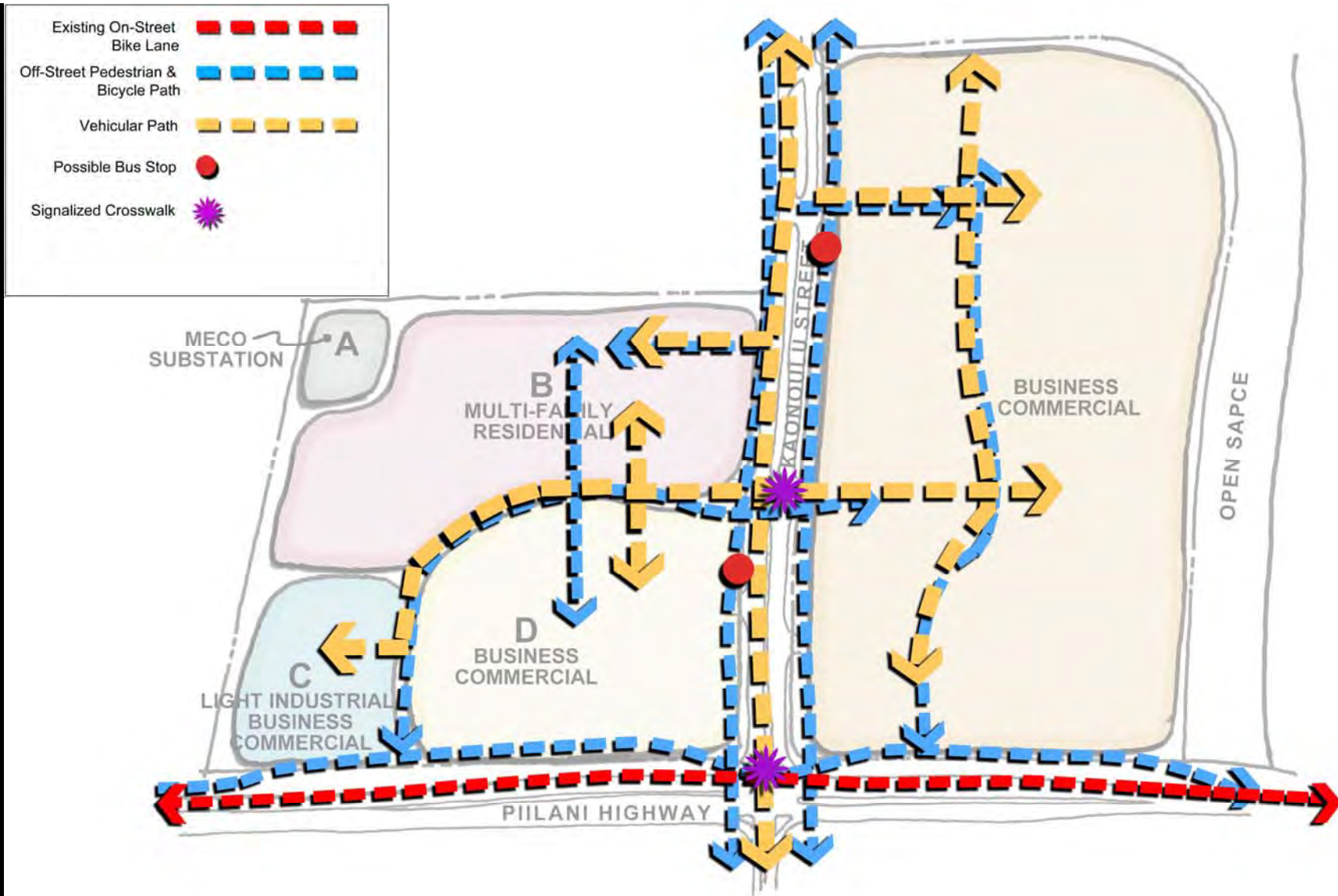
Future (2032) Without Project

Timing Plan: Saturday

Intersection												
Int Delay, s/veh		2.7										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	45	232	14	9	162	10	8	1	9	9	7	70
Future Vol, veh/h	45	232	14	9	162	10	8	1	9	9	7	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	258	16	10	180	11	9	1	10	10	8	78
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	191	0	0	273	0	0	614	577	266	577	579	186
Stage 1	-	-	-	-	-	-	366	366	-	206	206	-
Stage 2	-	-	-	-	-	-	248	211	-	371	373	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1383	-	-	1290	-	-	404	427	773	428	426	856
Stage 1	-	-	-	-	-	-	653	623	-	796	731	-
Stage 2	-	-	-	-	-	-	756	728	-	649	618	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1383	-	-	1290	-	-	350	408	773	408	407	856
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	408	-	408	407	-
Stage 1	-	-	-	-	-	-	629	600	-	767	725	-
Stage 2	-	-	-	-	-	-	675	722	-	616	596	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.4			12.7			10.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	487	1383	-	-	1290	-	-	711				
HCM Lane V/C Ratio	0.041	0.036	-	-	0.008	-	-	0.134				
HCM Control Delay (s)	12.7	7.7	-	-	7.8	-	-	10.8				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.1	0.1	-	-	0	-	-	0.5				

Appendix G

Pedestrian Circulation

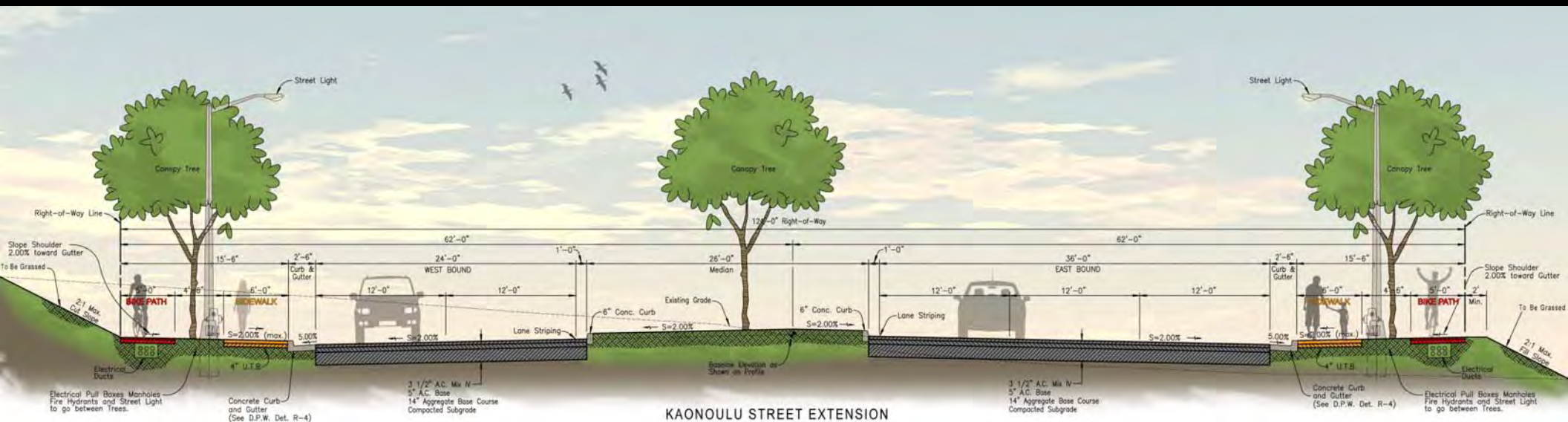


Piilani Promenade

Maui, Hawaii

Circulation Diagram





Piilani Promenade
Maui, Hawaii

Street Section - Kaonoulu Street
North - South Section Cut



East-West Section Cut of Highway



Appendix H

Analysis Reports Future (2025) and
(2032) With Project Conditions

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2025) With Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	94	104	270	39	194	36	1217	126	201	1793	29
Future Volume (veh/h)	106	94	104	270	39	194	36	1217	126	201	1793	29
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	100	0	287	41	0	38	1295	0	214	1907	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	148	206	175	269	333	283	108	1753	784	247	2030	908
Arrive On Green	0.08	0.11	0.00	0.15	0.18	0.00	0.06	0.50	0.00	0.14	0.57	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	113	100	0	287	41	0	38	1295	0	214	1907	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	7.3	0.0	22.0	2.7	0.0	3.0	42.2	0.0	17.1	72.2	0.0
Cycle Q Clear(g_c), s	9.0	7.3	0.0	22.0	2.7	0.0	3.0	42.2	0.0	17.1	72.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	148	206	175	269	333	283	108	1753	784	247	2030	908
V/C Ratio(X)	0.77	0.49	0.00	1.07	0.12	0.00	0.35	0.74	0.00	0.87	0.94	0.00
Avail Cap(c_a), veh/h	208	308	262	269	373	317	135	1753	784	269	2030	908
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.52	0.52	0.00
Uniform Delay (d), s/veh	65.1	60.6	0.0	61.5	50.0	0.0	65.3	29.1	0.0	61.1	28.6	0.0
Incr Delay (d2), s/veh	10.3	1.8	0.0	73.5	0.2	0.0	0.7	2.8	0.0	12.7	5.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	3.9	0.0	16.3	1.4	0.0	1.5	21.2	0.0	9.3	36.9	0.0
LnGrp Delay(d),s/veh	75.4	62.4	0.0	135.0	50.1	0.0	66.1	32.0	0.0	73.8	34.5	0.0
LnGrp LOS	E	E		F	D		E	C		E	C	
Approach Vol, veh/h	213			328			1333			2121		
Approach Delay, s/veh	69.3			124.4			32.9			38.5		
Approach LOS	E			F			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	24.2	75.8	15.1	29.9	12.8	87.2	25.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	21.0	61.0	16.0	28.0	10.0	72.0	21.0	23.0				
Max Q Clear Time (g_c+l1), s	19.1	44.2	11.0	4.7	5.0	74.2	24.0	9.3				
Green Ext Time (p_c), s	0.1	16.4	0.1	0.5	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	45.3											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2025) With Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	31	101	201	29	164	35	1389	74	54	1675	20
Future Volume (veh/h)	84	31	101	201	29	164	35	1389	74	54	1675	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	90	33	0	216	31	0	38	1494	0	58	1801	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	122	74	63	225	182	155	367	2465	1103	127	1864	834
Arrive On Green	0.07	0.04	0.00	0.13	0.10	0.00	0.21	0.70	0.00	0.04	0.53	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	90	33	0	216	31	0	38	1494	0	58	1801	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	7.5	2.6	0.0	18.2	2.3	0.0	2.6	33.3	0.0	2.5	73.6	0.0
Cycle Q Clear(g_c), s	7.5	2.6	0.0	18.2	2.3	0.0	2.6	33.3	0.0	2.5	73.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	122	74	63	225	182	155	367	2465	1103	127	1864	834
V/C Ratio(X)	0.74	0.44	0.00	0.96	0.17	0.00	0.10	0.61	0.00	0.46	0.97	0.00
Avail Cap(c_a), veh/h	177	323	274	225	373	317	367	2465	1103	252	1864	834
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.64	0.64	0.00	0.66	0.66	0.00
Uniform Delay (d), s/veh	68.5	70.4	0.0	65.1	62.1	0.0	48.2	12.0	0.0	70.7	34.2	0.0
Incr Delay (d2), s/veh	8.7	5.8	0.0	49.0	0.6	0.0	0.0	0.7	0.0	0.6	10.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.0	1.5	0.0	12.0	1.2	0.0	1.3	16.4	0.0	1.2	38.5	0.0
LnGrp Delay(d),s/veh	77.2	76.2	0.0	114.1	62.7	0.0	48.3	12.7	0.0	71.4	44.9	0.0
LnGrp LOS	E	E		F	E		D	B		E	D	
Approach Vol, veh/h	123			247			1532			1859		
Approach Delay, s/veh	77.0			107.7			13.6			45.7		
Approach LOS	E			F			B			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.6	108.5	13.3	18.7	35.0	83.0	22.0	10.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	10.0	78.0	14.0	29.0	10.0	78.0	18.0	25.0				
Max Q Clear Time (g_c+I), s	14.5	35.3	9.5	4.3	4.6	75.6	20.2	4.6				
Green Ext Time (p_c), s	0.0	23.2	0.1	0.3	1.9	2.3	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	37.7											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2025) With Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	217	3	473	8	1	21	553	1137	5	2	1277	151
Future Volume (veh/h)	217	3	473	8	1	21	553	1137	5	2	1277	151
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	235	0	0	9	1	23	595	1223	0	2	1373	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	0	264	95	4	82	678	2359	1020	4	1670	747
Arrive On Green	0.10	0.00	0.00	0.05	0.05	0.03	0.20	0.67	0.00	0.00	0.47	0.00
Sat Flow, veh/h	3548	0	3167	1774	66	1527	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	235	0	0	9	0	24	595	1223	0	2	1373	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1593	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.7	0.0	0.0	0.4	0.0	1.3	15.1	15.8	0.0	0.1	30.1	0.0
Cycle Q Clear(g_c), s	5.7	0.0	0.0	0.4	0.0	1.3	15.1	15.8	0.0	0.1	30.1	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	0	264	95	0	85	678	2359	1020	4	1670	747
V/C Ratio(X)	0.66	0.00	0.00	0.09	0.00	0.28	0.88	0.52	0.00	0.52	0.82	0.00
Avail Cap(c_a), veh/h	355	0	264	138	0	124	688	2359	1020	79	1670	747
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.95	0.00	0.00	1.00	0.00	1.00	0.74	0.74	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.0	0.0	0.0	40.5	0.0	41.9	35.1	7.6	0.0	44.9	20.5	0.0
Incr Delay (d2), s/veh	4.3	0.0	0.0	0.4	0.0	1.8	9.5	0.6	0.0	35.0	4.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	0.0	0.0	0.0	0.2	0.0	0.6	8.1	7.8	0.0	0.1	15.8	0.0
LnGrp Delay(d),s/veh	43.3	0.0	0.0	41.0	0.0	43.7	44.6	8.3	0.0	79.9	25.2	0.0
LnGrp LOS	D			D			D	A		E	C	
Approach Vol, veh/h	235		33				1818			1375		
Approach Delay, s/veh	43.3		42.9				20.1			25.3		
Approach LOS	D		D				C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	64.0		8.8	21.7	46.5		13.0				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	4.0	52.0		5.0	17.5	38.0		7.0				
Max Q Clear Time (g_c+I_2), s	17.8			3.3	17.1	32.1		7.7				
Green Ext Time (p_c), s	0.0	28.3		0.0	0.1	5.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			24.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2025) With Project

Timing Plan: AM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations				 	 			
Traffic Volume (veh/h)	394	275	93	543	605	247		
Future Volume (veh/h)	394	275	93	543	605	247		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	410	0	97	566	630	257		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	897	762	153	2245	799	328		
Arrive On Green	0.48	0.00	0.09	0.63	0.23	0.21		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	410	0	97	566	630	257		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	8.8	0.0	3.2	4.2	10.3	9.2		
Cycle Q Clear(g_c), s	8.8	0.0	3.2	4.2	10.3	9.2		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	897	762	153	2245	799	328		
V/C Ratio(X)	0.46	0.00	0.63	0.25	0.79	0.78		
Avail Cap(c_a), veh/h	897	762	177	2245	809	333		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.64	0.64	1.00	1.00		
Uniform Delay (d), s/veh	10.3	0.0	26.5	4.8	21.6	22.5		
Incr Delay (d2), s/veh	1.7	0.0	2.1	0.2	4.7	10.4		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.9	0.0	1.7	2.0	5.4	5.0		
LnGrp Delay(d),s/veh	12.0	0.0	28.6	4.9	26.4	32.9		
LnGrp LOS	B		C	A	C	C		
Approach Vol, veh/h	410			663	887			
Approach Delay, s/veh	12.0			8.4	28.3			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.2	32.9				42.1		17.9
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	40.0	26.4				36.4		12.6
Max Q Clear Time (g_c+I_2), s	10.8	10.8				6.2		12.3
Green Ext Time (p_c), s	0.0	7.7				10.7		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			18.2					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2025) With Project

Timing Plan: AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	297	217	191	1437	2008	449		
Future Volume (veh/h)	297	217	191	1437	2008	449		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	316	0	203	1529	2136	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	319	285	195	2619	2088	934		
Arrive On Green	0.18	0.00	0.11	0.74	0.59	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	316	0	203	1529	2136	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	17.8	0.0	11.0	19.8	59.0	0.0		
Cycle Q Clear(g_c), s	17.8	0.0	11.0	19.8	59.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	319	285	195	2619	2088	934		
V/C Ratio(X)	0.99	0.00	1.04	0.58	1.02	0.00		
Avail Cap(c_a), veh/h	319	285	195	2619	2088	934		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	40.9	0.0	44.5	6.0	20.5	0.0		
Incr Delay (d2), s/veh	47.4	0.0	75.4	1.0	25.7	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.1	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.9	0.0	9.5	9.9	35.9	0.0		
LnGrp Delay(d),s/veh	88.3	0.0	119.9	6.9	46.2	0.0		
LnGrp LOS	F		F	A	F			
Approach Vol, veh/h	316			1732	2136			
Approach Delay, s/veh	88.3			20.2	46.2			
Approach LOS	F			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		78.0		22.0	15.0	63.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		74.0		18.0	11.0	59.0		
Max Q Clear Time (g_c+l1), s		21.8		19.8	13.0	61.0		
Green Ext Time (p_c), s		40.6		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			38.6					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2025) With Project

Timing Plan: AM Peak Hour

																
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR				
Lane Configurations																
Traffic Volume (veh/h)	58	58	294	119	83	83	120	1346	83	59	2050	107				
Future Volume (veh/h)	58	58	294	119	83	83	120	1346	83	59	2050	107				
Number	7	4	14	3	8	18	5	2	12	1	6	16				
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0				
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863				
Adj Flow Rate, veh/h	61	63	0	129	90	0	126	1417	0	64	2158	0				
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1				
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95				
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2				
Cap, veh/h	89	93	79	228	123	105	95	2646	1184	102	2562	1146				
Arrive On Green	0.05	0.05	0.00	0.07	0.07	0.00	0.05	0.75	0.00	0.03	0.72	0.00				
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583				
Grp Volume(v), veh/h	61	63	0	129	90	0	126	1417	0	64	2158	0				
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583				
Q Serve(g_s), s	5.1	5.0	0.0	5.5	7.1	0.0	8.0	25.3	0.0	2.8	64.7	0.0				
Cycle Q Clear(g_c), s	5.1	5.0	0.0	5.5	7.1	0.0	8.0	25.3	0.0	2.8	64.7	0.0				
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00				
Lane Grp Cap(c), veh/h	89	93	79	228	123	105	95	2646	1184	102	2562	1146				
V/C Ratio(X)	0.69	0.68	0.00	0.57	0.73	0.00	1.33	0.54	0.00	0.63	0.84	0.00				
Avail Cap(c_a), veh/h	308	323	274	597	323	274	95	2646	1184	138	2562	1146				
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00				
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00				
Uniform Delay (d), s/veh	70.1	70.1	0.0	67.9	68.7	0.0	71.0	8.0	0.0	72.0	14.7	0.0				
Incr Delay (d2), s/veh	9.0	8.2	0.0	2.2	8.0	0.0	204.9	0.8	0.0	6.2	3.6	0.0				
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0				
%ile BackOfQ(50%),veh/ln	2.7	2.8	0.0	2.7	3.9	0.0	9.3	12.5	0.0	1.4	32.4	0.0				
LnGrp Delay(d),s/veh	79.1	78.3	0.0	70.1	76.7	0.0	275.9	8.8	0.0	78.2	18.2	0.0				
LnGrp LOS	E	E		E	E		F	A		E	B					
Approach Vol, veh/h	124				219		1543				2222					
Approach Delay, s/veh	78.7				72.8		30.6				20.0					
Approach LOS	E				E		C				B					
Timer	1	2	3	4	5	6	7	8								
Assigned Phs	1	2			4	5	6	8								
Phs Duration (G+Y+Rc), s	116.1				11.5	12.0	112.6	13.9								
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0								
Max Green Setting (Gmax), s	76.0				26.0	8.0	74.0	26.0								
Max Q Clear Time (g_c+I), s	27.3				7.1	10.0	66.7	9.1								
Green Ext Time (p_c), s	0.0	37.6			0.5	0.0	6.9	0.8								
Intersection Summary																
HCM 2010 Ctrl Delay			28.5													
HCM 2010 LOS			C													

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2025) With Project
Timing Plan: AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	130	65	659	131	48	492		
Future Volume (veh/h)	130	65	659	131	48	492		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	141	71	716	142	52	535		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	201	179	1004	199	66	1423		
Arrive On Green	0.11	0.11	0.66	0.66	0.04	0.76		
Sat Flow, veh/h	1774	1583	1510	300	1774	1863		
Grp Volume(v), veh/h	141	71	0	858	52	535		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1810	1774	1863		
Q Serve(g_s), s	5.0	2.7	0.0	19.6	1.9	6.2		
Cycle Q Clear(g_c), s	5.0	2.7	0.0	19.6	1.9	6.2		
Prop In Lane	1.00	1.00		0.17	1.00			
Lane Grp Cap(c), veh/h	201	179	0	1203	66	1423		
V/C Ratio(X)	0.70	0.40	0.00	0.71	0.78	0.38		
Avail Cap(c_a), veh/h	437	390	0	1203	109	1423		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	27.8	26.8	0.0	6.9	31.0	2.5		
Incr Delay (d2), s/veh	4.4	1.4	0.0	3.6	17.8	0.8		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	2.7	1.2	0.0	10.7	1.3	3.4		
LnGrp Delay(d),s/veh	32.2	28.2	0.0	10.6	48.8	3.3		
LnGrp LOS	C	C		B	D	A		
Approach Vol, veh/h	212		858		587			
Approach Delay, s/veh	30.9		10.6		7.3			
Approach LOS	C		B		A			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	6.4	47.2				53.7		11.3
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	4.0	33.0				41.0		16.0
Max Q Clear Time (g_c+I), s	1.0	21.6				8.2		7.0
Green Ext Time (p_c), s	0.0	5.6				8.7		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			12.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2025) With Project
Timing Plan: AM Peak Hour

	           											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	40	75	139	155	15	60	47	1446	285	120	2288	74
Future Volume (veh/h)	40	75	139	155	15	60	47	1446	285	120	2288	74
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	42	82	0	168	16	65	49	1522	310	130	2408	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	48	70	253	184	11	253	63	2228	997	161	2423	1084
Arrive On Green	0.16	0.16	0.00	0.16	0.16	0.16	0.04	0.63	0.63	0.09	0.68	0.00
Sat Flow, veh/h	0	438	1583	723	69	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	124	0	0	184	0	65	49	1522	310	130	2408	0
Grp Sat Flow(s),veh/h/ln	438	0	1583	791	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	3.6	2.7	28.0	9.0	7.2	67.1	0.0
Cycle Q Clear(g_c), s	16.0	0.0	0.0	16.0	0.0	3.6	2.7	28.0	9.0	7.2	67.1	0.0
Prop In Lane	0.34		1.00	0.91		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	0	253	195	0	253	63	2228	997	161	2423	1084
V/C Ratio(X)	1.05	0.00	0.00	0.94	0.00	0.26	0.78	0.68	0.31	0.81	0.99	0.00
Avail Cap(c_a), veh/h	118	0	253	195	0	253	71	2228	997	248	2423	1084
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.6	0.0	0.0	44.5	0.0	36.8	47.9	12.0	8.5	44.6	15.5	0.0
Incr Delay (d2), s/veh	96.3	0.0	0.0	47.7	0.0	0.5	38.5	1.7	0.8	10.7	16.8	0.0
Initial Q Delay(d3),s/veh	0.5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	16.4	0.0	0.0	7.7	0.0	1.6	2.0	14.1	4.1	4.0	37.8	0.0
LnGrp Delay(d),s/veh	138.5	0.0	0.0	92.2	0.0	37.3	86.3	13.8	9.4	55.3	32.4	0.0
LnGrp LOS	F			F		D	F	B	A	E	C	
Approach Vol, veh/h	124			249			1881			2538		
Approach Delay, s/veh	138.5			77.9			14.9			33.6		
Approach LOS	F			E			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.1	66.9		20.0	7.5	72.5		20.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	14.0	58.0		16.0	4.0	68.0		16.0				
Max Q Clear Time (g_c+I), s	19.2	30.0		18.0	4.7	69.1		18.0				
Green Ext Time (p_c), s	0.1	26.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	31.3											
HCM 2010 LOS	C											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2025) With Project
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	7.9											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	179	22	40	193	72	22	8	57	179	8	15
Future Vol, veh/h	28	179	22	40	193	72	22	8	57	179	8	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	188	23	42	203	76	23	8	60	188	8	16
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	279	0	0	212	0	0	596	622	200	618	596	241
Stage 1	-	-	-	-	-	-	259	259	-	325	325	-
Stage 2	-	-	-	-	-	-	337	363	-	293	271	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1284	-	-	1358	-	-	415	403	841	402	417	798
Stage 1	-	-	-	-	-	-	746	694	-	687	649	-
Stage 2	-	-	-	-	-	-	677	625	-	715	685	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1284	-	-	1358	-	-	384	382	841	352	395	798
Mov Cap-2 Maneuver	-	-	-	-	-	-	384	382	-	352	395	-
Stage 1	-	-	-	-	-	-	729	678	-	671	629	-
Stage 2	-	-	-	-	-	-	634	606	-	641	670	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			1			11.6			24.7		
HCM LOS							B			C		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	384	733	1284	-	-	1358	-	-	352	589		
HCM Lane V/C Ratio	0.06	0.093	0.023	-	-	0.031	-	-	0.535	0.041		
HCM Control Delay (s)	15	10.4	7.9	-	-	7.7	-	-	26.4	11.4		
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B		
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.1	-	-	3	0.1		

HCM 2010 TWSC
10: KAONOU LU STREET & ALULIKE STREET

Future (2025) With Project
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh		2.7										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	186	11	11	213	9	14	0	10	13	0	56
Future Vol, veh/h	43	186	11	11	213	9	14	0	10	13	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	207	12	12	237	10	16	0	11	14	0	62
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	247	0	0	219	0	0	605	579	213	580	580	242
Stage 1	-	-	-	-	-	-	308	308	-	266	266	-
Stage 2	-	-	-	-	-	-	297	271	-	314	314	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1319	-	-	1350	-	-	410	426	827	426	426	797
Stage 1	-	-	-	-	-	-	702	660	-	739	689	-
Stage 2	-	-	-	-	-	-	712	685	-	697	656	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1319	-	-	1350	-	-	365	407	827	406	407	797
Mov Cap-2 Maneuver	-	-	-	-	-	-	365	407	-	406	407	-
Stage 1	-	-	-	-	-	-	676	636	-	712	683	-
Stage 2	-	-	-	-	-	-	651	679	-	663	632	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.4			0.4			13			11		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	476	1319	-	-	1350	-	-	675				
HCM Lane V/C Ratio	0.056	0.036	-	-	0.009	-	-	0.114				
HCM Control Delay (s)	13	7.8	-	-	7.7	-	-	11				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.2	0.1	-	-	0	-	-	0.4				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2025) With Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	61	88	222	56	198	71	2032	178	158	1966	85
Future Volume (veh/h)	75	61	88	222	56	198	71	2032	178	158	1966	85
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	77	63	0	229	58	0	73	2095	0	163	2027	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	205	175	196	297	253	128	2050	917	171	2137	956
Arrive On Green	0.06	0.11	0.00	0.11	0.16	0.00	0.07	0.58	0.00	0.10	0.60	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	77	63	0	229	58	0	73	2095	0	163	2027	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.2	4.5	0.0	16.0	3.9	0.0	5.8	84.0	0.0	13.3	77.0	0.0
Cycle Q Clear(g_c), s	6.2	4.5	0.0	16.0	3.9	0.0	5.8	84.0	0.0	13.3	77.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	205	175	196	297	253	128	2050	917	171	2137	956
V/C Ratio(X)	0.71	0.31	0.00	1.17	0.20	0.00	0.57	1.02	0.00	0.95	0.95	0.00
Avail Cap(c_a), veh/h	147	308	262	196	360	306	135	2050	917	171	2137	956
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.49	0.49	0.00
Uniform Delay (d), s/veh	66.8	59.4	0.0	64.5	52.9	0.0	65.1	30.5	0.0	65.2	26.7	0.0
Incr Delay (d2), s/veh	9.7	0.8	0.0	117.6	0.3	0.0	2.9	25.6	0.0	35.2	6.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.4	0.0	14.2	2.0	0.0	2.9	48.0	0.0	8.2	39.2	0.0
LnGrp Delay(d),s/veh	76.5	60.2	0.0	182.1	53.2	0.0	68.0	56.1	0.0	100.3	32.7	0.0
LnGrp LOS	E	E		F	D		E	F		F	C	
Approach Vol, veh/h		140			287			2168			2190	
Approach Delay, s/veh		69.2			156.0			56.5			37.7	
Approach LOS		E			F			E			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	88.0	11.9	27.1	14.5	91.5	19.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	75.0	11.0	27.0	10.0	78.0	15.0	23.0				
Max Q Clear Time (g_c+I1), s	15.3	86.0	8.2	5.9	7.8	79.0	18.0	6.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			54.2									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2025) With Project

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	50	64	124	26	86	61	1999	156	148	2021	65
Future Volume (veh/h)	31	50	64	124	26	86	61	1999	156	148	2021	65
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	52	0	128	27	0	63	2061	0	153	2084	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	56	103	88	156	129	109	369	2539	1136	188	1995	892
Arrive On Green	0.03	0.06	0.00	0.05	0.07	0.00	0.21	0.72	0.00	0.05	0.56	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	32	52	0	128	27	0	63	2061	0	153	2084	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.0	3.0	0.0	4.1	1.5	0.0	3.2	43.4	0.0	4.8	62.0	0.0
Cycle Q Clear(g_c), s	2.0	3.0	0.0	4.1	1.5	0.0	3.2	43.4	0.0	4.8	62.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	56	103	88	156	129	109	369	2539	1136	188	1995	892
V/C Ratio(X)	0.57	0.50	0.00	0.82	0.21	0.00	0.17	0.81	0.00	0.82	1.04	0.00
Avail Cap(c_a), veh/h	97	389	331	156	373	317	369	2539	1136	188	1995	892
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.16	0.16	0.00	0.37	0.37	0.00
Uniform Delay (d), s/veh	52.5	50.5	0.0	52.0	48.4	0.0	35.8	10.5	0.0	51.5	24.0	0.0
Incr Delay (d2), s/veh	8.7	5.3	0.0	27.7	1.1	0.0	0.0	0.5	0.0	9.3	26.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.7	0.0	2.5	0.8	0.0	1.6	21.1	0.0	2.5	37.2	0.0
LnGrp Delay(d),s/veh	61.2	55.8	0.0	79.7	49.5	0.0	35.8	11.0	0.0	60.8	50.1	0.0
LnGrp LOS	E	E		E	D		D	B		E	F	
Approach Vol, veh/h	84			155			2124			2237		
Approach Delay, s/veh	57.8			74.5			11.8			50.9		
Approach LOS	E			E			B			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	10.0	82.9	6.5	10.6	26.9	66.0	8.0	9.1				
Change Period (Y+Rc), s	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0				
Max Green Setting (Gmax), s	61.0	5.0	21.0	5.0	61.0	4.0	22.0					
Max Q Clear Time (g_c+I), s	45.4	4.0	3.5	5.2	64.0	6.1	5.0					
Green Ext Time (p_c), s	0.0	14.2	0.0	0.3	0.0	0.0	0.3					
Intersection Summary												
HCM 2010 Ctrl Delay	33.7											
HCM 2010 LOS	C											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2025) With Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	215	2	560	27	17	41	574	1571	18	5	1662	262
Future Volume (veh/h)	215	2	560	27	17	41	574	1571	18	5	1662	262
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	227	0	0	28	18	43	604	1654	0	5	1749	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	352	0	274	103	29	68	605	2492	1088	9	1888	845
Arrive On Green	0.10	0.00	0.00	0.06	0.06	0.04	0.18	0.70	0.00	0.01	0.53	0.00
Sat Flow, veh/h	3548	0	3167	1774	489	1168	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	227	0	0	28	0	61	604	1654	0	5	1749	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1657	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.4	0.0	0.0	1.8	0.0	4.3	21.1	31.2	0.0	0.3	54.7	0.0
Cycle Q Clear(g_c), s	7.4	0.0	0.0	1.8	0.0	4.3	21.1	31.2	0.0	0.3	54.7	0.0
Prop In Lane	1.00		1.00	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	352	0	274	103	0	97	605	2492	1088	9	1888	845
V/C Ratio(X)	0.65	0.00	0.00	0.27	0.00	0.63	1.00	0.66	0.00	0.55	0.93	0.00
Avail Cap(c_a), veh/h	532	0	435	103	0	97	605	2492	1088	59	1888	845
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.00	0.00	1.00	0.00	1.00	0.48	0.48	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	52.0	0.0	0.0	54.1	0.0	55.9	49.4	9.9	0.0	59.6	25.8	0.0
Incr Delay (d2), s/veh	1.7	0.0	0.0	1.4	0.0	12.5	24.9	0.7	0.0	17.9	9.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.7	0.0	0.0	0.9	0.0	2.3	12.1	15.2	0.0	0.2	28.9	0.0
LnGrp Delay(d),s/veh	53.7	0.0	0.0	55.4	0.0	68.4	74.3	10.5	0.0	77.5	35.2	0.0
LnGrp LOS	D			E		E	E	B		E	D	
Approach Vol, veh/h	227			89			2258			1754		
Approach Delay, s/veh	53.7			64.4			27.6			35.3		
Approach LOS	D			E			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.6	88.5		11.0	25.1	68.0		15.9				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	4.0	73.0		5.0	20.6	55.9		16.0				
Max Q Clear Time (g_c+I_2), s	1.0	33.2		6.3	23.1	56.7		9.4				
Green Ext Time (p_c), s	0.0	37.6		0.0	0.0	0.0		0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	32.8											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2025) With Project
Timing Plan: PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	548	509	190	563	468	236		
Future Volume (veh/h)	548	509	190	563	468	236		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	565	0	196	580	482	243		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	887	754	243	2407	642	256		
Arrive On Green	0.48	0.00	0.27	1.00	0.19	0.16		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	565	0	196	580	482	243		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	13.7	0.0	6.2	0.0	7.9	9.1		
Cycle Q Clear(g_c), s	13.7	0.0	6.2	0.0	7.9	9.1		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	887	754	243	2407	642	256		
V/C Ratio(X)	0.64	0.00	0.81	0.24	0.75	0.95		
Avail Cap(c_a), veh/h	887	754	266	2407	642	256		
HCM Platoon Ratio	1.00	1.00	2.00	2.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.57	0.57	1.00	1.00		
Uniform Delay (d), s/veh	11.8	0.0	21.0	0.0	23.1	24.9		
Incr Delay (d2), s/veh	3.5	0.0	8.2	0.1	4.4	42.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	7.8	0.0	3.5	0.0	4.1	6.9		
LnGrp Delay(d),s/veh	15.3	0.0	29.3	0.1	27.5	66.9		
LnGrp LOS	B		C	A	C	E		
Approach Vol, veh/h	565			776	725			
Approach Delay, s/veh	15.3			7.5	40.7			
Approach LOS	B			A	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.2	32.6				44.8		15.2
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	26.3					39.3		9.7
Max Q Clear Time (g_c+I), s	15.7					2.0		11.1
Green Ext Time (p_c), s	0.0	6.8				14.4		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			21.3					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2025) With Project

Timing Plan: PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	444	387	303	2050	1847	501		
Future Volume (veh/h)	444	387	303	2050	1847	501		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	448	0	306	2071	1866	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	414	369	281	2477	1799	805		
Arrive On Green	0.23	0.00	0.16	0.70	0.51	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	448	0	306	2071	1866	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	28.0	0.0	19.0	50.8	61.0	0.0		
Cycle Q Clear(g_c), s	28.0	0.0	19.0	50.8	61.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	414	369	281	2477	1799	805		
V/C Ratio(X)	1.08	0.00	1.09	0.84	1.04	0.00		
Avail Cap(c_a), veh/h	414	369	281	2477	1799	805		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	46.0	0.0	50.5	13.0	29.5	0.0		
Incr Delay (d2), s/veh	68.1	0.0	79.7	3.5	31.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	21.5	0.0	15.5	25.7	37.4	0.0		
LnGrp Delay(d),s/veh	114.1	0.0	130.2	16.5	61.0	0.0		
LnGrp LOS	F		F	B	F			
Approach Vol, veh/h	448			2377	1866			
Approach Delay, s/veh	114.1			31.2	61.0			
Approach LOS	F			C	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		88.0		32.0	23.0	65.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		84.0		28.0	19.0	61.0		
Max Q Clear Time (g_c+l1), s		52.8		30.0	21.0	63.0		
Green Ext Time (p_c), s		27.8		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			51.0					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2025) With Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	189	212	316	174	235	151	2012	325	245	1932	126
Future Volume (veh/h)	92	189	212	316	174	235	151	2012	325	245	1932	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	96	205	0	343	189	0	157	2096	0	266	2012	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	226	238	202	425	230	196	130	2061	922	206	2013	901
Arrive On Green	0.13	0.13	0.00	0.12	0.12	0.00	0.07	0.58	0.00	0.06	0.57	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	96	205	0	343	189	0	157	2096	0	266	2012	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	7.5	16.2	0.0	14.6	14.8	0.0	11.0	87.3	0.0	9.0	85.2	0.0
Cycle Q Clear(g_c), s	7.5	16.2	0.0	14.6	14.8	0.0	11.0	87.3	0.0	9.0	85.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	226	238	202	425	230	196	130	2061	922	206	2013	901
V/C Ratio(X)	0.42	0.86	0.00	0.81	0.82	0.00	1.21	1.02	0.00	1.29	1.00	0.00
Avail Cap(c_a), veh/h	308	323	274	597	323	274	130	2061	922	206	2013	901
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	60.4	64.2	0.0	64.0	64.1	0.0	69.5	31.3	0.0	70.5	32.3	0.0
Incr Delay (d2), s/veh	1.3	16.2	0.0	5.5	11.0	0.0	144.9	24.2	0.0	161.0	19.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	9.4	0.0	7.2	8.4	0.0	10.6	49.3	0.0	8.9	46.9	0.0
LnGrp Delay(d),s/veh	61.6	80.3	0.0	69.5	75.1	0.0	214.4	55.6	0.0	231.5	52.2	0.0
LnGrp LOS	E	F		E	E		F	F		F	D	
Approach Vol, veh/h	301			532			2253			2278		
Approach Delay, s/veh	74.4			71.5			66.6			73.1		
Approach LOS	E			E			E			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	13.0	91.3		23.1	15.0	89.3		22.5				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	73.0			26.0	11.0	71.0		26.0				
Max Q Clear Time (g_c+1.0), s	89.3			18.2	13.0	87.2		16.8				
Green Ext Time (p_c), s	0.0	0.0		0.9	0.0	0.0		1.7				
Intersection Summary												
HCM 2010 Ctrl Delay	70.3											
HCM 2010 LOS	E											

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2025) With Project
Timing Plan: PM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	168	100	795	265	107	835		
Future Volume (veh/h)	168	100	795	265	107	835		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	170	101	803	268	108	843		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	215	192	908	303	118	1471		
Arrive On Green	0.12	0.12	0.68	0.68	0.07	0.79		
Sat Flow, veh/h	1774	1583	1338	446	1774	1863		
Grp Volume(v), veh/h	170	101	0	1071	108	843		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1784	1774	1863		
Q Serve(g_s), s	8.4	5.4	0.0	43.4	5.4	15.6		
Cycle Q Clear(g_c), s	8.4	5.4	0.0	43.4	5.4	15.6		
Prop In Lane	1.00	1.00		0.25	1.00			
Lane Grp Cap(c), veh/h	215	192	0	1211	118	1471		
V/C Ratio(X)	0.79	0.53	0.00	0.88	0.91	0.57		
Avail Cap(c_a), veh/h	315	281	0	1211	118	1471		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	38.4	37.1	0.0	11.6	41.7	3.6		
Incr Delay (d2), s/veh	8.1	2.2	0.0	9.6	56.5	1.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.6	2.5	0.0	24.4	4.5	8.4		
LnGrp Delay(d),s/veh	46.5	39.4	0.0	21.2	98.3	5.3		
LnGrp LOS	D	D		C	F	A		
Approach Vol, veh/h	271		1071			951		
Approach Delay, s/veh	43.9		21.2			15.8		
Approach LOS	D		C			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.0	65.1				75.1		14.9
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	56.0	56.0				66.0		16.0
Max Q Clear Time (g_c+I), s	45.4	45.4				17.6		10.4
Green Ext Time (p_c), s	0.0	7.5				17.6		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			21.6					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2025) With Project

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↱	↰	↱	↰	↱
Traffic Volume (veh/h)	84	15	107	80	10	30	64	2376	65	25	2305	118
Future Volume (veh/h)	84	15	107	80	10	30	64	2376	65	25	2305	118
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	86	16	0	87	11	33	65	2424	71	27	2352	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.92	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	186	28	232	279	31	232	82	2453	1097	39	2368	1059
Arrive On Green	0.15	0.15	0.00	0.15	0.15	0.15	0.05	0.69	0.69	0.02	0.67	0.00
Sat Flow, veh/h	746	193	1583	1369	210	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	102	0	0	98	0	33	65	2424	71	27	2352	0
Grp Sat Flow(s),veh/h/ln	940	0	1583	1580	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.6	0.0	0.0	0.0	0.0	1.6	3.1	57.8	1.2	1.3	56.8	0.0
Cycle Q Clear(g_c), s	10.3	0.0	0.0	4.8	0.0	1.6	3.1	57.8	1.2	1.3	56.8	0.0
Prop In Lane	0.84		1.00	0.89		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	214	0	232	310	0	232	82	2453	1097	39	2368	1059
V/C Ratio(X)	0.48	0.00	0.00	0.32	0.00	0.14	0.79	0.99	0.06	0.69	0.99	0.00
Avail Cap(c_a), veh/h	268	0	292	364	0	292	82	2453	1097	82	2368	1059
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	37.7	0.0	0.0	33.6	0.0	32.3	40.9	13.0	4.3	42.1	14.2	0.0
Incr Delay (d2), s/veh	1.6	0.0	0.0	0.6	0.0	0.3	40.1	15.4	0.0	19.4	16.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	0.0	0.0	2.2	0.0	0.7	2.4	32.9	0.5	0.8	32.7	0.0
LnGrp Delay(d),s/veh	39.4	0.0	0.0	34.2	0.0	32.5	81.0	28.4	4.3	61.5	31.0	0.0
LnGrp LOS	D			C		C	F	C	A	E	C	
Approach Vol, veh/h	102			131			2560			2379		
Approach Delay, s/veh	39.4			33.8			29.0			31.4		
Approach LOS	D			C			C			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	5.9	64.1		16.7	8.0	62.0		16.7				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	4.0	58.0		16.0	4.0	58.0		16.0				
Max Q Clear Time (g_c+I), s	1.3	59.8		12.3	5.1	58.8		6.8				
Green Ext Time (p_c), s	0.0	0.0		0.4	0.0	0.0		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	30.4											
HCM 2010 LOS	C											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2025) With Project
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	11											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	48	328	31	71	302	133	20	8	52	112	12	18
Future Vol, veh/h	48	328	31	71	302	133	20	8	52	112	12	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	364	34	79	336	148	22	9	58	124	13	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	483	0	0	399	0	0	1072	1129	382	1089	1073	409
Stage 1	-	-	-	-	-	-	488	488	-	567	567	-
Stage 2	-	-	-	-	-	-	584	641	-	522	506	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1080	-	-	1160	-	-	198	204	665	193	220	642
Stage 1	-	-	-	-	-	-	561	550	-	508	507	-
Stage 2	-	-	-	-	-	-	498	469	-	538	540	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1080	-	-	1160	-	-	166	181	665	155	195	642
Mov Cap-2 Maneuver	-	-	-	-	-	-	166	181	-	155	195	-
Stage 1	-	-	-	-	-	-	533	523	-	483	472	-
Stage 2	-	-	-	-	-	-	437	437	-	459	514	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1			1.2			17.6			71.1		
HCM LOS							C			F		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	166	490	1080	-	-	1160	-	-	155	335		
HCM Lane V/C Ratio	0.134	0.136	0.049	-	-	0.068	-	-	0.803	0.1		
HCM Control Delay (s)	30	13.5	8.5	-	-	8.3	-	-	85.6	16.9		
HCM Lane LOS	D	B	A	-	-	A	-	-	F	C		
HCM 95th %tile Q(veh)	0.5	0.5	0.2	-	-	0.2	-	-	5.2	0.3		

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Future (2025) With Project
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh		2.3										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	79	378	14	17	306	17	5	0	14	16	0	51
Future Vol, veh/h	79	378	14	17	306	17	5	0	14	16	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	420	16	19	340	19	6	0	16	18	0	57
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	359	0	0	436	0	0	1019	1000	428	998	998	349
Stage 1	-	-	-	-	-	-	603	603	-	387	387	-
Stage 2	-	-	-	-	-	-	416	397	-	611	611	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1200	-	-	1124	-	-	215	243	627	223	244	694
Stage 1	-	-	-	-	-	-	486	488	-	637	610	-
Stage 2	-	-	-	-	-	-	614	603	-	481	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1200	-	-	1124	-	-	184	221	627	203	222	694
Mov Cap-2 Maneuver	-	-	-	-	-	-	184	221	-	203	222	-
Stage 1	-	-	-	-	-	-	450	452	-	590	600	-
Stage 2	-	-	-	-	-	-	554	593	-	435	449	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.4			0.4			14.9			14.8		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	384	1200	-	-	1124	-	-	440				
HCM Lane V/C Ratio	0.055	0.073	-	-	0.017	-	-	0.169				
HCM Control Delay (s)	14.9	8.2	-	-	8.3	-	-	14.8				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.2	0.2	-	-	0.1	-	-	0.6				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2025) With Project
Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	67	70	160	50	166	71	1622	158	136	1551	60
Future Volume (veh/h)	66	67	70	160	50	166	71	1622	158	136	1551	60
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	68	69	0	165	52	0	73	1672	0	140	1599	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	100	223	189	202	330	280	137	1948	872	185	2043	914
Arrive On Green	0.06	0.12	0.00	0.11	0.18	0.00	0.08	0.55	0.00	0.10	0.58	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	68	69	0	165	52	0	73	1672	0	140	1599	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.0	4.5	0.0	12.2	3.2	0.0	5.3	53.9	0.0	10.3	46.6	0.0
Cycle Q Clear(g_c), s	5.0	4.5	0.0	12.2	3.2	0.0	5.3	53.9	0.0	10.3	46.6	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	100	223	189	202	330	280	137	1948	872	185	2043	914
V/C Ratio(X)	0.68	0.31	0.00	0.82	0.16	0.00	0.53	0.86	0.00	0.76	0.78	0.00
Avail Cap(c_a), veh/h	159	334	284	225	404	343	146	1957	876	199	2063	923
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.0	53.9	0.0	57.9	46.6	0.0	59.4	25.6	0.0	58.3	21.8	0.0
Incr Delay (d2), s/veh	7.9	0.8	0.0	18.8	0.2	0.0	1.2	4.4	0.0	12.5	2.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.7	2.4	0.0	7.0	1.7	0.0	2.6	27.4	0.0	5.7	23.3	0.0
LnGrp Delay(d),s/veh	69.9	54.7	0.0	76.7	46.8	0.0	60.6	30.0	0.0	70.8	24.1	0.0
LnGrp LOS	E	D		E	D		E	C		E	C	
Approach Vol, veh/h		137			217			1745			1739	
Approach Delay, s/veh		62.2			69.6			31.3			27.9	
Approach LOS		E			E			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	17.9	77.7	10.5	27.7	14.3	81.3	18.2	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	14.0	73.0	11.0	28.0	10.0	77.0	16.0	23.0				
Max Q Clear Time (g_c+I1), s	12.3	55.9	7.0	5.2	7.3	48.6	14.2	6.5				
Green Ext Time (p_c), s	0.0	16.8	0.1	0.4	0.0	27.5	0.1	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			33.0									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2025) With Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	32	81	96	22	87	72	1667	112	56	1595	28
Future Volume (veh/h)	33	32	81	96	22	87	72	1667	112	56	1595	28
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	34	33	0	98	22	0	73	1701	0	57	1628	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	57	83	70	172	116	99	154	2654	1187	141	2492	1115
Arrive On Green	0.03	0.04	0.00	0.05	0.06	0.00	0.09	0.75	0.00	0.04	0.70	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	34	33	0	98	22	0	73	1701	0	57	1628	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.5	2.3	0.0	3.6	1.5	0.0	5.1	30.2	0.0	2.1	33.0	0.0
Cycle Q Clear(g_c), s	2.5	2.3	0.0	3.6	1.5	0.0	5.1	30.2	0.0	2.1	33.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	57	83	70	172	116	99	154	2654	1187	141	2492	1115
V/C Ratio(X)	0.60	0.40	0.00	0.57	0.19	0.00	0.47	0.64	0.00	0.40	0.65	0.00
Avail Cap(c_a), veh/h	95	328	279	211	342	291	163	2654	1187	158	2492	1115
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	62.4	60.7	0.0	60.7	58.1	0.0	56.8	7.9	0.0	61.1	10.6	0.0
Incr Delay (d2), s/veh	9.8	4.4	0.0	3.0	1.1	0.0	0.8	1.2	0.0	0.7	1.4	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.4	1.3	0.0	1.8	0.8	0.0	2.6	15.1	0.0	1.0	16.3	0.0
LnGrp Delay(d),s/veh	72.2	65.1	0.0	63.7	59.3	0.0	57.6	9.1	0.0	61.8	12.0	0.0
LnGrp LOS	E	E		E	E		E	A		E	B	
Approach Vol, veh/h	67					120		1774		1685		
Approach Delay, s/veh	68.7					62.9		11.1		13.6		
Approach LOS	E					E		B		B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.4	102.0	7.2	12.1	15.4	96.0	9.5	9.8				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	97.0	6.0	23.0	11.0	91.0	7.0	22.0					
Max Q Clear Time (g_c+I), s	32.2	4.5	3.5	7.1	35.0	5.6	4.3					
Green Ext Time (p_c), s	0.0	35.2	0.0	0.2	3.5	29.7	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	15.0											
HCM 2010 LOS	B											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2025) With Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	240	0	406	3	0	1	462	1343	11	3	1272	222
Future Volume (veh/h)	240	0	406	3	0	1	462	1343	11	3	1272	222
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	250	0	0	3	0	1	481	1399	0	3	1325	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	387	0	304	40	0	36	586	2573	1124	6	1998	894
Arrive On Green	0.11	0.00	0.00	0.02	0.00	0.01	0.17	0.73	0.00	0.00	0.56	0.00
Sat Flow, veh/h	3548	0	3167	1774	0	1583	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	250	0	0	3	0	1	481	1399	0	3	1325	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1583	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.8	0.0	0.0	0.2	0.0	0.1	15.6	20.7	0.0	0.2	30.2	0.0
Cycle Q Clear(g_c), s	7.8	0.0	0.0	0.2	0.0	0.1	15.6	20.7	0.0	0.2	30.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	387	0	304	40	0	36	586	2573	1124	6	1998	894
V/C Ratio(X)	0.65	0.00	0.00	0.08	0.00	0.03	0.82	0.54	0.00	0.53	0.66	0.00
Avail Cap(c_a), veh/h	705	0	588	107	0	96	847	2904	1272	61	2170	971
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	49.4	0.0	0.0	55.4	0.0	56.3	46.3	7.1	0.0	57.6	17.6	0.0
Incr Delay (d2), s/veh	1.8	0.0	0.0	0.8	0.0	0.3	4.3	0.3	0.0	25.9	0.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.9	0.0	0.0	0.1	0.0	0.0	7.8	10.0	0.0	0.1	15.0	0.0
LnGrp Delay(d),s/veh	51.3	0.0	0.0	56.2	0.0	56.7	50.7	7.4	0.0	83.6	18.5	0.0
LnGrp LOS	D			E		E	D	A		F	B	
Approach Vol, veh/h	250			4			1880			1328		
Approach Delay, s/veh	51.3			56.3			18.5			18.6		
Approach LOS	D			E			B			B		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.4	88.2		6.6	23.2	69.4		16.6				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s	93.0	4.0		5.0	28.0	69.0		21.0				
Max Q Clear Time (g_c+I_2), s	22.7	1.0		2.2	17.6	32.2		9.8				
Green Ext Time (p_c), s	0.0	52.3		0.0	1.6	31.2		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	20.9											
HCM 2010 LOS	C											
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2025) With Project

Timing Plan: Saturday

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	458	396	169	452	468	222		
Future Volume (veh/h)	458	396	169	452	468	222		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	477	0	176	471	488	231		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	766	651	242	2219	736	291		
Arrive On Green	0.41	0.00	0.14	0.63	0.21	0.18		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	477	0	176	471	488	231		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	10.2	0.0	4.8	2.9	6.5	7.0		
Cycle Q Clear(g_c), s	10.2	0.0	4.8	2.9	6.5	7.0		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	766	651	242	2219	736	291		
V/C Ratio(X)	0.62	0.00	0.73	0.21	0.66	0.79		
Avail Cap(c_a), veh/h	1026	872	318	2865	774	309		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	11.7	0.0	20.8	4.0	18.1	19.6		
Incr Delay (d2), s/veh	1.8	0.0	3.5	0.1	1.5	11.3		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	5.5	0.0	2.6	1.4	3.2	3.9		
LnGrp Delay(d),s/veh	13.5	0.0	24.3	4.1	19.6	30.9		
LnGrp LOS	B		C	A	B	C		
Approach Vol, veh/h	477			647	719			
Approach Delay, s/veh	13.5			9.6	23.3			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	10.9	24.7				35.5		14.8
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	9.0	26.2				39.2		9.8
Max Q Clear Time (g_c+I), s	10.8	12.2				4.9		9.0
Green Ext Time (p_c), s	0.1	7.0				10.9		0.2
Intersection Summary								
HCM 2010 Ctrl Delay			15.9					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary 5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2025) With Project
Timing Plan: Saturday

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	454	338	305	1395	1363	514		
Future Volume (veh/h)	454	338	305	1395	1363	514		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	463	0	311	1423	1391	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	489	437	334	2370	1606	719		
Arrive On Green	0.28	0.00	0.19	0.67	0.45	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	463	0	311	1423	1391	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	37.4	0.0	25.2	32.5	51.8	0.0		
Cycle Q Clear(g_c), s	37.4	0.0	25.2	32.5	51.8	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	489	437	334	2370	1606	719		
V/C Ratio(X)	0.95	0.00	0.93	0.60	0.87	0.00		
Avail Cap(c_a), veh/h	533	476	364	2370	1606	719		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	51.9	0.0	58.4	13.4	36.0	0.0		
Incr Delay (d2), s/veh	25.2	0.0	28.9	1.1	6.5	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	21.8	0.0	15.0	16.2	26.8	0.0		
LnGrp Delay(d),s/veh	77.2	0.0	87.4	14.5	42.5	0.0		
LnGrp LOS	E		F	B	D			
Approach Vol, veh/h	463			1734	1391			
Approach Delay, s/veh	77.2			27.6	42.5			
Approach LOS	E			C	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		102.0		44.4	31.6	70.4		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		98.0		44.0	30.0	64.0		
Max Q Clear Time (g_c+I1), s		34.5		39.4	27.2	53.8		
Green Ext Time (p_c), s		29.4		0.9	0.3	8.5		
Intersection Summary								
HCM 2010 Ctrl Delay			39.8					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2025) With Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	103	173	195	330	146	269	132	1496	353	275	1387	113
Future Volume (veh/h)	103	173	195	330	146	269	132	1496	353	275	1387	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	106	188	0	359	159	0	136	1542	0	299	1430	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	199	209	178	407	220	187	227	2514	1125	387	2514	1125
Arrive On Green	0.11	0.11	0.00	0.12	0.12	0.00	0.71	0.71	0.00	0.71	0.71	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	373	3539	1583	649	3539	1583
Grp Volume(v), veh/h	106	188	0	359	159	0	136	1542	0	299	1430	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	373	1770	1583	325	1770	1583
Q Serve(g_s), s	11.4	20.2	0.0	20.8	16.7	0.0	56.5	45.2	0.0	88.6	39.7	0.0
Cycle Q Clear(g_c), s	11.4	20.2	0.0	20.8	16.7	0.0	96.2	45.2	0.0	133.9	39.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	199	209	178	407	220	187	227	2514	1125	387	2514	1125
V/C Ratio(X)	0.53	0.90	0.00	0.88	0.72	0.00	0.60	0.61	0.00	0.77	0.57	0.00
Avail Cap(c_a), veh/h	228	239	203	476	258	219	228	2519	1127	388	2519	1127
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	84.8	88.7	0.0	87.8	86.0	0.0	37.6	15.0	0.0	49.4	14.2	0.0
Incr Delay (d2), s/veh	2.2	30.6	0.0	15.8	8.0	0.0	4.3	0.4	0.0	9.2	0.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.7	12.2	0.0	10.8	9.1	0.0	6.1	22.2	0.0	8.4	19.4	0.0
LnGrp Delay(d),s/veh	87.0	119.3	0.0	103.6	94.0	0.0	41.9	15.5	0.0	58.6	14.5	0.0
LnGrp LOS	F	F		F	F		D	B		E	B	
Approach Vol, veh/h	294				518				1678		1729	
Approach Delay, s/veh	107.7				100.7				17.6		22.2	
Approach LOS	F				F				B		C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	2		4		6		8					
Phs Duration (G+Y+Rc), s	147.7		26.7		147.7		27.9					
Change Period (Y+Rc), s	4.0		4.0		4.0		4.0					
Max Green Setting (Gmax), s	144.0		26.0		144.0		28.0					
Max Q Clear Time (g_c+I1), s	98.2		22.2		135.9		22.8					
Green Ext Time (p_c), s	39.7		0.5		7.9		1.1					
Intersection Summary												
HCM 2010 Ctrl Delay			35.9									
HCM 2010 LOS			D									

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2025) With Project
Timing Plan: Saturday

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	170	83	726	223	91	729		
Future Volume (veh/h)	170	83	726	223	91	729		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	185	90	789	242	99	792		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	240	214	869	267	120	1409		
Arrive On Green	0.14	0.14	0.63	0.63	0.07	0.76		
Sat Flow, veh/h	1774	1583	1369	420	1774	1863		
Grp Volume(v), veh/h	185	90	0	1031	99	792		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1789	1774	1863		
Q Serve(g_s), s	7.5	3.9	0.0	36.8	4.1	13.3		
Cycle Q Clear(g_c), s	7.5	3.9	0.0	36.8	4.1	13.3		
Prop In Lane	1.00	1.00		0.23	1.00			
Lane Grp Cap(c), veh/h	240	214	0	1136	120	1409		
V/C Ratio(X)	0.77	0.42	0.00	0.91	0.83	0.56		
Avail Cap(c_a), veh/h	383	342	0	1136	120	1409		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	30.9	29.3	0.0	11.6	34.1	3.8		
Incr Delay (d2), s/veh	5.2	1.3	0.0	12.1	35.7	1.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.0	1.8	0.0	21.6	3.2	7.2		
LnGrp Delay(d),s/veh	36.1	30.6	0.0	23.7	69.7	5.4		
LnGrp LOS	D	C		C	E	A		
Approach Vol, veh/h	275		1031			891		
Approach Delay, s/veh	34.3		23.7			12.6		
Approach LOS	C		C			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.0	51.0				60.0		14.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	47.0					56.0		16.0
Max Q Clear Time (g_c+I), s	38.8					15.3		9.5
Green Ext Time (p_c), s	0.0	5.8				15.1		0.6
Intersection Summary								
HCM 2010 Ctrl Delay			20.5					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2025) With Project

Timing Plan: Saturday

Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	93	0	75	0	5	0	50	1916	0	0	1772	102
Future Volume (veh/h)	93	0	75	0	5	0	50	1916	0	0	1772	102
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	98	0	0	0	5	0	53	2017	0	0	1865	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	170	0	136	0	160	136	68	3029	1355	1	2789	1248
Arrive On Green	0.09	0.00	0.00	0.00	0.09	0.00	0.04	0.86	0.00	0.00	0.79	0.00
Sat Flow, veh/h	1365	0	1583	0	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	98	0	0	0	5	0	53	2017	0	0	1865	0
Grp Sat Flow(s),veh/h/ln	1365	0	1583	0	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.4	0.0	0.0	0.0	0.3	0.0	4.1	26.2	0.0	0.0	32.4	0.0
Cycle Q Clear(g_c), s	9.8	0.0	0.0	0.0	0.3	0.0	4.1	26.2	0.0	0.0	32.4	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	170	0	136	0	160	136	68	3029	1355	1	2789	1248
V/C Ratio(X)	0.58	0.00	0.00	0.00	0.03	0.00	0.78	0.67	0.00	0.00	0.67	0.00
Avail Cap(c_a), veh/h	254	0	231	0	272	231	129	3029	1355	52	2789	1248
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	0.00	1.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	61.9	0.0	0.0	0.0	57.4	0.0	65.3	3.3	0.0	0.0	6.5	0.0
Incr Delay (d2), s/veh	3.1	0.0	0.0	0.0	0.1	0.0	16.9	1.2	0.0	0.0	1.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	8.8	0.0	0.0	0.0	0.2	0.0	2.3	12.8	0.0	0.0	16.0	0.0
LnGrp Delay(d),s/veh	65.0	0.0	0.0	0.0	57.5	0.0	82.2	4.5	0.0	0.0	7.8	0.0
LnGrp LOS	E				E		F	A			A	
Approach Vol, veh/h	98			5			2070			1865		
Approach Delay, s/veh	65.0			57.5			6.5			7.8		
Approach LOS	E			E			A			A		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	121.3			15.8	9.3	112.0		15.8				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	114.0			20.0	10.0	108.0		20.0				
Max Q Clear Time (g_c+I), s	28.2			11.8	6.1	34.4		2.3				
Green Ext Time (p_c), s	0.0	62.8		0.3	0.0	56.1		0.4				
Intersection Summary												
HCM 2010 Ctrl Delay	8.6											
HCM 2010 LOS	A											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2025) With Project

Timing Plan: Saturday

Intersection												
Int Delay, s/veh	9.2											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	37	324	22	48	270	63	21	10	49	118	8	17
Future Vol, veh/h	37	324	22	48	270	63	21	10	49	118	8	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	372	25	55	310	72	24	11	56	136	9	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	383	0	0	398	0	0	941	963	385	961	940	347
Stage 1	-	-	-	-	-	-	470	470	-	457	457	-
Stage 2	-	-	-	-	-	-	471	493	-	504	483	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1175	-	-	1161	-	-	243	256	663	236	264	696
Stage 1	-	-	-	-	-	-	574	560	-	583	568	-
Stage 2	-	-	-	-	-	-	573	547	-	550	553	-
Platoon blocked, %	-	-	-	-	-	-	-	-	-	-	-	-
Mov Cap-1 Maneuver	1175	-	-	1161	-	-	215	235	663	195	242	696
Mov Cap-2 Maneuver	-	-	-	-	-	-	215	235	-	195	242	-
Stage 1	-	-	-	-	-	-	553	540	-	562	541	-
Stage 2	-	-	-	-	-	-	522	521	-	475	533	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			1			16			49.7		
HCM LOS							C			E		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	215	507	1175	-	-	1161	-	-	195	435		
HCM Lane V/C Ratio	0.112	0.134	0.036	-	-	0.048	-	-	0.696	0.066		
HCM Control Delay (s)	23.9	13.2	8.2	-	-	8.3	-	-	57.3	13.9		
HCM Lane LOS	C	B	A	-	-	A	-	-	F	B		
HCM 95th %tile Q(veh)	0.4	0.5	0.1	-	-	0.1	-	-	4.3	0.2		

HCM 2010 TWSC
10: KAONOU LU STREET & ALULIKE STREET

Future (2025) With Project

Timing Plan: Saturday

Intersection												
Int Delay, s/veh	2.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	45	353	14	15	274	16	8	1	16	16	7	70
Future Vol, veh/h	45	353	14	15	274	16	8	1	16	16	7	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	392	16	17	304	18	9	1	18	18	8	78
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	322	0	0	408	0	0	889	856	400	856	855	313
Stage 1	-	-	-	-	-	-	500	500	-	347	347	-
Stage 2	-	-	-	-	-	-	389	356	-	509	508	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1238	-	-	1151	-	-	264	295	650	278	296	727
Stage 1	-	-	-	-	-	-	553	543	-	669	635	-
Stage 2	-	-	-	-	-	-	635	629	-	547	539	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1238	-	-	1151	-	-	221	279	650	258	280	727
Mov Cap-2 Maneuver	-	-	-	-	-	-	221	279	-	258	280	-
Stage 1	-	-	-	-	-	-	531	521	-	642	626	-
Stage 2	-	-	-	-	-	-	552	620	-	509	517	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.9			0.4			15			13.9		
HCM LOS							C			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	388	1238	-	-	1151	-	-	507				
HCM Lane V/C Ratio	0.072	0.04	-	-	0.014	-	-	0.204				
HCM Control Delay (s)	15	8	-	-	8.2	-	-	13.9				
HCM Lane LOS	C	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.2	0.1	-	-	0	-	-	0.8				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2032) With Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	106	94	107	273	39	194	38	1412	128	201	2101	29
Future Volume (veh/h)	106	94	107	273	39	194	38	1412	128	201	2101	29
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	113	100	0	290	41	0	40	1502	0	214	2235	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94	0.94
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	150	220	187	249	324	275	115	1764	789	236	2005	897
Arrive On Green	0.08	0.12	0.00	0.14	0.17	0.00	0.06	0.50	0.00	0.13	0.57	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	113	100	0	290	41	0	40	1502	0	214	2235	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	8.4	6.8	0.0	19.0	2.5	0.0	2.9	50.1	0.0	16.1	76.8	0.0
Cycle Q Clear(g_c), s	8.4	6.8	0.0	19.0	2.5	0.0	2.9	50.1	0.0	16.1	76.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	150	220	187	249	324	275	115	1764	789	236	2005	897
V/C Ratio(X)	0.75	0.45	0.00	1.17	0.13	0.00	0.35	0.85	0.00	0.91	1.11	0.00
Avail Cap(c_a), veh/h	222	330	280	249	357	304	144	1801	806	236	2005	897
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	60.7	55.7	0.0	58.3	47.3	0.0	60.7	29.6	0.0	58.0	29.4	0.0
Incr Delay (d2), s/veh	7.9	1.5	0.0	109.6	0.2	0.0	0.7	4.5	0.0	34.4	59.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.5	3.6	0.0	16.8	1.3	0.0	1.5	25.5	0.0	10.2	53.8	0.0
LnGrp Delay(d),s/veh	68.6	57.2	0.0	167.9	47.5	0.0	61.3	34.1	0.0	92.4	88.7	0.0
LnGrp LOS	E	E		F	D		E	C		F	F	
Approach Vol, veh/h		213			331			1542			2449	
Approach Delay, s/veh		63.2			153.0			34.8			89.0	
Approach LOS		E			F			C			F	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	71.6	14.4	27.6	12.8	80.8	22.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	68.0	16.0	25.0	10.0	75.0	18.0	23.0				
Max Q Clear Time (g_c+I1), s	18.1	52.1	10.4	4.5	4.9	78.8	21.0	8.8				
Green Ext Time (p_c), s	0.0	14.5	0.2	0.5	0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay				74.0								
HCM 2010 LOS				E								

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2032) With Project

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	84	46	104	339	59	234	37	1569	111	124	1839	20
Future Volume (veh/h)	84	46	104	339	59	234	37	1569	111	124	1839	20
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	90	49	0	365	63	0	40	1687	0	133	1977	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	2	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	118	84	72	335	312	265	285	2224	995	186	1848	827
Arrive On Green	0.07	0.05	0.00	0.19	0.17	0.00	0.16	0.63	0.00	0.11	1.00	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	90	49	0	365	63	0	40	1687	0	133	1977	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	9.0	4.6	0.0	34.0	5.2	0.0	3.5	60.9	0.0	6.7	94.0	0.0
Cycle Q Clear(g_c), s	9.0	4.6	0.0	34.0	5.2	0.0	3.5	60.9	0.0	6.7	94.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	118	84	72	335	312	265	285	2224	995	186	1848	827
V/C Ratio(X)	0.76	0.58	0.00	1.09	0.20	0.00	0.14	0.76	0.00	0.71	1.07	0.00
Avail Cap(c_a), veh/h	168	269	229	335	445	378	285	2224	995	210	1848	827
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.50	0.50	0.00	0.51	0.51	0.00
Uniform Delay (d), s/veh	82.6	84.3	0.0	73.0	64.5	0.0	64.9	23.7	0.0	78.9	0.0	0.0
Incr Delay (d2), s/veh	12.2	8.8	0.0	75.2	0.4	0.0	0.0	1.3	0.0	3.9	37.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	4.8	2.6	0.0	23.7	2.8	0.0	1.7	29.9	0.0	3.3	9.7	0.0
LnGrp Delay(d),s/veh	94.8	93.1	0.0	148.2	65.0	0.0	64.9	25.0	0.0	82.8	37.7	0.0
LnGrp LOS	F	F		F	E		E	C		F	F	
Approach Vol, veh/h	139			428			1727			2110		
Approach Delay, s/veh	94.2			135.9			25.9			40.6		
Approach LOS	F			F			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	13.7	117.1	15.0	34.2	32.9	98.0	37.0	12.1				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	10.0	93.0	16.0	42.0	10.0	93.0	33.0	25.0				
Max Q Clear Time (g_c+I), s	13.7	62.9	11.0	7.2	5.5	96.0	36.0	6.6				
Green Ext Time (p_c), s	0.0	21.4	0.1	0.6	4.1	0.0	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay	45.8											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2032) With Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	237	3	549	8	1	21	650	1342	5	2	1439	165
Future Volume (veh/h)	237	3	549	8	1	21	650	1342	5	2	1439	165
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	257	0	0	9	1	23	699	1443	0	2	1547	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93	0.93
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	355	0	264	95	4	82	704	2359	1020	4	1643	735
Arrive On Green	0.10	0.00	0.00	0.05	0.05	0.03	0.41	1.00	0.00	0.00	0.46	0.00
Sat Flow, veh/h	3548	0	3167	1774	66	1527	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	257	0	0	9	0	24	699	1443	0	2	1547	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1593	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.3	0.0	0.0	0.4	0.0	1.3	18.2	0.0	0.0	0.1	37.4	0.0
Cycle Q Clear(g_c), s	6.3	0.0	0.0	0.4	0.0	1.3	18.2	0.0	0.0	0.1	37.4	0.0
Prop In Lane	1.00		1.00	1.00		0.96	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	355	0	264	95	0	85	704	2359	1020	4	1643	735
V/C Ratio(X)	0.72	0.00	0.00	0.09	0.00	0.28	0.99	0.61	0.00	0.52	0.94	0.00
Avail Cap(c_a), veh/h	355	0	264	138	0	124	704	2359	1020	79	1643	735
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.93	0.00	0.00	1.00	0.00	1.00	0.56	0.56	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	39.3	0.0	0.0	40.5	0.0	41.9	26.5	0.0	0.0	44.9	22.9	0.0
Incr Delay (d2), s/veh	6.7	0.0	0.0	0.4	0.0	1.8	23.7	0.7	0.0	35.0	12.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	0.2	0.0	0.6	10.9	0.2	0.0	0.1	21.0	0.0
LnGrp Delay(d),s/veh	45.9	0.0	0.0	41.0	0.0	43.7	50.2	0.7	0.0	79.9	35.0	0.0
LnGrp LOS	D			D			D	D	A		E	C
Approach Vol, veh/h	257		33				2142			1549		
Approach Delay, s/veh	45.9		42.9				16.8			35.1		
Approach LOS	D		D				B			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.2	64.0		8.8	22.4	45.8		13.0				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.5	6.0		6.0				
Max Green Setting (Gmax), s	4.0	52.0		5.0	17.9	37.6		7.0				
Max Q Clear Time (g_c+I_2), s	4.0	2.0		3.3	20.2	39.4		8.3				
Green Ext Time (p_c), s	0.0	43.3		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			26.0									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2032) With Project
Timing Plan: AM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations				 	 			
Traffic Volume (veh/h)	432	292	93	596	709	284		
Future Volume (veh/h)	432	292	93	596	709	284		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	450	0	97	621	739	296		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	848	720	148	2141	901	375		
Arrive On Green	0.45	0.00	0.08	0.60	0.26	0.24		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	450	0	97	621	739	296		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	10.4	0.0	3.2	5.0	12.1	10.5		
Cycle Q Clear(g_c), s	10.4	0.0	3.2	5.0	12.1	10.5		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	848	720	148	2141	901	375		
V/C Ratio(X)	0.53	0.00	0.66	0.29	0.82	0.79		
Avail Cap(c_a), veh/h	848	720	148	2141	906	377		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.47	0.47	1.00	1.00		
Uniform Delay (d), s/veh	11.8	0.0	26.7	5.7	20.8	21.5		
Incr Delay (d2), s/veh	2.4	0.0	3.9	0.2	5.6	9.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	11.8	0.0	1.7	2.5	6.5	5.6		
LnGrp Delay(d),s/veh	14.1	0.0	30.6	5.8	26.5	31.4		
LnGrp LOS	B		C	A	C	C		
Approach Vol, veh/h	450			718	1035			
Approach Delay, s/veh	14.1			9.2	27.9			
Approach LOS	B			A	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	9.0	31.3				40.3		19.7
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	25.7					34.7		14.3
Max Q Clear Time (g_c+I), s	12.4					7.0		14.1
Green Ext Time (p_c), s	0.0	7.5				11.6		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			19.0					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2032) With Project

Timing Plan: AM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	309	217	191	1641	2319	456		
Future Volume (veh/h)	309	217	191	1641	2319	456		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	329	0	203	1746	2467	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.94	0.94	0.94	0.94	0.94	0.94		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	308	274	189	2737	2265	1013		
Arrive On Green	0.17	0.00	0.11	0.77	0.64	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	329	0	203	1746	2467	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	26.0	0.0	16.0	33.1	96.0	0.0		
Cycle Q Clear(g_c), s	26.0	0.0	16.0	33.1	96.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	308	274	189	2737	2265	1013		
V/C Ratio(X)	1.07	0.00	1.07	0.64	1.09	0.00		
Avail Cap(c_a), veh/h	308	274	189	2737	2265	1013		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	62.0	0.0	67.0	7.6	27.0	0.0		
Incr Delay (d2), s/veh	71.1	0.0	86.1	1.2	48.2	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	18.8	0.0	12.4	16.4	61.7	0.0		
LnGrp Delay(d),s/veh	133.1	0.0	153.1	8.8	75.2	0.0		
LnGrp LOS	F		F	A	F			
Approach Vol, veh/h	329			1949	2467			
Approach Delay, s/veh	133.1			23.8	75.2			
Approach LOS	F			C	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		120.0		30.0	20.0	100.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		116.0		26.0	16.0	96.0		
Max Q Clear Time (g_c+I1), s		35.1		28.0	18.0	98.0		
Green Ext Time (p_c), s		67.5		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			58.1					
HCM 2010 LOS			E					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2032) With Project

Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	58	96	293	156	103	110	120	1543	142	103	2354	107
Future Volume (veh/h)	58	96	293	156	103	110	120	1543	142	103	2354	107
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	61	104	0	170	112	0	126	1624	0	112	2478	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	129	135	115	273	148	125	95	2465	1103	155	2436	1090
Arrive On Green	0.07	0.07	0.00	0.08	0.08	0.00	0.05	0.70	0.00	0.05	0.69	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	61	104	0	170	112	0	126	1624	0	112	2478	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	5.0	8.2	0.0	7.2	8.8	0.0	8.0	38.6	0.0	4.8	103.2	0.0
Cycle Q Clear(g_c), s	5.0	8.2	0.0	7.2	8.8	0.0	8.0	38.6	0.0	4.8	103.2	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	129	135	115	273	148	125	95	2465	1103	155	2436	1090
V/C Ratio(X)	0.47	0.77	0.00	0.62	0.76	0.00	1.33	0.66	0.00	0.72	1.02	0.00
Avail Cap(c_a), veh/h	308	323	274	597	323	274	95	2465	1103	161	2436	1090
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	66.8	68.3	0.0	66.9	67.6	0.0	71.0	12.8	0.0	70.7	23.4	0.0
Incr Delay (d2), s/veh	2.7	8.9	0.0	2.3	7.7	0.0	204.9	1.4	0.0	14.2	22.7	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.5	4.6	0.0	3.5	4.9	0.0	9.3	19.2	0.0	2.6	57.4	0.0
LnGrp Delay(d),s/veh	69.5	77.2	0.0	69.2	75.4	0.0	275.9	14.2	0.0	84.9	46.1	0.0
LnGrp LOS	E	E		E	E		F	B		F	F	
Approach Vol, veh/h	165			282			1750			2590		
Approach Delay, s/veh	74.4			71.7			33.0			47.7		
Approach LOS	E			E			C			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	10.8	108.5		14.9	12.0	107.2		15.9				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	75.0			26.0	8.0	74.0		26.0				
Max Q Clear Time (g_c+I), s	40.6			10.2	10.0	105.2		10.8				
Green Ext Time (p_c), s	0.0	31.3		0.7	0.0	0.0		1.1				
Intersection Summary												
HCM 2010 Ctrl Delay	44.7											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHAI ROAD & KAONOULU STREET

Future (2032) With Project
Timing Plan: AM Peak Hour



Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	156	75	758	158	60	566		
Future Volume (veh/h)	156	75	758	158	60	566		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	170	82	824	172	65	615		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	220	197	1016	212	83	1445		
Arrive On Green	0.12	0.12	0.68	0.68	0.05	0.78		
Sat Flow, veh/h	1774	1583	1495	312	1774	1863		
Grp Volume(v), veh/h	170	82	0	996	65	615		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1808	1774	1863		
Q Serve(g_s), s	7.4	3.8	0.0	31.5	2.9	8.8		
Cycle Q Clear(g_c), s	7.4	3.8	0.0	31.5	2.9	8.8		
Prop In Lane	1.00	1.00		0.17	1.00			
Lane Grp Cap(c), veh/h	220	197	0	1228	83	1445		
V/C Ratio(X)	0.77	0.42	0.00	0.81	0.78	0.43		
Avail Cap(c_a), veh/h	355	317	0	1228	89	1445		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	33.9	32.4	0.0	9.2	37.7	3.0		
Incr Delay (d2), s/veh	5.7	1.4	0.0	5.9	33.7	0.9		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	4.0	1.7	0.0	17.5	2.2	4.8		
LnGrp Delay(d),s/veh	39.6	33.8	0.0	15.1	71.5	3.9		
LnGrp LOS	D	C		B	E	A		
Approach Vol, veh/h	252		996			680		
Approach Delay, s/veh	37.7		15.1			10.4		
Approach LOS	D		B			B		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	7.7	58.3				66.1		13.9
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	48.0	48.0				56.0		16.0
Max Q Clear Time (g_c+I_1), s	33.5	33.5				10.8		9.4
Green Ext Time (p_c), s	0.0	7.8				12.3		0.5
Intersection Summary								
HCM 2010 Ctrl Delay			16.4					
HCM 2010 LOS			B					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2032) With Project
Timing Plan: AM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	52	75	139	155	15	60	47	1688	285	120	2637	81
Future Volume (veh/h)	52	75	139	155	15	60	47	1688	285	120	2637	81
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	55	82	0	168	16	65	49	1777	310	130	2776	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	42	44	251	179	12	251	59	2313	1035	156	2507	1122
Arrive On Green	0.16	0.16	0.00	0.16	0.16	0.16	0.03	0.65	0.65	0.09	0.71	0.00
Sat Flow, veh/h	0	281	1583	770	73	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	137	0	0	184	0	65	49	1777	310	130	2776	0
Grp Sat Flow(s),veh/h/ln	281	0	1583	843	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	0.0	0.0	0.0	0.0	0.0	4.3	3.3	41.9	10.1	8.7	85.0	0.0
Cycle Q Clear(g_c), s	19.0	0.0	0.0	19.0	0.0	4.3	3.3	41.9	10.1	8.7	85.0	0.0
Prop In Lane	0.40		1.00	0.91		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	87	0	251	191	0	251	59	2313	1035	156	2507	1122
V/C Ratio(X)	1.58	0.00	0.00	0.96	0.00	0.26	0.83	0.77	0.30	0.83	1.11	0.00
Avail Cap(c_a), veh/h	87	0	251	191	0	251	59	2313	1035	192	2507	1122
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	51.0	0.0	0.0	53.1	0.0	44.3	57.7	14.5	9.0	53.8	17.5	0.0
Incr Delay (d2), s/veh	310.2	0.0	0.0	54.6	0.0	0.5	60.4	2.5	0.7	21.8	54.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	10.3	0.0	0.0	9.0	0.0	1.9	2.6	21.0	4.6	5.2	59.8	0.0
LnGrp Delay(d),s/veh	361.2	0.0	0.0	107.7	0.0	44.9	118.0	17.0	9.7	75.6	72.3	0.0
LnGrp LOS	F			F		D	F	B	A	E	F	
Approach Vol, veh/h		137			249			2136			2906	
Approach Delay, s/veh		361.2			91.3			18.2			72.5	
Approach LOS		F			F			B			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	14.6	82.4		23.0	8.0	89.0		23.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	76.0		19.0	4.0	85.0		19.0				
Max Q Clear Time (g_c+I), s	10.7	43.9		21.0	5.3	87.0		21.0				
Green Ext Time (p_c), s	0.1	31.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	59.3											
HCM 2010 LOS	E											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2032) With Project
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh	8.6											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	28	212	22	41	211	73	22	8	59	181	8	15
Future Vol, veh/h	28	212	22	41	211	73	22	8	59	181	8	15
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	95	95	95	95	95	95	95	95	95	95	95	95
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	29	223	23	43	222	77	23	8	62	191	8	16

Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	299	0	0	246	0	0	653	679	235	676	652	261
Stage 1	-	-	-	-	-	-	294	294	-	347	347	-
Stage 2	-	-	-	-	-	-	359	385	-	329	305	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1262	-	-	1320	-	-	380	374	804	367	387	778
Stage 1	-	-	-	-	-	-	714	670	-	669	635	-
Stage 2	-	-	-	-	-	-	659	611	-	684	662	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1262	-	-	1320	-	-	350	354	804	319	366	778
Mov Cap-2 Maneuver	-	-	-	-	-	-	350	354	-	319	366	-
Stage 1	-	-	-	-	-	-	698	655	-	654	614	-
Stage 2	-	-	-	-	-	-	616	591	-	609	647	-

Approach	EB	WB	NB	SB
HCM Control Delay, s	0.8	1	12	29.4
HCM LOS			B	D

Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2
Capacity (veh/h)	350	698	1262	-	-	1320	-	-	319	559
HCM Lane V/C Ratio	0.066	0.101	0.023	-	-	0.033	-	-	0.597	0.043
HCM Control Delay (s)	16	10.7	7.9	-	-	7.8	-	-	31.7	11.7
HCM Lane LOS	C	B	A	-	-	A	-	-	D	B
HCM 95th %tile Q(veh)	0.2	0.3	0.1	-	-	0.1	-	-	3.6	0.1

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Future (2032) With Project
Timing Plan: AM Peak Hour

Intersection												
Int Delay, s/veh		2.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Vol, veh/h	43	220	11	12	229	10	14	0	12	15	0	56
Future Vol, veh/h	43	220	11	12	229	10	14	0	12	15	0	56
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	48	244	12	13	254	11	16	0	13	17	0	62
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	266	0	0	257	0	0	664	638	251	640	639	260
Stage 1	-	-	-	-	-	-	346	346	-	287	287	-
Stage 2	-	-	-	-	-	-	318	292	-	353	352	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1298	-	-	1308	-	-	374	394	788	388	394	779
Stage 1	-	-	-	-	-	-	670	635	-	720	674	-
Stage 2	-	-	-	-	-	-	693	671	-	664	632	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1298	-	-	1308	-	-	332	376	788	368	376	779
Mov Cap-2 Maneuver	-	-	-	-	-	-	332	376	-	368	376	-
Stage 1	-	-	-	-	-	-	645	612	-	693	667	-
Stage 2	-	-	-	-	-	-	631	664	-	629	609	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.4			13.5			11.5		
HCM LOS							B			B		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	453	1298	-	-	1308	-	-	630				
HCM Lane V/C Ratio	0.064	0.037	-	-	0.01	-	-	0.125				
HCM Control Delay (s)	13.5	7.9	-	-	7.8	-	-	11.5				
HCM Lane LOS	B	A	-	-	A	-	-	B				
HCM 95th %tile O(veh)	0.2	0.1	-	-	0	-	-	0.4				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2032) With Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	75	61	98	232	56	198	82	2436	189	158	2331	85
Future Volume (veh/h)	75	61	98	232	56	198	82	2436	189	158	2331	85
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	77	63	0	239	58	0	85	2511	0	163	2403	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	108	205	175	171	272	231	131	2099	939	171	2180	975
Arrive On Green	0.06	0.11	0.00	0.10	0.15	0.00	0.07	0.59	0.00	0.10	0.62	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	77	63	0	239	58	0	85	2511	0	163	2403	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	6.2	4.5	0.0	14.0	4.0	0.0	6.8	86.0	0.0	13.3	89.3	0.0
Cycle Q Clear(g_c), s	6.2	4.5	0.0	14.0	4.0	0.0	6.8	86.0	0.0	13.3	89.3	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	108	205	175	171	272	231	131	2099	939	171	2180	975
V/C Ratio(X)	0.71	0.31	0.00	1.40	0.21	0.00	0.65	1.20	0.00	0.95	1.10	0.00
Avail Cap(c_a), veh/h	147	308	262	171	334	284	135	2099	939	171	2180	975
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	0.24	0.24	0.00
Uniform Delay (d), s/veh	66.8	59.4	0.0	65.5	54.6	0.0	65.3	29.5	0.0	65.2	27.8	0.0
Incr Delay (d2), s/veh	9.7	0.8	0.0	209.4	0.4	0.0	7.9	93.2	0.0	22.3	48.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.3	2.4	0.0	16.8	2.1	0.0	3.6	68.9	0.0	7.6	57.8	0.0
LnGrp Delay(d),s/veh	76.5	60.2	0.0	274.9	55.0	0.0	73.2	122.7	0.0	87.5	75.8	0.0
LnGrp LOS	E	E		F	D		E	F		F	F	
Approach Vol, veh/h		140			297			2596			2566	
Approach Delay, s/veh		69.2			232.0			121.1			76.6	
Approach LOS		E			F			F			E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	18.0	90.0	11.9	25.1	14.7	93.3	17.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	13.0	77.0	11.0	25.0	10.0	80.0	13.0	23.0				
Max Q Clear Time (g_c+l1), s	15.3	88.0	8.2	6.0	8.8	91.3	16.0	6.5				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.4	0.0	0.0	0.0	0.3				
Intersection Summary												
HCM 2010 Ctrl Delay			105.3									
HCM 2010 LOS			F									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2032) With Project
Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	31	80	74	249	51	141	72	2321	237	288	2269	65
Future Volume (veh/h)	31	80	74	249	51	141	72	2321	237	288	2269	65
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	32	82	0	257	53	0	74	2393	0	297	2339	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	53	124	105	229	193	164	225	2478	1109	252	2289	1024
Arrive On Green	0.03	0.07	0.00	0.07	0.10	0.00	0.13	0.70	0.00	0.15	1.00	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	32	82	0	257	53	0	74	2393	0	297	2339	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	2.7	6.4	0.0	10.0	3.9	0.0	5.7	93.9	0.0	11.0	0.0	0.0
Cycle Q Clear(g_c), s	2.7	6.4	0.0	10.0	3.9	0.0	5.7	93.9	0.0	11.0	0.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	53	124	105	229	193	164	225	2478	1109	252	2289	1024
V/C Ratio(X)	0.61	0.66	0.00	1.12	0.27	0.00	0.33	0.97	0.00	1.18	1.02	0.00
Avail Cap(c_a), veh/h	71	286	243	229	335	285	225	2478	1109	252	2289	1024
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.09	0.09	0.00	0.17	0.17	0.00
Uniform Delay (d), s/veh	71.9	68.4	0.0	70.0	62.0	0.0	59.7	20.8	0.0	64.0	0.0	0.0
Incr Delay (d2), s/veh	10.9	8.3	0.0	95.5	1.1	0.0	0.0	1.7	0.0	86.9	14.2	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.5	3.6	0.0	7.8	2.1	0.0	2.8	45.8	0.0	8.2	4.5	0.0
LnGrp Delay(d),s/veh	82.8	76.7	0.0	165.5	63.1	0.0	59.7	22.5	0.0	150.9	14.2	0.0
LnGrp LOS	F	E		F	E		E	C		F	F	
Approach Vol, veh/h		114			310			2467			2636	
Approach Delay, s/veh		78.4			148.0			23.6			29.6	
Approach LOS		E			F			C			C	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	15.0	109.0	7.4	18.5	23.0	101.0	13.0	13.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	4.0	5.0	5.0	4.0	4.0				
Max Green Setting (Gmax), s	10.0	91.0	5.0	26.0	5.0	96.0	9.0	22.0				
Max Q Clear Time (g_c+I), s	10.0	95.9	4.7	5.9	7.7	2.0	12.0	8.4				
Green Ext Time (p_c), s	0.0	0.0	0.0	0.6	0.0	71.8	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			34.5									
HCM 2010 LOS			C									

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2032) With Project

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	234	2	687	27	17	41	703	1819	18	5	1935	286
Future Volume (veh/h)	234	2	687	27	17	41	703	1819	18	5	1935	286
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	247	0	0	28	18	43	740	1915	0	5	2037	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	343	0	275	83	23	54	691	2636	1158	9	1944	870
Arrive On Green	0.10	0.00	0.00	0.05	0.05	0.03	0.40	1.00	0.00	0.01	0.55	0.00
Sat Flow, veh/h	3548	0	3167	1774	489	1168	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	247	0	0	28	0	61	740	1915	0	5	2037	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1657	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	10.1	0.0	0.0	2.3	0.0	5.5	30.1	0.0	0.0	0.4	82.4	0.0
Cycle Q Clear(g_c), s	10.1	0.0	0.0	2.3	0.0	5.5	30.1	0.0	0.0	0.4	82.4	0.0
Prop In Lane	1.00		1.00	1.00		0.70	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	343	0	275	83	0	77	691	2636	1158	9	1944	870
V/C Ratio(X)	0.72	0.00	0.00	0.34	0.00	0.79	1.07	0.73	0.00	0.56	1.05	0.00
Avail Cap(c_a), veh/h	426	0	348	83	0	77	691	2636	1158	47	1944	870
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	2.00	2.00	2.00	1.00	1.00	1.00
Upstream Filter(I)	0.77	0.00	0.00	1.00	0.00	1.00	0.17	0.17	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	65.8	0.0	0.0	69.3	0.0	71.5	44.9	0.0	0.0	74.5	33.8	0.0
Incr Delay (d2), s/veh	3.5	0.0	0.0	2.4	0.0	40.8	37.9	0.3	0.0	19.0	34.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	5.1	0.0	0.0	1.2	0.0	3.4	17.8	0.1	0.0	0.3	49.2	0.0
LnGrp Delay(d),s/veh	69.2	0.0	0.0	71.6	0.0	112.2	82.8	0.3	0.0	93.5	68.1	0.0
LnGrp LOS	E			E		F	F	A		F	F	
Approach Vol, veh/h	247				89		2655				2042	
Approach Delay, s/veh	69.2				99.5		23.3				68.1	
Approach LOS	E				F		C				E	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	4.8	115.7			11.0	34.1	86.4	18.5				
Change Period (Y+Rc), s	4.0	6.0			6.0	4.5	6.0	6.0				
Max Green Setting (Gmax), s	103.0			5.0	29.6	76.9	16.0					
Max Q Clear Time (g_c+I_2), s	12.4	2.0			7.5	32.1	84.4	12.1				
Green Ext Time (p_c), s	0.0	95.9			0.0	0.0	0.0	0.4				
Intersection Summary												
HCM 2010 Ctrl Delay			45.1									
HCM 2010 LOS			D									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2032) With Project

Timing Plan: PM Peak Hour

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations								
Traffic Volume (veh/h)	636	545	190	651	560	271		
Future Volume (veh/h)	636	545	190	651	560	271		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	656	0	196	671	577	279		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	838	712	237	2300	746	303		
Arrive On Green	0.45	0.00	0.13	0.65	0.22	0.19		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	656	0	196	671	577	279		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	17.9	0.0	6.5	4.9	9.5	10.4		
Cycle Q Clear(g_c), s	17.9	0.0	6.5	4.9	9.5	10.4		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	838	712	237	2300	746	303		
V/C Ratio(X)	0.78	0.00	0.83	0.29	0.77	0.92		
Avail Cap(c_a), veh/h	838	712	237	2300	746	303		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.44	0.44	1.00	1.00		
Uniform Delay (d), s/veh	14.0	0.0	25.3	4.5	22.1	23.8		
Incr Delay (d2), s/veh	7.2	0.0	9.9	0.1	4.6	31.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	10.8	0.0	3.8	2.4	5.0	7.2		
LnGrp Delay(d),s/veh	21.2	0.0	35.2	4.7	26.7	54.8		
LnGrp LOS	C		D	A	C	D		
Approach Vol, veh/h	656			867	856			
Approach Delay, s/veh	21.2			11.6	35.9			
Approach LOS	C			B	D			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	12.0	31.0				43.0		17.0
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	30.0	25.5				37.5		11.5
Max Q Clear Time (g_c+I), s	19.9	19.9				6.9		12.4
Green Ext Time (p_c), s	0.0	4.3				15.9		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			23.0					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2032) With Project

Timing Plan: PM Peak Hour

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	482	387	303	2452	2213	544		
Future Volume (veh/h)	482	387	303	2452	2213	544		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	487	0	306	2477	2235	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	418	373	253	2503	1896	848		
Arrive On Green	0.24	0.00	0.14	0.71	0.54	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	487	0	306	2477	2235	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	33.0	0.0	20.0	95.6	75.0	0.0		
Cycle Q Clear(g_c), s	33.0	0.0	20.0	95.6	75.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	418	373	253	2503	1896	848		
V/C Ratio(X)	1.16	0.00	1.21	0.99	1.18	0.00		
Avail Cap(c_a), veh/h	418	373	253	2503	1896	848		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	53.5	0.0	60.0	20.0	32.5	0.0		
Incr Delay (d2), s/veh	97.3	0.0	124.4	15.7	86.3	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	27.4	0.0	18.5	51.6	59.1	0.0		
LnGrp Delay(d),s/veh	150.8	0.0	184.4	35.7	118.8	0.0		
LnGrp LOS	F		F	D	F			
Approach Vol, veh/h	487			2783	2235			
Approach Delay, s/veh	150.8			52.1	118.8			
Approach LOS	F			D	F			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		103.0		37.0	24.0	79.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		99.0		33.0	20.0	75.0		
Max Q Clear Time (g_c+I1), s		97.6		35.0	22.0	77.0		
Green Ext Time (p_c), s		1.4		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			87.9					
HCM 2010 LOS			F					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2032) With Project

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	92	314	208	586	313	441	151	2262	566	433	2151	126
Future Volume (veh/h)	92	314	208	586	313	441	151	2262	566	433	2151	126
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	96	341	0	637	340	0	157	2356	0	471	2241	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.96	0.92	0.96	0.92	0.92	0.92	0.96	0.96	0.92	0.92	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	323	274	597	323	274	106	1628	728	298	1722	771
Arrive On Green	0.17	0.17	0.00	0.17	0.17	0.00	0.06	0.46	0.00	0.09	0.49	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	96	341	0	637	340	0	157	2356	0	471	2241	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	7.1	26.0	0.0	26.0	26.0	0.0	9.0	69.0	0.0	13.0	73.0	0.0
Cycle Q Clear(g_c), s	7.1	26.0	0.0	26.0	26.0	0.0	9.0	69.0	0.0	13.0	73.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	323	274	597	323	274	106	1628	728	298	1722	771
V/C Ratio(X)	0.31	1.06	0.00	1.07	1.05	0.00	1.47	1.45	0.00	1.58	1.30	0.00
Avail Cap(c_a), veh/h	308	323	274	597	323	274	106	1628	728	298	1722	771
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.2	62.0	0.0	62.0	62.0	0.0	70.5	40.5	0.0	68.5	38.5	0.0
Incr Delay (d2), s/veh	0.6	65.6	0.0	56.3	64.7	0.0	257.4	204.7	0.0	276.1	139.9	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.5	19.2	0.0	17.0	19.2	0.0	12.0	80.0	0.0	17.6	69.1	0.0
LnGrp Delay(d),s/veh	54.8	127.6	0.0	118.3	126.7	0.0	327.9	245.2	0.0	344.6	178.4	0.0
LnGrp LOS	D	F		F	F		F	F		F	F	
Approach Vol, veh/h	437			977			2513			2712		
Approach Delay, s/veh	111.6			121.2			250.4			207.2		
Approach LOS	F			F			F			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	7.0	73.0		30.0	13.0	77.0		30.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	13.0	69.0		26.0	9.0	73.0		26.0				
Max Q Clear Time (g_c+1.0), s	15.0	71.0		28.0	11.0	75.0		28.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	204.6											
HCM 2010 LOS	F											

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2032) With Project

Timing Plan: PM Peak Hour

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	240	138	912	329	140	958		
Future Volume (veh/h)	240	138	912	329	140	958		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	242	139	921	332	141	968		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.99	0.99	0.99	0.99	0.99	0.99		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	237	211	894	322	148	1490		
Arrive On Green	0.13	0.13	0.68	0.68	0.08	0.80		
Sat Flow, veh/h	1774	1583	1308	472	1774	1863		
Grp Volume(v), veh/h	242	139	0	1253	141	968		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1780	1774	1863		
Q Serve(g_s), s	16.0	10.0	0.0	82.0	9.5	26.0		
Cycle Q Clear(g_c), s	16.0	10.0	0.0	82.0	9.5	26.0		
Prop In Lane	1.00	1.00		0.26	1.00			
Lane Grp Cap(c), veh/h	237	211	0	1216	148	1490		
V/C Ratio(X)	1.02	0.66	0.00	1.03	0.95	0.65		
Avail Cap(c_a), veh/h	237	211	0	1216	148	1490		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	52.0	49.4	0.0	19.0	54.8	5.0		
Incr Delay (d2), s/veh	64.6	7.3	0.0	33.9	60.0	2.2		
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	12.1	4.8	0.0	51.0	7.1	13.8		
LnGrp Delay(d),s/veh	116.7	56.7	0.0	52.9	114.8	7.2		
LnGrp LOS	F	E		F	F	A		
Approach Vol, veh/h	381		1253			1109		
Approach Delay, s/veh	94.8		52.9			20.9		
Approach LOS	F		D			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	34.0	86.0				100.0		20.0
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	10.0	82.0				96.0		16.0
Max Q Clear Time (g_c+1),s	10.0	84.0				28.0		18.0
Green Ext Time (p_c), s	0.0	0.0				29.0		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			45.8					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2032) With Project

Timing Plan: PM Peak Hour

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations		↰	↱		↰	↱	↰	↱	↰	↱	↰	↱
Traffic Volume (veh/h)	122	15	107	80	15	30	64	2834	65	25	2747	161
Future Volume (veh/h)	122	15	107	80	15	30	64	2834	65	25	2747	161
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	124	16	0	87	16	33	65	2892	71	27	2803	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.98	0.92	0.98	0.92	0.92	0.92	0.98	0.98	0.92	0.92	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	128	10	192	219	32	192	63	2738	1225	34	2680	1199
Arrive On Green	0.12	0.12	0.00	0.12	0.12	0.12	0.04	0.77	0.77	0.02	0.76	0.00
Sat Flow, veh/h	652	84	1583	1414	266	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	140	0	0	103	0	33	65	2892	71	27	2803	0
Grp Sat Flow(s),veh/h/ln	736	0	1583	1680	0	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	9.0	0.0	0.0	0.0	0.0	2.6	5.0	108.3	1.5	2.1	106.0	0.0
Cycle Q Clear(g_c), s	17.0	0.0	0.0	8.0	0.0	2.6	5.0	108.3	1.5	2.1	106.0	0.0
Prop In Lane	0.89		1.00	0.84		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	138	0	192	251	0	192	63	2738	1225	34	2680	1199
V/C Ratio(X)	1.02	0.00	0.00	0.41	0.00	0.17	1.03	1.06	0.06	0.80	1.05	0.00
Avail Cap(c_a), veh/h	138	0	192	251	0	192	63	2738	1225	51	2680	1199
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	0.00	0.00	1.00	0.00	1.00	1.00	1.00	1.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	67.1	0.0	0.0	57.6	0.0	55.2	67.5	15.8	3.8	68.4	17.0	0.0
Incr Delay (d2), s/veh	80.9	0.0	0.0	1.1	0.0	0.4	120.5	34.3	0.0	38.7	30.9	0.0
Initial Q Delay(d3),s/veh	0.1	0.0	0.0	0.0	0.0	0.0	0.3	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	18.4	0.0	0.0	3.8	0.0	1.2	4.6	64.8	0.7	1.4	62.1	0.0
LnGrp Delay(d),s/veh	148.1	0.0	0.0	58.6	0.0	55.6	188.3	50.2	3.8	107.1	47.9	0.0
LnGrp LOS	F			E		E	F	F	A	F	F	
Approach Vol, veh/h	140			136			3028			2830		
Approach Delay, s/veh	148.1			57.9			52.1			48.5		
Approach LOS	F			E			D			D		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	6.7	112.3		21.0	9.0	110.0		21.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	107.0			17.0	5.0	106.0		17.0				
Max Q Clear Time (g_c+1.1), s	110.3			19.0	7.0	108.0		10.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	0.0		0.8				
Intersection Summary												
HCM 2010 Ctrl Delay	52.7											
HCM 2010 LOS	D											

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2032) With Project
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh	30.3											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	48	437	31	79	426	140	20	8	58	118	12	18
Future Vol, veh/h	48	437	31	79	426	140	20	8	58	118	12	18
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	53	486	34	88	473	156	22	9	64	131	13	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	629	0	0	520	0	0	1352	1413	503	1373	1354	551
Stage 1	-	-	-	-	-	-	609	609	-	727	727	-
Stage 2	-	-	-	-	-	-	743	804	-	646	627	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	953	-	-	1046	-	-	127	138	569	~ 123	150	534
Stage 1	-	-	-	-	-	-	482	485	-	415	429	-
Stage 2	-	-	-	-	-	-	407	396	-	460	476	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	953	-	-	1046	-	-	101	119	569	~ 92	130	534
Mov Cap-2 Maneuver	-	-	-	-	-	-	101	119	-	~ 92	130	-
Stage 1	-	-	-	-	-	-	455	458	-	392	393	-
Stage 2	-	-	-	-	-	-	347	363	-	378	450	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.8			1.1			24.3			263.5		
HCM LOS							C			F		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	101	390	953	-	-	1046	-	-	92	238		
HCM Lane V/C Ratio	0.22	0.188	0.056	-	-	0.084	-	-	1.425	0.14		
HCM Control Delay (s)	50.4	16.4	9	-	-	8.8	-	\$	324.8	22.6		
HCM Lane LOS	F	C	A	-	-	A	-	-	F	C		
HCM 95th %tile Q(veh)	0.8	0.7	0.2	-	-	0.3	-	-	9.9	0.5		
Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon				

HCM 2010 TWSC
10: KAONOULU STREET & ALULIKE STREET

Future (2032) With Project
Timing Plan: PM Peak Hour

Intersection												
Int Delay, s/veh		2.6										
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	79	475	14	24	416	24	5	0	20	22	0	51
Future Vol, veh/h	79	475	14	24	416	24	5	0	20	22	0	51
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	88	528	16	27	462	27	6	0	22	24	0	57
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	489	0	0	543	0	0	1268	1253	536	1251	1248	476
Stage 1	-	-	-	-	-	-	711	711	-	529	529	-
Stage 2	-	-	-	-	-	-	557	542	-	722	719	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1074	-	-	1026	-	-	145	172	545	149	173	589
Stage 1	-	-	-	-	-	-	424	436	-	533	527	-
Stage 2	-	-	-	-	-	-	515	520	-	418	433	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1074	-	-	1026	-	-	120	154	545	131	155	589
Mov Cap-2 Maneuver	-	-	-	-	-	-	120	154	-	131	155	-
Stage 1	-	-	-	-	-	-	389	400	-	489	513	-
Stage 2	-	-	-	-	-	-	453	506	-	368	398	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	1.2			0.4			17.4			22.4		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	319	1074	-	-	1026	-	-	287				
HCM Lane V/C Ratio	0.087	0.082	-	-	0.026	-	-	0.283				
HCM Control Delay (s)	17.4	8.7	-	-	8.6	-	-	22.4				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile O(veh)	0.3	0.3	-	-	0.1	-	-	1.1				

HCM 2010 Signalized Intersection Summary

1: PIILANI HIGHWAY & OHUKAI STREET

Future (2032) With Project
Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	66	92	79	274	75	221	79	1882	221	251	1762	60
Future Volume (veh/h)	66	92	79	274	75	221	79	1882	221	251	1762	60
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	68	95	0	282	77	0	81	1940	0	259	1816	0
Adj No. of Lanes	1	1	1	1	1	1	1	2	1	1	2	1
Peak Hour Factor	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	99	218	185	246	372	316	137	1783	797	233	1975	884
Arrive On Green	0.06	0.12	0.00	0.14	0.20	0.00	0.08	0.50	0.00	0.13	0.56	0.00
Sat Flow, veh/h	1774	1863	1583	1774	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	68	95	0	282	77	0	81	1940	0	259	1816	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1774	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	5.2	6.5	0.0	19.0	4.7	0.0	6.1	69.0	0.0	18.0	63.8	0.0
Cycle Q Clear(g_c), s	5.2	6.5	0.0	19.0	4.7	0.0	6.1	69.0	0.0	18.0	63.8	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	99	218	185	246	372	316	137	1783	797	233	1975	884
V/C Ratio(X)	0.69	0.44	0.00	1.15	0.21	0.00	0.59	1.09	0.00	1.11	0.92	0.00
Avail Cap(c_a), veh/h	155	326	277	246	422	358	142	1783	797	233	1975	884
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	63.5	56.3	0.0	59.0	45.8	0.0	61.2	34.0	0.0	59.5	27.5	0.0
Incr Delay (d2), s/veh	8.1	1.4	0.0	102.6	0.3	0.0	3.9	49.7	0.0	92.0	7.8	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	2.8	3.4	0.0	16.3	2.5	0.0	3.1	45.7	0.0	14.8	33.2	0.0
LnGrp Delay(d),s/veh	71.6	57.7	0.0	161.6	46.1	0.0	65.0	83.7	0.0	151.5	35.3	0.0
LnGrp LOS	E	E		F	D		E	F		F	D	
Approach Vol, veh/h		163			359			2021			2075	
Approach Delay, s/veh		63.5			136.8			83.0			49.8	
Approach LOS		E			F			F			D	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	22.0	73.0	10.7	31.3	14.5	80.5	22.0	20.0				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	17.0	68.0	11.0	30.0	10.0	75.0	18.0	23.0				
Max Q Clear Time (g_c+l1), s	20.0	71.0	7.2	6.7	8.1	65.8	21.0	8.5				
Green Ext Time (p_c), s	0.0	0.0	0.1	0.6	0.0	9.2	0.0	0.5				
Intersection Summary												
HCM 2010 Ctrl Delay			71.5									
HCM 2010 LOS			E									

HCM 2010 Signalized Intersection Summary

2: PIILANI HIGHWAY & UWAPO ROAD/KAIWAHINE STREET

Future (2032) With Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	33	32	90	105	22	137	80	1916	175	56	1909	28
Future Volume (veh/h)	33	32	90	105	22	137	80	1916	175	56	1909	28
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	34	33	0	107	22	0	82	1955	0	57	1948	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98	0.98
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	61	104	88	172	133	113	416	2458	1100	171	1805	807
Arrive On Green	0.03	0.06	0.00	0.05	0.07	0.00	0.23	0.69	0.00	0.05	0.51	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	34	33	0	107	22	0	82	1955	0	57	1948	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	1.9	1.7	0.0	3.0	1.1	0.0	3.7	37.7	0.0	1.6	51.0	0.0
Cycle Q Clear(g_c), s	1.9	1.7	0.0	3.0	1.1	0.0	3.7	37.7	0.0	1.6	51.0	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	61	104	88	172	133	113	416	2458	1100	171	1805	807
V/C Ratio(X)	0.56	0.32	0.00	0.62	0.17	0.00	0.20	0.80	0.00	0.33	1.08	0.00
Avail Cap(c_a), veh/h	106	428	364	172	410	348	416	2458	1100	206	1805	807
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	0.09	0.09	0.00	0.60	0.60	0.00
Uniform Delay (d), s/veh	47.5	45.4	0.0	46.6	43.6	0.0	30.7	10.4	0.0	45.9	24.5	0.0
Incr Delay (d2), s/veh	7.7	2.5	0.0	6.7	0.8	0.0	0.0	0.3	0.0	0.3	42.5	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	1.1	1.0	0.0	1.6	0.6	0.0	1.8	18.3	0.0	0.8	35.2	0.0
LnGrp Delay(d),s/veh	55.2	47.8	0.0	53.3	44.5	0.0	30.7	10.7	0.0	46.2	67.0	0.0
LnGrp LOS	E	D		D	D		C	B		D	F	
Approach Vol, veh/h	67			129			2037			2005		
Approach Delay, s/veh	51.6			51.8			11.5			66.4		
Approach LOS	D			D			B			E		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2	3	4	5	6	7	8				
Phs Duration (G+Y+Rc), s	9.0	73.4	6.4	11.1	27.4	55.0	8.0	9.6				
Change Period (Y+Rc), s	5.0	5.0	4.0	5.0	5.0	5.0	4.0	5.0				
Max Green Setting (Gmax), s	50.0	50.0	5.0	21.0	5.0	50.0	4.0	22.0				
Max Q Clear Time (g_c+I), s	39.7	39.7	3.9	3.1	5.7	53.0	5.0	3.7				
Green Ext Time (p_c), s	0.0	9.4	0.0	0.2	0.0	0.0	0.0	0.2				
Intersection Summary												
HCM 2010 Ctrl Delay	39.3											
HCM 2010 LOS	D											

HCM 2010 Signalized Intersection Summary

3: PIILANI HIGHWAY & NORTH KIHEI ROAD

Future (2032) With Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	262	0	513	3	0	1	565	1559	11	3	1485	242
Future Volume (veh/h)	262	0	513	3	0	1	565	1559	11	3	1485	242
Number	3	8	18	7	4	14	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1900	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	273	0	0	3	0	1	589	1624	0	3	1547	0
Adj No. of Lanes	2	0	2	1	1	0	2	2	1	1	2	1
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96	0.96
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	373	0	283	47	0	42	698	2466	1070	6	1778	795
Arrive On Green	0.11	0.00	0.00	0.03	0.00	0.01	0.20	0.70	0.00	0.00	0.50	0.00
Sat Flow, veh/h	3548	0	3167	1774	0	1583	3442	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	273	0	0	3	0	1	589	1624	0	3	1547	0
Grp Sat Flow(s),veh/h/ln	1774	0	1583	1774	0	1583	1721	1770	1583	1774	1770	1583
Q Serve(g_s), s	7.1	0.0	0.0	0.2	0.0	0.1	15.6	24.4	0.0	0.2	36.7	0.0
Cycle Q Clear(g_c), s	7.1	0.0	0.0	0.2	0.0	0.1	15.6	24.4	0.0	0.2	36.7	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	373	0	283	47	0	42	698	2466	1070	6	1778	795
V/C Ratio(X)	0.73	0.00	0.00	0.06	0.00	0.02	0.84	0.66	0.00	0.53	0.87	0.00
Avail Cap(c_a), veh/h	373	0	283	131	0	117	815	2466	1070	75	1778	795
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	0.86	0.00	0.00	1.00	0.00	1.00	0.53	0.53	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	41.2	0.0	0.0	45.1	0.0	46.0	36.4	8.1	0.0	47.3	20.9	0.0
Incr Delay (d2), s/veh	6.2	0.0	0.0	0.6	0.0	0.2	4.0	0.7	0.0	25.4	6.1	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	0.0	0.0	0.1	0.0	0.0	7.8	12.0	0.0	0.1	19.3	0.0
LnGrp Delay(d),s/veh	47.4	0.0	0.0	45.7	0.0	46.3	40.4	8.8	0.0	72.6	27.0	0.0
LnGrp LOS	D			D			D	A		E	C	
Approach Vol, veh/h	273			4			2213			1550		
Approach Delay, s/veh	47.4			45.8			17.2			27.1		
Approach LOS	D			D			B			C		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	4.3	70.2		6.5	22.8	51.7		14.0				
Change Period (Y+Rc), s	4.0	6.0		6.0	4.0	6.0		6.0				
Max Green Setting (Gmax), s	4.0	56.0		5.0	22.0	38.0		8.0				
Max Q Clear Time (g_c+I_2), s	4.0	26.4		2.2	17.6	38.7		9.1				
Green Ext Time (p_c), s	0.0	27.7		0.0	1.1	0.0		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			23.1									
HCM 2010 LOS			C									
Notes												

User approved volume balancing among the lanes for turning movement.

HCM 2010 Signalized Intersection Summary

4: SOUTH KIHEI ROAD & NORTH KIHEI ROAD

Future (2032) With Project

Timing Plan: Saturday

								
Movement	EBT	EBR	WBL	WBT	NBL	NBR		
Lane Configurations	↑	↗	↖	↑↑	↖↗	↗		
Traffic Volume (veh/h)	533	427	169	524	559	255		
Future Volume (veh/h)	533	427	169	524	559	255		
Number	2	12	1	6	3	18		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)		1.00	1.00		1.00	1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	555	0	176	546	582	266		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.96	0.96	0.96	0.96	0.96	0.96		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	842	716	230	2295	751	306		
Arrive On Green	0.45	0.00	0.13	0.65	0.22	0.19		
Sat Flow, veh/h	1863	1583	1774	3632	3442	1583		
Grp Volume(v), veh/h	555	0	176	546	582	266		
Grp Sat Flow(s),veh/h/ln	1863	1583	1774	1770	1721	1583		
Q Serve(g_s), s	13.9	0.0	5.8	3.8	9.5	9.8		
Cycle Q Clear(g_c), s	13.9	0.0	5.8	3.8	9.5	9.8		
Prop In Lane		1.00	1.00		1.00	1.00		
Lane Grp Cap(c), veh/h	842	716	230	2295	751	306		
V/C Ratio(X)	0.66	0.00	0.77	0.24	0.77	0.87		
Avail Cap(c_a), veh/h	842	716	237	2295	751	306		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	0.75	0.75	1.00	1.00		
Uniform Delay (d), s/veh	12.8	0.0	25.2	4.4	22.1	23.5		
Incr Delay (d2), s/veh	4.0	0.0	9.4	0.2	4.6	21.6		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	0.0	0.0	3.4	1.9	5.0	6.1		
LnGrp Delay(d),s/veh	16.8	0.0	34.7	4.6	26.7	45.1		
LnGrp LOS	B		C	A	C	D		
Approach Vol, veh/h	555			722	848			
Approach Delay, s/veh	16.8			11.9	32.5			
Approach LOS	B			B	C			
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	11.8	31.1				42.9		17.1
Change Period (Y+Rc), s	4.0	5.5				5.5		5.5
Max Green Setting (Gmax), s	25.4					37.4		11.6
Max Q Clear Time (g_c+I), s	15.9					5.8		11.8
Green Ext Time (p_c), s	0.0	6.0				12.8		0.0
Intersection Summary								
HCM 2010 Ctrl Delay			21.4					
HCM 2010 LOS			C					

HCM 2010 Signalized Intersection Summary

5: PIILANI HIGHWAY & PIIKEA AVENUE

Future (2032) With Project

Timing Plan: Saturday

								
Movement	EBL	EBR	NBL	NBT	SBT	SBR		
Lane Configurations								
Traffic Volume (veh/h)	490	338	305	1710	1661	547		
Future Volume (veh/h)	490	338	305	1710	1661	547		
Number	7	14	5	2	6	16		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00	1.00			1.00		
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863		
Adj Flow Rate, veh/h	500	0	311	1745	1695	0		
Adj No. of Lanes	1	1	1	2	2	1		
Peak Hour Factor	0.98	0.98	0.98	0.98	0.98	0.98		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	473	422	296	2359	1652	739		
Arrive On Green	0.27	0.00	0.17	0.67	0.47	0.00		
Sat Flow, veh/h	1774	1583	1774	3632	3632	1583		
Grp Volume(v), veh/h	500	0	311	1745	1695	0		
Grp Sat Flow(s),veh/h/ln	1774	1583	1774	1770	1770	1583		
Q Serve(g_s), s	32.0	0.0	20.0	38.9	56.0	0.0		
Cycle Q Clear(g_c), s	32.0	0.0	20.0	38.9	56.0	0.0		
Prop In Lane	1.00	1.00	1.00			1.00		
Lane Grp Cap(c), veh/h	473	422	296	2359	1652	739		
V/C Ratio(X)	1.06	0.00	1.05	0.74	1.03	0.00		
Avail Cap(c_a), veh/h	473	422	296	2359	1652	739		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	0.00	1.00	1.00	1.00	0.00		
Uniform Delay (d), s/veh	44.0	0.0	50.0	13.2	32.0	0.0		
Incr Delay (d2), s/veh	57.2	0.0	66.6	2.1	29.1	0.0		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	23.2	0.0	15.2	19.4	34.0	0.0		
LnGrp Delay(d),s/veh	101.2	0.0	116.6	15.3	61.1	0.0		
LnGrp LOS	F		F	B	F			
Approach Vol, veh/h	500			2056	1695			
Approach Delay, s/veh	101.2			30.6	61.1			
Approach LOS	F			C	E			
Timer	1	2	3	4	5	6	7	8
Assigned Phs		2		4	5	6		
Phs Duration (G+Y+Rc), s		84.0		36.0	24.0	60.0		
Change Period (Y+Rc), s		4.0		4.0	4.0	4.0		
Max Green Setting (Gmax), s		80.0		32.0	20.0	56.0		
Max Q Clear Time (g_c+I1), s		40.9		34.0	22.0	58.0		
Green Ext Time (p_c), s		30.0		0.0	0.0	0.0		
Intersection Summary								
HCM 2010 Ctrl Delay			51.1					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

6: PIILANI HIGHWAY & KAONOULU STREET

Future (2032) With Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	100	304	185	604	257	493	132	1610	648	509	1498	113
Future Volume (veh/h)	100	304	185	604	257	493	132	1610	648	509	1498	113
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	103	330	0	657	279	0	136	1660	0	553	1544	0
Adj No. of Lanes	1	1	1	2	1	1	1	2	1	2	2	1
Peak Hour Factor	0.97	0.92	0.97	0.92	0.92	0.92	0.97	0.97	0.92	0.92	0.97	0.97
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	308	323	274	597	323	274	142	1463	654	459	1652	739
Arrive On Green	0.17	0.17	0.00	0.17	0.17	0.00	0.08	0.41	0.00	0.13	0.47	0.00
Sat Flow, veh/h	1774	1863	1583	3442	1863	1583	1774	3539	1583	3442	3539	1583
Grp Volume(v), veh/h	103	330	0	657	279	0	136	1660	0	553	1544	0
Grp Sat Flow(s),veh/h/ln	1774	1863	1583	1721	1863	1583	1774	1770	1583	1721	1770	1583
Q Serve(g_s), s	7.6	26.0	0.0	26.0	21.8	0.0	11.5	62.0	0.0	20.0	61.9	0.0
Cycle Q Clear(g_c), s	7.6	26.0	0.0	26.0	21.8	0.0	11.5	62.0	0.0	20.0	61.9	0.0
Prop In Lane	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	308	323	274	597	323	274	142	1463	654	459	1652	739
V/C Ratio(X)	0.33	1.02	0.00	1.10	0.86	0.00	0.96	1.13	0.00	1.21	0.93	0.00
Avail Cap(c_a), veh/h	308	323	274	597	323	274	142	1463	654	459	1652	739
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00	1.00	1.00	0.00
Uniform Delay (d), s/veh	54.4	62.0	0.0	62.0	60.3	0.0	68.8	44.0	0.0	65.0	37.8	0.0
Incr Delay (d2), s/veh	0.6	55.8	0.0	67.7	20.8	0.0	62.7	69.7	0.0	111.4	11.3	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.8	18.4	0.0	18.0	13.1	0.0	8.1	44.4	0.0	16.6	32.8	0.0
LnGrp Delay(d),s/veh	55.0	117.9	0.0	129.7	81.1	0.0	131.5	113.7	0.0	176.4	49.1	0.0
LnGrp LOS	E	F		F	F		F	F		F	D	
Approach Vol, veh/h	433			936			1796			2097		
Approach Delay, s/veh	102.9			115.2			115.0			82.7		
Approach LOS	F			F			F			F		
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2		4	5	6		8				
Phs Duration (G+Y+Rc), s	24.0	66.0		30.0	16.0	74.0		30.0				
Change Period (Y+Rc), s	4.0	4.0		4.0	4.0	4.0		4.0				
Max Green Setting (Gmax), s	20.0	62.0		26.0	12.0	70.0		26.0				
Max Q Clear Time (g_c+2.0), s	20.0	64.0		28.0	13.5	63.9		28.0				
Green Ext Time (p_c), s	0.0	0.0		0.0	0.0	5.6		0.0				
Intersection Summary												
HCM 2010 Ctrl Delay	101.2											
HCM 2010 LOS	F											

HCM 2010 Signalized Intersection Summary

7: SOUTH KIHEI ROAD & KAONOULU STREET

Future (2032) With Project

Timing Plan: Saturday

								
Movement	WBL	WBR	NBT	NBR	SBL	SBT		
Lane Configurations								
Traffic Volume (veh/h)	226	113	832	284	129	839		
Future Volume (veh/h)	226	113	832	284	129	839		
Number	3	18	2	12	1	6		
Initial Q (Qb), veh	0	0	0	0	0	0		
Ped-Bike Adj(A_pbT)	1.00	1.00		1.00	1.00			
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00		
Adj Sat Flow, veh/h/ln	1863	1863	1863	1900	1863	1863		
Adj Flow Rate, veh/h	246	123	904	309	140	912		
Adj No. of Lanes	1	1	1	0	1	1		
Peak Hour Factor	0.92	0.92	0.92	0.92	0.92	0.92		
Percent Heavy Veh, %	2	2	2	2	2	2		
Cap, veh/h	278	248	854	292	142	1421		
Arrive On Green	0.16	0.16	0.64	0.64	0.08	0.76		
Sat Flow, veh/h	1774	1583	1329	454	1774	1863		
Grp Volume(v), veh/h	246	123	0	1213	140	912		
Grp Sat Flow(s),veh/h/ln	1774	1583	0	1783	1774	1863		
Q Serve(g_s), s	13.5	7.1	0.0	64.0	7.8	22.6		
Cycle Q Clear(g_c), s	13.5	7.1	0.0	64.0	7.8	22.6		
Prop In Lane	1.00	1.00		0.25	1.00			
Lane Grp Cap(c), veh/h	278	248	0	1145	142	1421		
V/C Ratio(X)	0.88	0.50	0.00	1.06	0.98	0.64		
Avail Cap(c_a), veh/h	285	254	0	1145	142	1421		
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00		
Upstream Filter(I)	1.00	1.00	0.00	1.00	1.00	1.00		
Uniform Delay (d), s/veh	41.1	38.4	0.0	17.8	45.7	5.5		
Incr Delay (d2), s/veh	26.0	1.5	0.0	43.7	69.9	2.2		
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0		
%ile BackOfQ(50%),veh/ln	6.6	3.2	0.0	45.1	6.6	12.3		
LnGrp Delay(d),s/veh	67.1	39.9	0.0	61.5	115.6	7.7		
LnGrp LOS	E	D		F	F	A		
Approach Vol, veh/h	369		1213			1052		
Approach Delay, s/veh	58.1		61.5			22.1		
Approach LOS	E		E			C		
Timer	1	2	3	4	5	6	7	8
Assigned Phs	1	2				6		8
Phs Duration (G+Y+Rc), s	22.0	68.0				80.0		19.6
Change Period (Y+Rc), s	4.0	4.0				4.0		4.0
Max Green Setting (Gmax), s	64.0					76.0		16.0
Max Q Clear Time (g_c+I), s	66.0					24.6		15.5
Green Ext Time (p_c), s	0.0	0.0				23.4		0.1
Intersection Summary								
HCM 2010 Ctrl Delay			45.3					
HCM 2010 LOS			D					

HCM 2010 Signalized Intersection Summary

8: PIILANI HIGHWAY & KULANIHAKOI STREET

Future (2032) With Project

Timing Plan: Saturday

												
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Lane Configurations												
Traffic Volume (veh/h)	129	0	75	0	0	0	50	2294	0	0	2122	135
Future Volume (veh/h)	129	0	75	0	0	0	50	2294	0	0	2122	135
Number	7	4	14	3	8	18	5	2	12	1	6	16
Initial Q (Qb), veh	0	0	0	0	0	0	0	0	0	0	0	0
Ped-Bike Adj(A_pbT)	1.00		1.00	1.00		1.00	1.00		1.00	1.00		1.00
Parking Bus, Adj	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Adj Sat Flow, veh/h/ln	1900	1863	1863	1900	1863	1863	1863	1863	1863	1863	1863	1863
Adj Flow Rate, veh/h	136	0	0	0	0	0	53	2415	0	0	2234	0
Adj No. of Lanes	0	1	1	0	1	1	1	2	1	1	2	1
Peak Hour Factor	0.95	0.92	0.95	0.92	0.92	0.92	0.95	0.95	0.92	0.92	0.95	0.95
Percent Heavy Veh, %	2	2	2	2	2	2	2	2	2	2	2	2
Cap, veh/h	243	0	183	0	215	183	68	2815	1260	2	2523	1129
Arrive On Green	0.12	0.00	0.00	0.00	0.00	0.00	0.04	0.80	0.00	0.00	0.71	0.00
Sat Flow, veh/h	1412	0	1583	0	1863	1583	1774	3539	1583	1774	3539	1583
Grp Volume(v), veh/h	136	0	0	0	0	0	53	2415	0	0	2234	0
Grp Sat Flow(s),veh/h/ln	1412	0	1583	0	1863	1583	1774	1770	1583	1774	1770	1583
Q Serve(g_s), s	8.5	0.0	0.0	0.0	0.0	0.0	2.7	39.5	0.0	0.0	44.2	0.0
Cycle Q Clear(g_c), s	8.5	0.0	0.0	0.0	0.0	0.0	2.7	39.5	0.0	0.0	44.2	0.0
Prop In Lane	1.00		1.00	0.00		1.00	1.00		1.00	1.00		1.00
Lane Grp Cap(c), veh/h	243	0	183	0	215	183	68	2815	1260	2	2523	1129
V/C Ratio(X)	0.56	0.00	0.00	0.00	0.00	0.00	0.78	0.86	0.00	0.00	0.89	0.00
Avail Cap(c_a), veh/h	331	0	281	0	331	281	79	2815	1260	79	2523	1129
HCM Platoon Ratio	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00
Upstream Filter(l)	1.00	0.00	0.00	0.00	0.00	0.00	1.00	1.00	0.00	0.00	1.00	0.00
Uniform Delay (d), s/veh	38.9	0.0	0.0	0.0	0.0	0.0	42.9	5.9	0.0	0.0	10.1	0.0
Incr Delay (d2), s/veh	2.0	0.0	0.0	0.0	0.0	0.0	34.8	3.6	0.0	0.0	5.0	0.0
Initial Q Delay(d3),s/veh	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
%ile BackOfQ(50%),veh/ln	3.4	0.0	0.0	0.0	0.0	0.0	2.0	20.2	0.0	0.0	22.9	0.0
LnGrp Delay(d),s/veh	41.0	0.0	0.0	0.0	0.0	0.0	77.7	9.6	0.0	0.0	15.1	0.0
LnGrp LOS	D						E	A			B	
Approach Vol, veh/h	136				0		2468				2234	
Approach Delay, s/veh	41.0				0.0		11.0				15.1	
Approach LOS	D						B				B	
Timer	1	2	3	4	5	6	7	8				
Assigned Phs	1	2			4	5	6	8				
Phs Duration (G+Y+Rc), s	75.6			14.4	7.4	68.2	14.4					
Change Period (Y+Rc), s	4.0	4.0			4.0	4.0	4.0	4.0				
Max Green Setting (Gmax), s	58.0			16.0	4.0	58.0	16.0					
Max Q Clear Time (g_c+I), s	41.5			10.5	4.7	46.2	0.0					
Green Ext Time (p_c), s	0.0	16.1			0.3	0.0	11.6	0.0				
Intersection Summary												
HCM 2010 Ctrl Delay			13.7									
HCM 2010 LOS			B									

HCM 2010 TWSC
9: KENOLIO ROAD & KAONOULU STREET

Future (2032) With Project

Timing Plan: Saturday

Intersection												
Int Delay, s/veh	22.7											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	37	430	22	54	368	70	21	10	55	124	8	17
Future Vol, veh/h	37	430	22	54	368	70	21	10	55	124	8	17
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	200	-	-	50	-	-	40	-	-	75	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	87	87	87	87	87	87	87	87	87	87	87	87
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	43	494	25	62	423	80	24	11	63	143	9	20
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	503	0	0	520	0	0	1194	1220	507	1216	1192	463
Stage 1	-	-	-	-	-	-	592	592	-	587	587	-
Stage 2	-	-	-	-	-	-	602	628	-	629	605	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1061	-	-	1046	-	-	163	180	566	158	187	599
Stage 1	-	-	-	-	-	-	493	494	-	496	497	-
Stage 2	-	-	-	-	-	-	486	476	-	470	487	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1061	-	-	1046	-	-	140	162	566	~ 123	169	599
Mov Cap-2 Maneuver	-	-	-	-	-	-	140	162	-	~ 123	169	-
Stage 1	-	-	-	-	-	-	473	474	-	476	468	-
Stage 2	-	-	-	-	-	-	434	448	-	391	467	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.6			1			20.7			168.1		
HCM LOS							C			F		
Minor Lane/Major Mvmt	NBLn1	NBLn2	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1	SBLn2		
Capacity (veh/h)	140	409	1061	-	-	1046	-	-	123	330		
HCM Lane V/C Ratio	0.172	0.183	0.04	-	-	0.059	-	-	1.159	0.087		
HCM Control Delay (s)	36	15.8	8.5	-	-	8.7	-	-	198.6	16.9		
HCM Lane LOS	E	C	A	-	-	A	-	-	F	C		
HCM 95th %tile Q(veh)	0.6	0.7	0.1	-	-	0.2	-	-	8.6	0.3		
Notes												
~: Volume exceeds capacity	\$: Delay exceeds 300s			+: Computation Not Defined				*: All major volume in platoon				

HCM 2010 TWSC
10: KAONOU LU STREET & ALULIKE STREET

Future (2032) With Project
Timing Plan: Saturday

Intersection												
Int Delay, s/veh	2.8											
Movement	EBL	EBT	EBR	WBL	WBT	WBR	NBL	NBT	NBR	SBL	SBT	SBR
Traffic Vol, veh/h	45	447	14	21	360	22	8	1	22	22	7	70
Future Vol, veh/h	45	447	14	21	360	22	8	1	22	22	7	70
Conflicting Peds, #/hr	0	0	0	0	0	0	0	0	0	0	0	0
Sign Control	Free	Free	Free	Free	Free	Free	Stop	Stop	Stop	Stop	Stop	Stop
RT Channelized	-	-	None	-	-	None	-	-	None	-	-	None
Storage Length	125	-	-	175	-	-	-	-	-	-	-	-
Veh in Median Storage, #	-	0	-	-	0	-	-	0	-	-	0	-
Grade, %	-	0	-	-	0	-	-	0	-	-	0	-
Peak Hour Factor	90	90	90	90	90	90	90	90	90	90	90	90
Heavy Vehicles, %	2	2	2	2	2	2	2	2	2	2	2	2
Mvmt Flow	50	497	16	23	400	24	9	1	24	24	8	78
Major/Minor	Major1			Major2			Minor1			Minor2		
Conflicting Flow All	424	0	0	512	0	0	1106	1075	504	1076	1071	412
Stage 1	-	-	-	-	-	-	604	604	-	459	459	-
Stage 2	-	-	-	-	-	-	502	471	-	617	612	-
Critical Hdwy	4.12	-	-	4.12	-	-	7.12	6.52	6.22	7.12	6.52	6.22
Critical Hdwy Stg 1	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Critical Hdwy Stg 2	-	-	-	-	-	-	6.12	5.52	-	6.12	5.52	-
Follow-up Hdwy	2.218	-	-	2.218	-	-	3.518	4.018	3.318	3.518	4.018	3.318
Pot Cap-1 Maneuver	1135	-	-	1053	-	-	188	220	568	197	221	640
Stage 1	-	-	-	-	-	-	485	488	-	582	566	-
Stage 2	-	-	-	-	-	-	552	560	-	477	484	-
Platoon blocked, %		-	-		-	-						
Mov Cap-1 Maneuver	1135	-	-	1053	-	-	153	206	568	178	207	640
Mov Cap-2 Maneuver	-	-	-	-	-	-	153	206	-	178	207	-
Stage 1	-	-	-	-	-	-	464	467	-	556	554	-
Stage 2	-	-	-	-	-	-	468	548	-	435	463	-
Approach	EB			WB			NB			SB		
HCM Control Delay, s	0.7			0.4			17.5			18.7		
HCM LOS							C			C		
Minor Lane/Major Mvmt	NBLn1	EBL	EBT	EBR	WBL	WBT	WBR	SBLn1				
Capacity (veh/h)	323	1135	-	-	1053	-	-	371				
HCM Lane V/C Ratio	0.107	0.044	-	-	0.022	-	-	0.296				
HCM Control Delay (s)	17.5	8.3	-	-	8.5	-	-	18.7				
HCM Lane LOS	C	A	-	-	A	-	-	C				
HCM 95th %tile Q(veh)	0.4	0.1	-	-	0.1	-	-	1.2				